GUIDE TO PORT ENTRY

PORT PLANS AND MOORING DIAGRAMS

Produced by
Colin Pielow

SHIPPING GUIDES LTD.

GUIDE TO PORT ENTRY

1985-86

PORT PLANS AND MOORING DIAGRAMS

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NAUTICAL ADVISERS AND PUBLISHERS

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WARNING

Every effort has been made to ensure that the information contained in this *Guide* is correct. However, it will be clearly understood that this book is intended as a guide only, that the information cannot be *Guaranteed* correct and that final responsibility must (as always) rest with the Shipmaster.

At certain ports, items of navigational routeings and aids have been included as a means of general guidance only. Shipmasters should have in mind that full and due reference MUST ALWAYS be made to corrected charts of the area, to the appropriate Notices to Mariners, and all or any other navigational notices, warnings or amendments issued by proper Authorities and/or navigational aid services.

The sketch maps are for general assistance and must not be used for navigational purposes. In particular, the shapes of buoys should be disregarded since these are indicated by varying symbols which may be consequent upon local usage and without resemblance to internationally applied symbols.

PLANS

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Shipmasters, Shipowners or Managers, Port Authorities, Administrators and Agents, are earnestly requested to assist our work in up-dating the Guide *by providing written comment, amendments or corrections, plus additional plans of any ports or terminals, to the following address:*

SHIPPING GUIDES LIMITED,
75 BELL STREET,
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All communications will be acknowledged and will be most useful, since it is only by this means that the *Guide* will remain of great value to the user, and will be up to date and thoroughly professional in content.

PLANS, DIAGRAMS, DRAWINGS AND SKETCHES: As you will note, this 1985/86 edition of "Guide to Port Entry" contains approx. two thousand two hundred port plans and mooring diagrams that have been reproduced from plans and drawings very kindly sent to us by numerous Port Authorities, Agents and shipboard personnel. We hope this plan volume will prove interesting and useful.

Presently however, the plan volume is to an extent incomplete, since there are ports and mooring facilities for which we have not yet received the necessary plans for reproduction purposes. We are anxious to secure plans, diagrams, drawings or sketches of ports and facilities not presently shown in this plan volume, and therefore request that Port Authorities and/or Agents at the places concerned be kind enough to pass us this data together with the necessary permission for reproduction. We would also be very grateful if ship's officers calling at ports not already covered in this plan volume could find it possible to provide us with diagrams or sketches of the facilities which would be suitable for reproduction in our later editions and/or which might be re-drawn as required by our own art department prior to reproduction.

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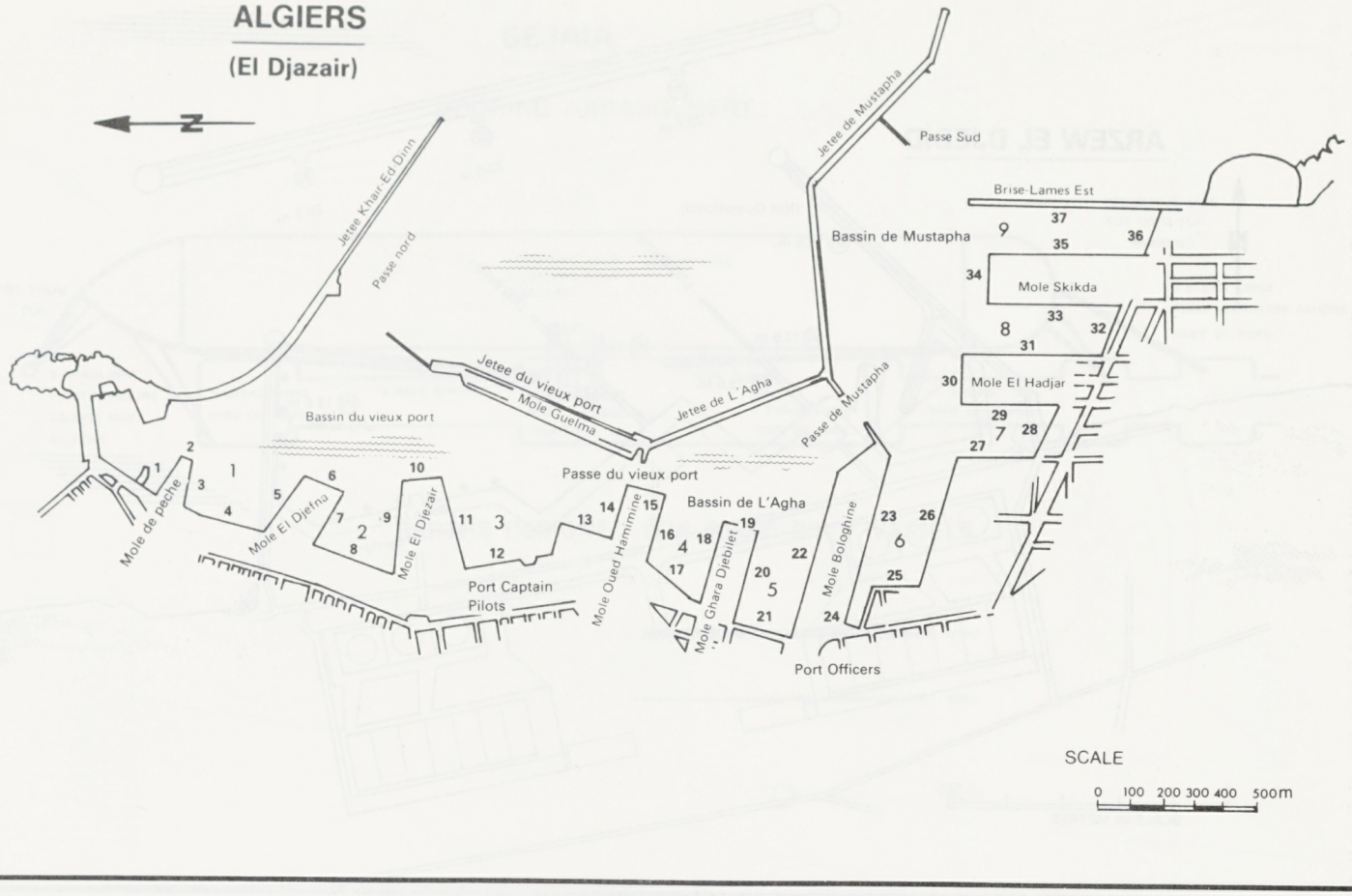
(El Djazair)



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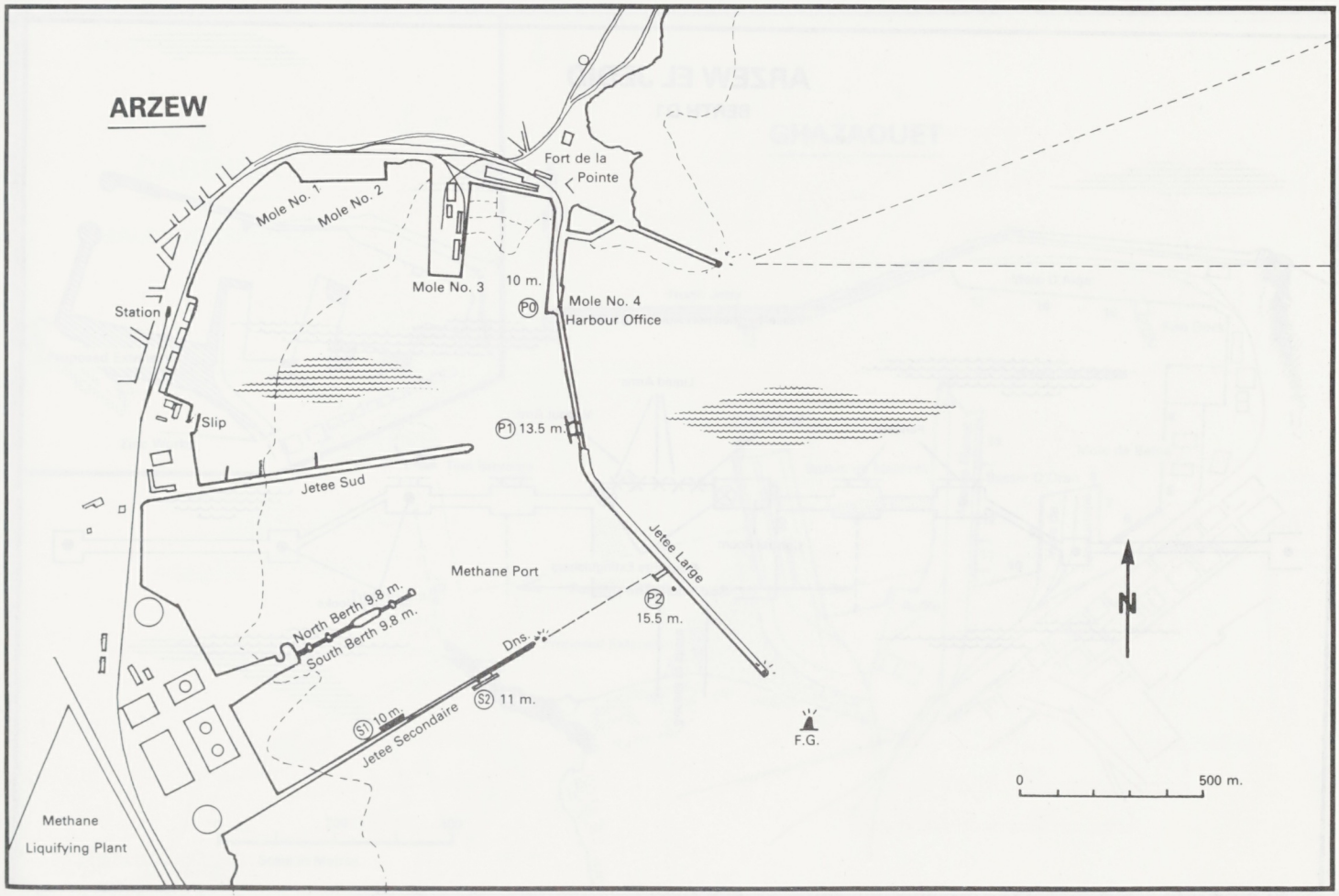
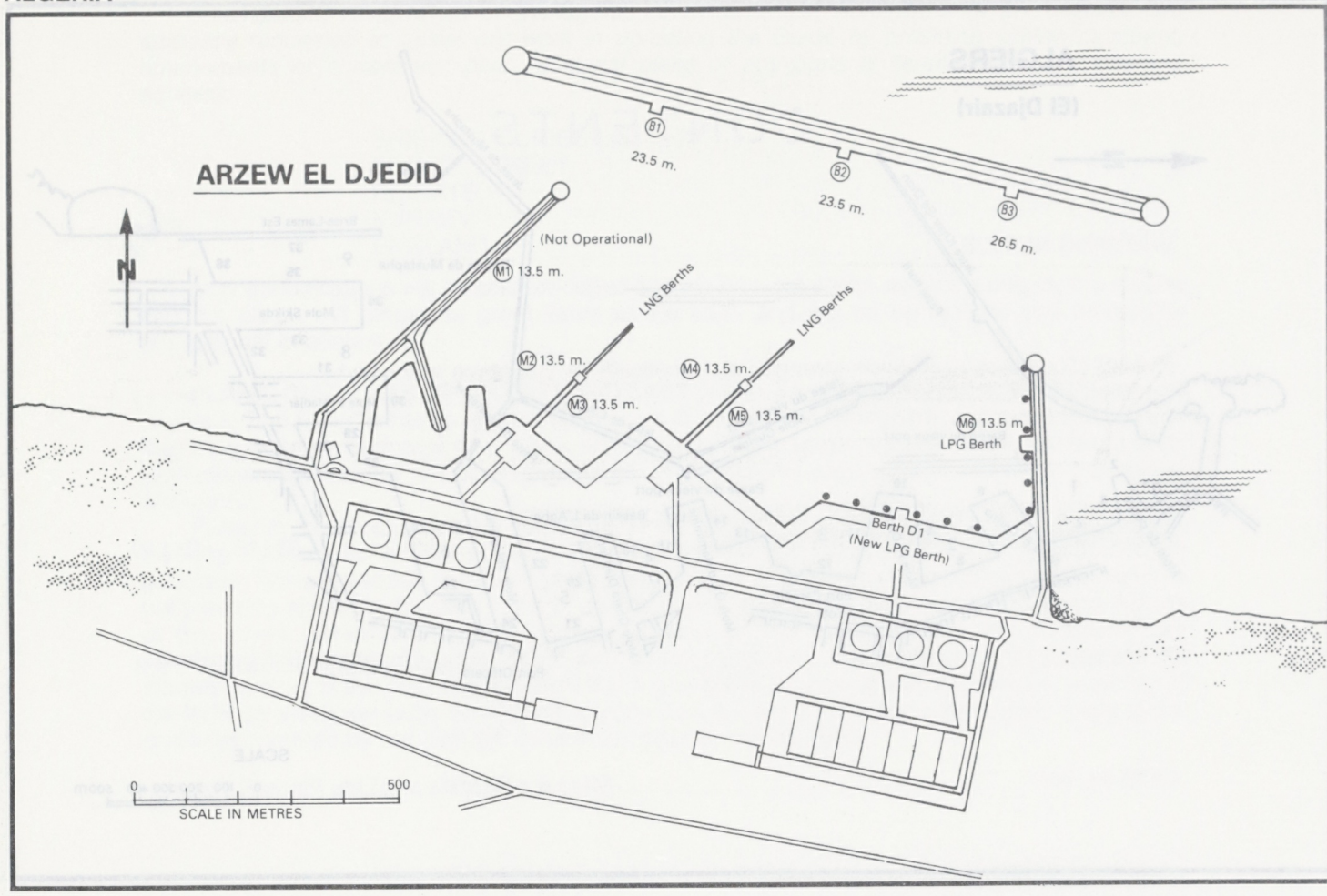
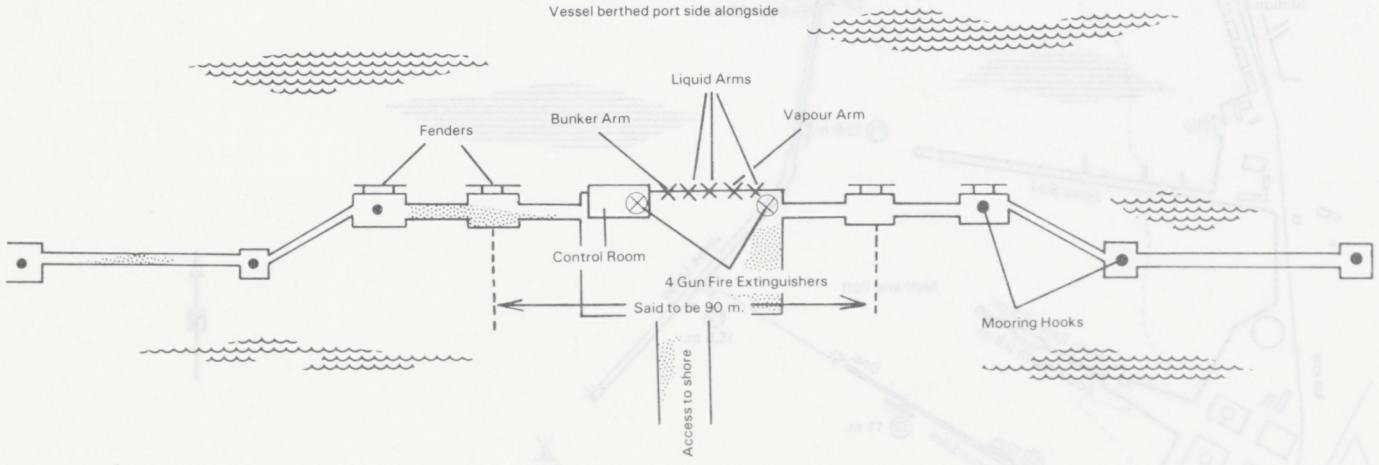




ARZEW EL JEDID

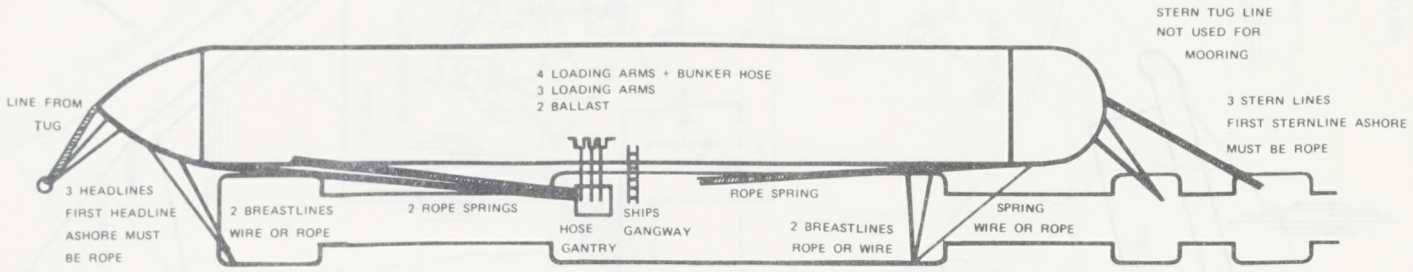
BERTH D1



"Plan supplied by Ship's Master"

BEJAIA

MOORING ARRANGEMENT



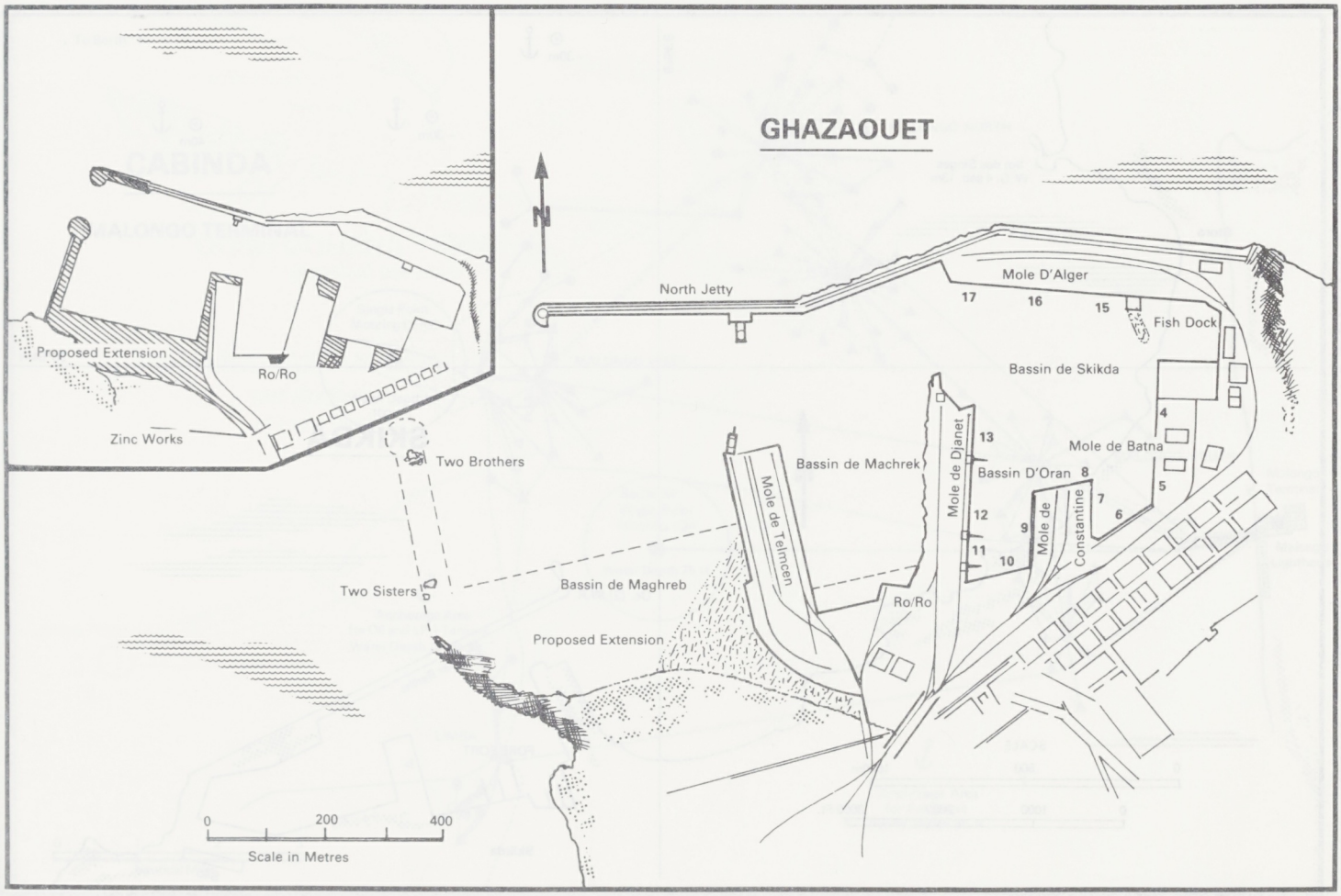
BERTHS DESIGNED FOR 30,000 D W T VESSELS

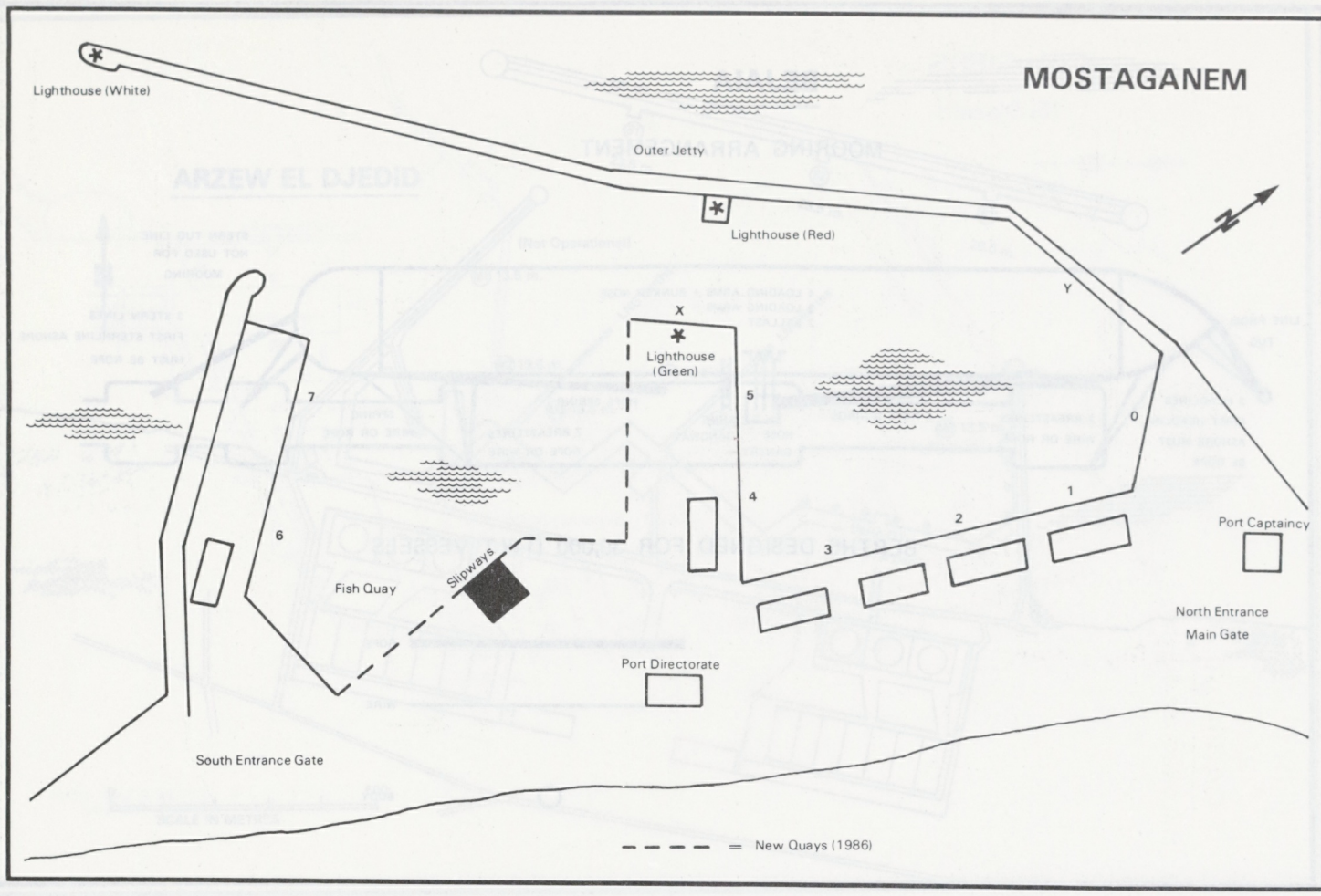
ROPE

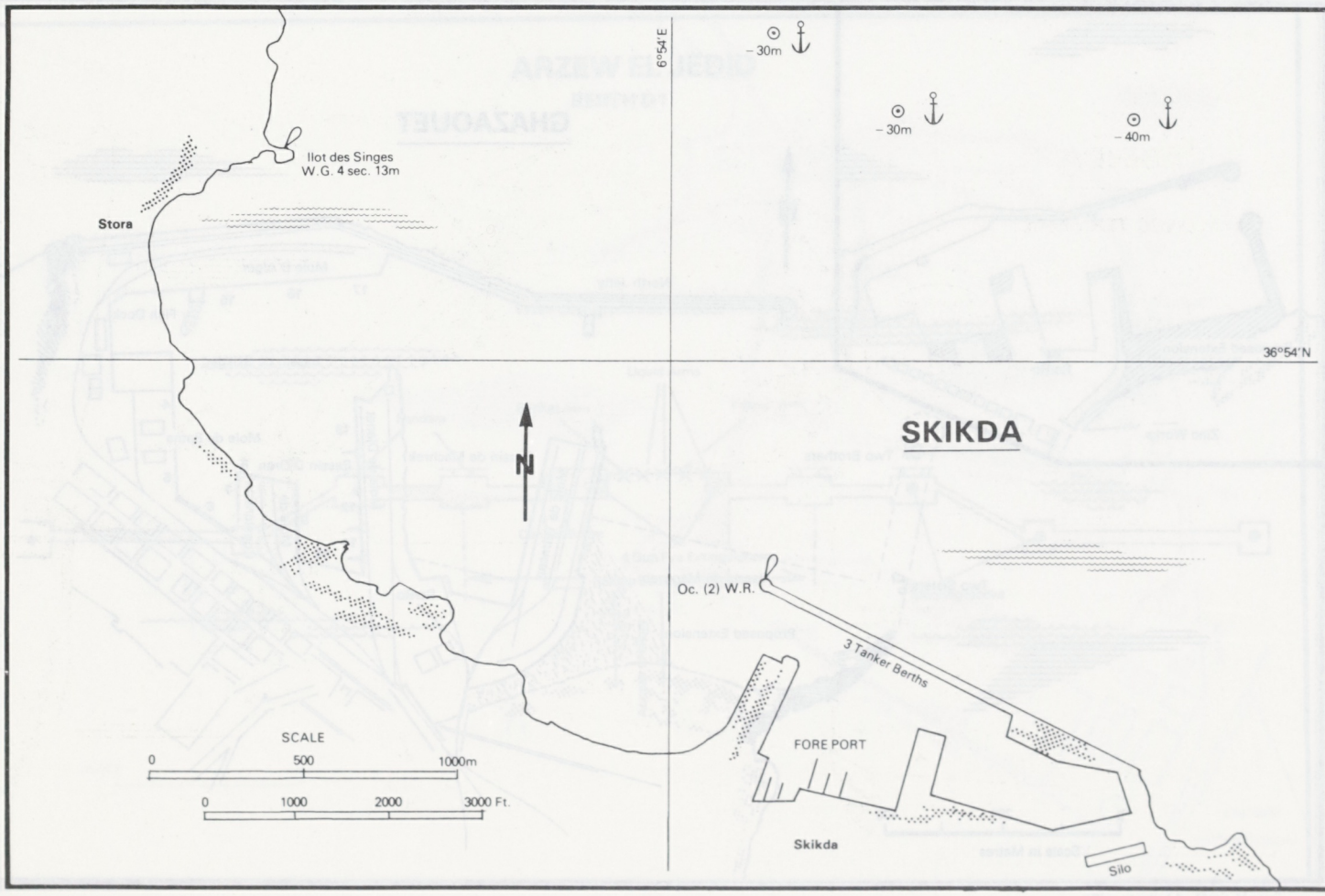
WIRE

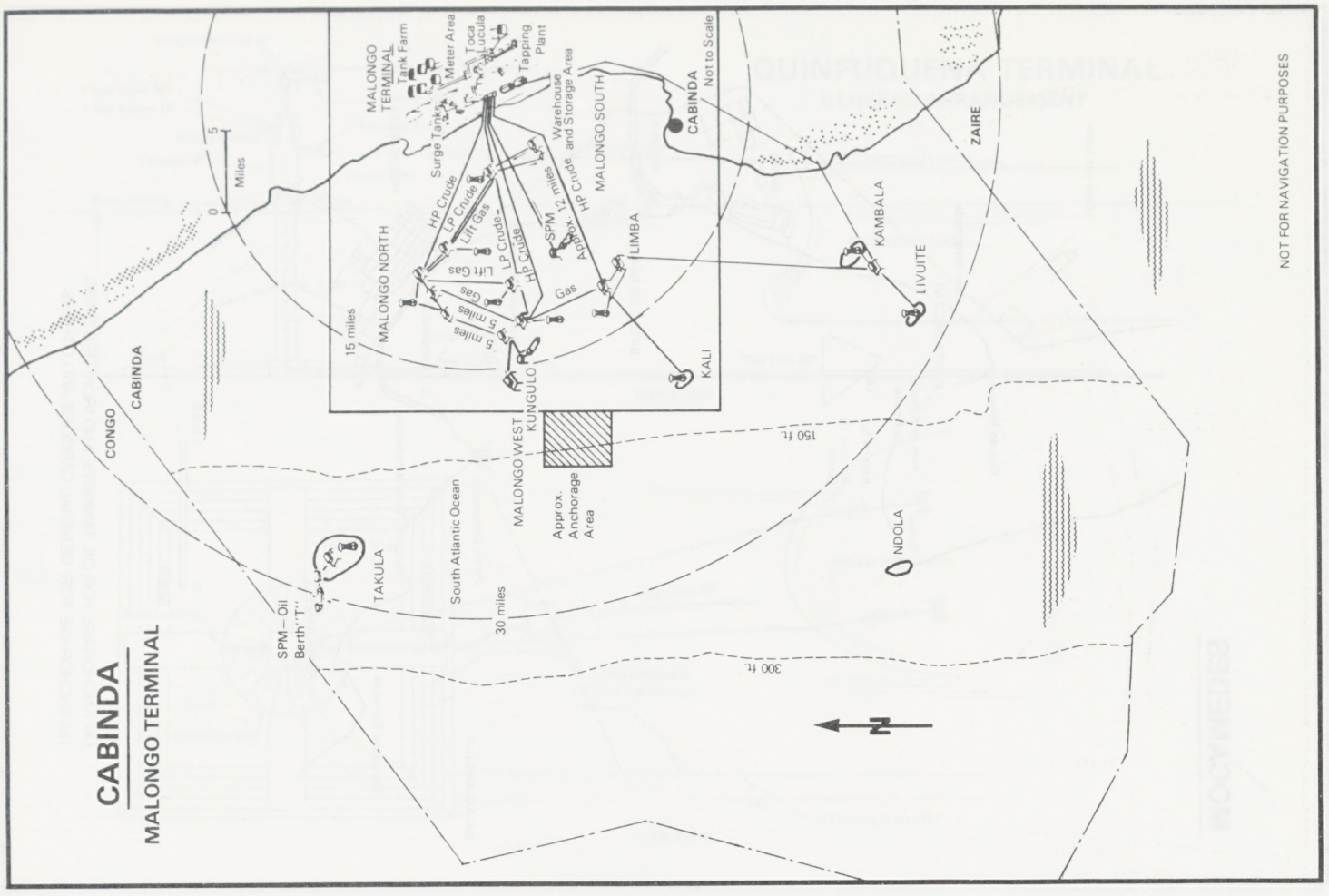
BUOY

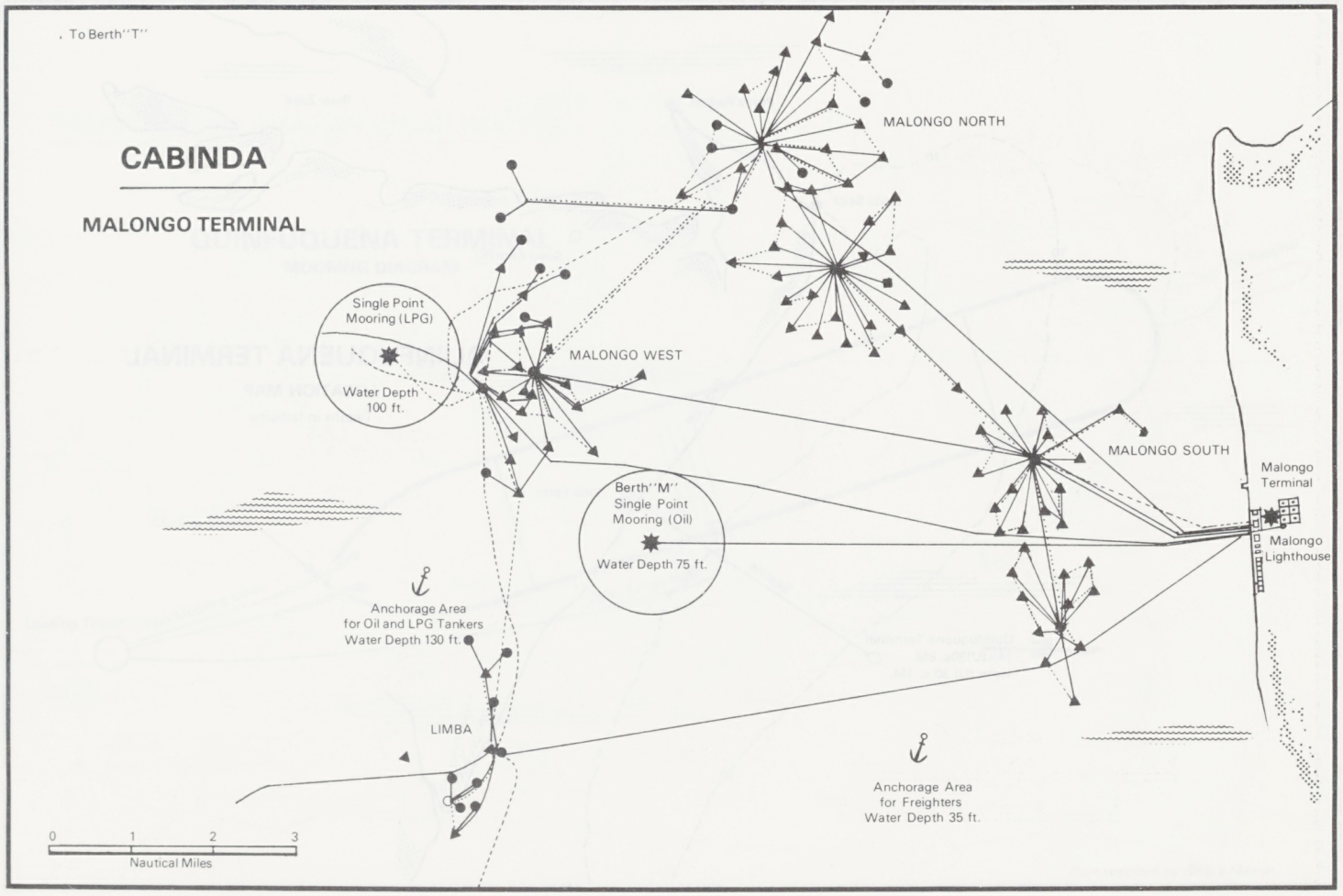
GHAZAOUET

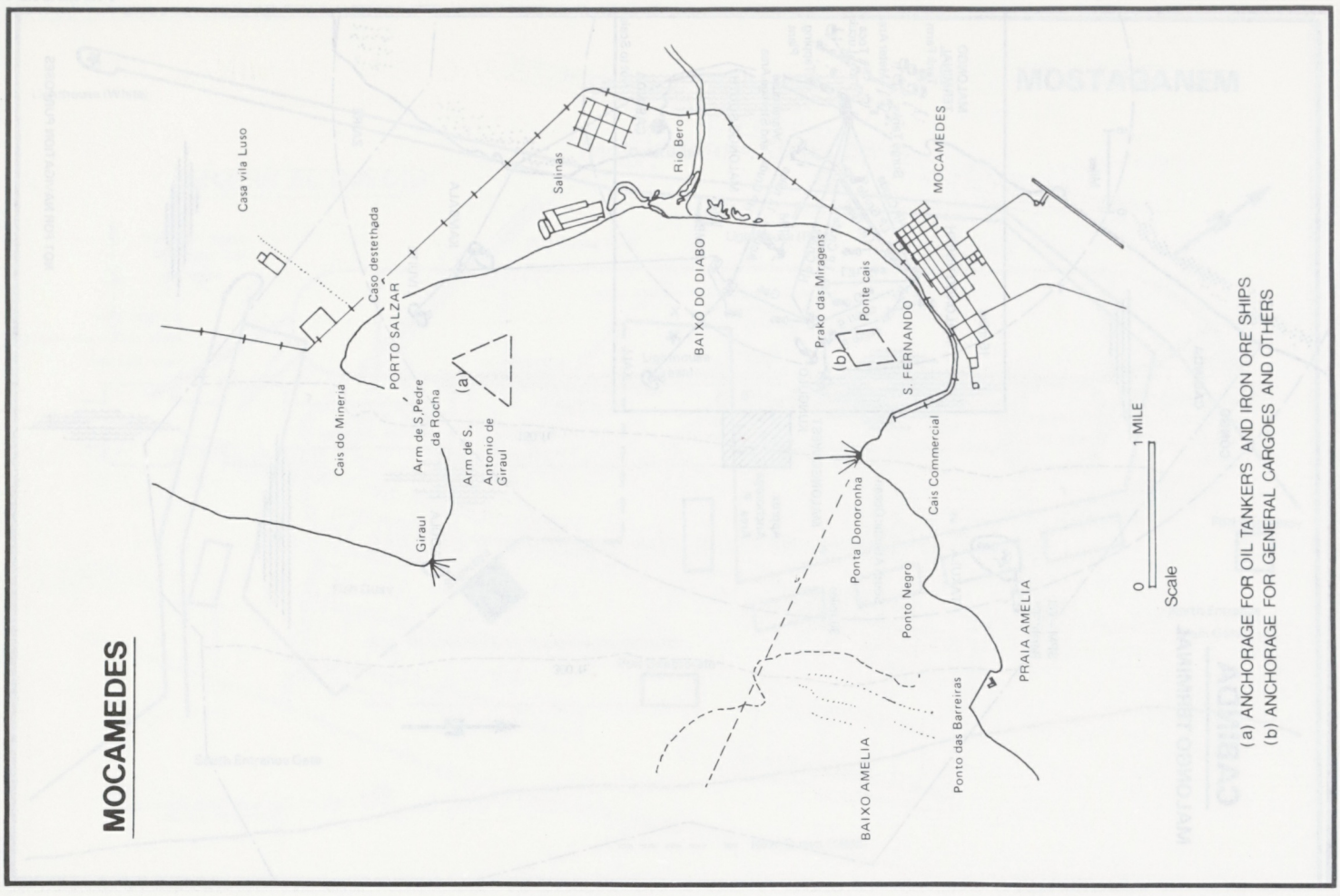


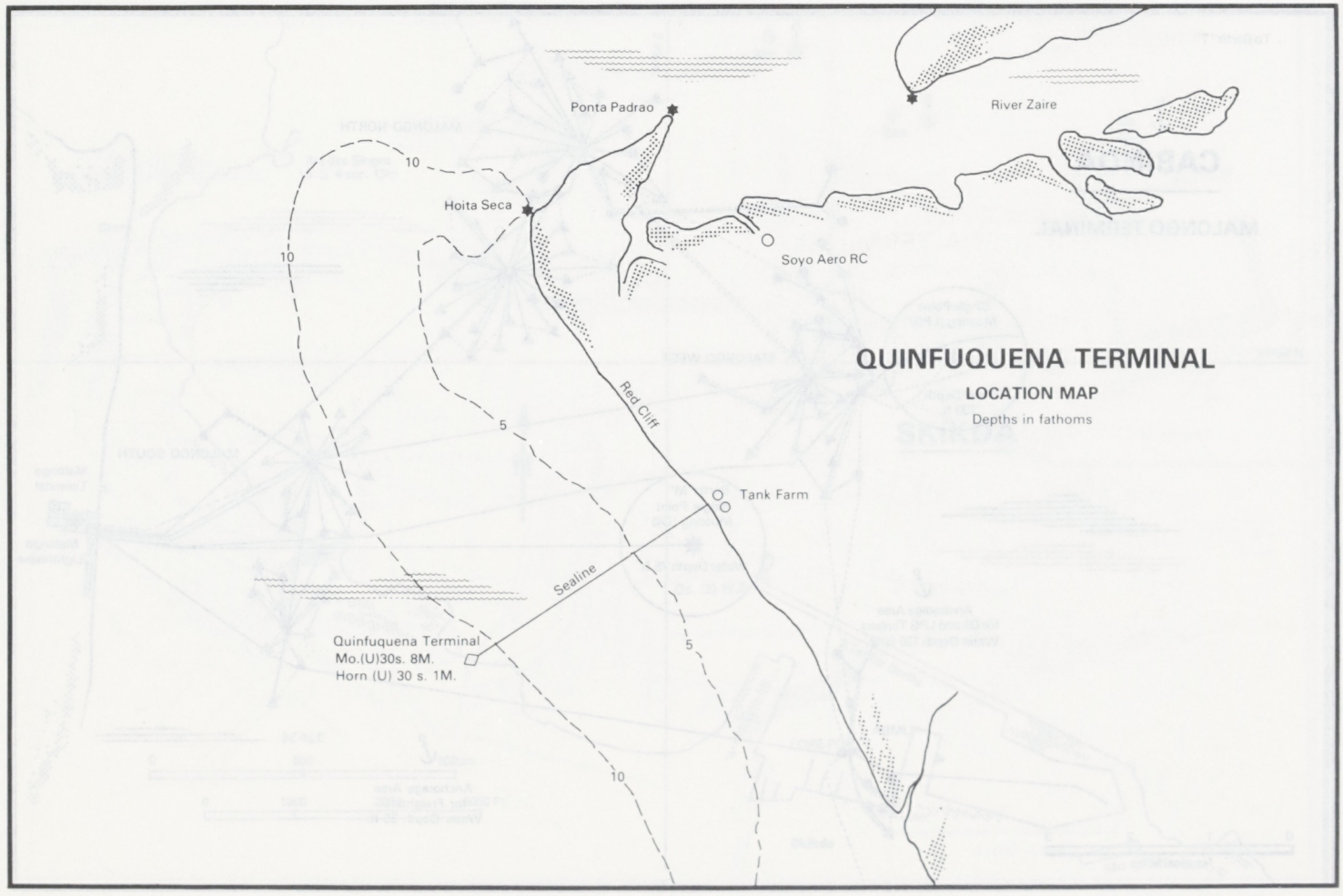

MOSTAGANEM
Lighthouse (White)
Outer Jetty
Lighthouse (Red)
N
Y
X
Lighthouse (Green)
7
6
5
4
3
2
1
0
Fish Quay
Slipways
Port Captaincy
North Entrance
Main Gate
Port Directorate
South Entrance Gate
= New Quays (1986)


6°54'E
-30m
-30m
-40m
Ilot des Singes
W.G. 4 sec. 13m
Stora
36°54'N
SKIKDA
N
Oc. (2) W.R.
3 Tanker Berths
FORE PORT
Skikda
Silo
SCALE
0 500 1000m
0 1000 2000 3000 Ft.


CABINDA
MALONGO TERMINAL
MALONGO TERMINAL Tank Farm
Meter Area
Toca
Lucula
Tapping Plant
Surge Tank
Warehouse and Storage Area
MALONGO SOUTH
CABINDA Not to Scale
HP Crude
LP Crude
Lift Gas
SPM 12 miles
Approx.
HP Crude
LIMBA
MALONGO NORTH
15 miles
5 miles
Gas
KALI
KUNGULO
MALONGO WEST
Approx. Anchorage Area
150 ft.
300 ft.
South Atlantic Ocean
30 miles
TAKULA
SPM—Oil Berth "T"
CONGO
CABINDA
ZAIRE
KAMBALA
LIVUITE
NDOLA
Miles
5
0
NOT FOR NAVIGATION PURPOSES
N

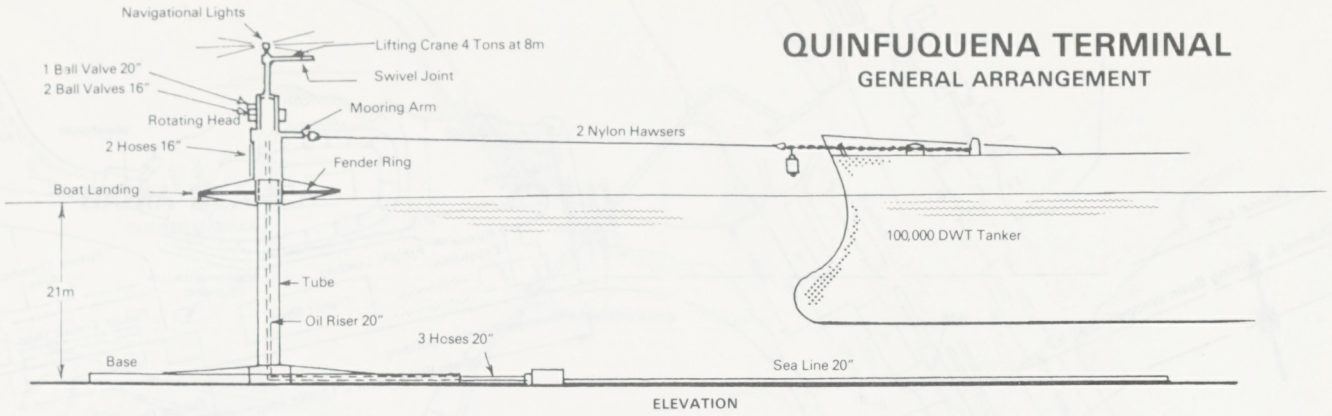

To Berth "T"
CABINDA
MALONGO TERMINAL
MALONGO NORTH
MALONGO WEST
MALONGO SOUTH
Single Point Mooring (LPG)
Water Depth 100 ft.
Berth "M" Single Point Mooring (Oil)
Water Depth 75 ft.
Anchorage Area for Oil and LPG Tankers Water Depth 130 ft.
Anchorage Area for Freighters Water Depth 35 ft.
LIMBA
Malongo Terminal
Malongo Lighthouse
0 1 2 3
Nautical Miles


MOCAMEDES
Casa vila Luso
Caso destetihada
PORTO SALZAR
Salinas
Rio Bero
MOCAMEDES
BAIXO DO DIABO
Prako das Miragens
Ponte cais
S. FERNANDO
(b)
(a)
Cais do Mineria
Arm de S.Pedre da Rocha
Arm de S. Antonio de Giraul
Giraul
Ponta Donoronha
Cais Commercial
Ponto Negro
PRAIA AMELIA
Ponto das Barreiras
BAIXO AMELIA
1 MILE
0
Scale
(a) ANCHORAGE FOR OIL TANKERS AND IRON ORE SHIPS
(b) ANCHORAGE FOR GENERAL CARGOES AND OTHERS

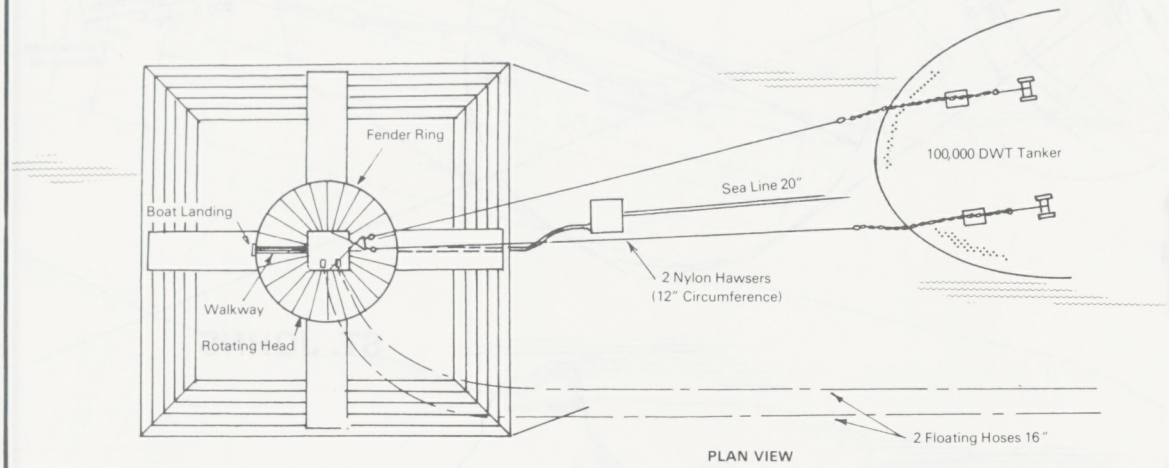

Ponta Padrao
River Zaire
10
Hoita Seca
10
Soyo Aero RC
QUINFUQUENA TERMINAL
LOCATION MAP
Depths in fathoms
Red Cliff
5
Tank Farm
Sealine
Quinfuquena Terminal
Mo.(U)30s. 8M.
Horn (U) 30 s. 1M.
5
10

QUINFUQUENA TERMINAL

GENERAL ARRANGEMENT



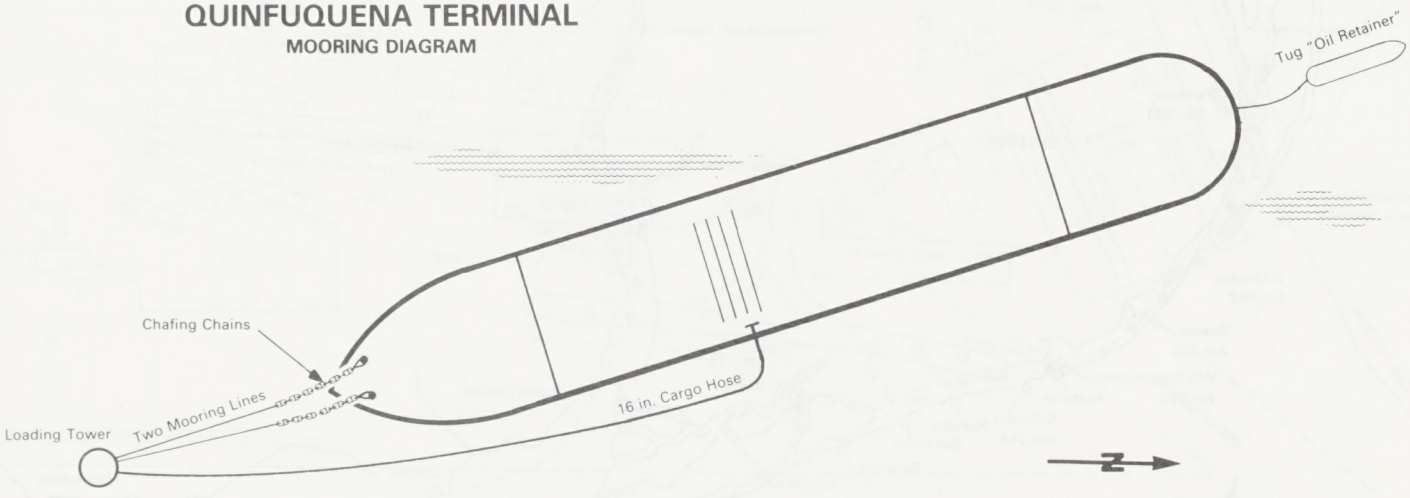
ELEVATION



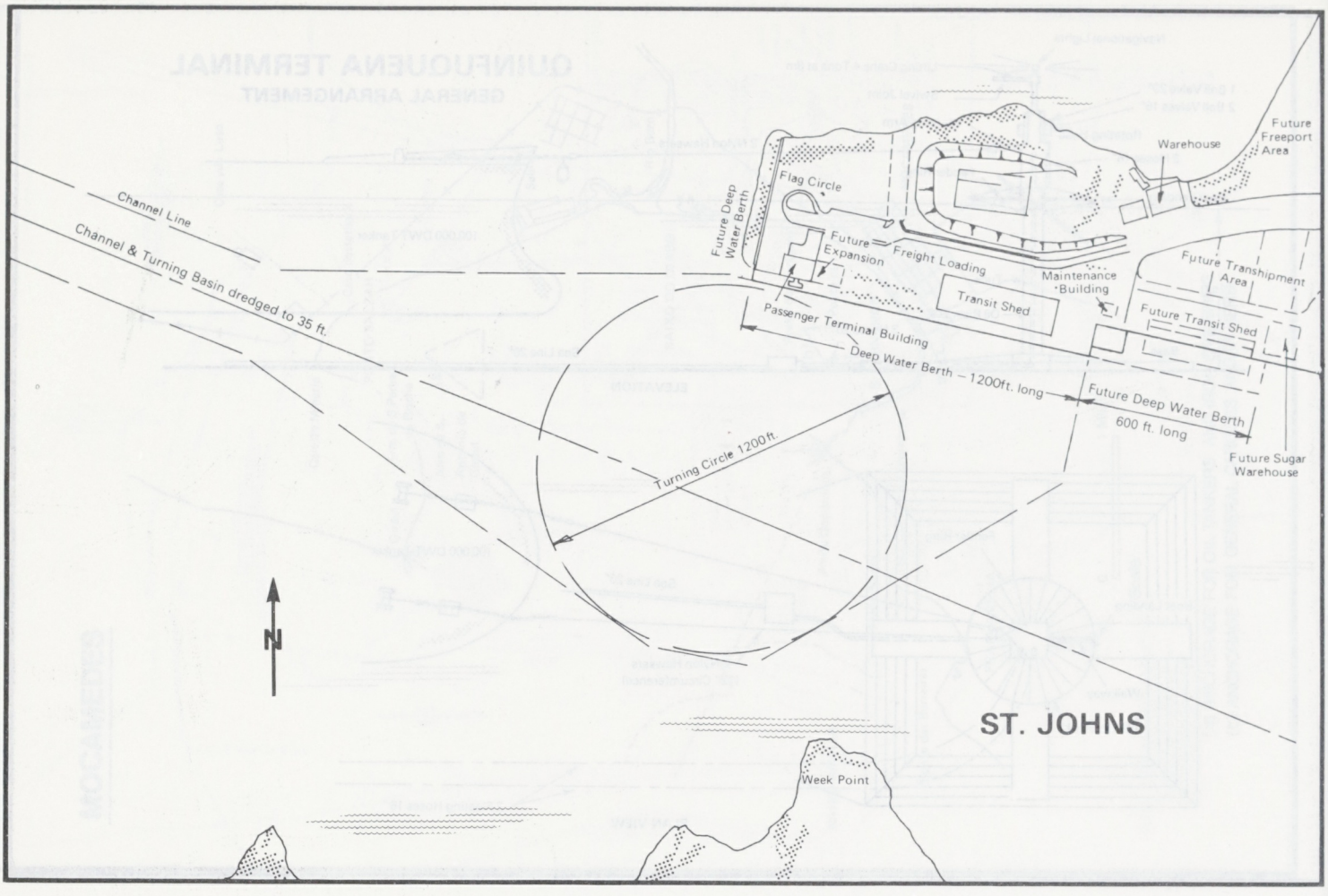
PLAN VIEW

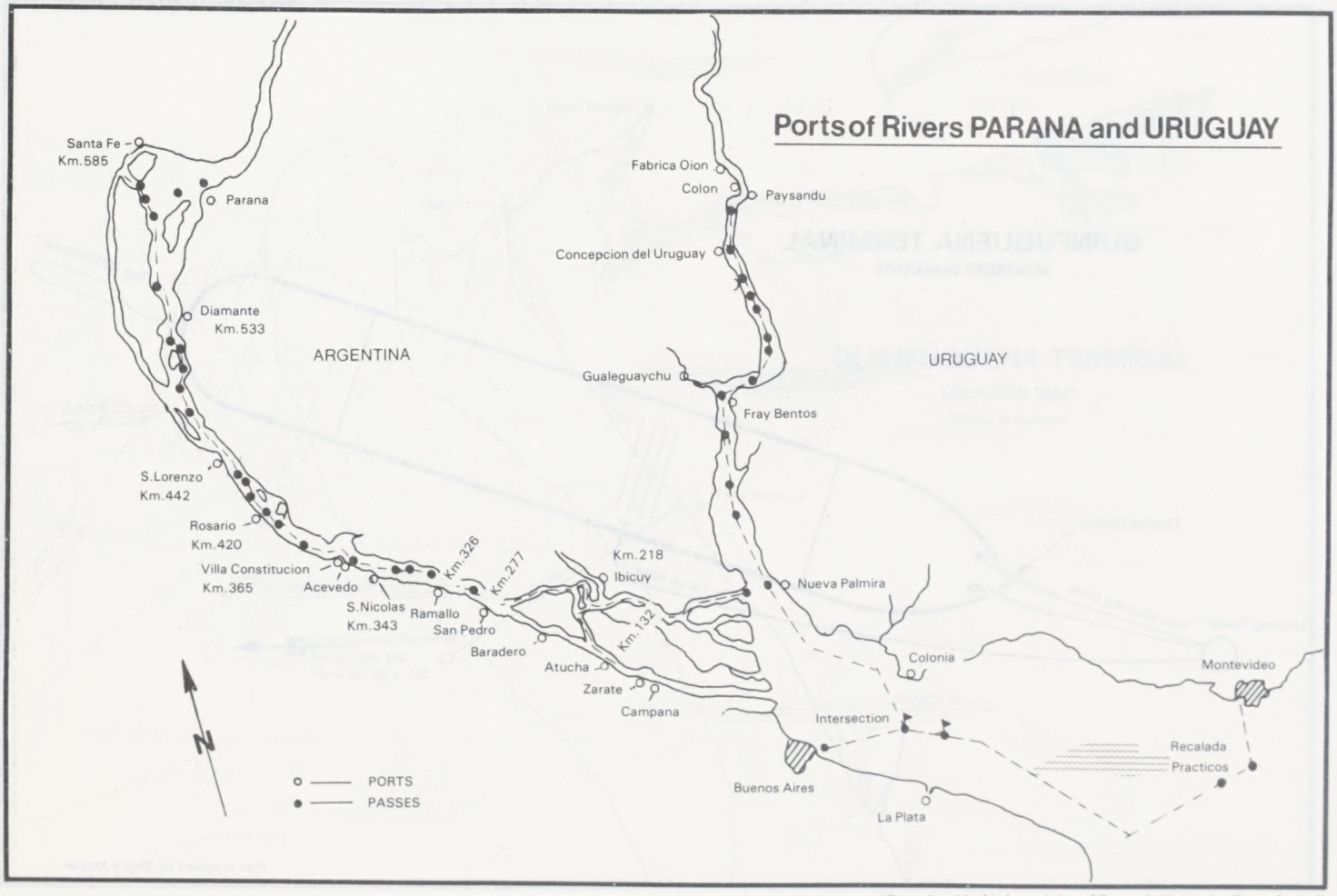
QUINFUQUENA TERMINAL

MOORING DIAGRAM



Plan supplied by Ship's Master





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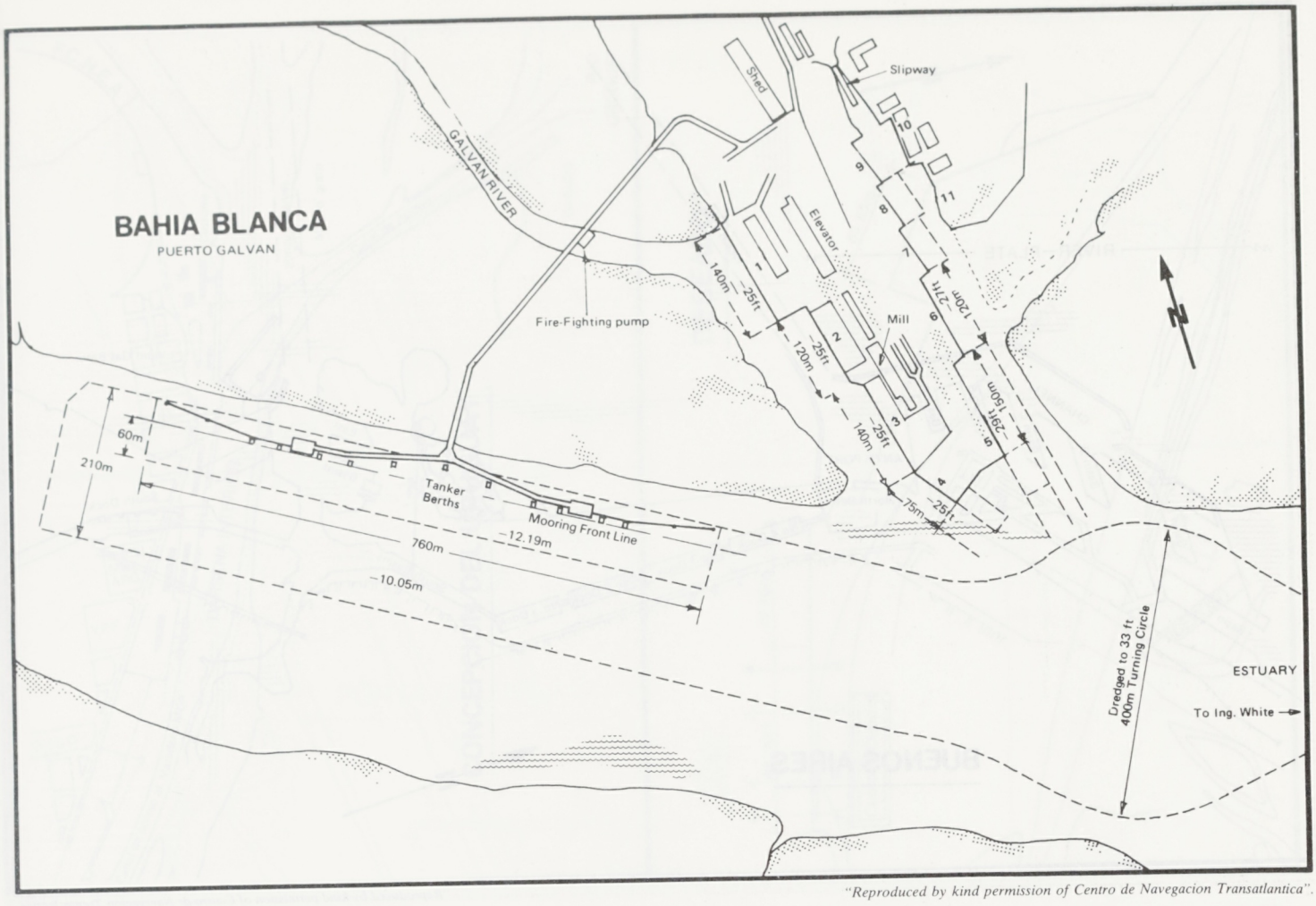

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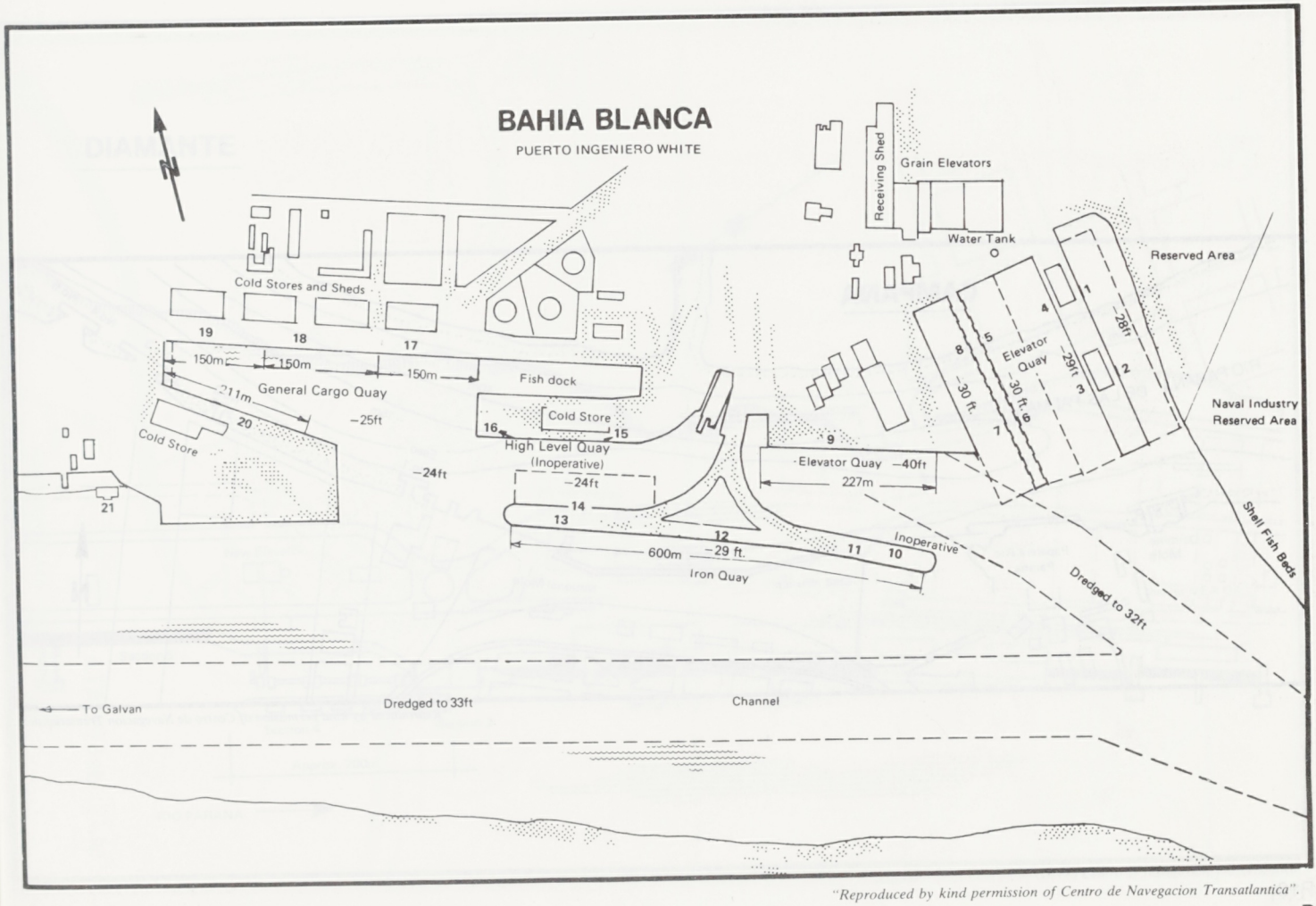

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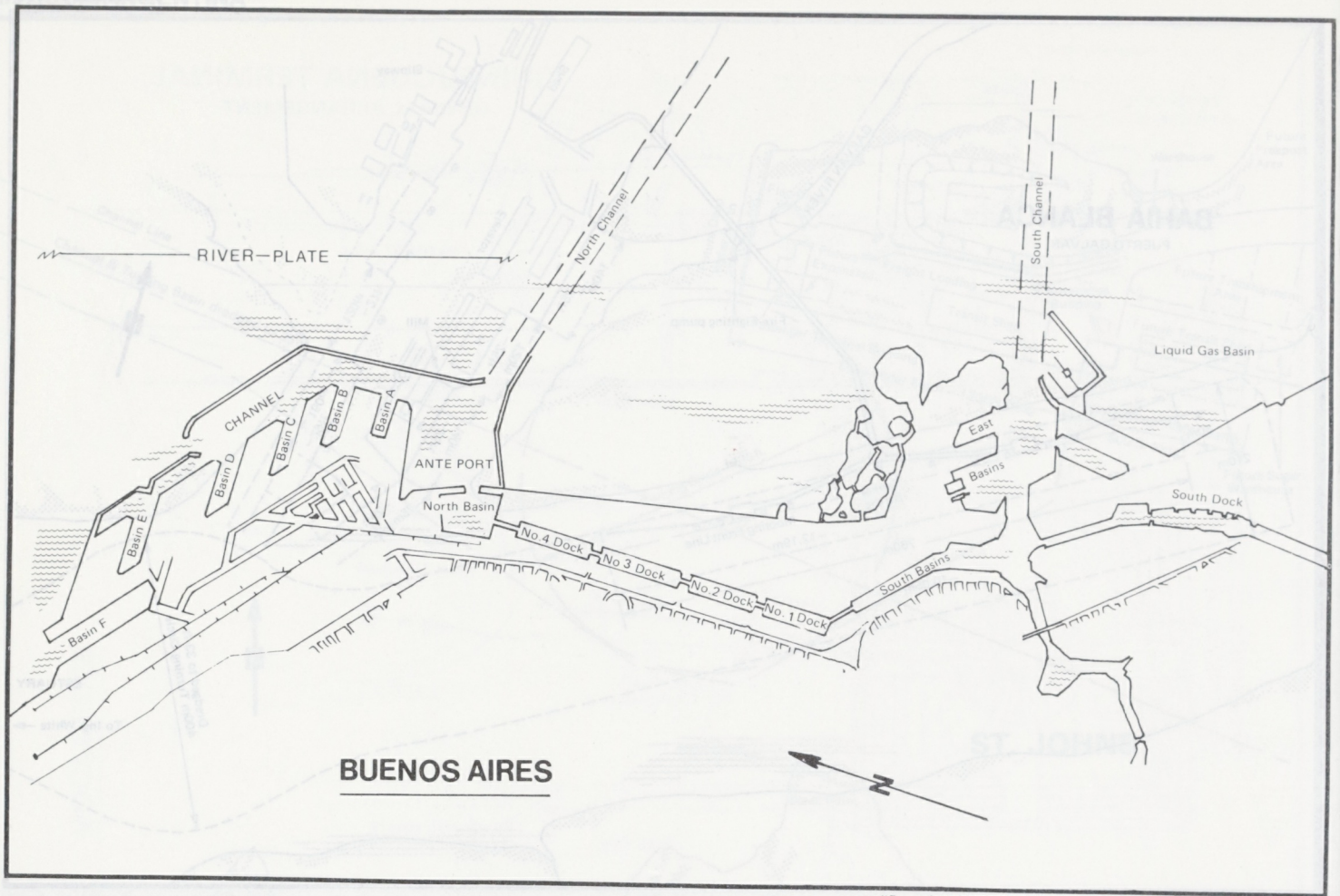

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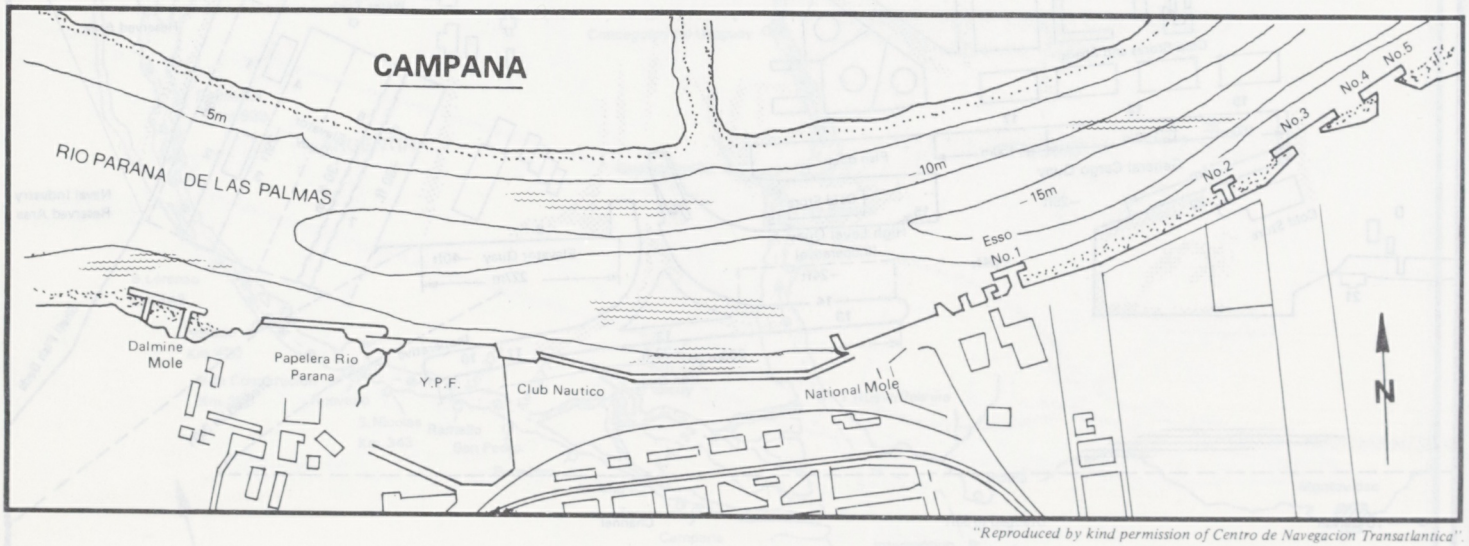

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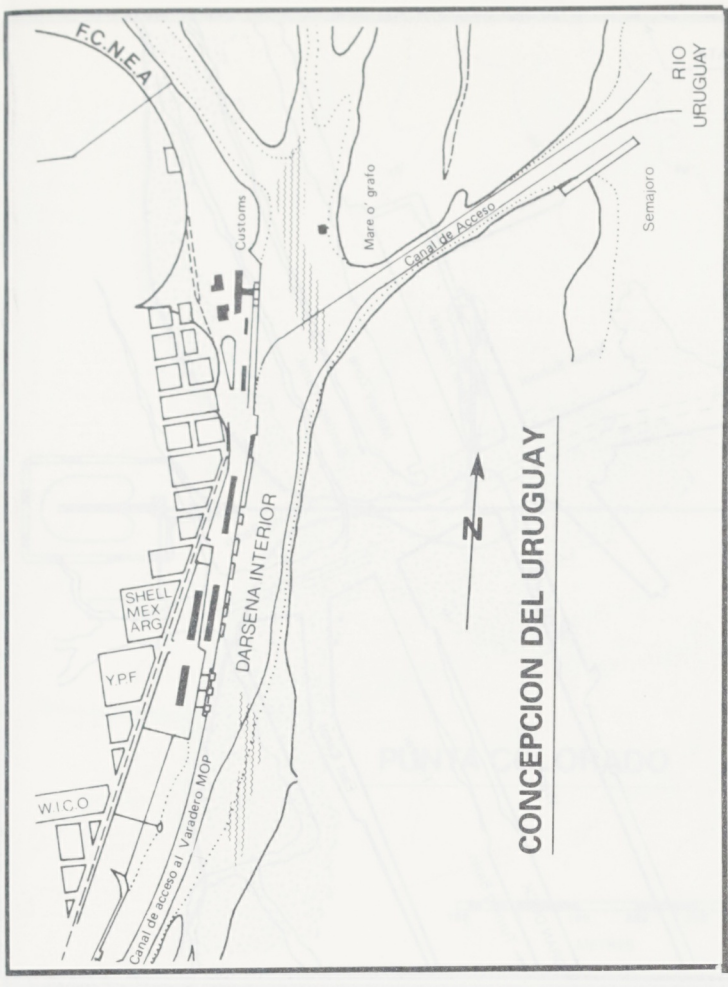

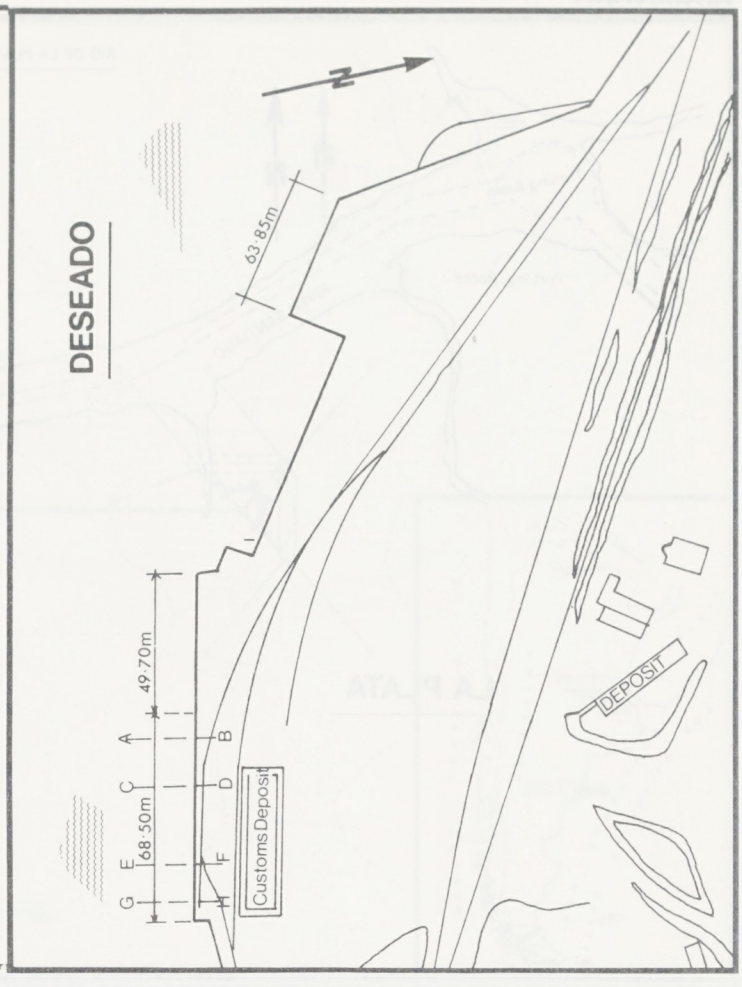

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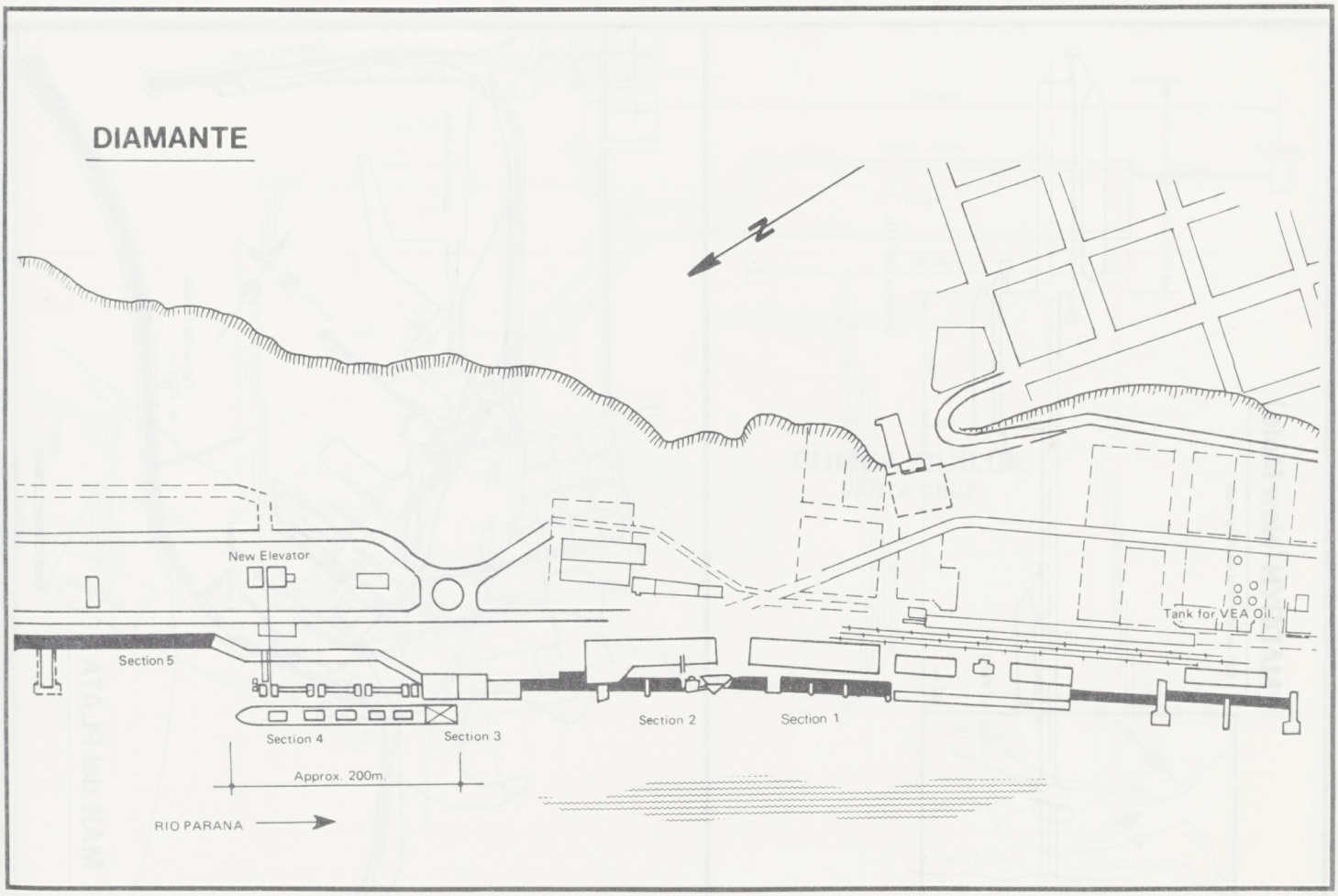

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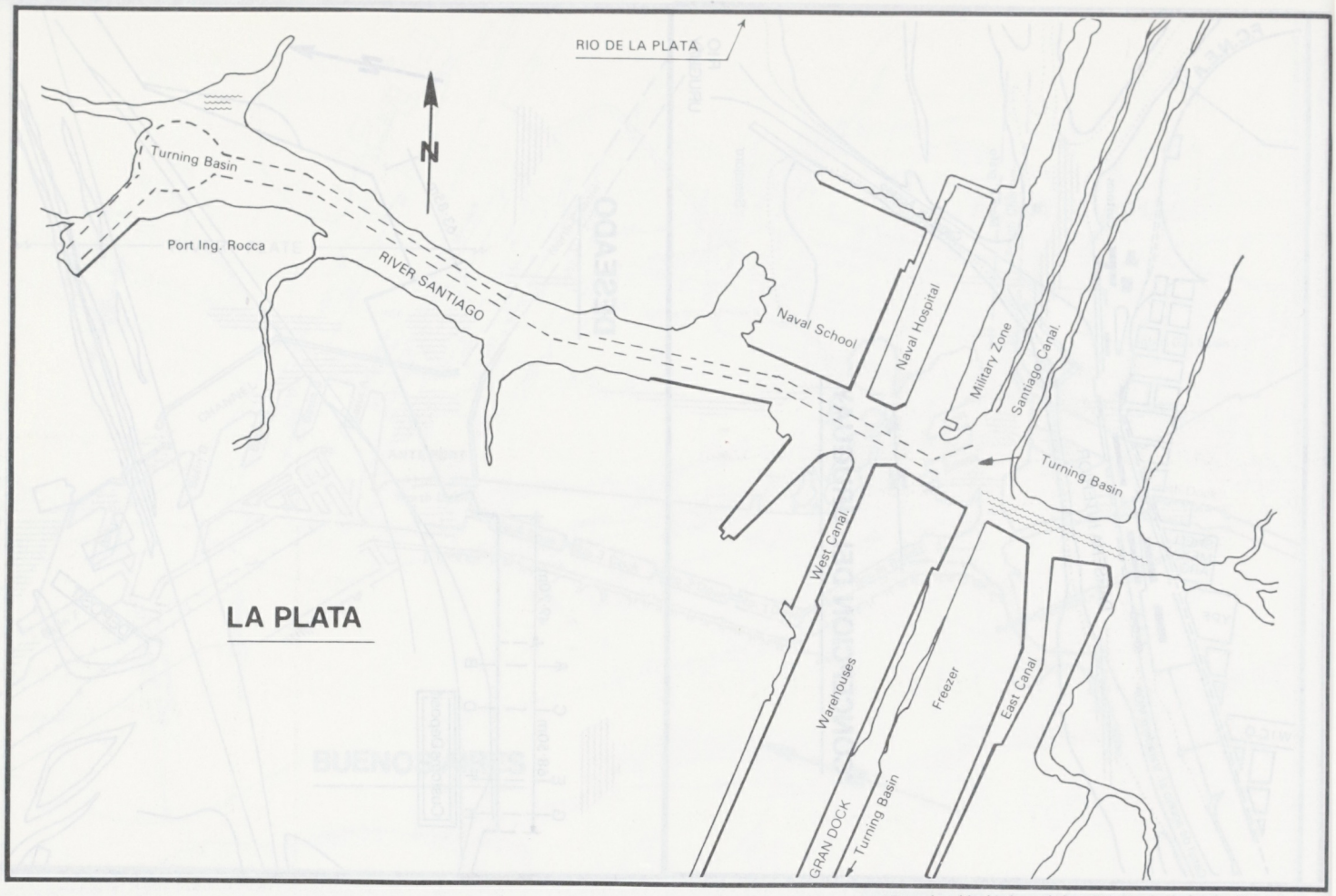

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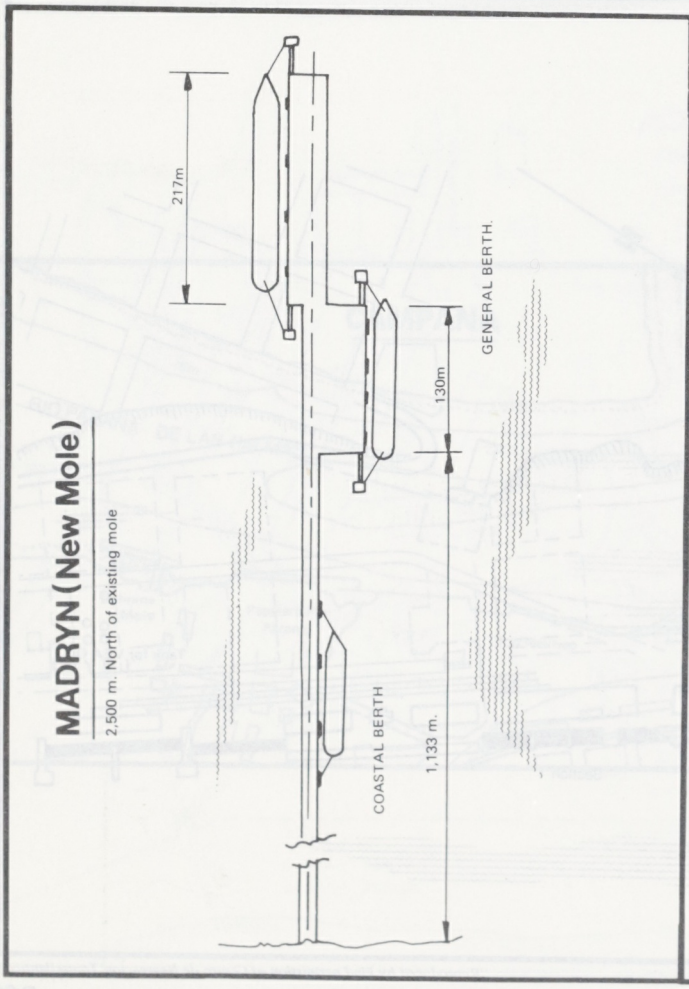

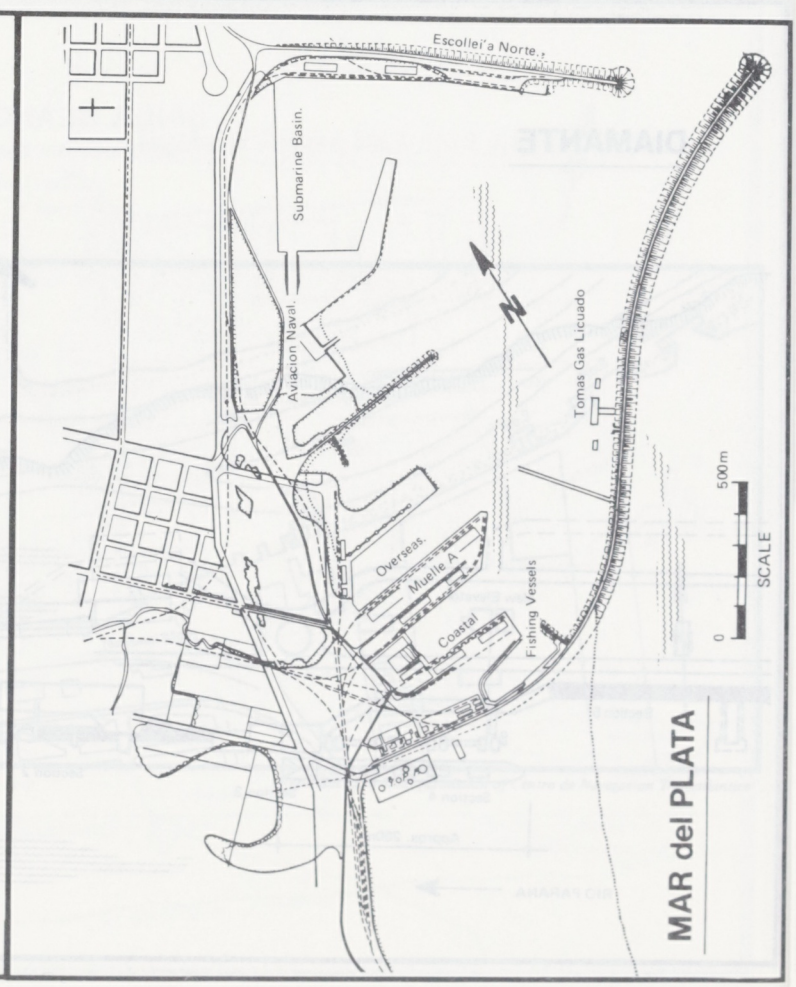

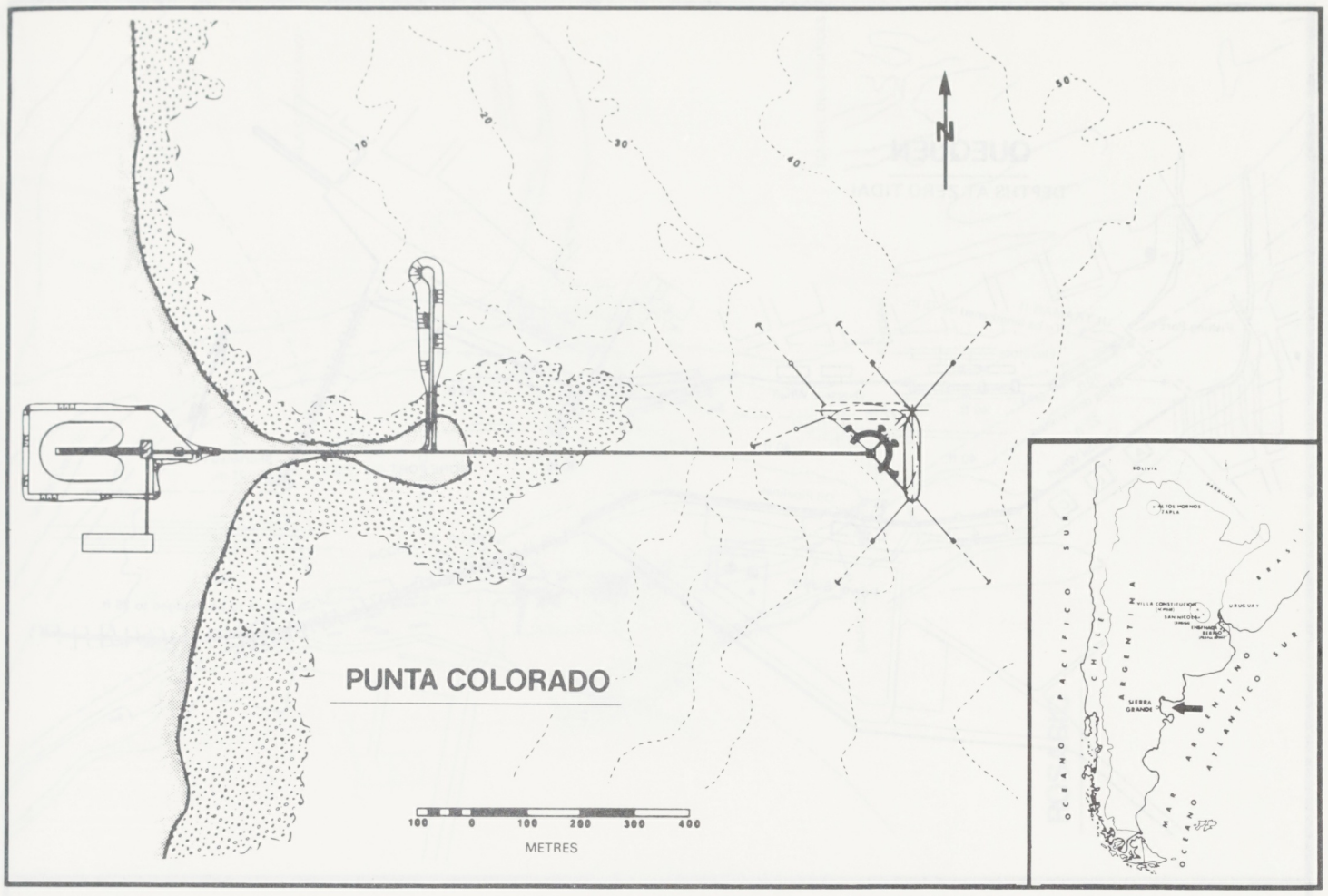

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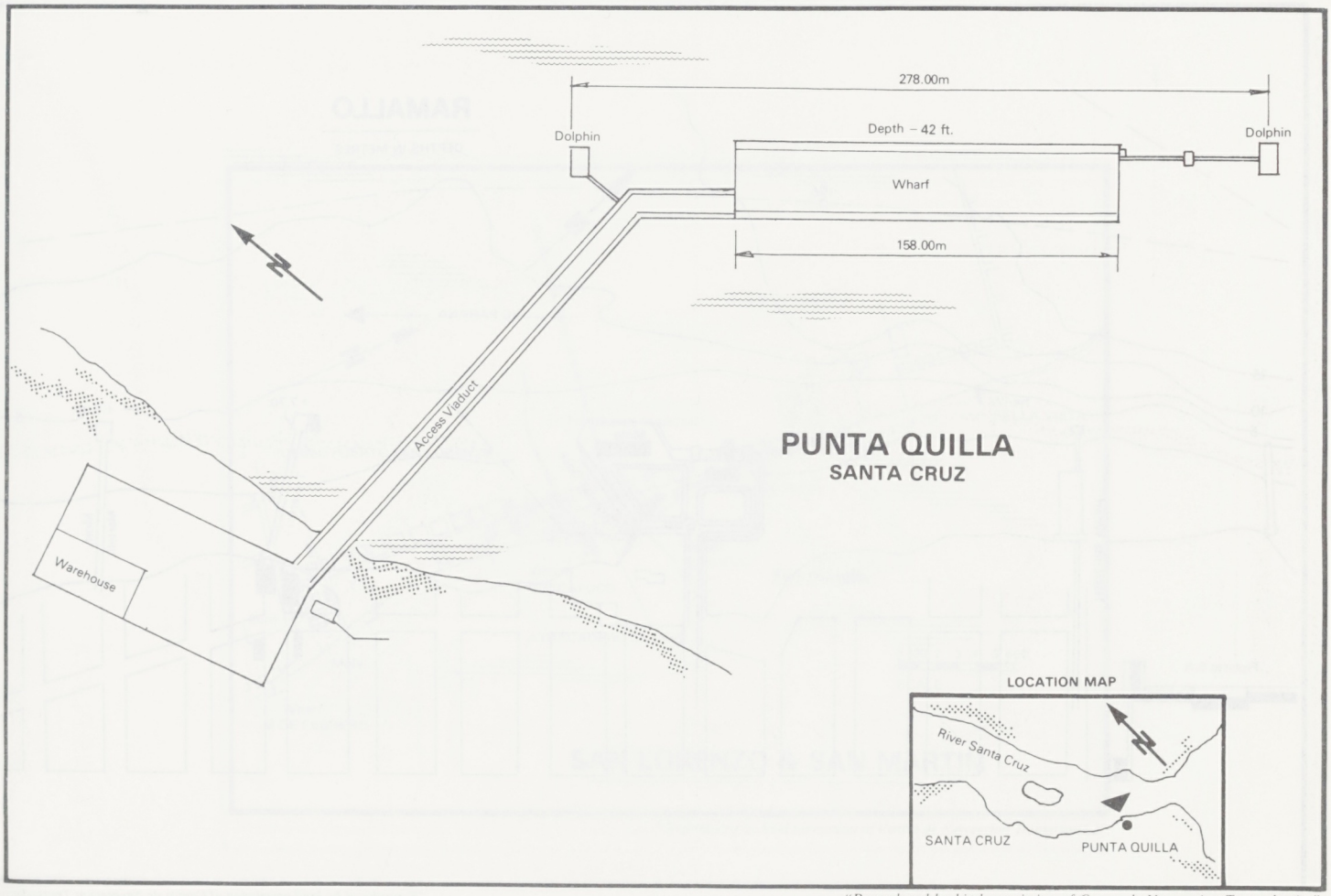

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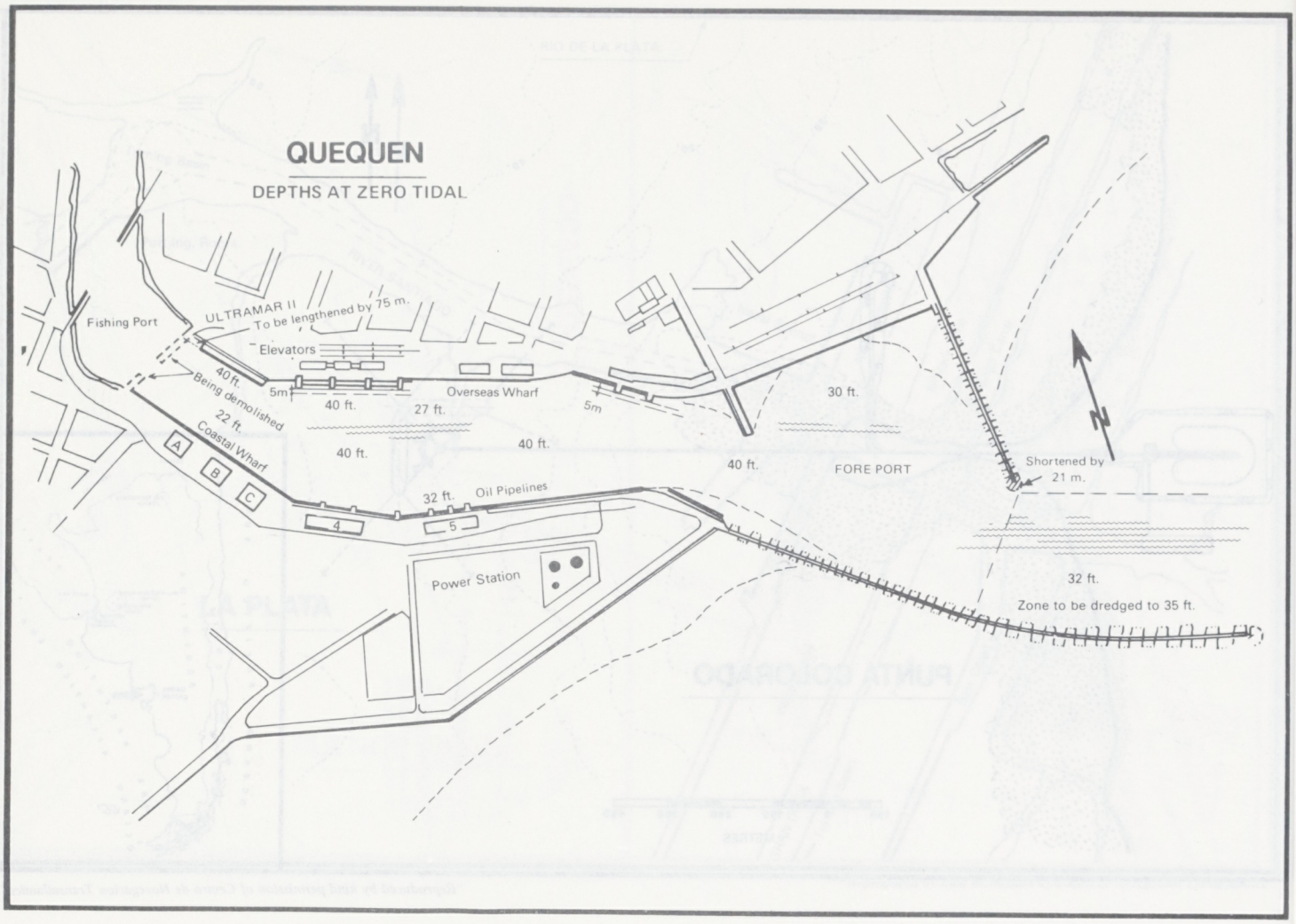

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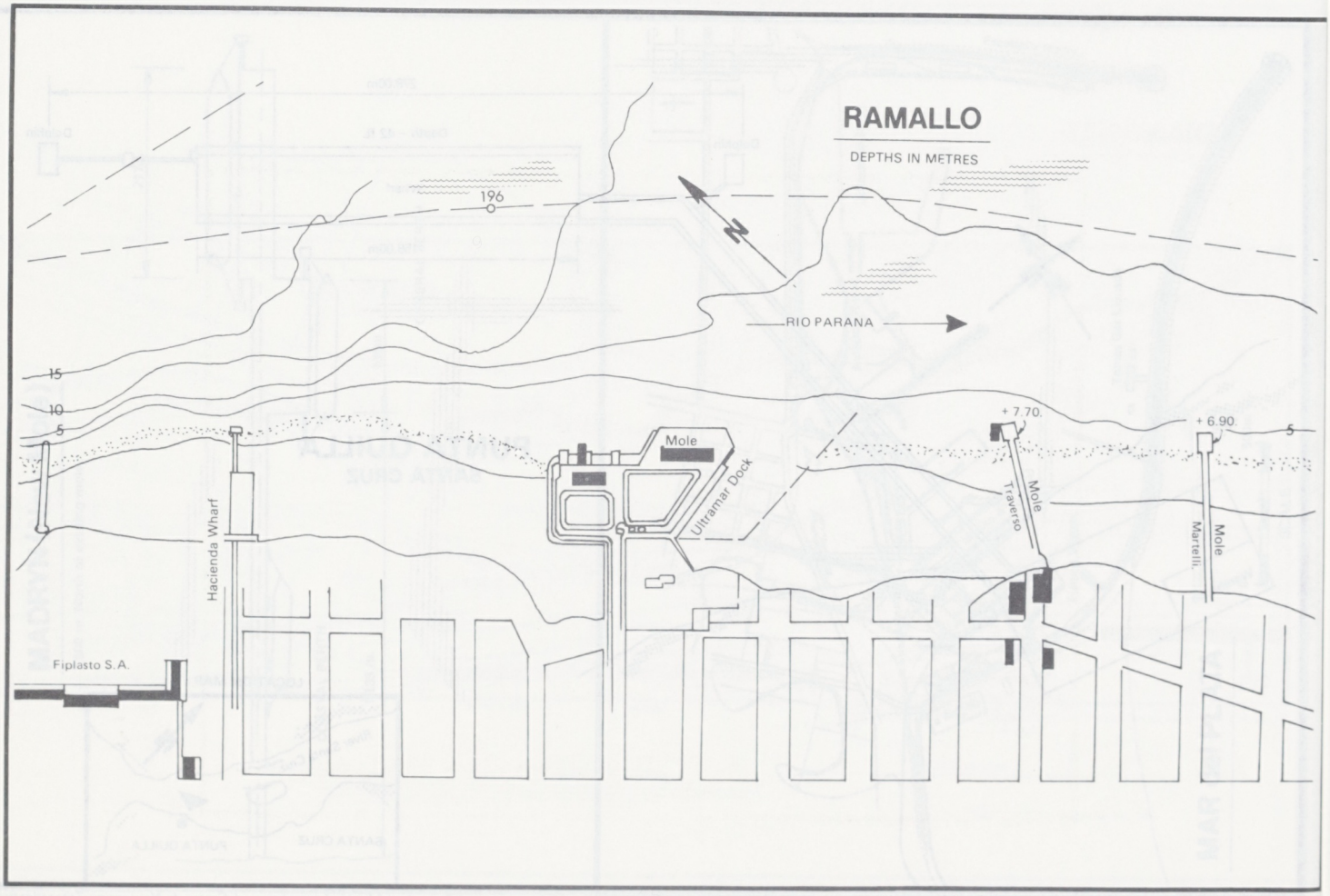

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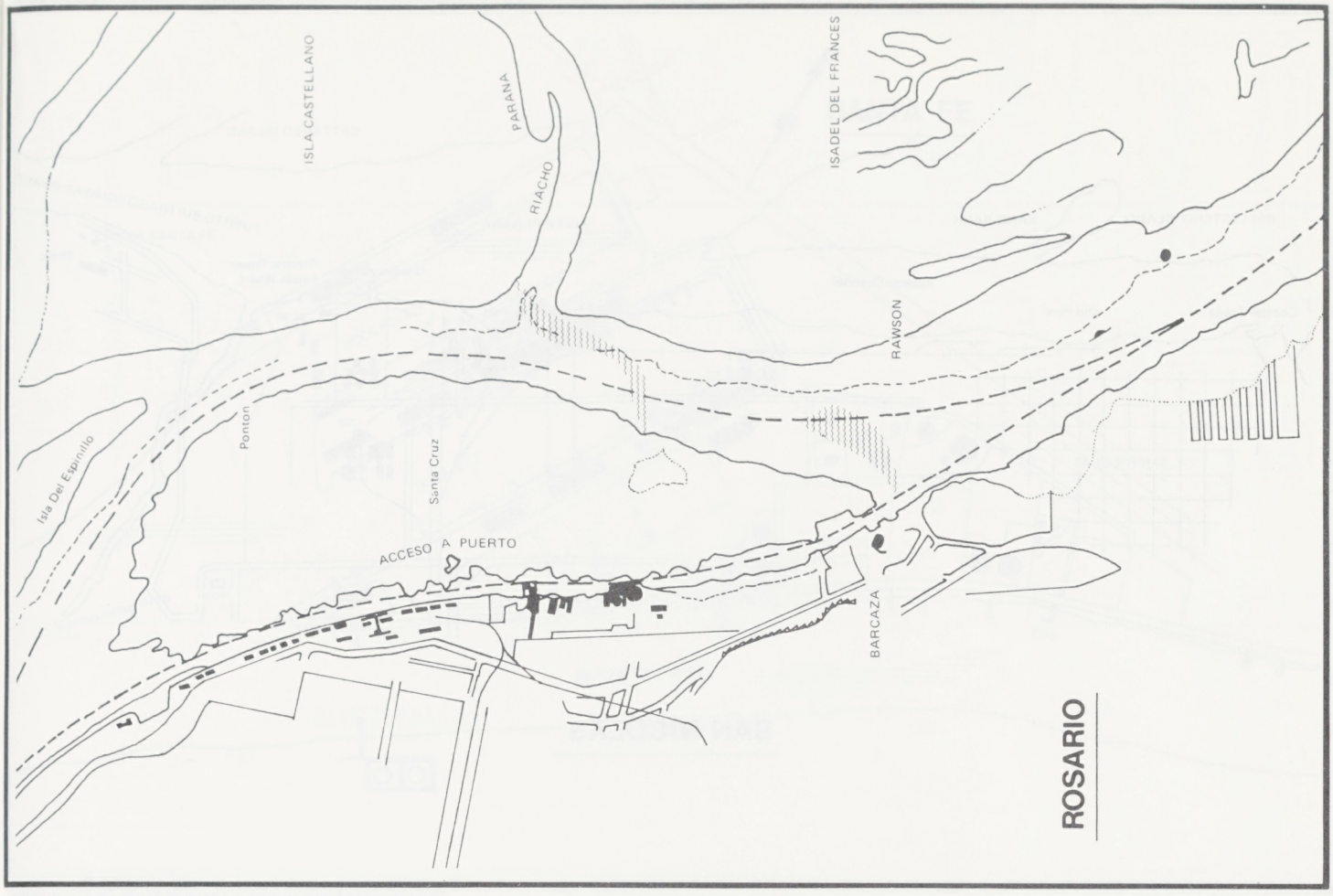

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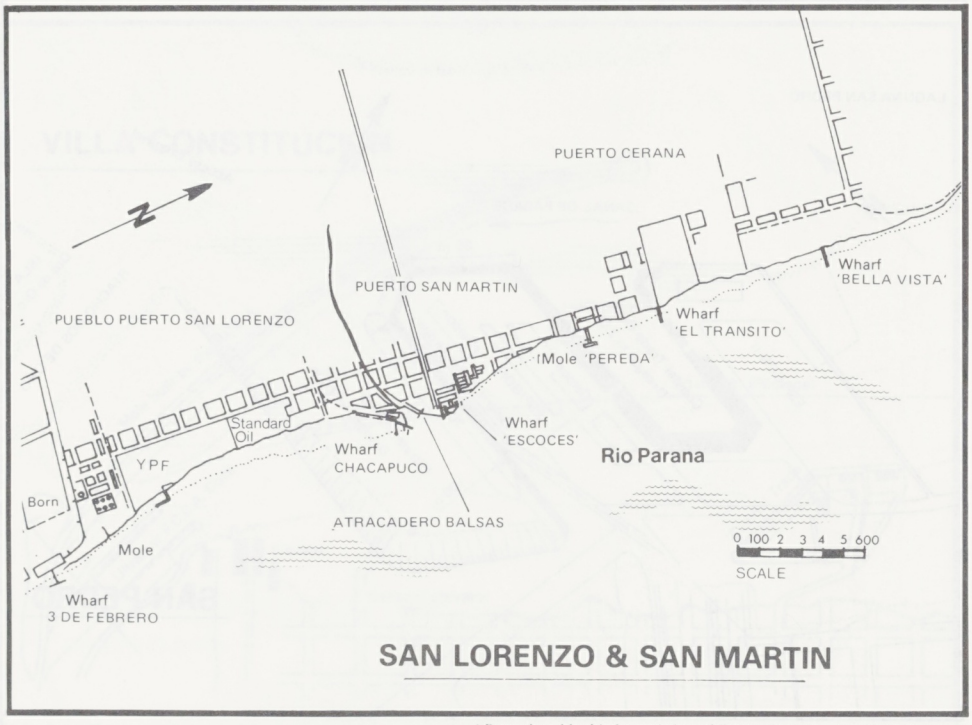

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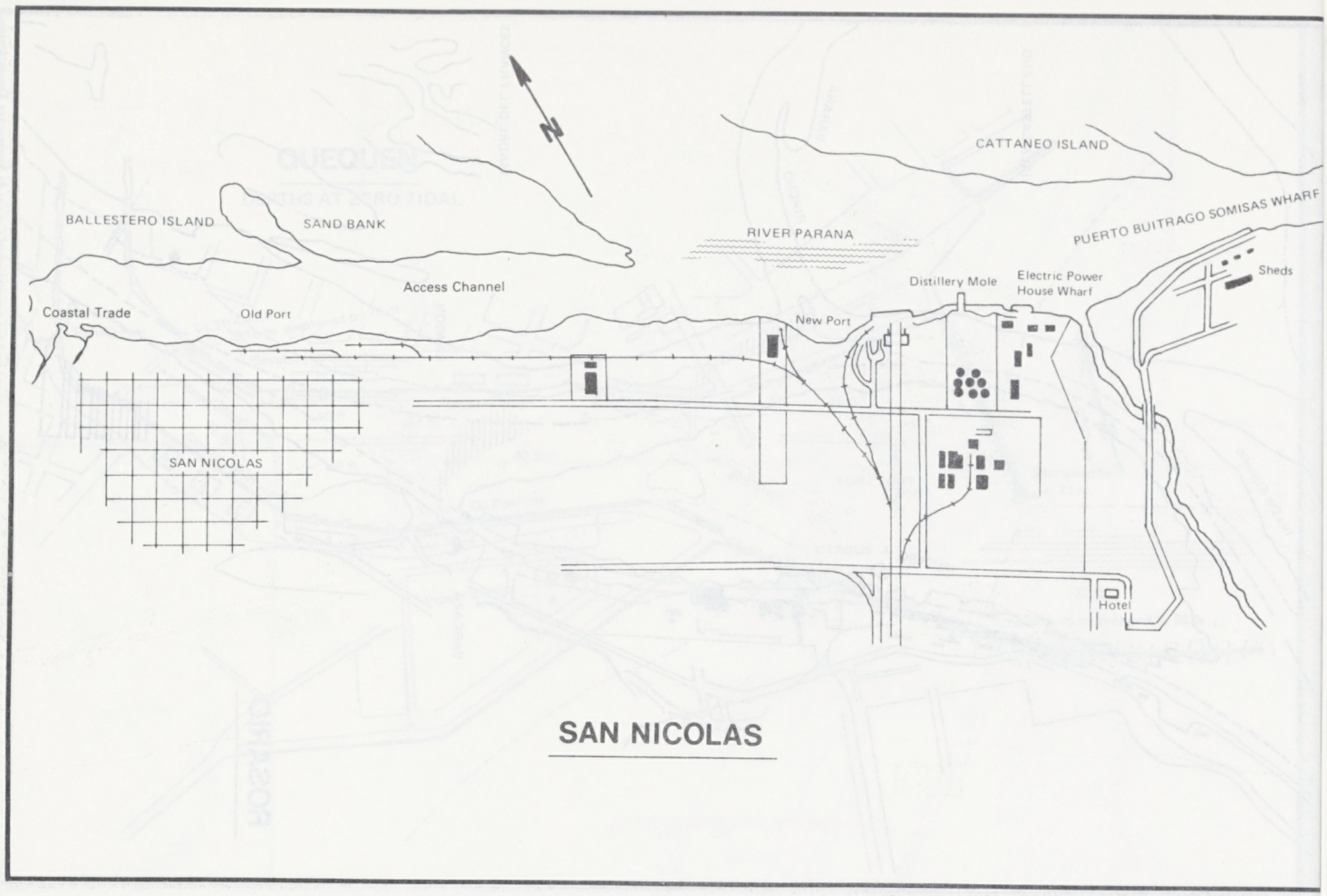

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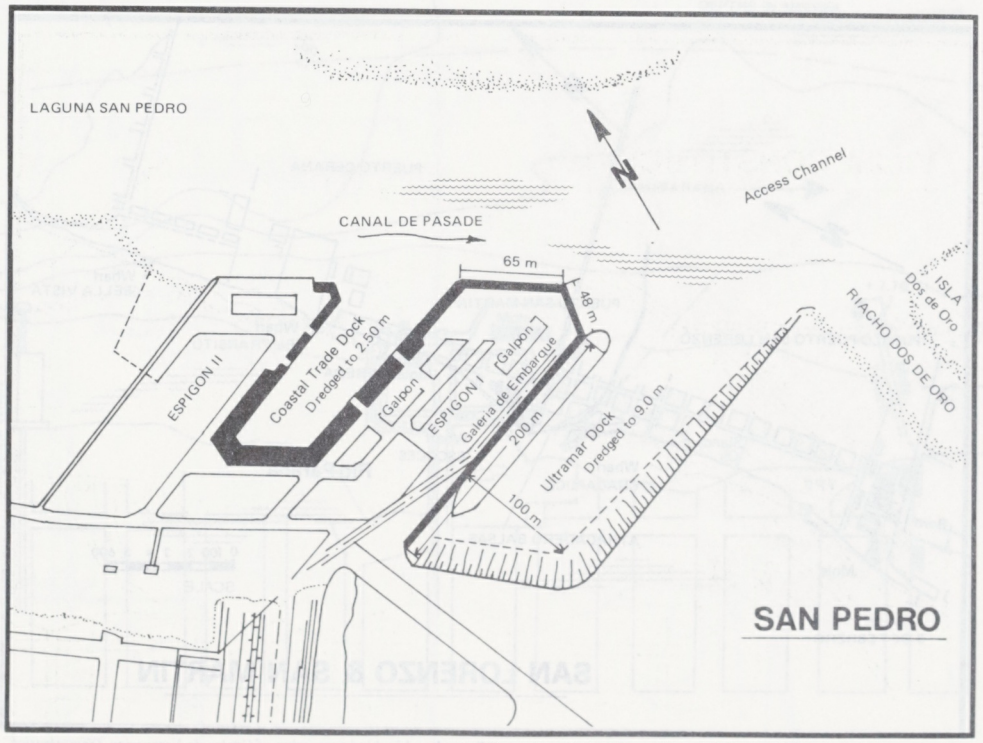

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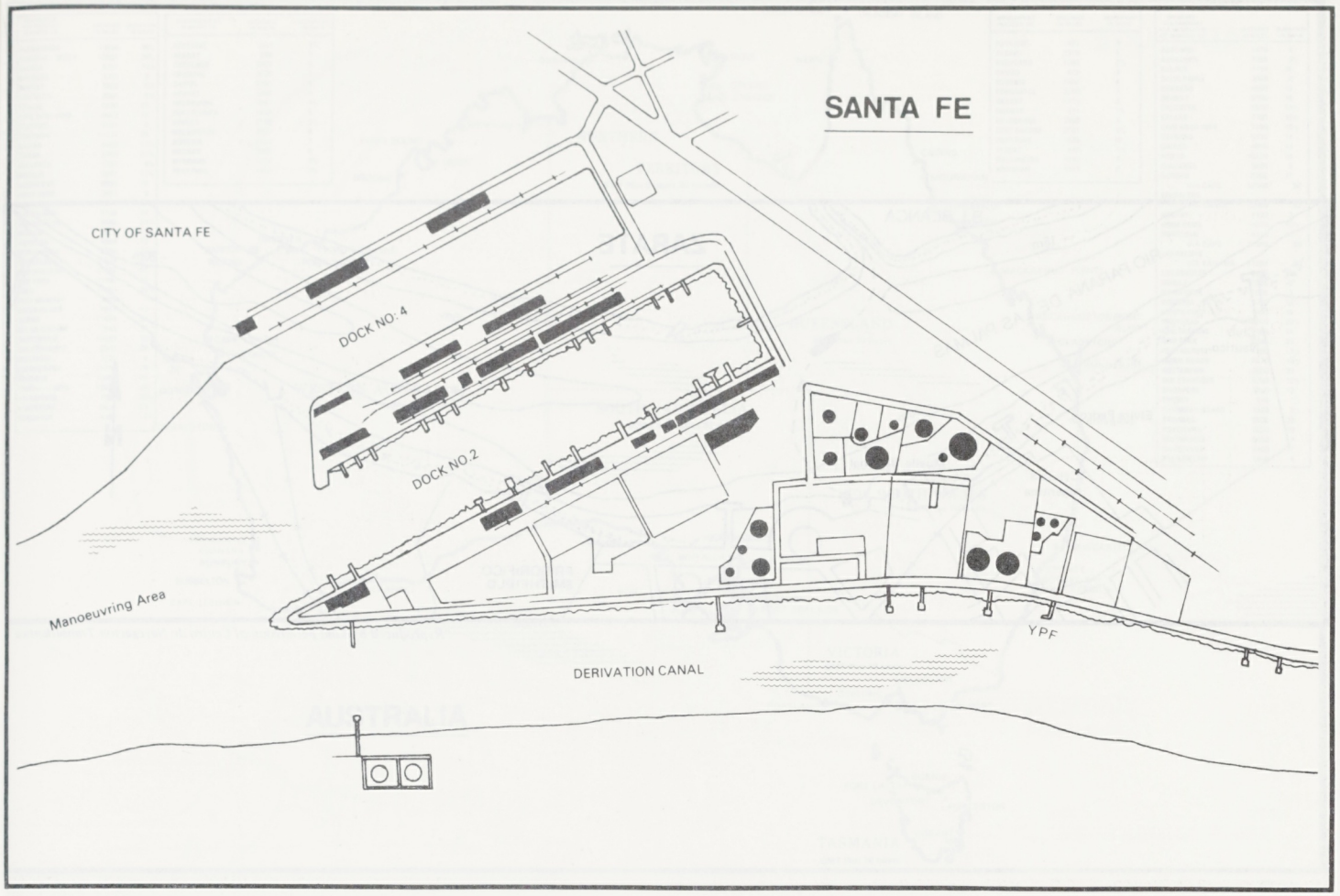

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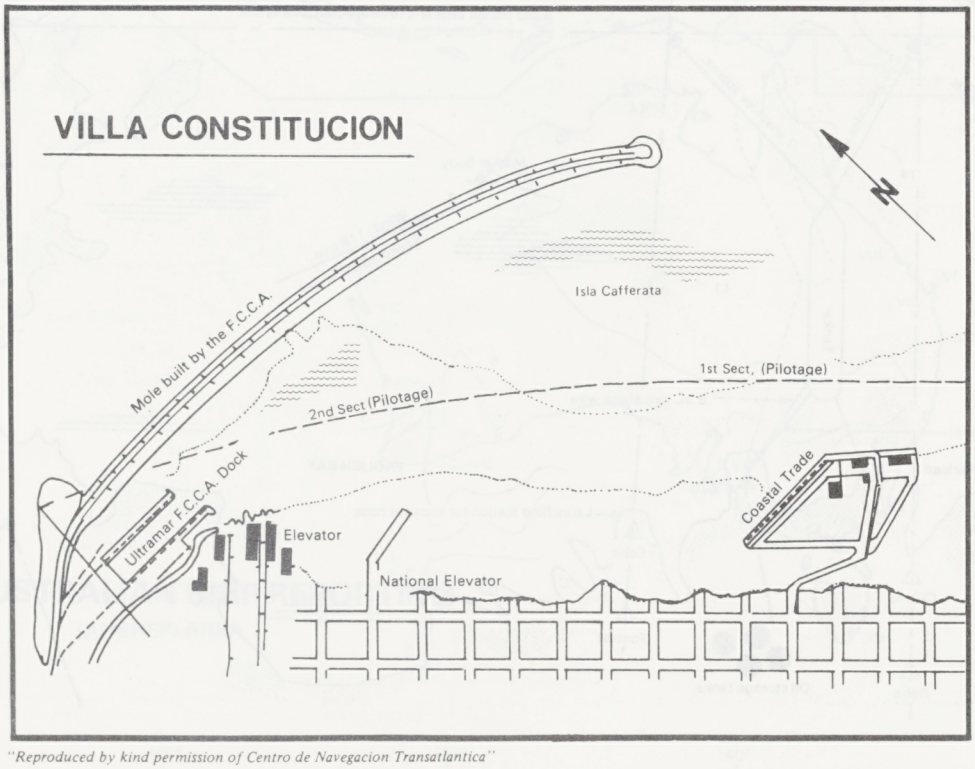

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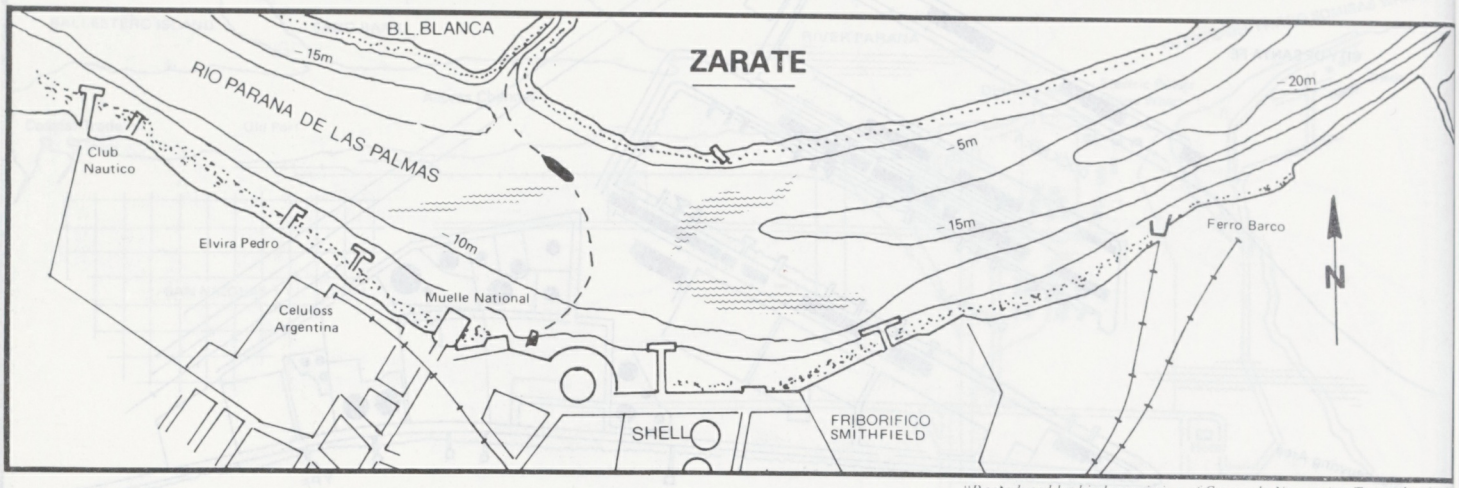

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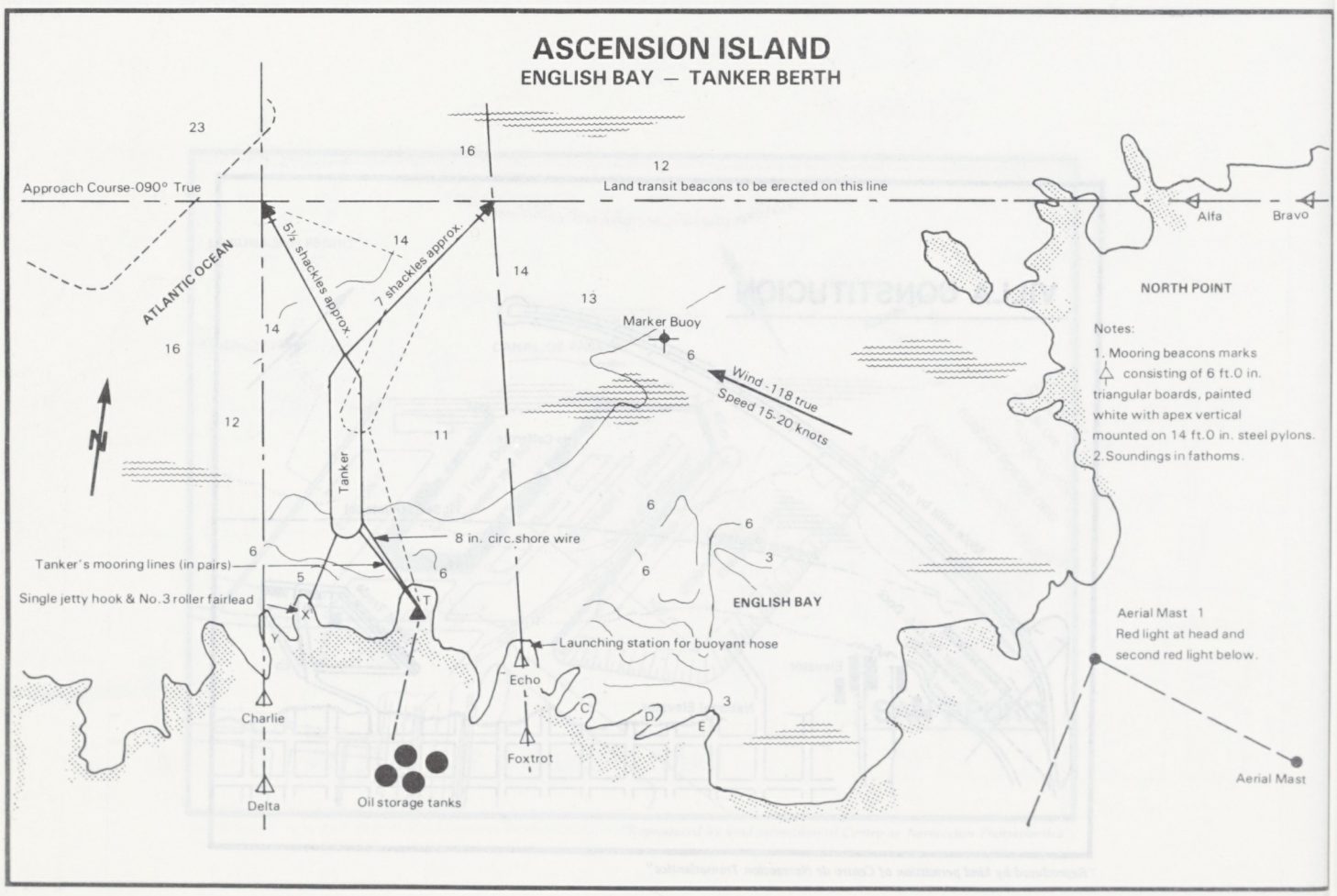
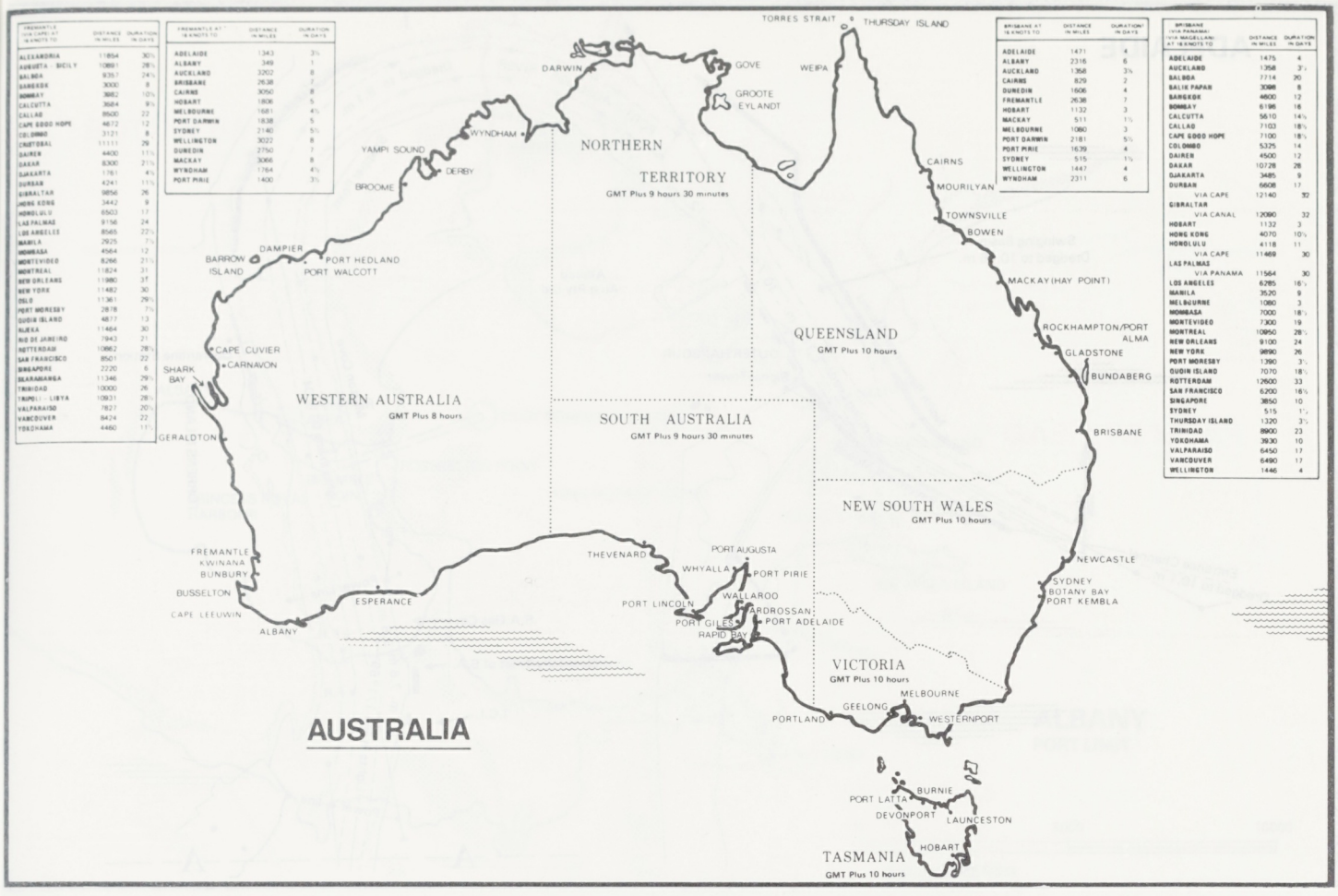


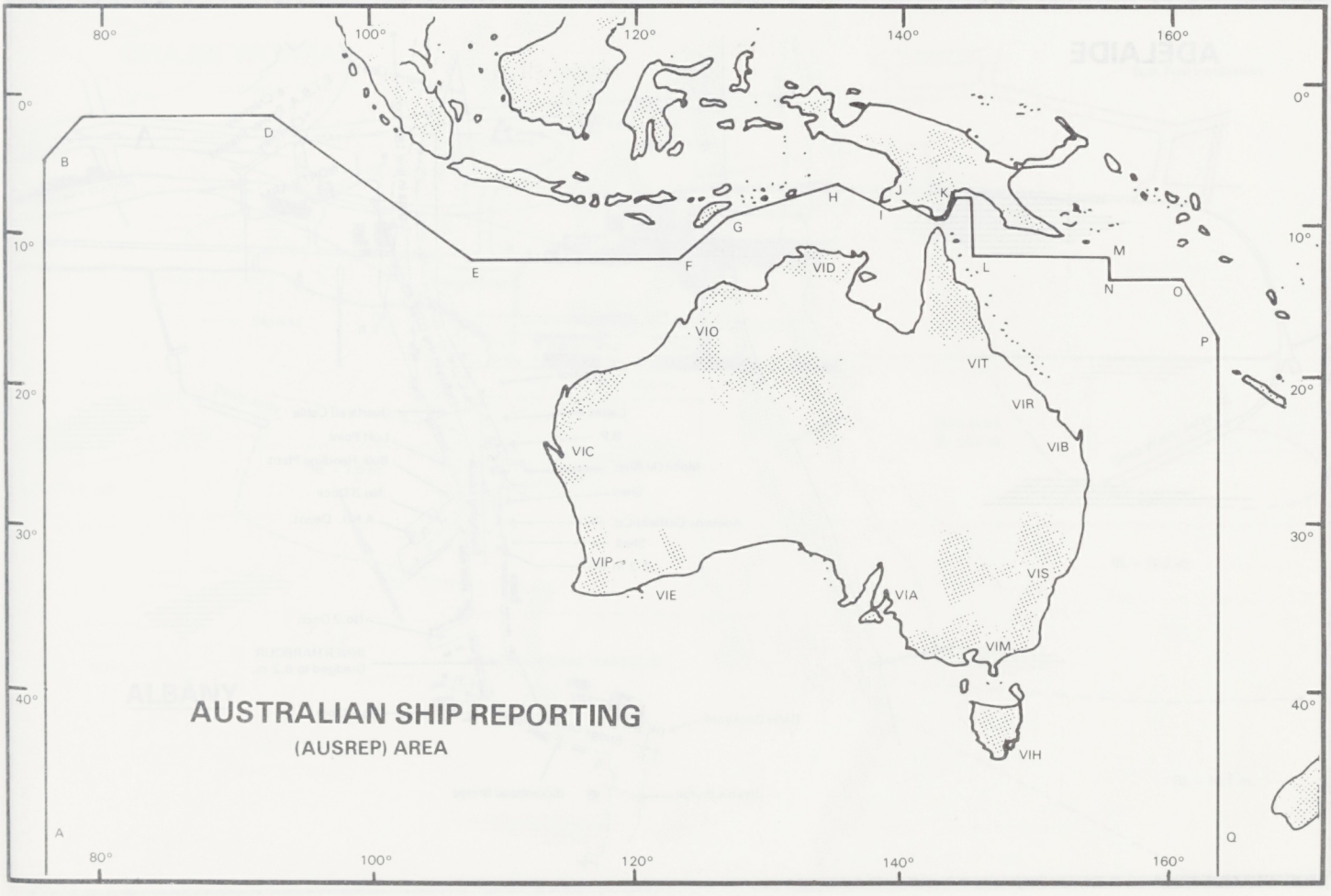


FREMANTLE VIA CAPE AT 16 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
ALEXANDRIA	11854	30½
AUGUSTA - SICILY	10891	28½
BALBOA	9357	24½
BANGKOK	3000	8
BOMBAY	3882	10½
CALCUTTA	3684	9½
CALLAO	8500	22
CAPE GOOD HOPE	4672	12
COLOMBO	3121	8
CRISTOBAL	11111	29
DAIREN	4400	11½
DAKAR	8300	21½
DJAKARTA	1761	4½
DURBAN	4241	11½
GIBRALTAR	9856	26
HONG KONG	3442	9
HONOLULU	6503	17
LAS PALMAS	9156	24
LOS ANGELES	8565	22½
MANILA	2925	7½
MOMBASA	4564	12
MONTEVIDEO	8266	21½
MONTREAL	11824	31
NEW ORLEANS	13980	37
NEW YORK	11482	30
OSLO	11361	29½
PORT MORESBY	2878	7½
QUOIN ISLAND	4877	13
RIJEKA	11464	30
RIO DE JANEIRO	7943	21
ROTTERDAM	10862	28½
SAN FRANCISCO	8501	22
SINGAPORE	2220	6
SUKARNAPURA	11346	29½
TRINIDAD	10000	26
TRIPOLI - LIBYA	10931	28½
VALPARAISO	7827	20½
VANCOUVER	8474	22
YOKOHAMA	4460	11½

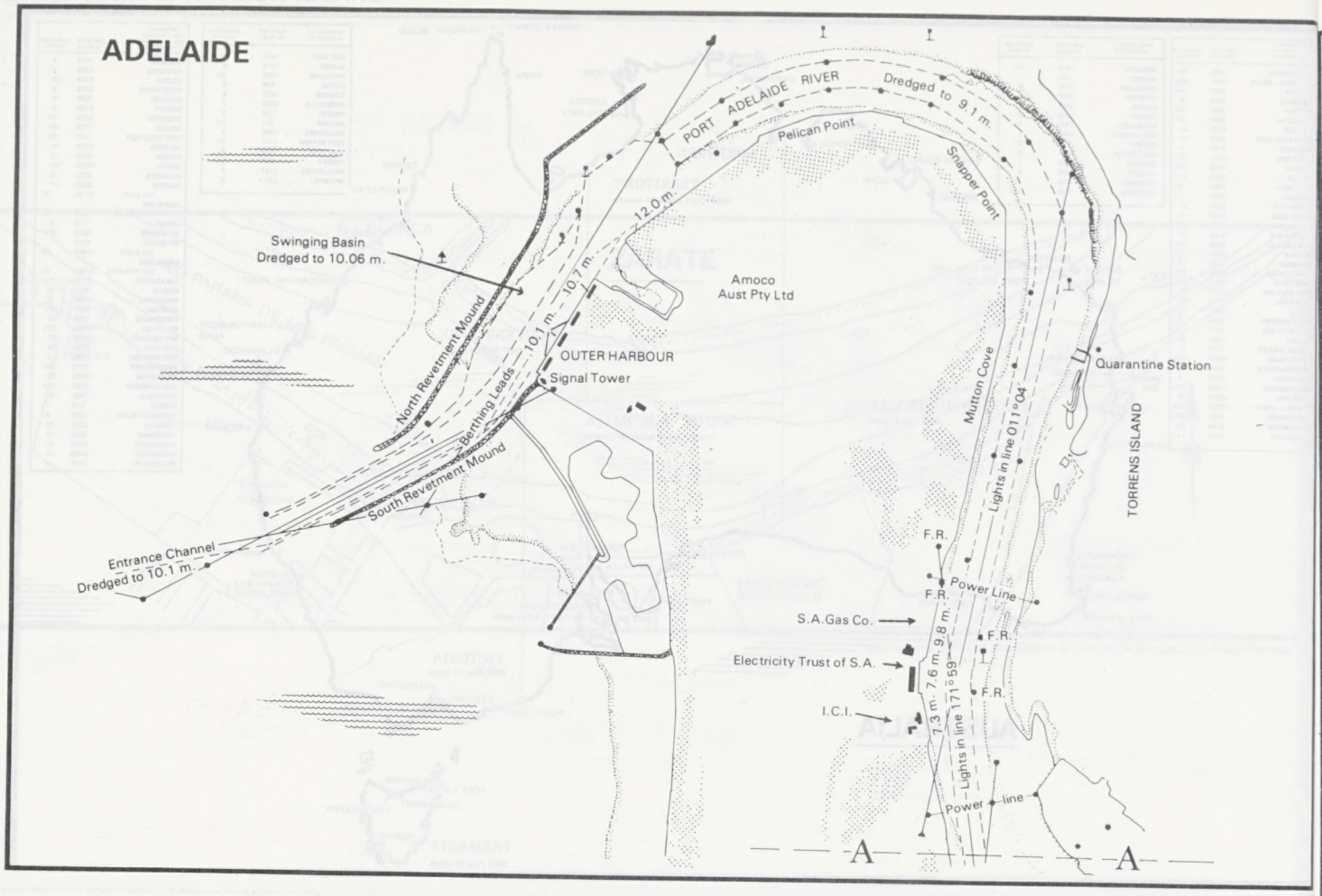
FREMANTLE AT 16 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
ADELAIDE	1343	3½
ALBANY	349	1
AUCKLAND	3202	8
BRISBANE	2638	7
CAIRNS	3050	8
HOBART	1806	5
MELBOURNE	1681	4½
PORT DARWIN	1838	5
SYDNEY	2140	5½
WELLINGTON	3022	8
DUNEDIN	2750	7
MACKAY	3066	8
WYNDHAM	1764	4½
PORT PIRIE	1400	3½

BRISBANE AT 16 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
ADELAIDE	1471	4
ALBANY	2316	6
AUCKLAND	1358	3½
CAIRNS	829	2
DUNEDIN	1606	4
FREMANTLE	2638	7
HOBART	1132	3
MACKAY	511	1½
MELBOURNE	1080	3
PORT DARWIN	2181	5½
PORT PIRIE	1639	4
SYDNEY	515	1½
WELLINGTON	1447	4
WYNDHAM	2311	6

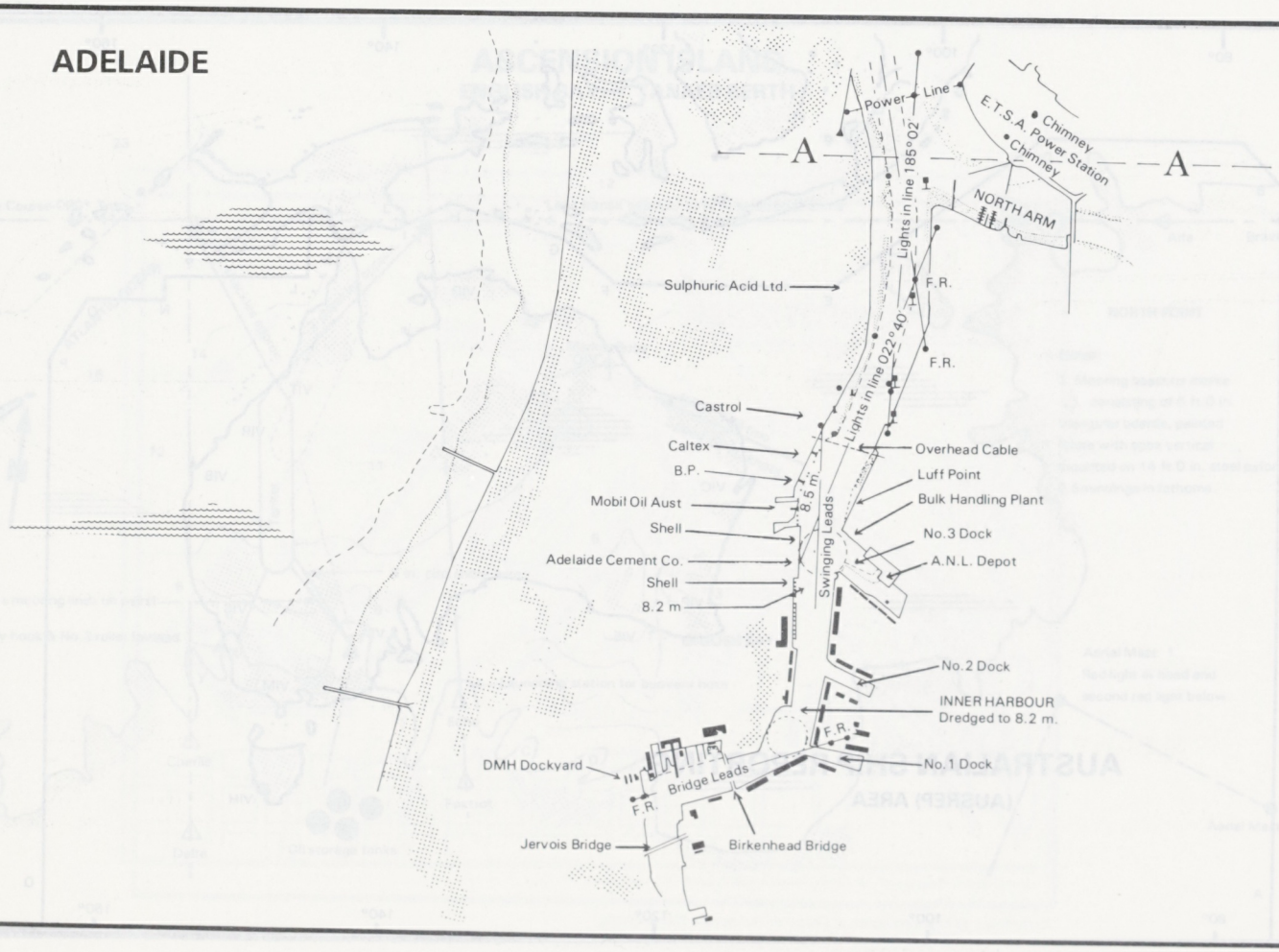
BRISBANE VIA PANAMA AT 16 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
ADELAIDE	1475	4
AUCKLAND	1758	5
BALBOA	7714	20
BALIK PAPAN	3098	8
BANGKOK	4600	12
BOMBAY	6196	16
CALCUTTA	5610	14½
CALLAO	7103	18½
CAPE GOOD HOPE	7100	18½
COLOMBO	5325	14
DAIREN	4500	12
DAKAR	10728	28
DJAKARTA	3485	9
DURBAN	6608	17
VIA CAPE	12140	32
GIBRALTAR VIA CANAL	12080	32
HOBART	1132	3
HONG KONG	4070	10½
HONOLULU VIA CAPE	4118	11
LAS PALMAS VIA PANAMA	11469	30
LOS ANGELES	11564	30
MANILA	6285	16½
MELBOURNE	3520	9
MOMBASA	1080	3
MONTEVIDEO	7000	18½
MONTREAL	7300	19
NEW ORLEANS	10950	28½
NEW YORK	9100	24
PORT MORESBY	9890	26
QUOIN ISLAND	1390	3½
ROTTERDAM	7070	18½
SAN FRANCISCO	12600	33
SINGAPORE	6200	16½
SYDNEY	3850	10
THURSDAY ISLAND	515	1½
TRINIDAD	1320	3½
YOKOHAMA	8900	23
VALPARAISO	3930	10
VANCOUVER	6450	17
WELLINGTON	6490	17
	1446	4

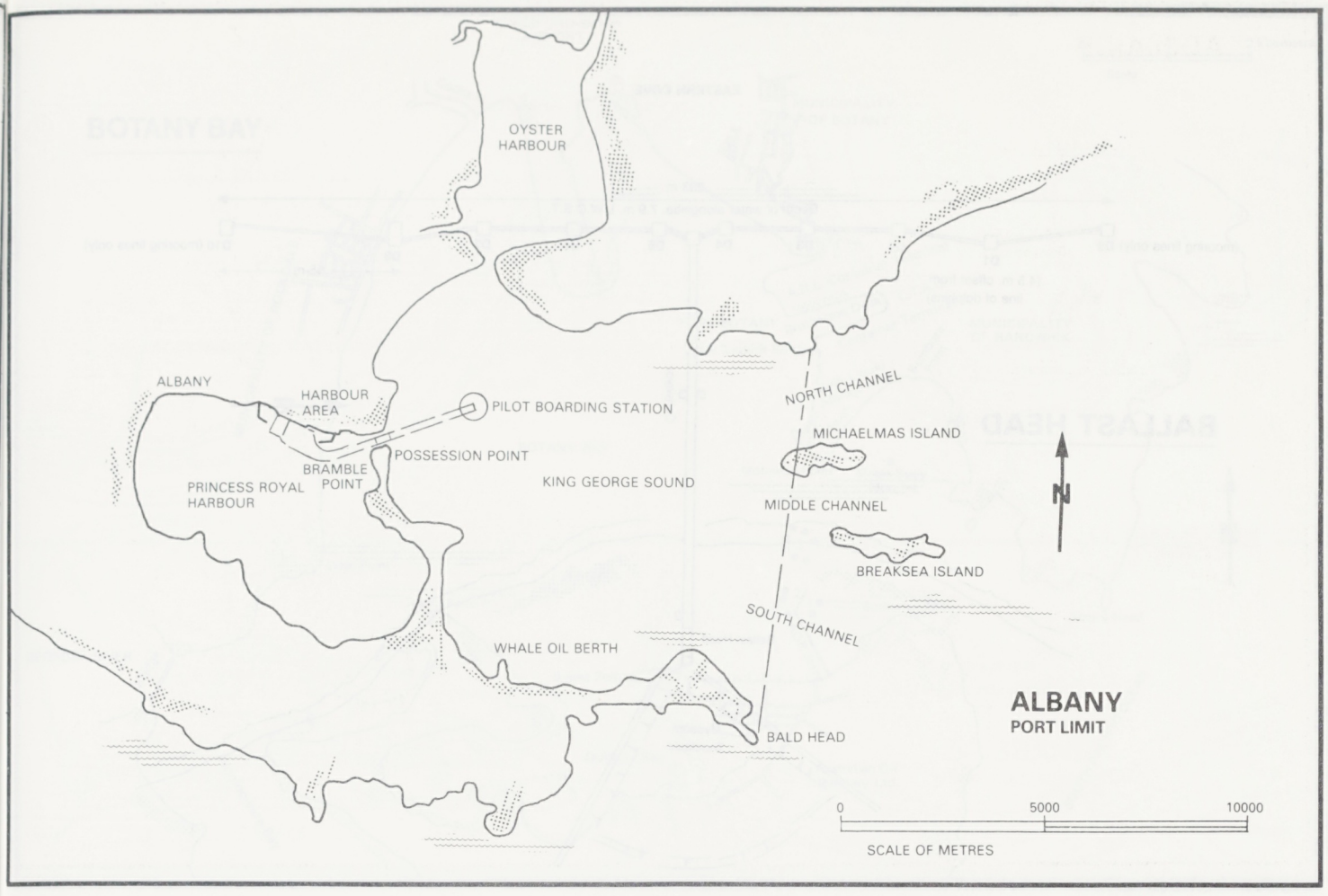


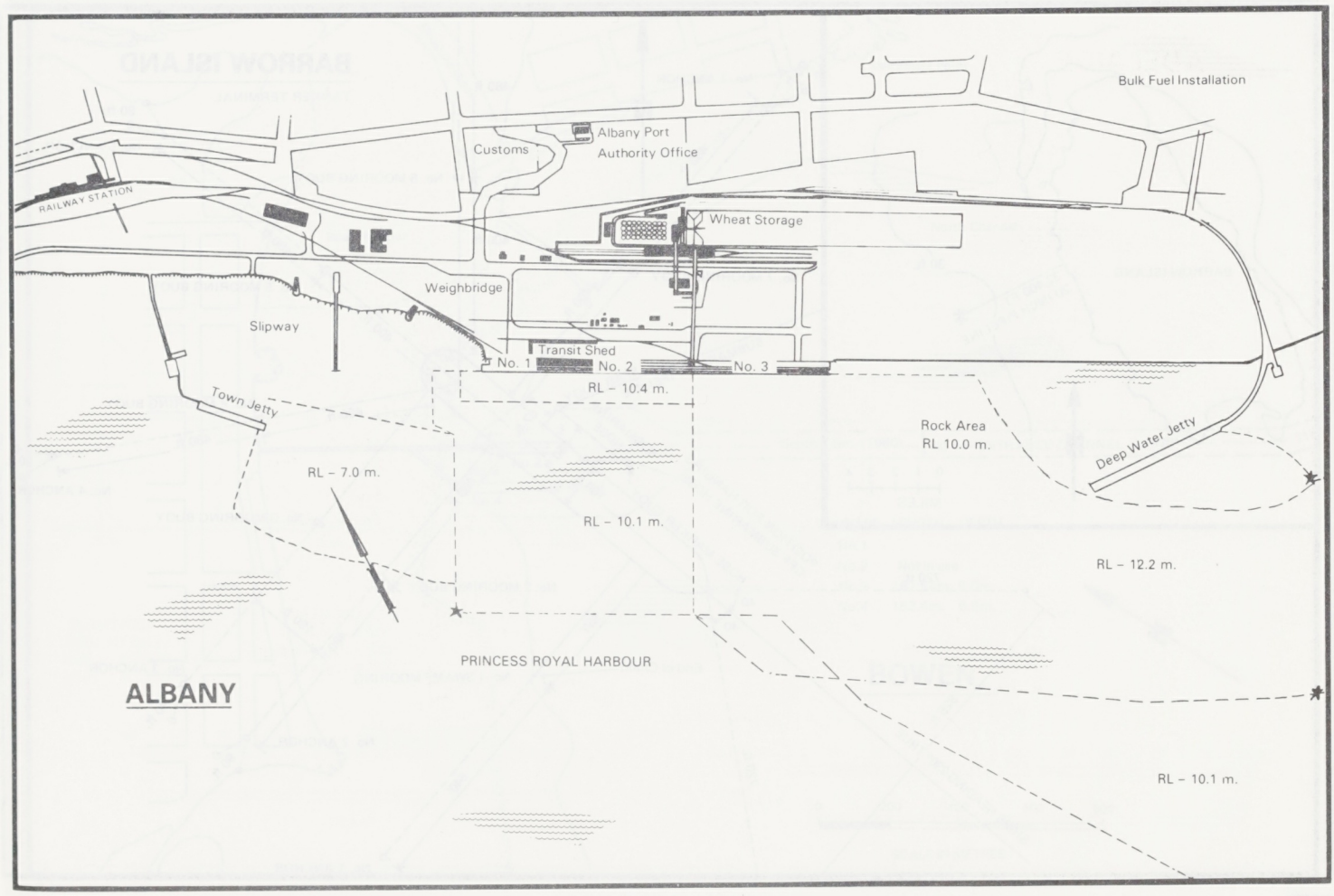
ADELAIDE

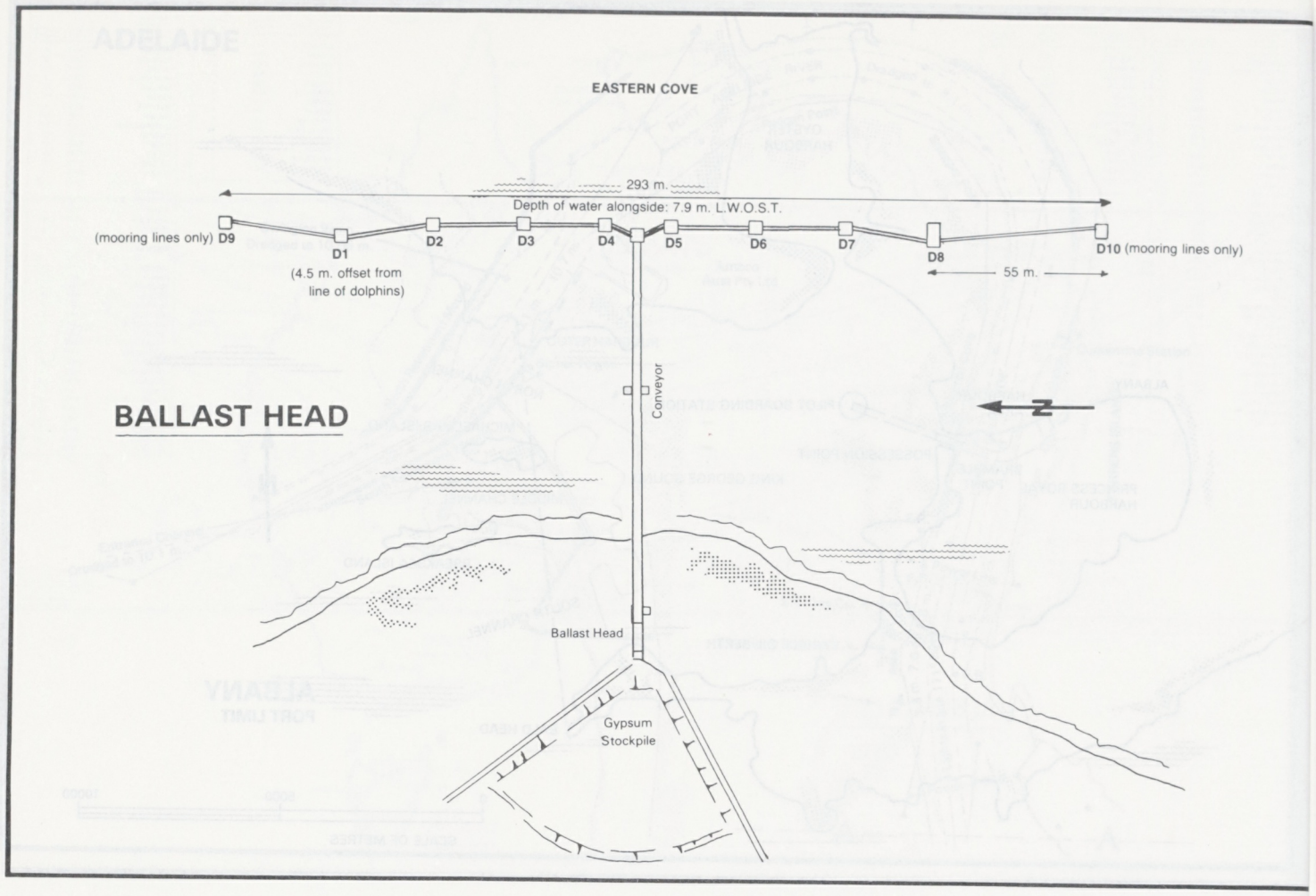


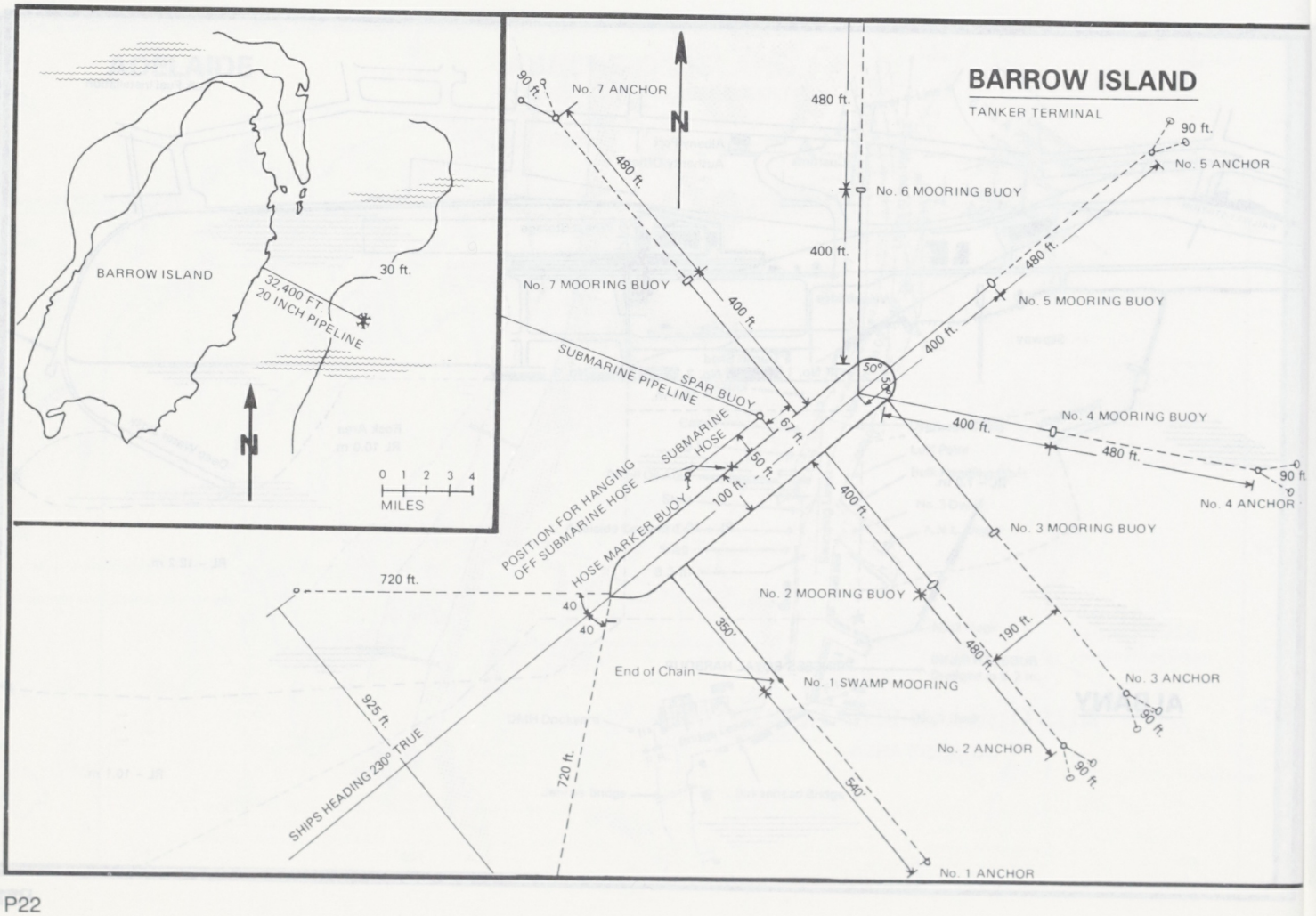
ADELAIDE

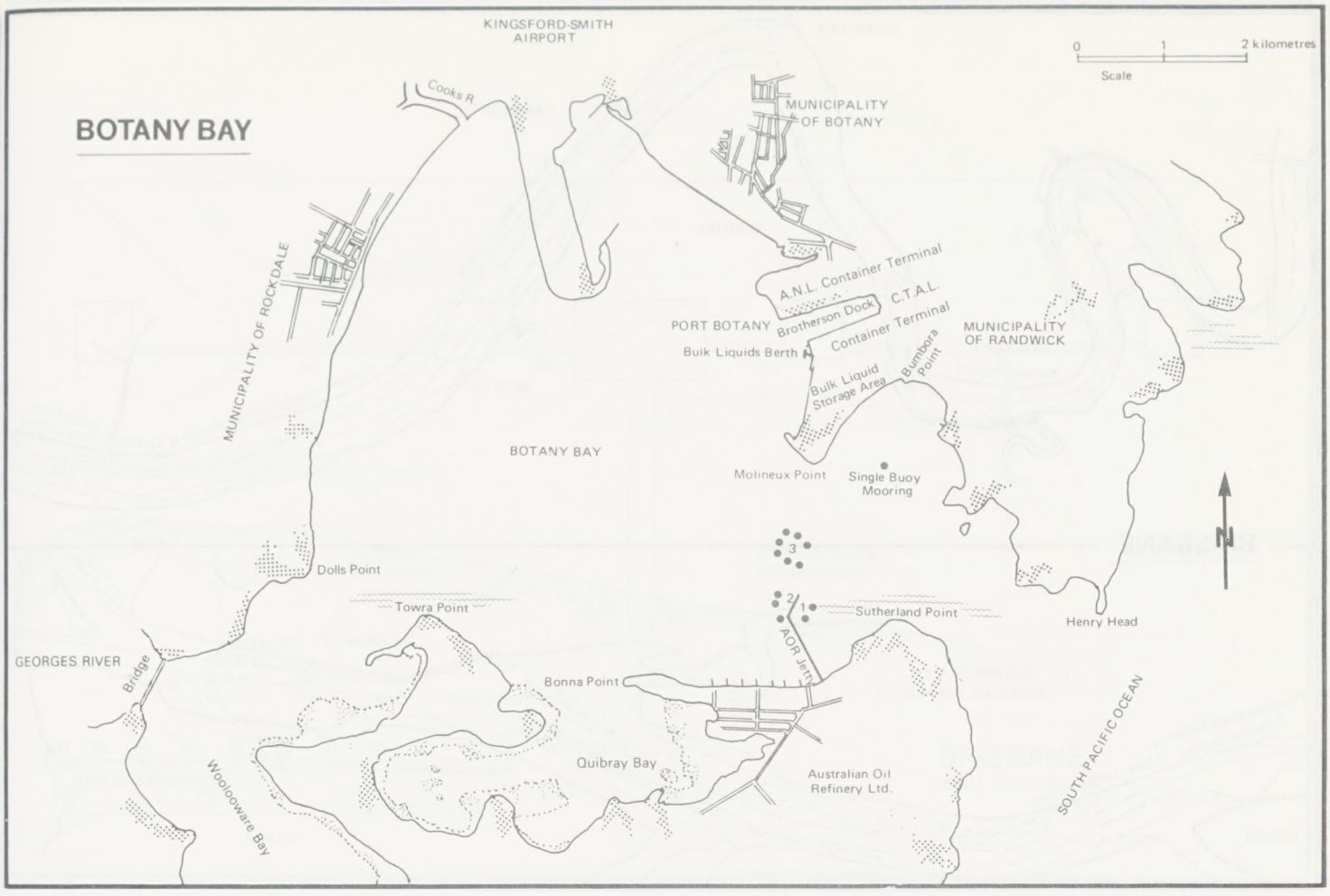


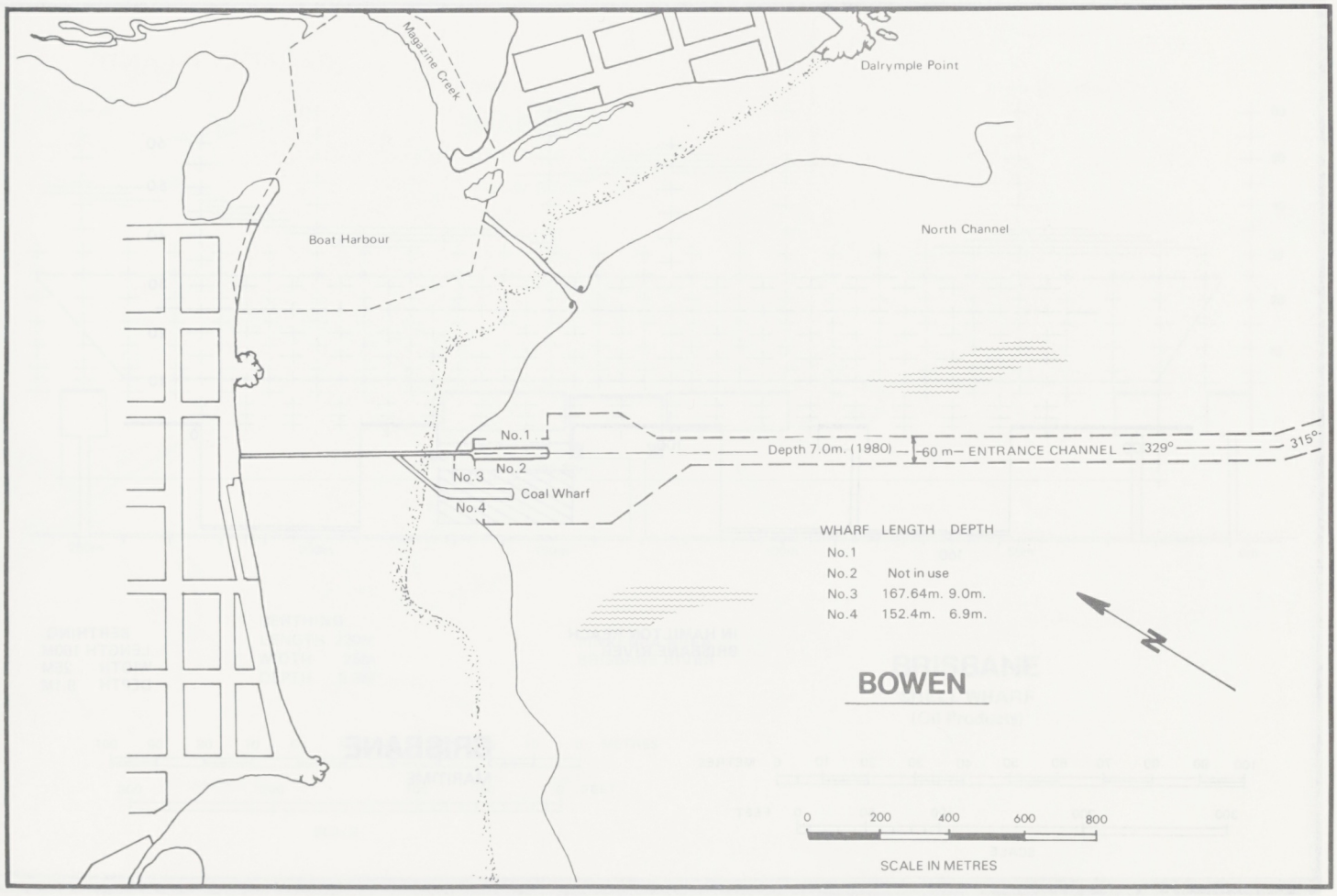

OYSTER HARBOUR
ALBANY
HARBOUR AREA
PILOT BOARDING STATION
POSSESSION POINT
BRAMBLE POINT
PRINCESS ROYAL HARBOUR
KING GEORGE SOUND
NORTH CHANNEL
MICHAELMAS ISLAND
MIDDLE CHANNEL
BREAKSEA ISLAND
SOUTH CHANNEL
WHALE OIL BERTH
BALD HEAD
N
ALBANY
PORT LIMIT
0
5000
10000
SCALE OF METRES

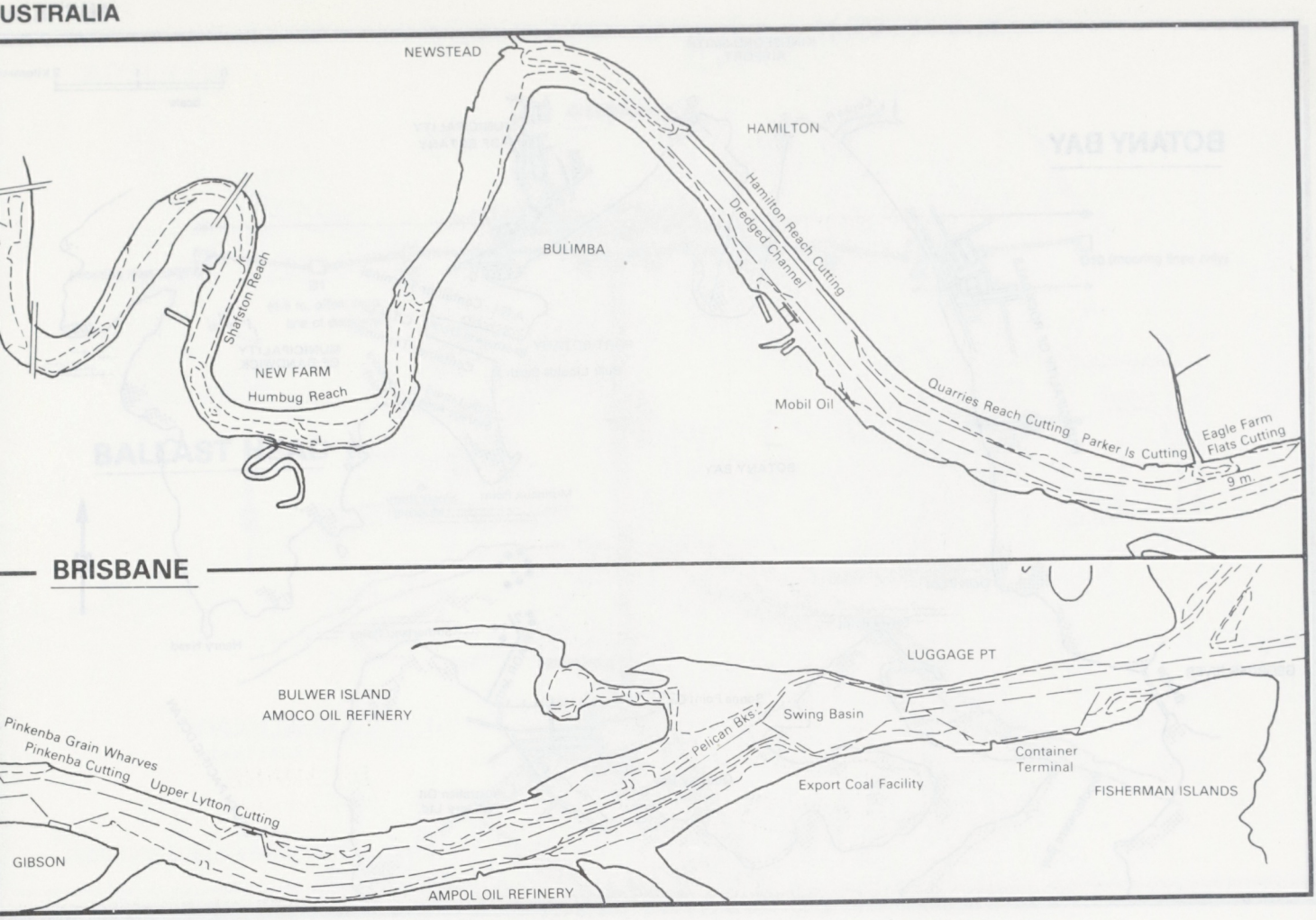

Bulk Fuel Installation
Customs
Albany Port Authority Office
RAILWAY STATION
Wheat Storage
Weighbridge
Slipway
Transit Shed
No. 1
No. 2
No. 3
RL – 10.4 m.
Town Jetty
Rock Area RL 10.0 m.
Deep Water Jetty
RL – 7.0 m.
RL – 10.1 m.
RL – 12.2 m.
PRINCESS ROYAL HARBOUR
ALBANY
RL – 10.1 m.


EASTERN COVE
293 m.
Depth of water alongside: 7.9 m. L.W.O.S.T.
(mooring lines only) D9
D1
(4.5 m. offset from line of dolphins)
D2
D3
D4
D5
D6
D7
D8
D10 (mooring lines only)
55 m.
Conveyor
BALLAST HEAD
N
Ballast Head
Gypsum Stockpile


BARROW ISLAND
30 ft.
32,400 FT. 20 INCH PIPELINE
N
0 1 2 3 4
MILES
BARROW ISLAND
TANKER TERMINAL
N
90 ft.
No. 7 ANCHOR
480 ft.
480 ft.
No. 6 MOORING BUOY
400 ft.
No. 7 MOORING BUOY
400 ft.
90 ft.
No. 5 ANCHOR
480 ft.
No. 5 MOORING BUOY
400 ft.
SUBMARINE PIPELINE
SPAR BUOY
50°
30°
67 ft.
SUBMARINE HOSE
50 ft.
100 ft.
POSITION FOR HANGING OFF SUBMARINE HOSE
HOSE MARKER BUOY
400 ft.
No. 4 MOORING BUOY
400 ft.
480 ft.
90 ft.
No. 4 ANCHOR
No. 3 MOORING BUOY
720 ft.
40
40
No. 2 MOORING BUOY
350'
190 ft.
480 ft.
End of Chain
No. 1 SWAMP MOORING
No. 3 ANCHOR
90 ft.
925 ft.
720 ft.
No. 2 ANCHOR
90 ft.
SHIPS HEADING 230° TRUE
540'
No. 1 ANCHOR

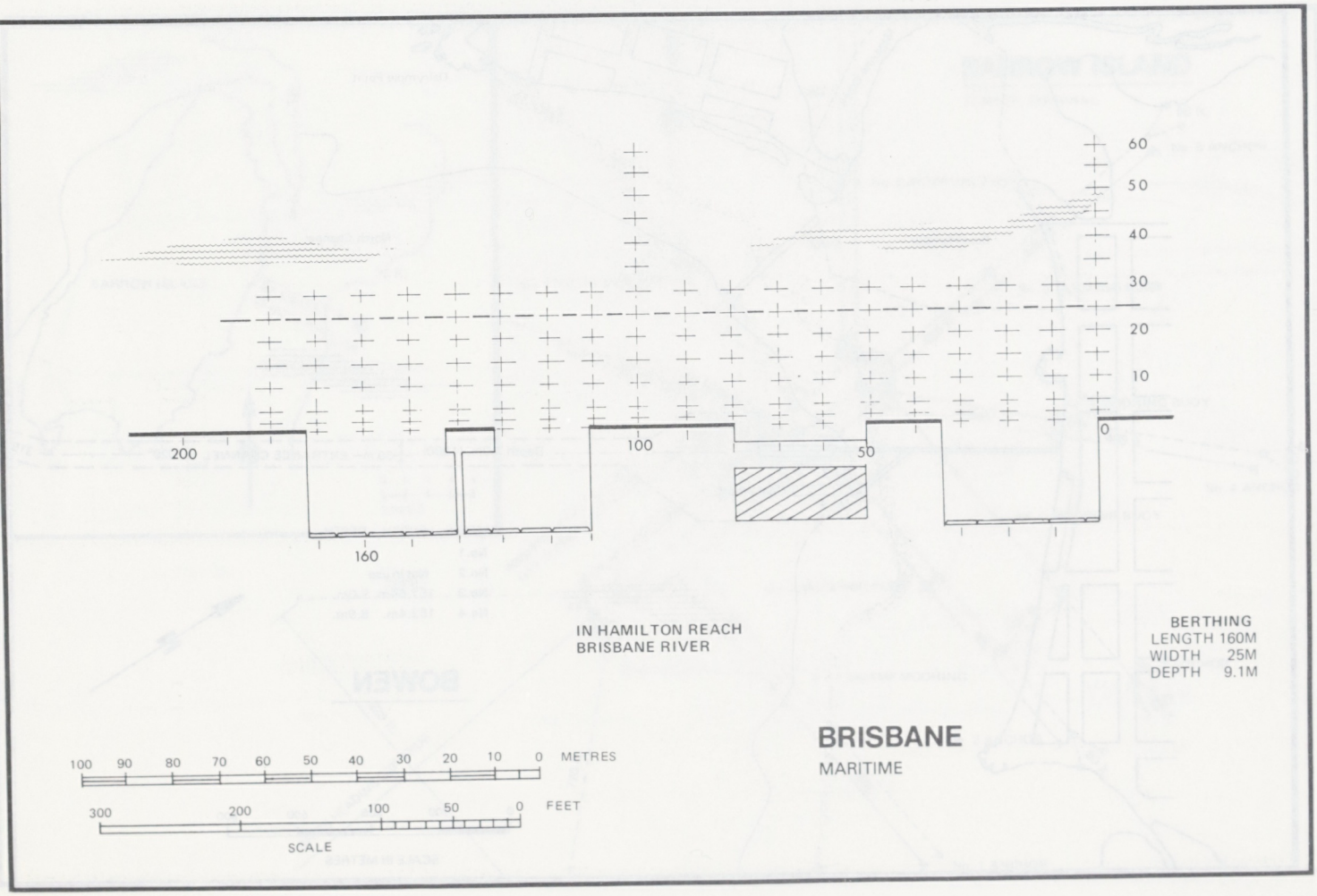

BOTANY BAY
KINGSFORD-SMITH AIRPORT
Cooks R.
MUNICIPALITY OF BOTANY
MUNICIPALITY OF ROCKDALE
A.N.L. Container Terminal
C.T.A.L. Container Terminal
PORT BOTANY
Brotherson Dock
Bulk Liquids Berth
Bulk Liquid Storage Area
Bumbora Point
MUNICIPALITY OF RANDWICK
BOTANY BAY
Molineux Point
Single Buoy Mooring
Dolls Point
Towra Point
Sutherland Point
Henry Head
GEORGES RIVER
Bridge
Bonna Point
AOR Jetty
Quibray Bay
Australian Oil Refinery Ltd.
Woolooware Bay
SOUTH PACIFIC OCEAN
0 1 2 kilometres
Scale
N

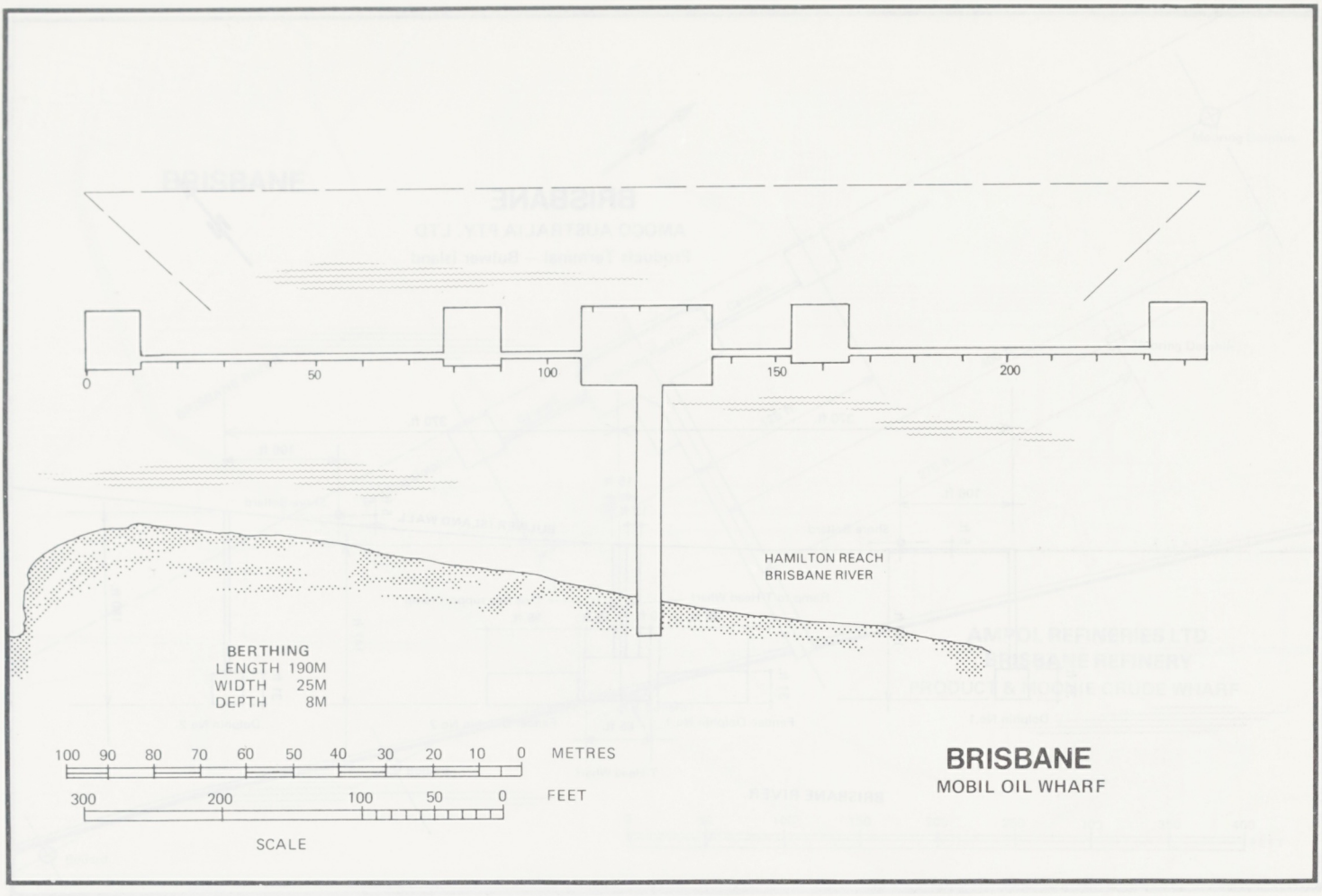

Magazine Creek
Dalrymple Point
Boat Harbour
North Channel
No.1
No.2
No.3
No.4
Coal Wharf
Depth 7.0m. (1980)
60 m ENTRANCE CHANNEL
329°
315°
WHARF LENGTH DEPTH
No.1
No.2 Not in use
No.3 167.64m. 9.0m.
No.4 152.4m. 6.9m.
BOWEN
N
0 200 400 600 800
SCALE IN METRES


NEWSTEAD
HAMILTON
Hamilton Reach Cutting
Dredged Channel
BULIMBA
Shafston Reach
NEW FARM
Humbug Reach
Mobil Oil
Quarries Reach Cutting
Parker Is Cutting
Eagle Farm Flats Cutting
9 m.

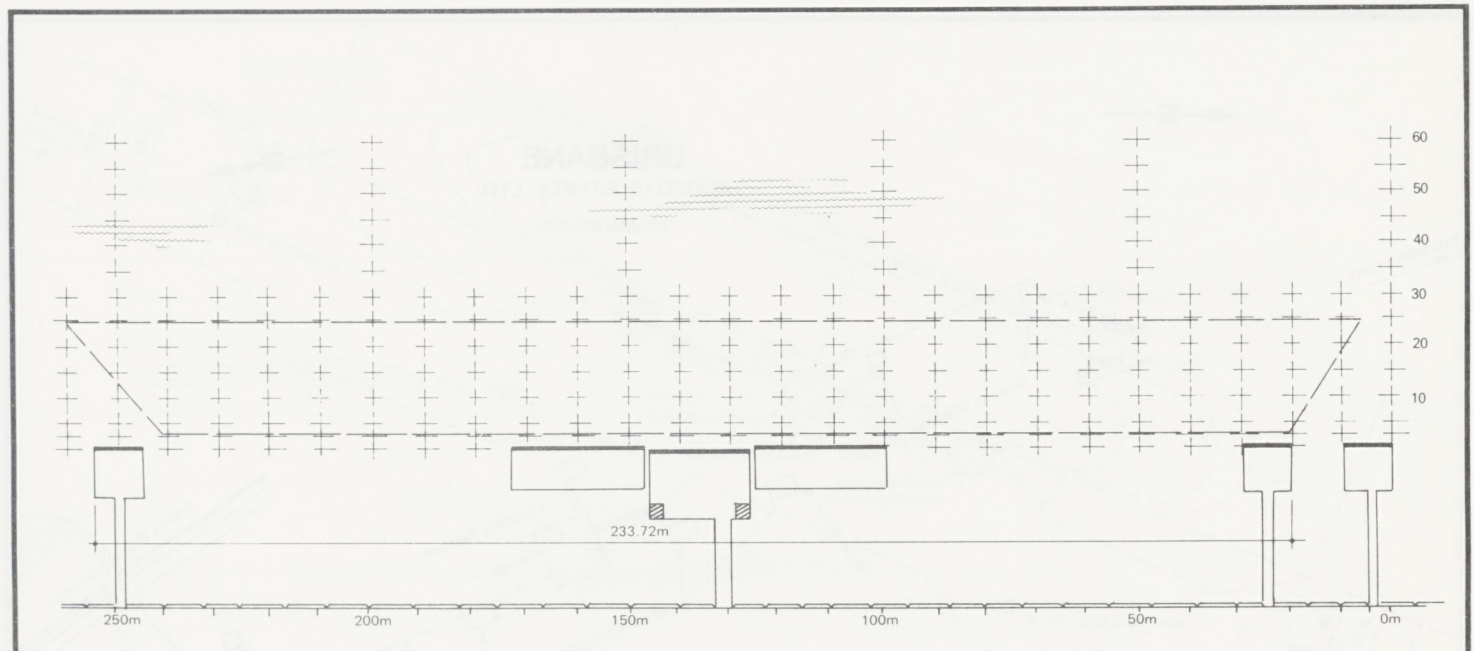
BRISBANE

LUGGAGE PT
BULWER ISLAND
AMOCO OIL REFINERY
Pinkenba Grain Wharves
Pinkenba Cutting
Upper Lytton Cutting
Pelican Bks
Swing Basin
Container Terminal
Export Coal Facility
FISHERMAN ISLANDS
GIBSON
AMPOL OIL REFINERY


60
50
40
30
20
10
0
200
100
50
160
IN HAMILTON REACH
BRISBANE RIVER
BERTHING
LENGTH 160M
WIDTH 25M
DEPTH 9.1M
100 90 80 70 60 50 40 30 20 10 0 METRES
300 200 100 50 0 FEET
SCALE
BRISBANE
MARITIME



BRISBANE
MOBIL OIL WHARF

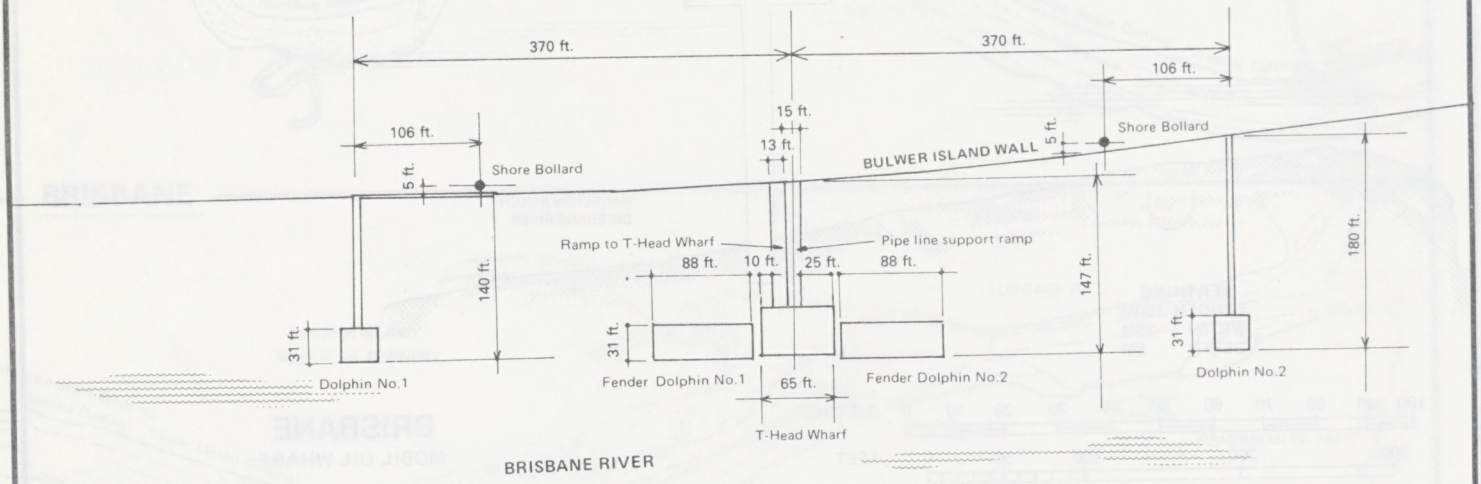


BRISBANE
SHELL WHARF
(Oil Products)

BRISBANE

AMOCO AUSTRALIA PTY. LTD

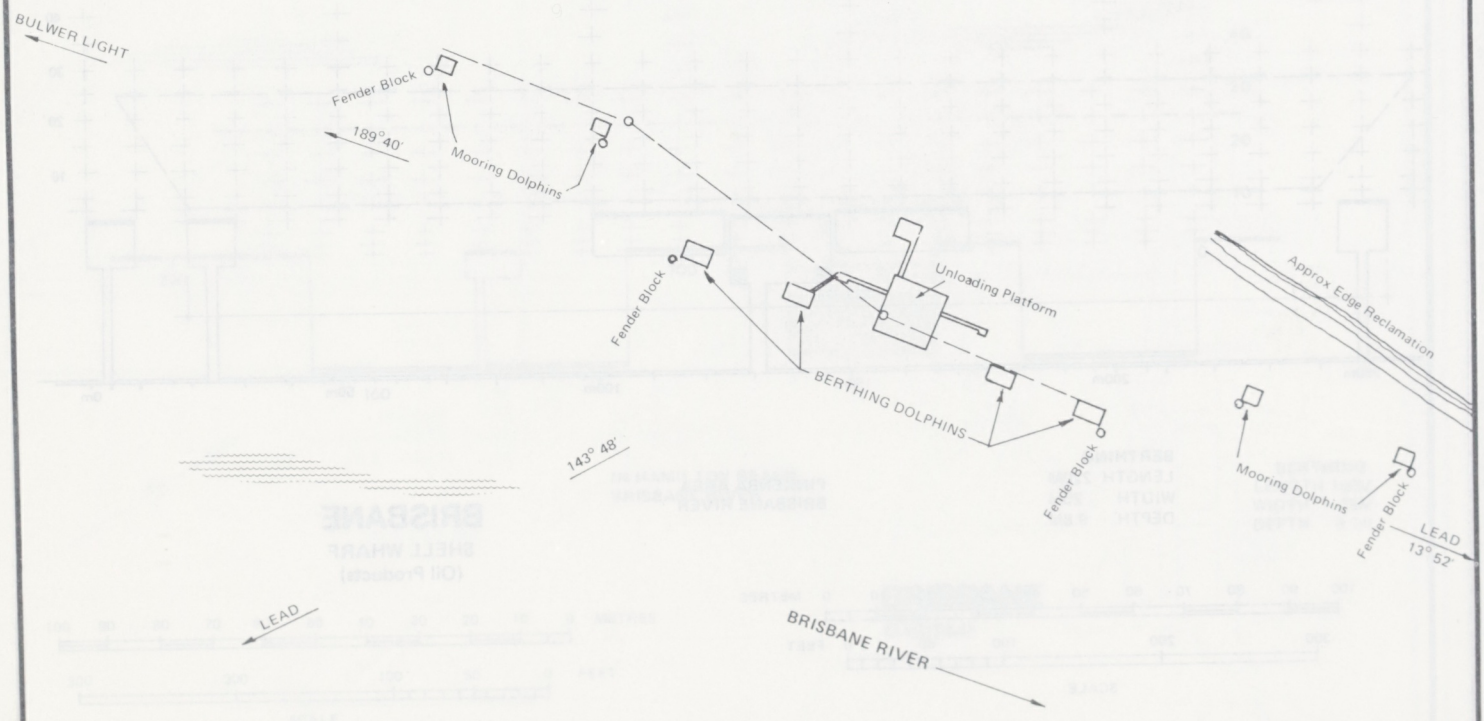
Products Terminal – Bulwer Island

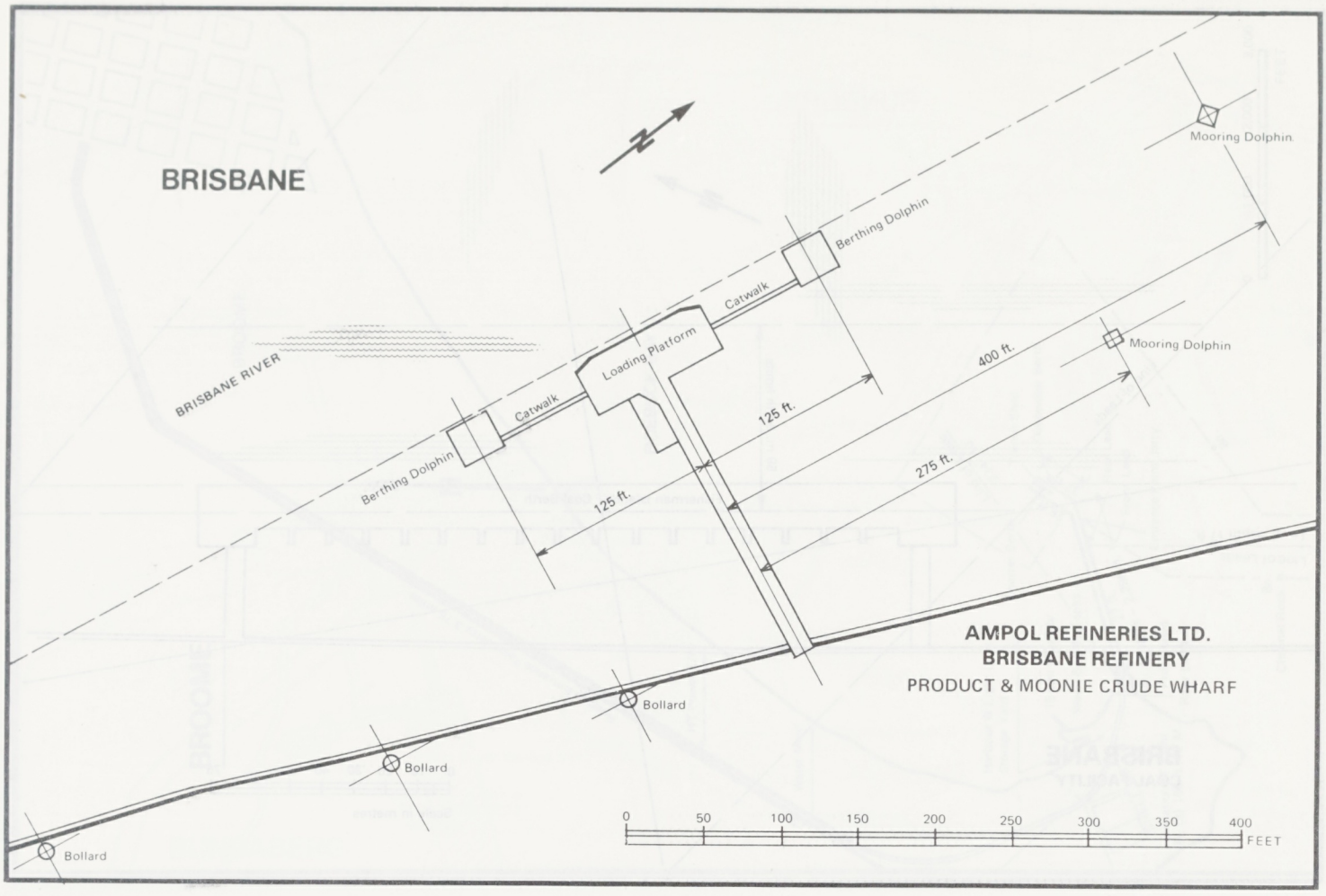


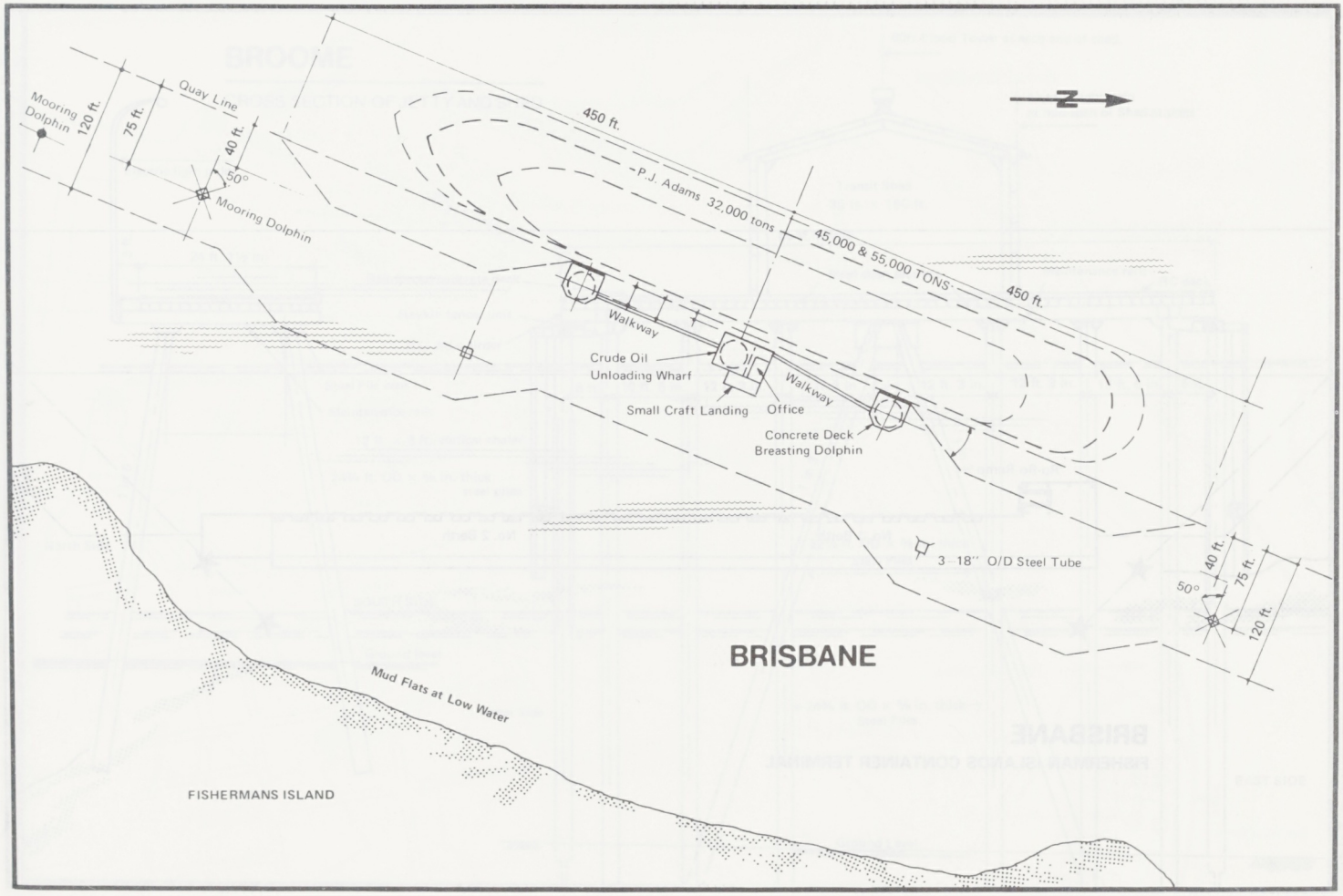
BRISBANE

AMOCO (AUST) PTY. LTD.

CRUDE WHARF



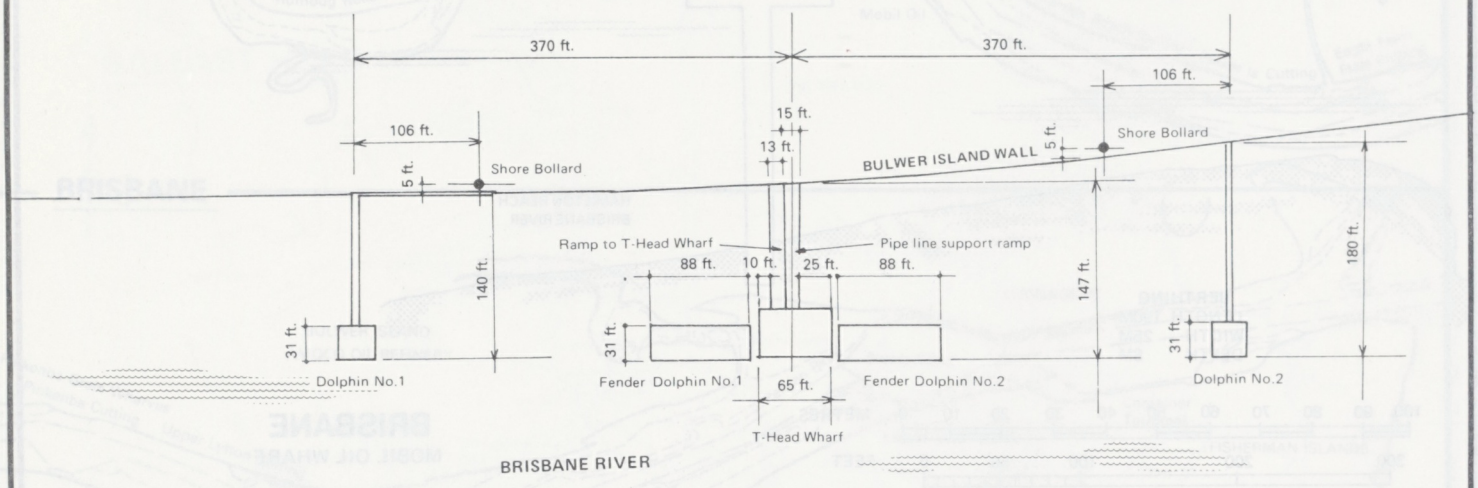

BRISBANE
N
Mooring Dolphin
Berthing Dolphin
Catwalk
Loading Platform
BRISBANE RIVER
Catwalk
Berthing Dolphin
125 ft.
125 ft.
400 ft.
275 ft.
Mooring Dolphin
AMPOL REFINERIES LTD.
BRISBANE REFINERY
PRODUCT & MOONIE CRUDE WHARF
Bollard
Bollard
Bollard
0 50 100 150 200 250 300 350 400
FEET


N
Mooring Dolphin
120 ft.
75 ft.
Quay Line
40 ft.
50°
Mooring Dolphin
450 ft.
P.J. Adams 32,000 tons
45,000 & 55,000 TONS
450 ft.
Walkway
Crude Oil
Unloading Wharf
Walkway
Small Craft Landing
Office
Concrete Deck
Breasting Dolphin
3 - 18" O/D Steel Tube
40 ft.
75 ft.
50°
120 ft.
BRISBANE
Mud Flats at Low Water
FISHERMANS ISLAND

BRISBANE

AMOCO AUSTRALIA PTY. LTD

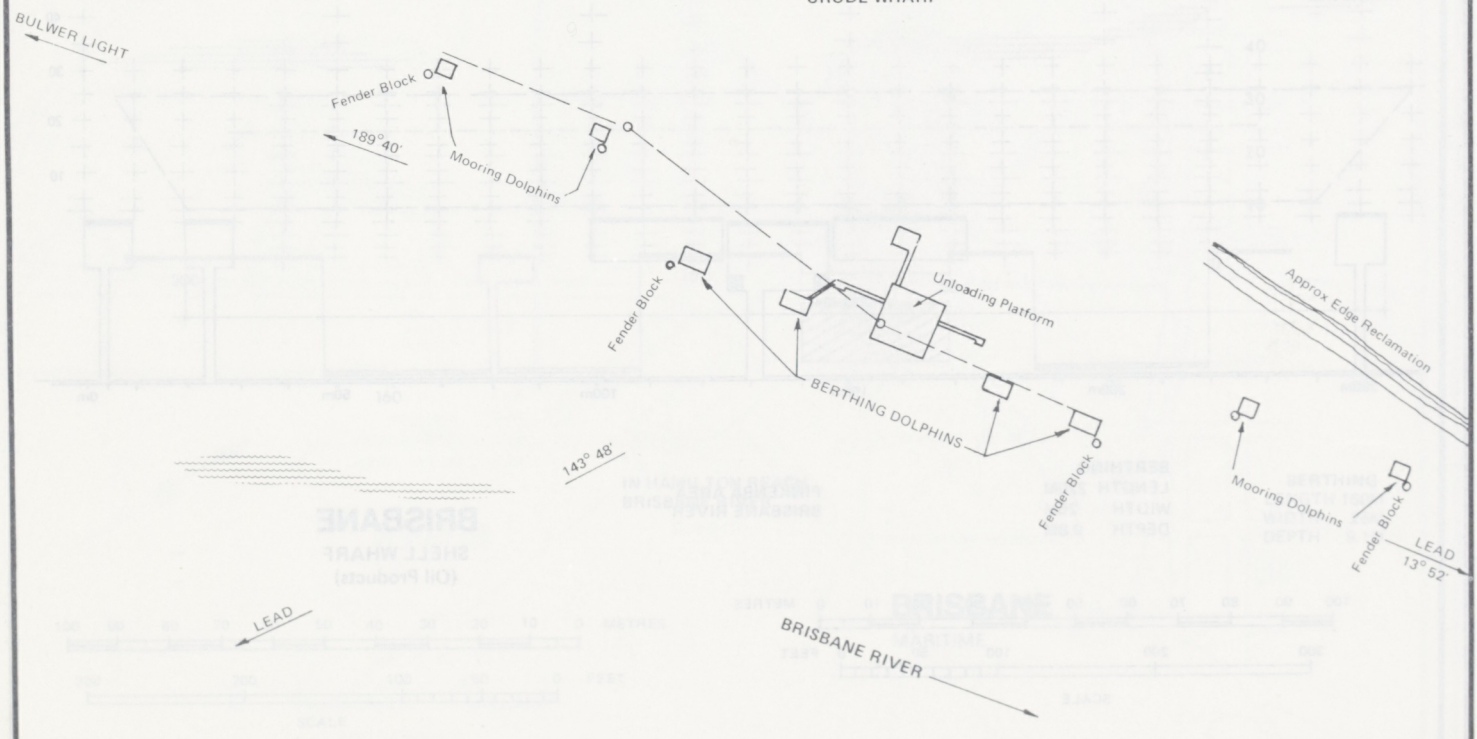
Products Terminal – Bulwer Island

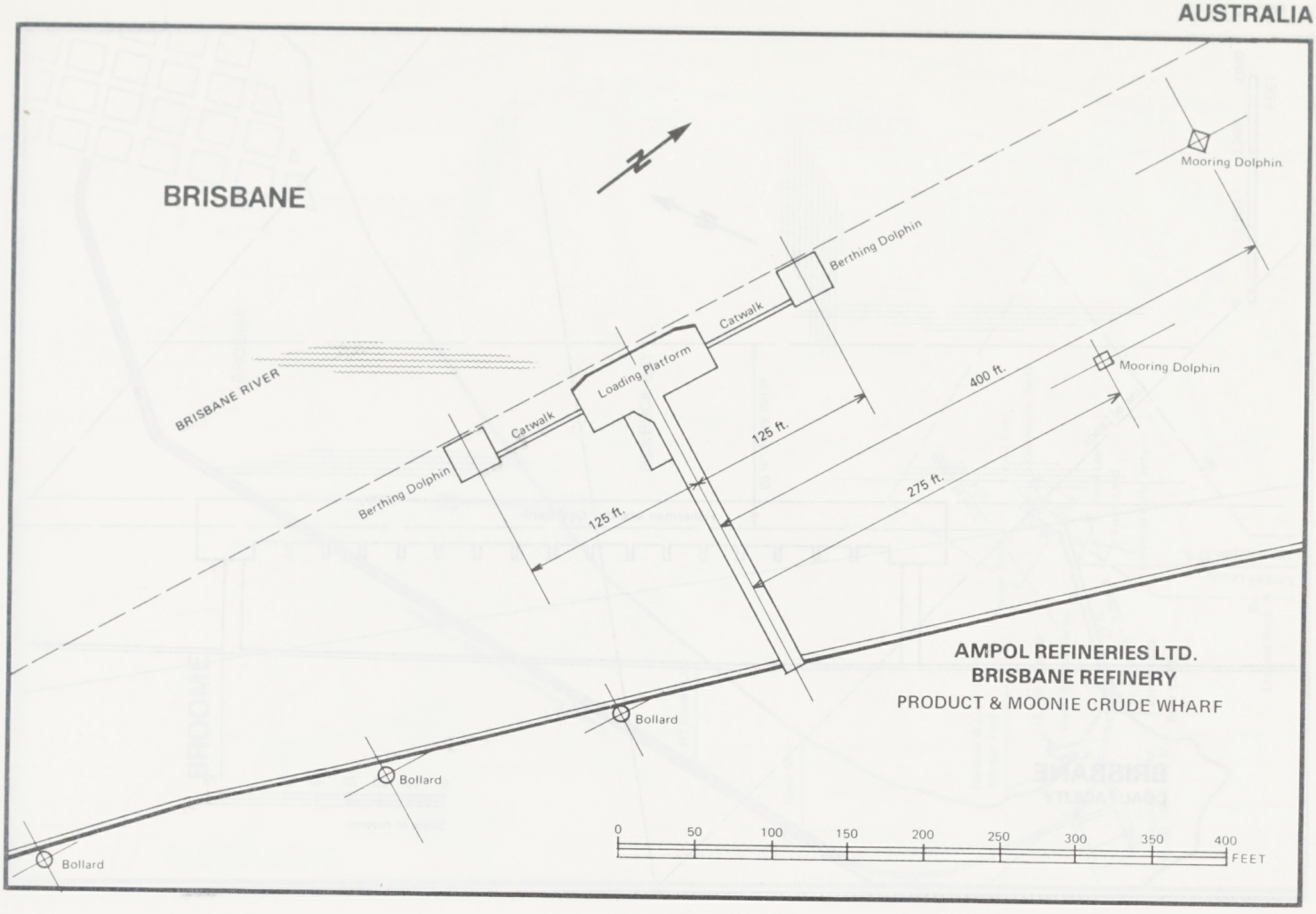


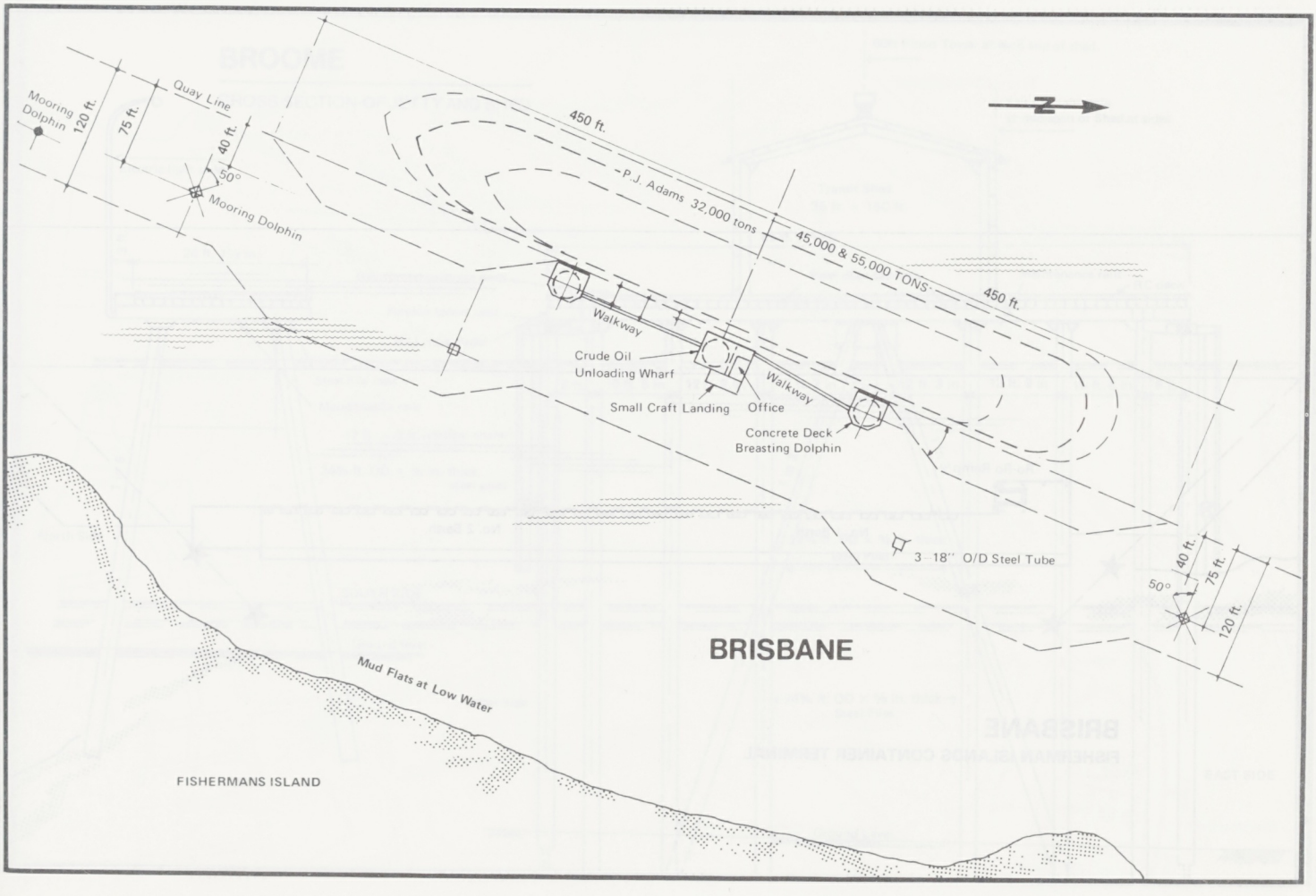
BRISBANE

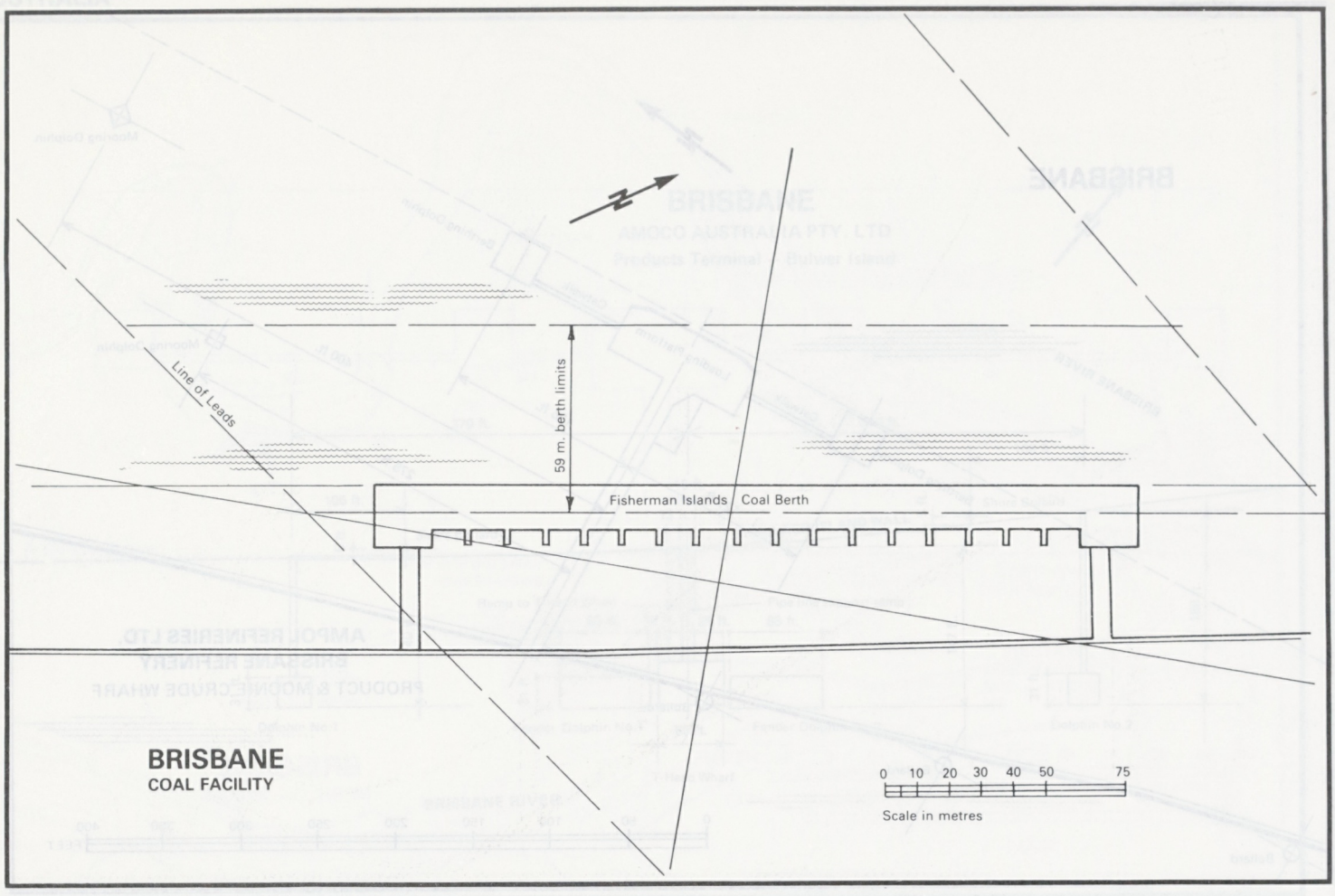
AMOCO (AUST) PTY. LTD.

CRUDE WHARF

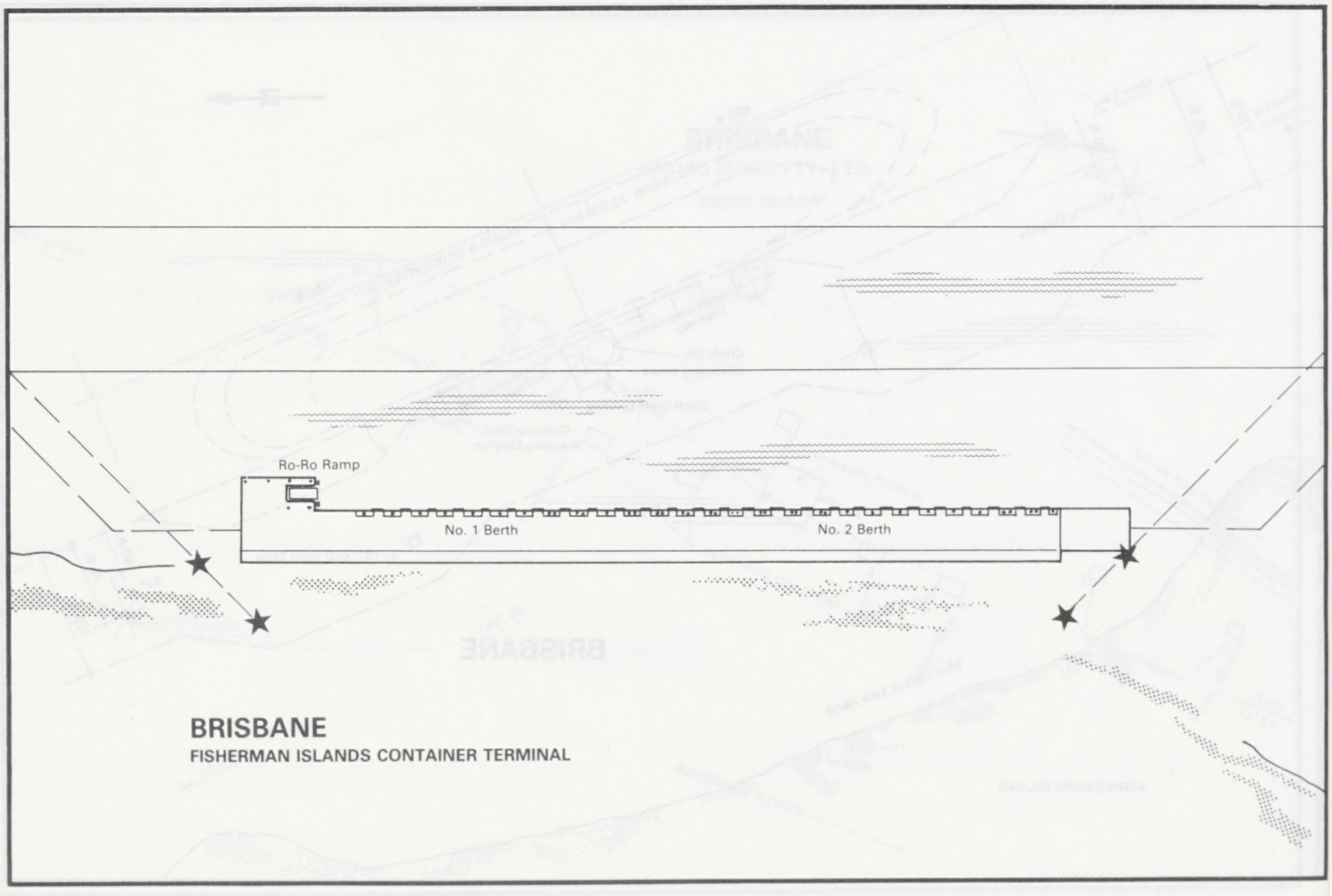



BRISBANE
N
Mooring Dolphin
Berthing Dolphin
Catwalk
Loading Platform
Catwalk
Berthing Dolphin
BRISBANE RIVER
400 ft.
Mooring Dolphin
125 ft.
275 ft.
125 ft.
AMPOL REFINERIES LTD.
BRISBANE REFINERY
PRODUCT & MOONIE CRUDE WHARF
Bollard
Bollard
Bollard
0 50 100 150 200 250 300 350 400
FEET

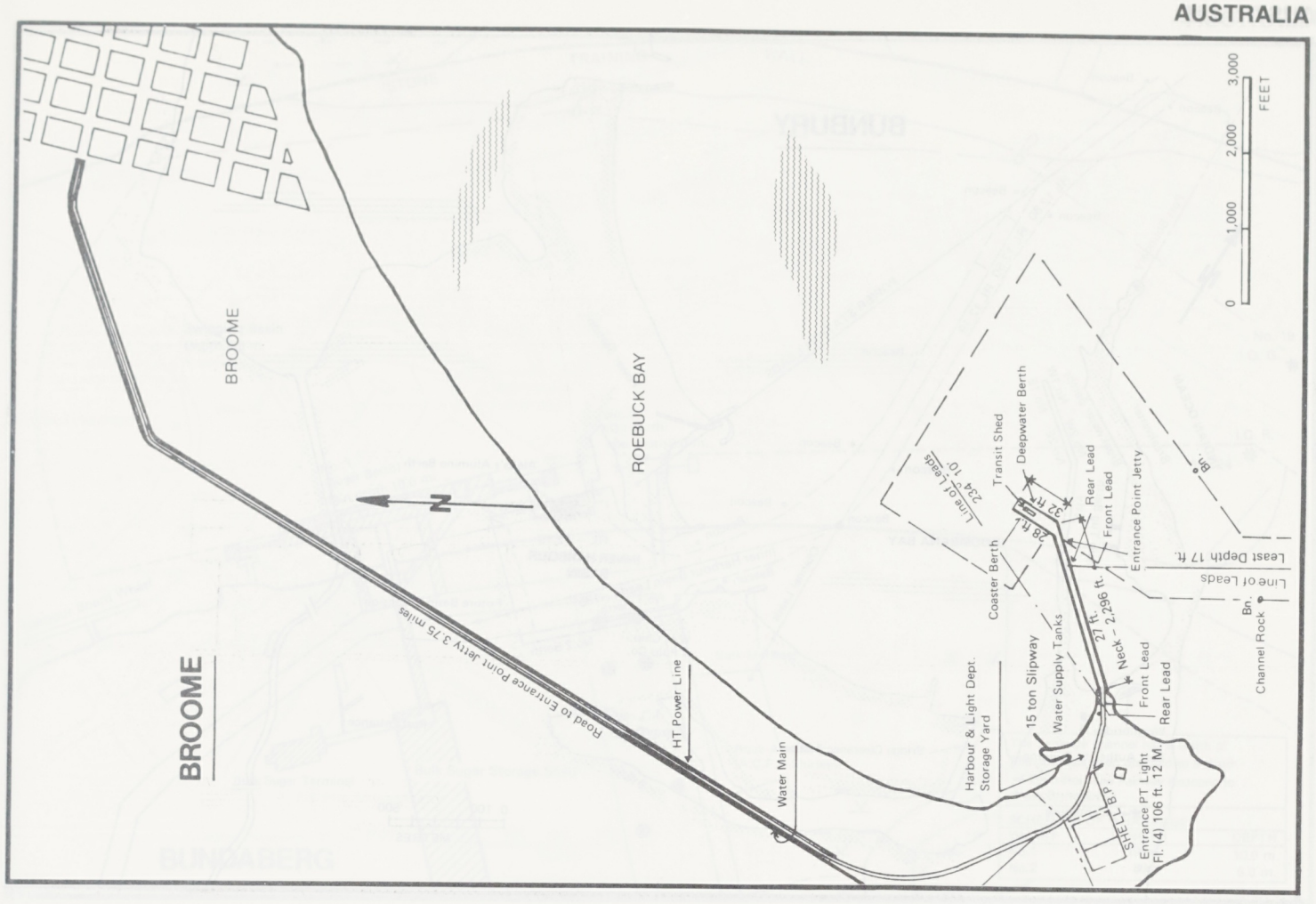

N
Mooring Dolphin
120 ft.
75 ft.
Quay Line
40 ft.
50°
Mooring Dolphin
450 ft.
P.J. Adams 32,000 tons
45,000 & 55,000 TONS
450 ft.
Walkway
Crude Oil
Unloading Wharf
Walkway
Small Craft Landing
Office
Concrete Deck
Breasting Dolphin
3 18" O/D Steel Tube
40 ft.
50°
75 ft.
120 ft.
BRISBANE
Mud Flats at Low Water
FISHERMANS ISLAND



BRISBANE
COAL FACILITY

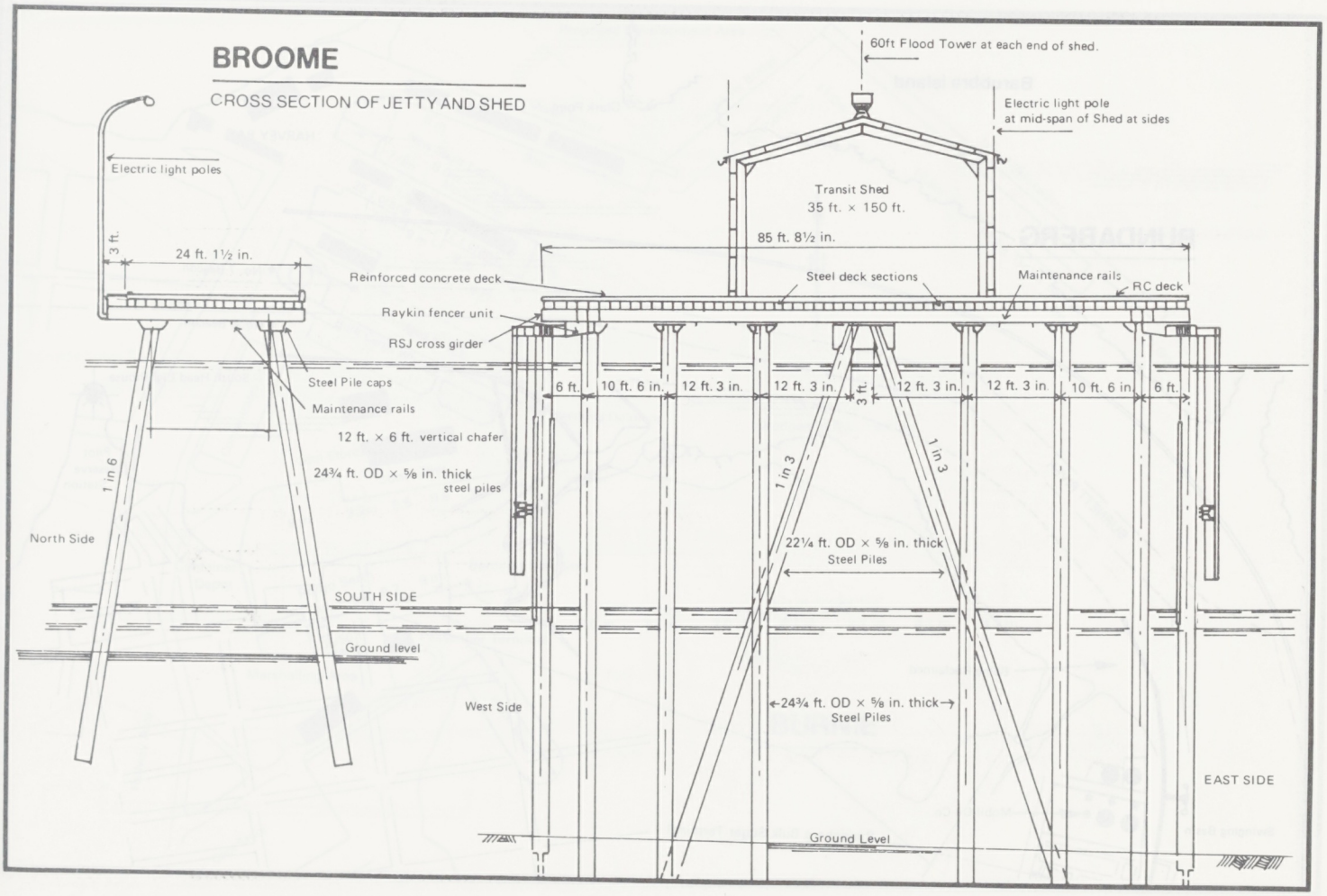


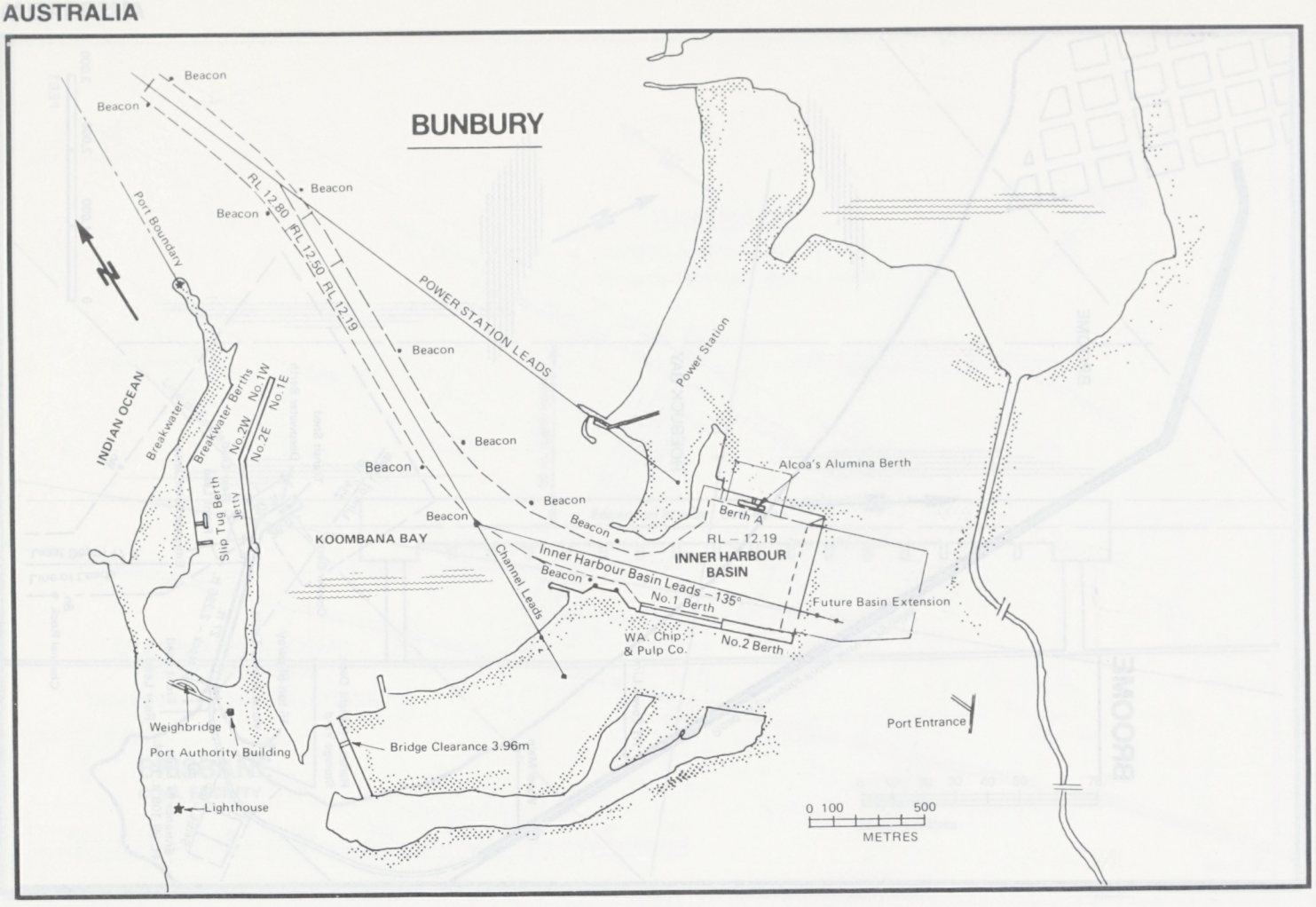
BRISBANE
FISHERMAN ISLANDS CONTAINER TERMINAL

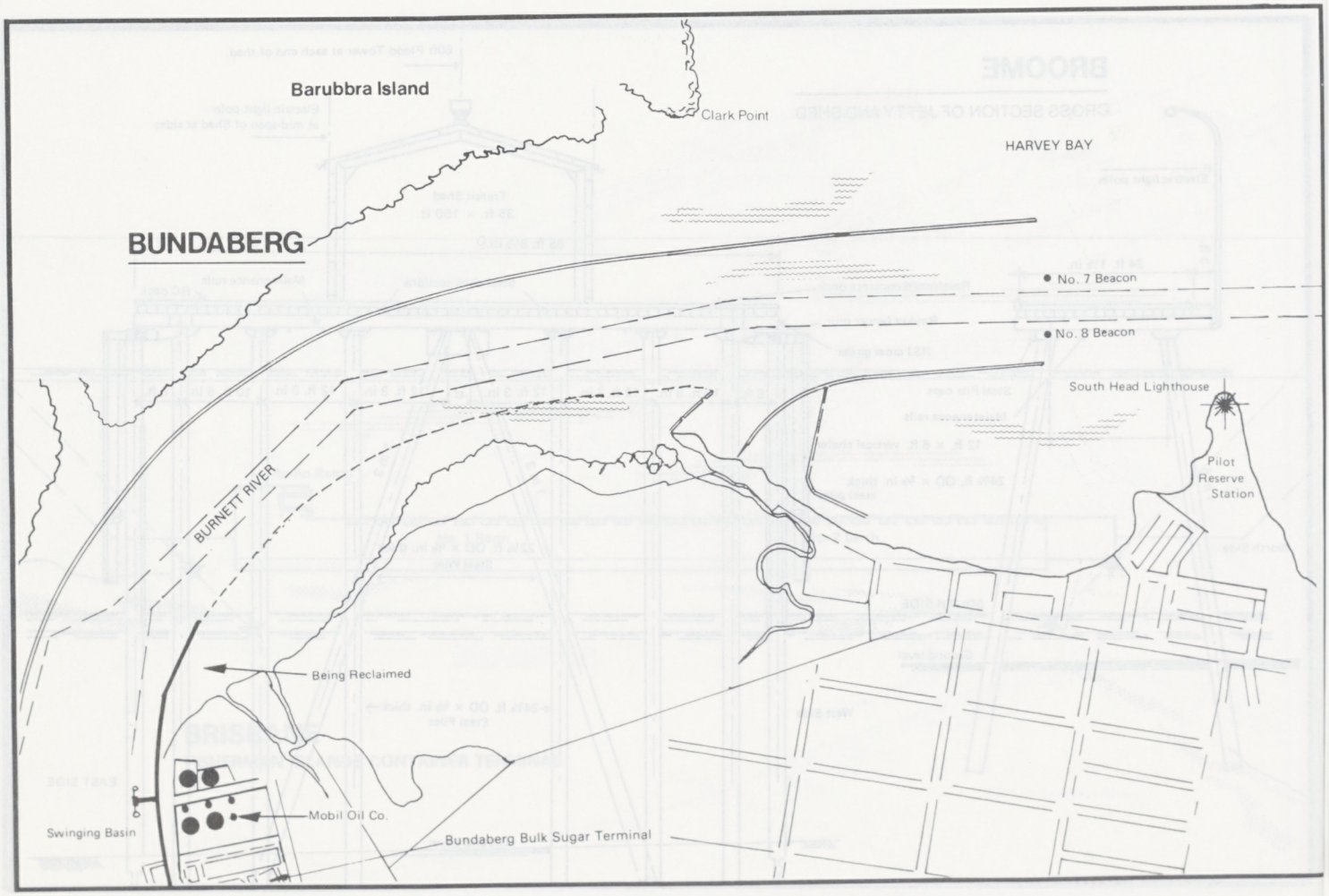


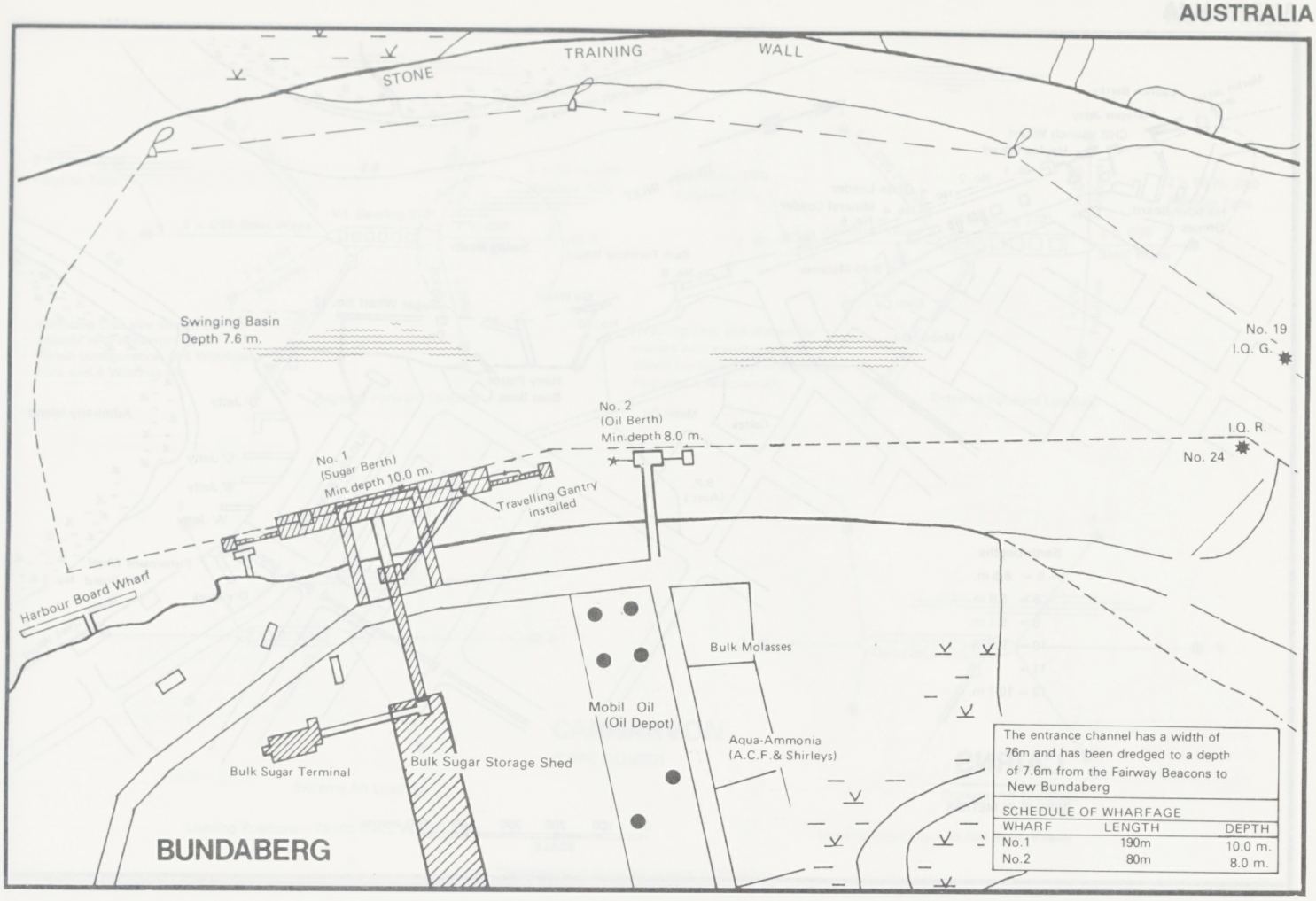
BROOME

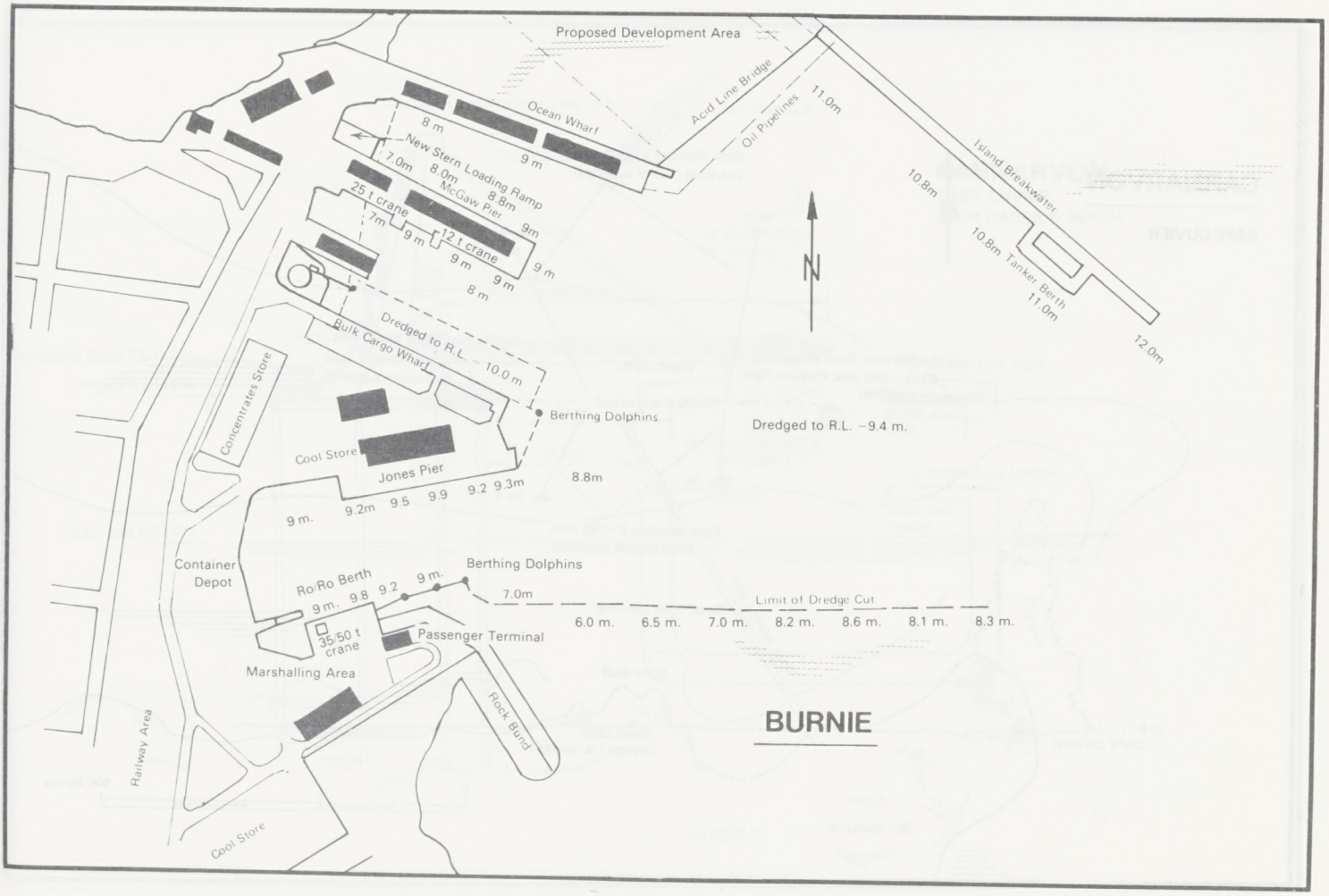
CROSS SECTION OF JETTY AND SHED

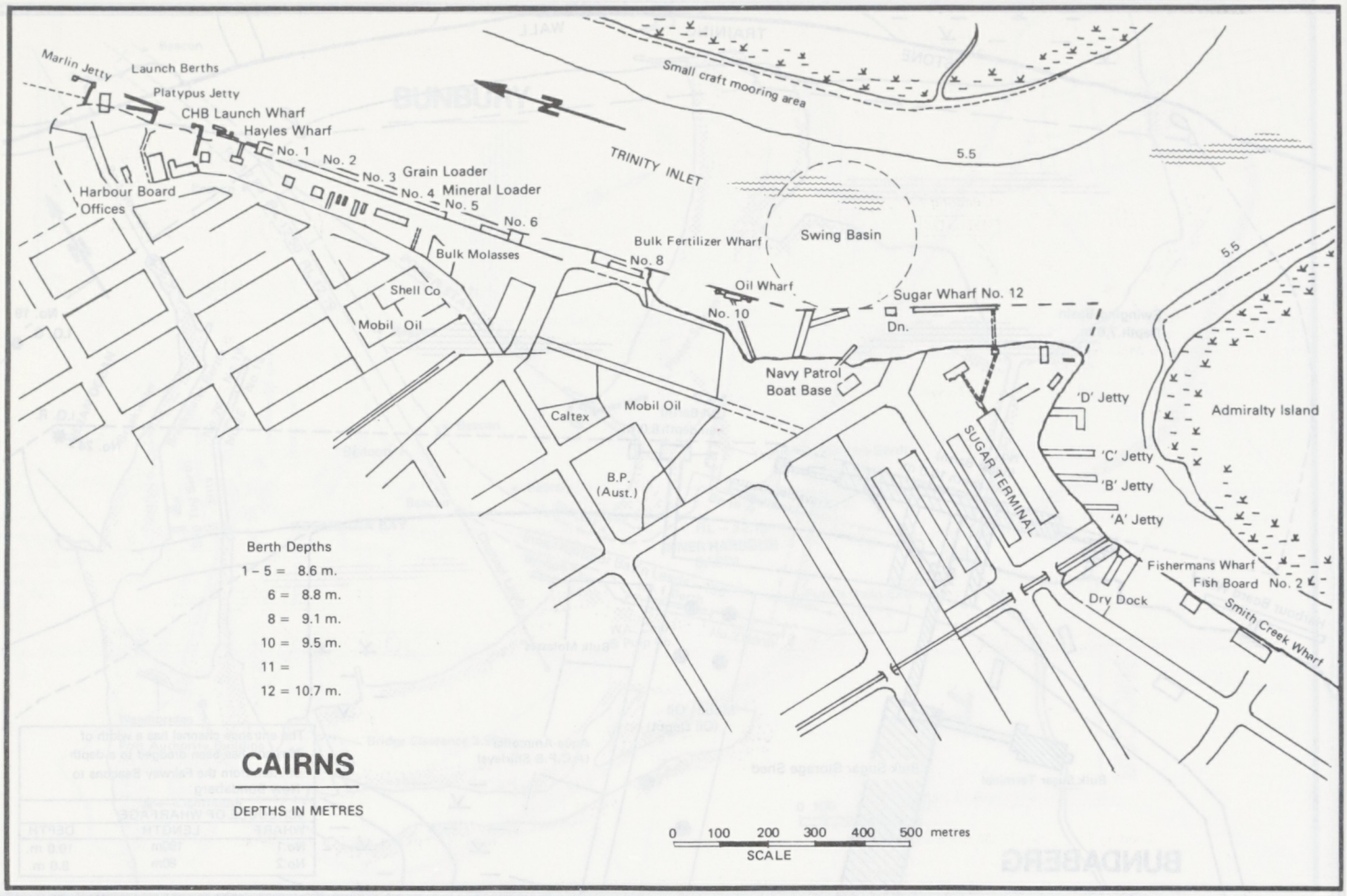


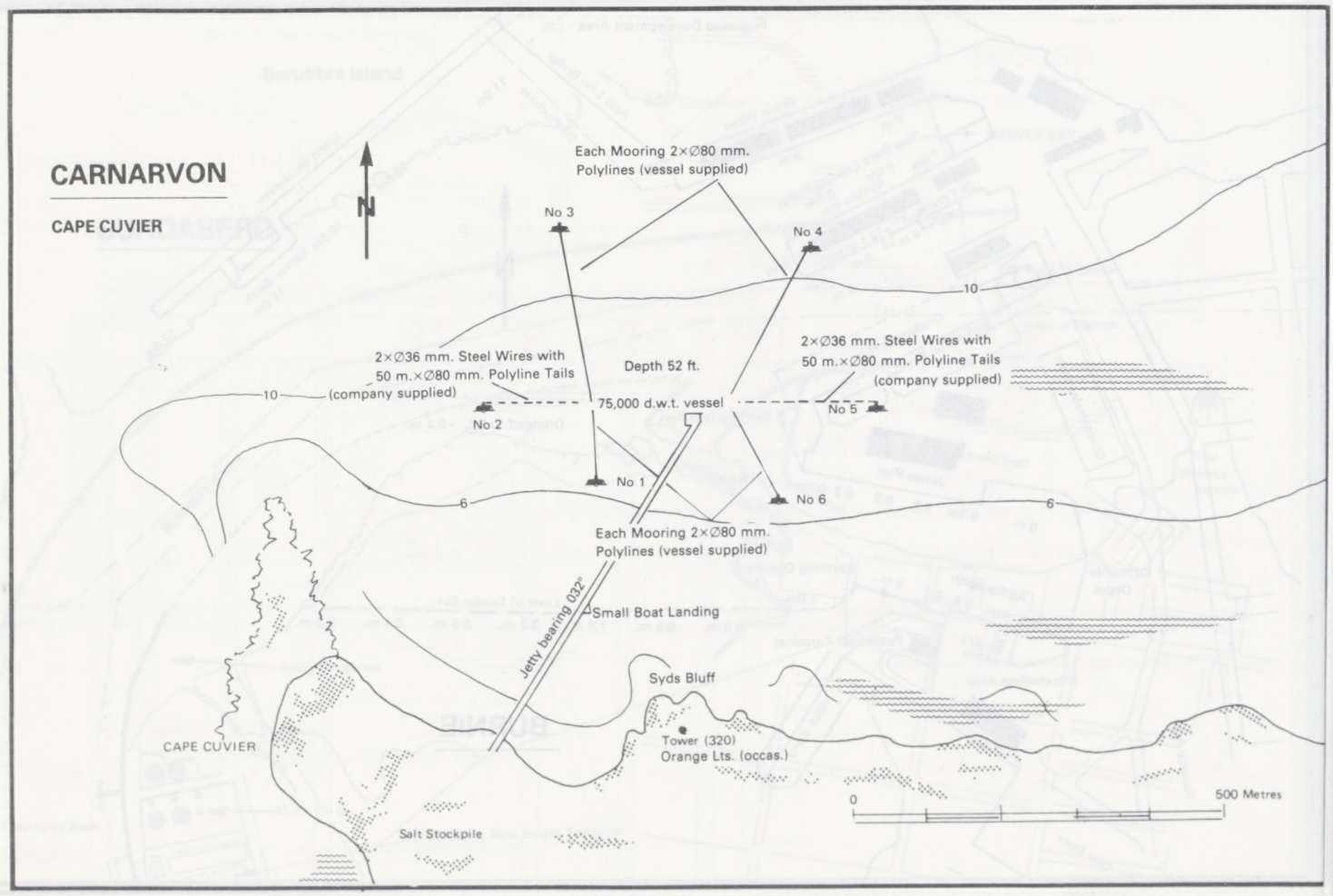

BUNBURY
Beacon
Beacon
Beacon
Beacon
RL 12.80
RL 12.50
RL 12.19
Port Boundary
POWER STATION LEADS
Power Station
INDIAN OCEAN
Breakwater
Breakwater Berths
No.1W
No.1E
No.2W
No.2E
Slip Tug Berth
Jetty
KOOMBANA BAY
Channel Leads
Alcoa's Alumina Berth
Berth A
RL – 12.19
INNER HARBOUR BASIN
Inner Harbour Basin Leads – 135°
No.1 Berth
No.2 Berth
Future Basin Extension
WA. Chip & Pulp Co.
Weighbridge
Port Authority Building
Bridge Clearance 3.96m
Lighthouse
Port Entrance
0 100 500
METRES

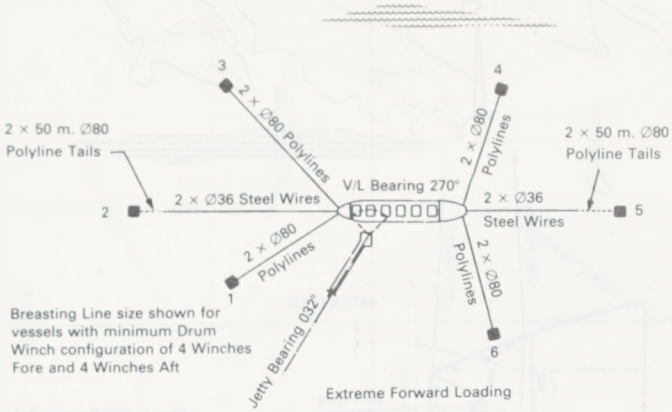

Barubbra Island
Clark Point
HARVEY BAY
BUNDABERG
No. 7 Beacon
No. 8 Beacon
South Head Lighthouse
Pilot Reserve Station
BURNETT RIVER
Being Reclaimed
Swinging Basin
Mobil Oil Co.
Bundaberg Bulk Sugar Terminal

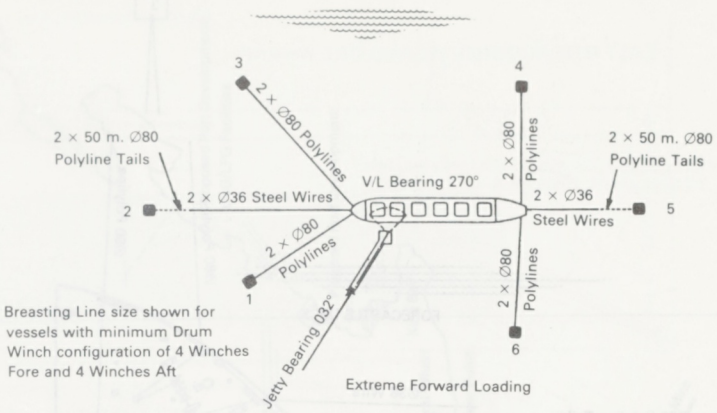

STONE
TRAINING
WALL
Swinging Basin
Depth 7.6 m.
No. 19
I.Q. G.
No. 2
(Oil Berth)
Min.depth 8.0 m.
I.Q. R.
No. 24
No. 1
(Sugar Berth)
Min.depth 10.0 m.
Travelling Gantry
installed
Harbour Board Wharf
Bulk Molasses
Mobil Oil
(Oil Depot)
Aqua-Ammonia
(A.C.F.& Shirleys)
Bulk Sugar Terminal
Bulk Sugar Storage Shed
BUNDABERG
The entrance channel has a width of 76m and has been dredged to a depth of 7.6m from the Fairway Beacons to New Bundaberg
SCHEDULE OF WHARFAGE
WHARF LENGTH DEPTH
No.1 190m 10.0 m.
No.2 80m 8.0 m.

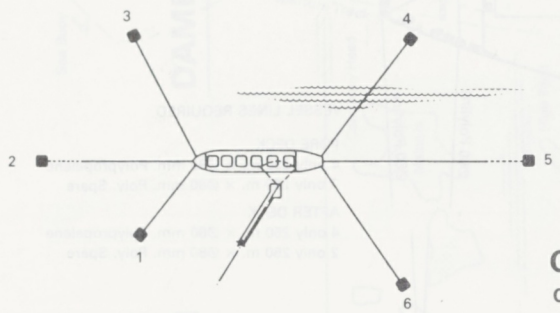

Proposed Development Area
Ocean Wharf
Acid Line Bridge
Oil Pipelines
11.0m
Island Breakwater
10.8m
10.8m Tanker Berth
11.0m
12.0m
N
8 m
9 m
New Stern Loading Ramp
7.0m
8.0m
8.8m
McGaw Pier
9m
25 t crane
7m
9 m
12 t crane
9 m
9 m
9 m
8 m
Dredged to R.L. -10.0 m
Bulk Cargo Wharf
Concentrates Store
Berthing Dolphins
Dredged to R.L. -9.4 m.
Cool Store
Jones Pier
8.8m
9 m.
9.2m
9.5
9.9
9.2
9.3m
Container
Depot
Ro/Ro Berth
9 m.
9.8
9.2
9 m.
Berthing Dolphins
7.0m
Limit of Dredge Cut
6.0 m.
6.5 m.
7.0 m.
8.2 m.
8.6 m.
8.1 m.
8.3 m.
35/50 t
crane
Passenger Terminal
Marshalling Area
Railway Area
Rock Bund
Cool Store
BURNIE


Marlin Jetty
Launch Berths
Platypus Jetty
CHB Launch Wharf
Hayles Wharf
No. 1
No. 2
No. 3 Grain Loader
No. 4 Mineral Loader
No. 5
No. 6
Harbour Board Offices
Small craft mooring area
TRINITY INLET
5.5
Bulk Molasses
Bulk Fertilizer Wharf No. 8
Swing Basin
Shell Co
Mobil Oil
Oil Wharf No. 10
Sugar Wharf No. 12 Dn.
Navy Patrol Boat Base
Caltex
Mobil Oil
B.P. (Aust.)
SUGAR TERMINAL
'D' Jetty
'C' Jetty
'B' Jetty
'A' Jetty
Admiralty Island
Fishermans Wharf
Fish Board No. 2
Dry Dock
Smith Creek Wharf
Berth Depths
1 - 5 = 8.6 m.
6 = 8.8 m.
8 = 9.1 m.
10 = 9.5 m.
11 =
12 = 10.7 m.
CAIRNS
DEPTHS IN METRES
0 100 200 300 400 500 metres
SCALE


CARNARVON
CAPE CUVIER
N
Each Mooring 2×Ø80 mm. Polylines (vessel supplied)
No 3
No 4
10
2×Ø36 mm. Steel Wires with 50 m.×Ø80 mm. Polyline Tails (company supplied)
Depth 52 ft.
75,000 d.w.t. vessel
No 2
No 5
No 1
No 6
6
Each Mooring 2×Ø80 mm. Polylines (vessel supplied)
Jetty bearing 032°
Small Boat Landing
Syds Bluff
CAPE CUVIER
Tower (320) Orange Lts. (occas.)
Salt Stockpile
0
500 Metres

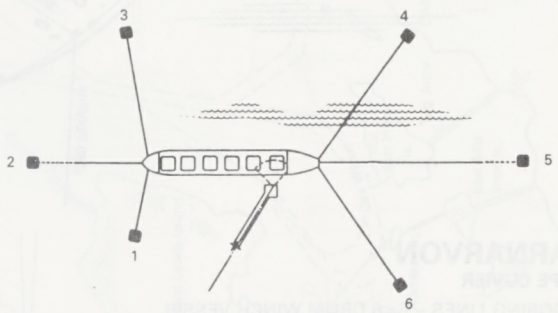






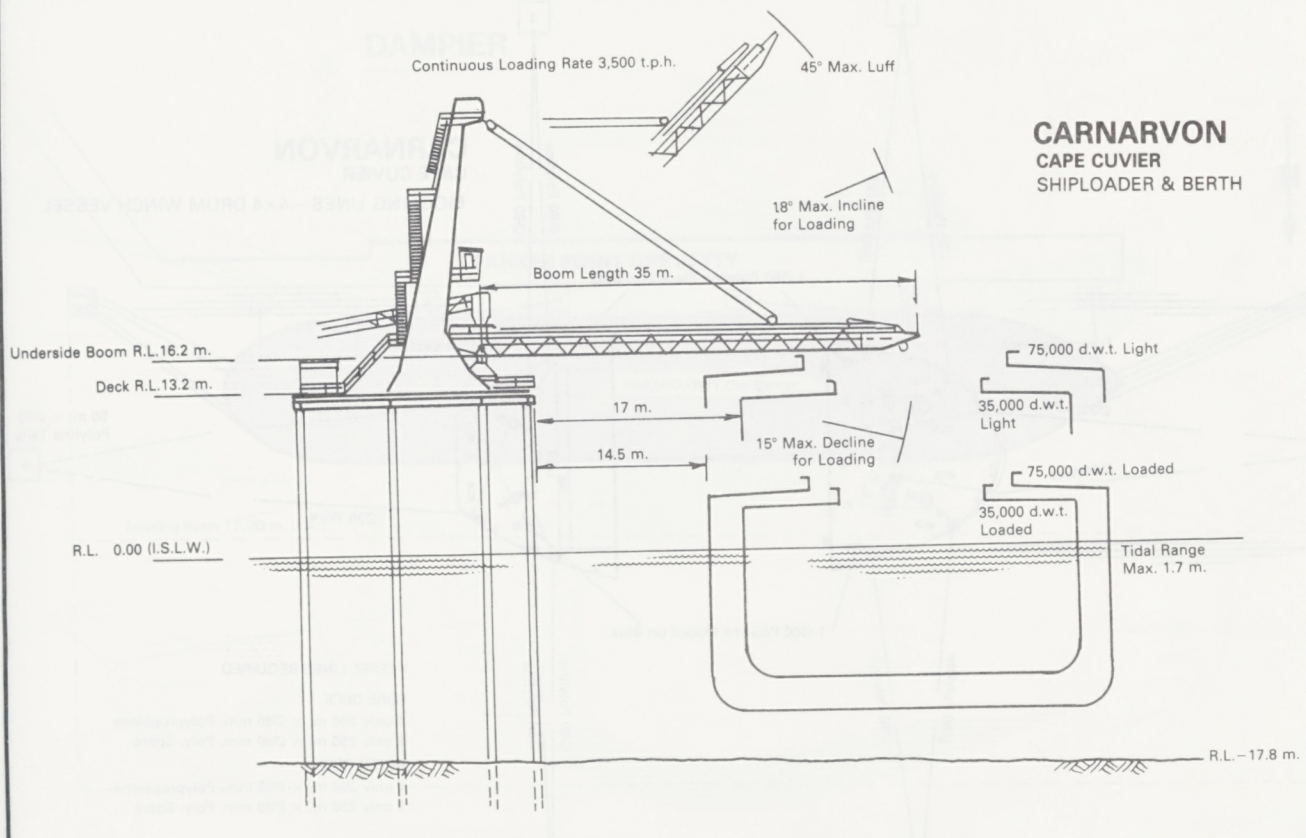
Loading Positions – 75,000 d.w.t. Vessel

CARNARVON
CAPE CUVIER

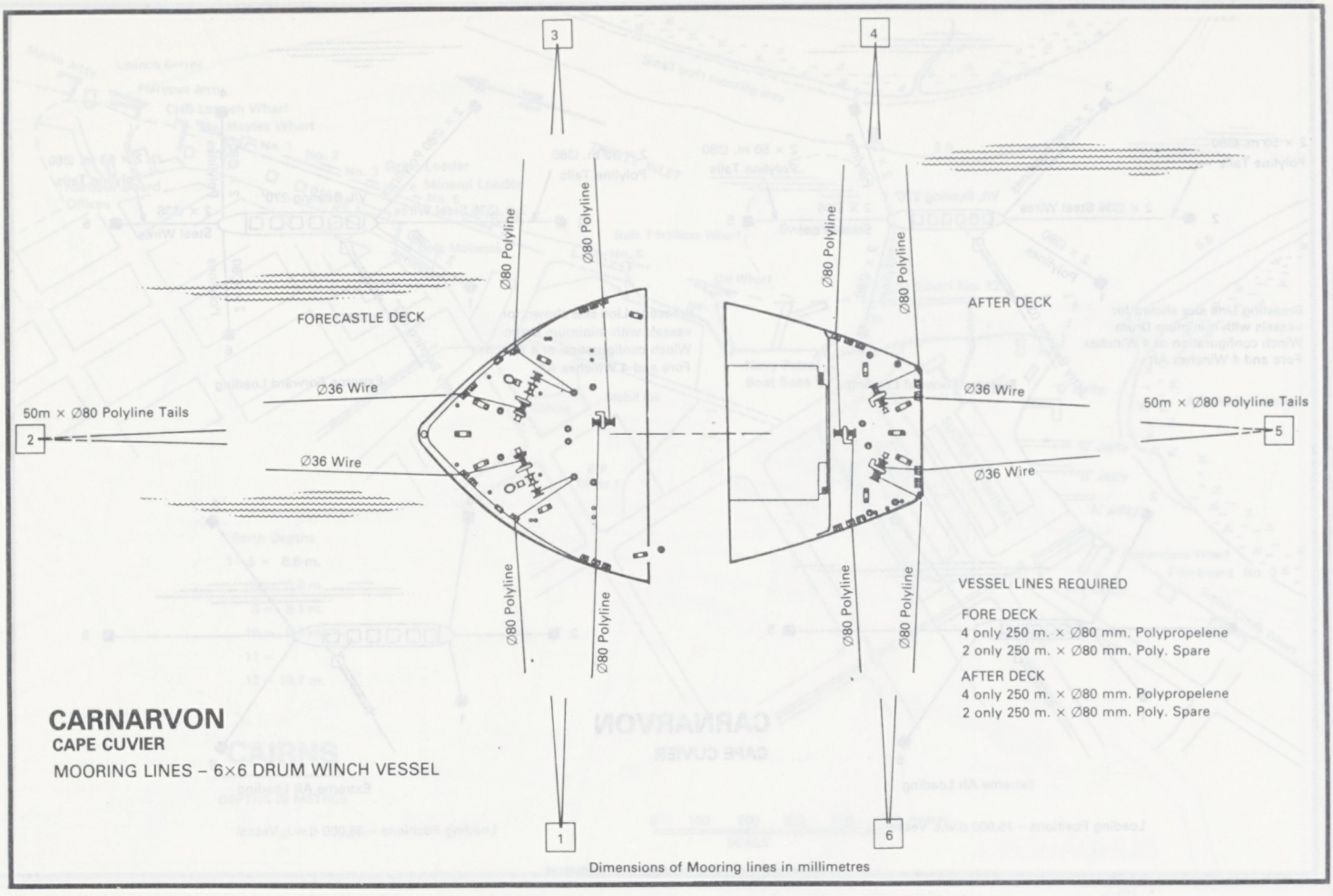


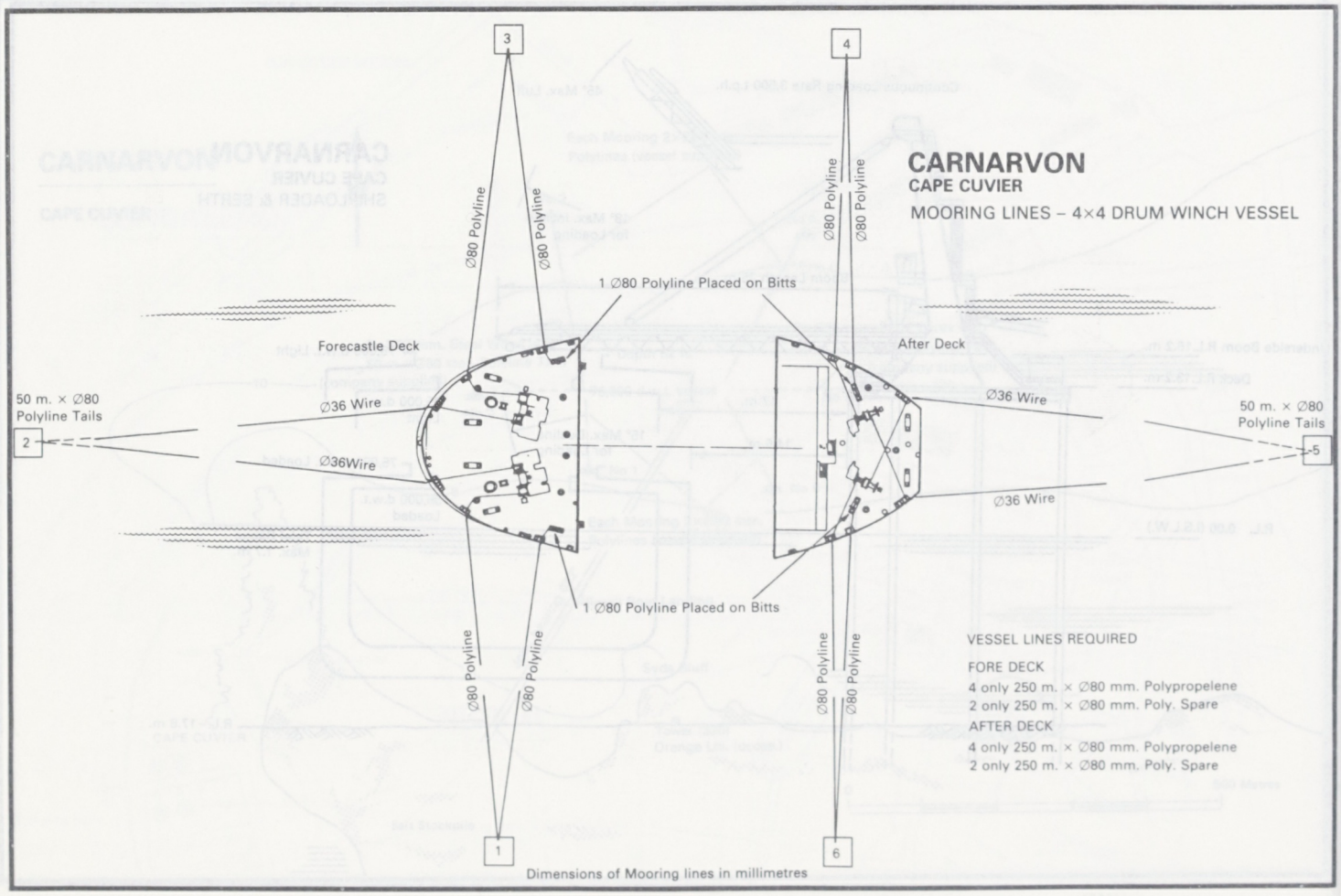
Loading Positions – 35,000 d.w.t. Vessel

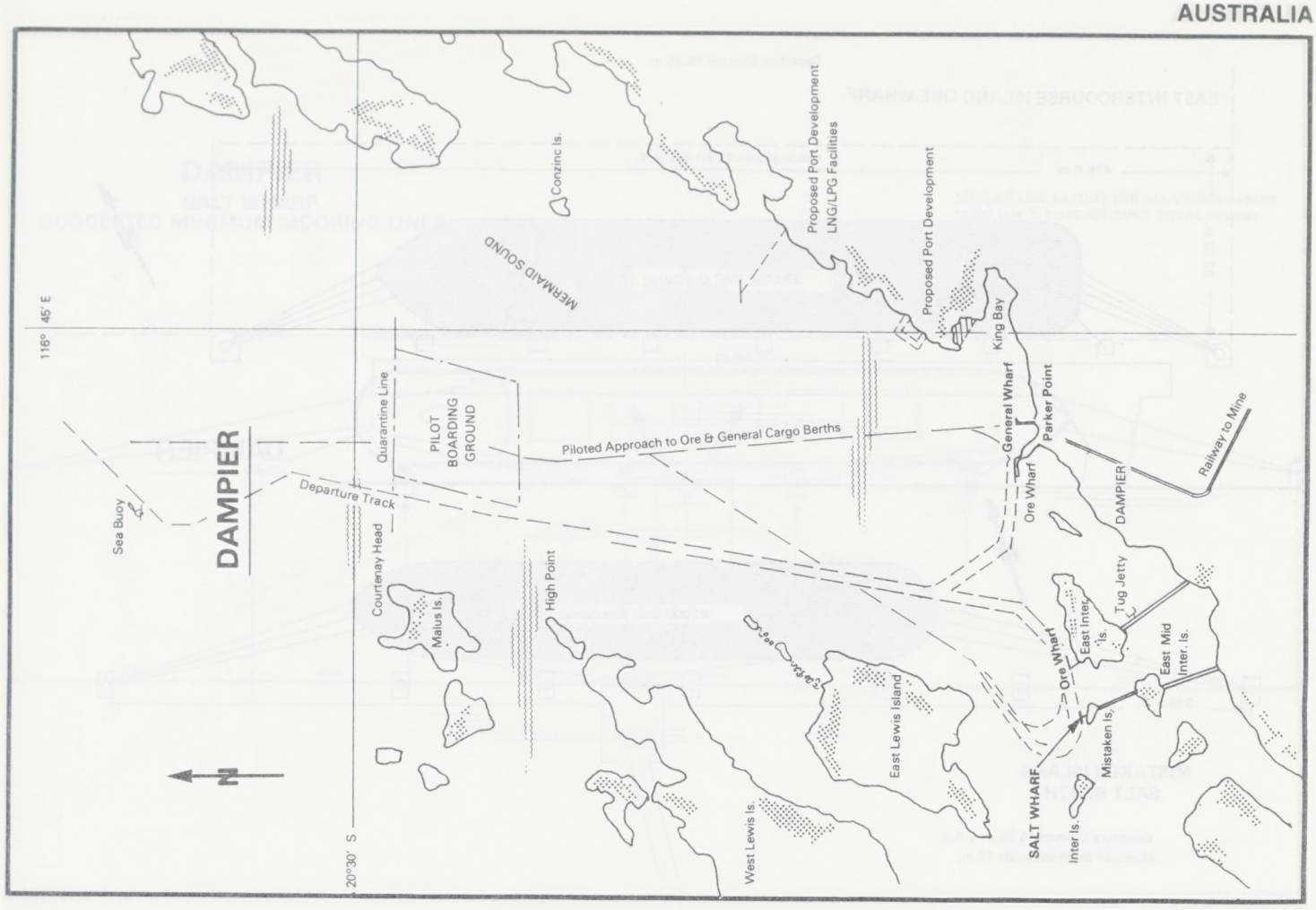
Dimensions of Mooring lines in millimetres



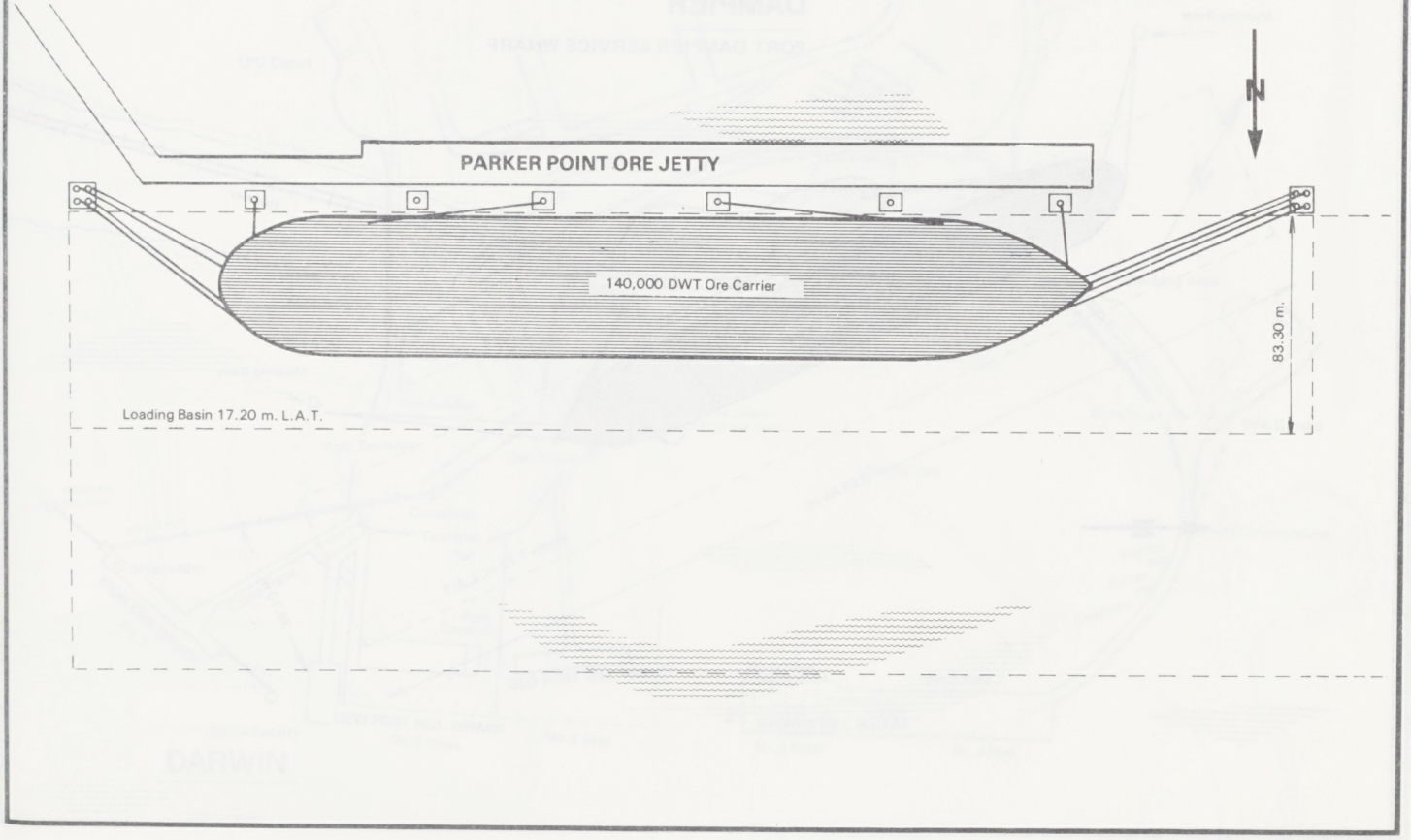
CARNARVON
CAPE CUVIER
SHIPLOADER & BERTH

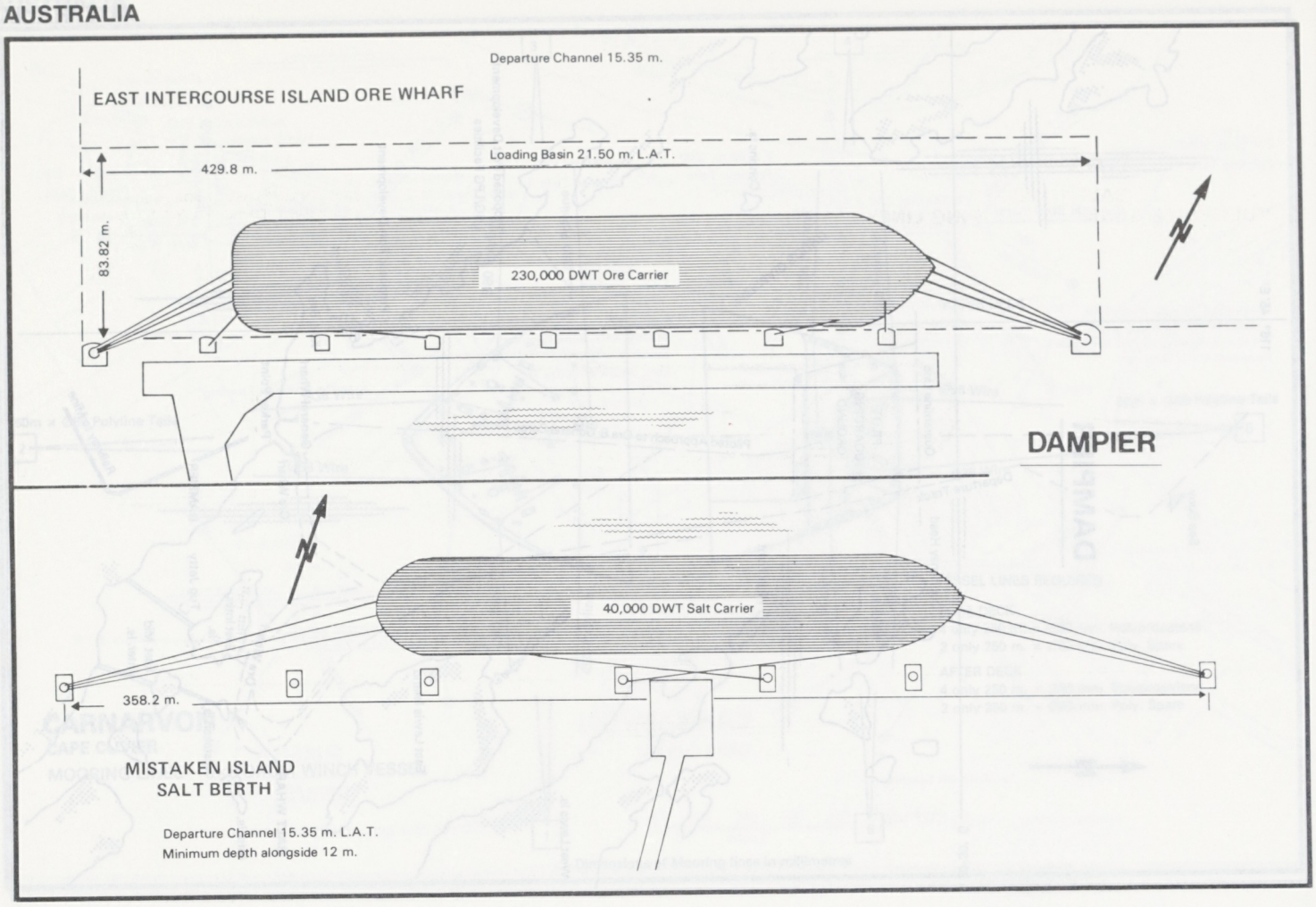

3
4
Ø80 Polyline
Ø80 Polyline
FORECASTLE DECK
AFTER DECK
Ø36 Wire
50m × Ø80 Polyline Tails
2
Ø36 Wire
Ø36 Wire
50m × Ø80 Polyline Tails
5
Ø36 Wire
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
VESSEL LINES REQUIRED
FORE DECK
4 only 250 m. × Ø80 mm. Polypropelene
2 only 250 m. × Ø80 mm. Poly. Spare
AFTER DECK
4 only 250 m. × Ø80 mm. Polypropelene
2 only 250 m. × Ø80 mm. Poly. Spare
CARNARVON
CAPE CUVIER
MOORING LINES – 6×6 DRUM WINCH VESSEL
1
6
Dimensions of Mooring lines in millimetres

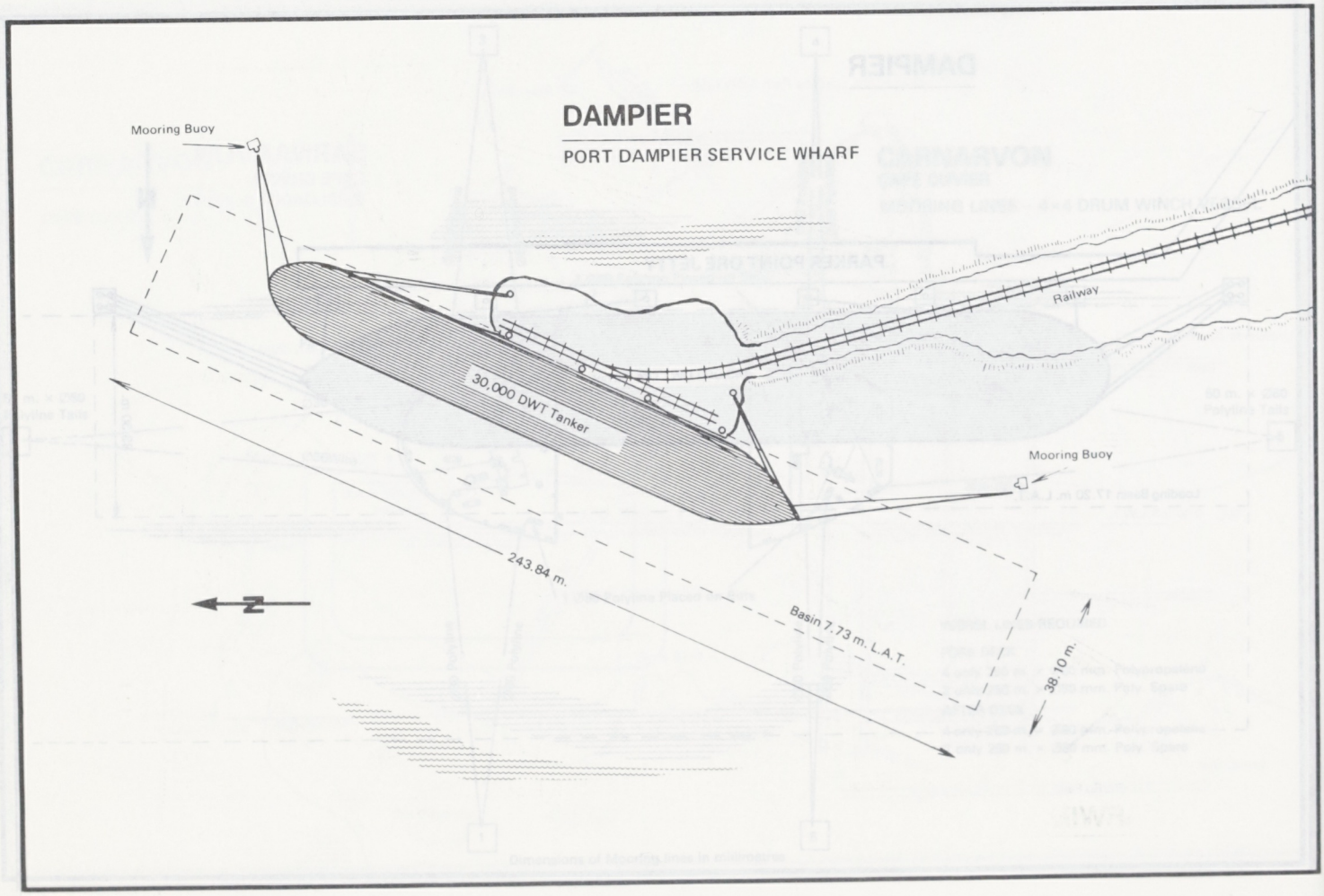

3
4
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
CARNARVON
CAPE CUVIER
MOORING LINES – 4×4 DRUM WINCH VESSEL
1 Ø80 Polyline Placed on Bitts
Forecastle Deck
After Deck
50 m. × Ø80
Polyline Tails
2
Ø36 Wire
Ø36Wire
Ø36 Wire
50 m. × Ø80
Polyline Tails
5
Ø36 Wire
1 Ø80 Polyline Placed on Bitts
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
Ø80 Polyline
VESSEL LINES REQUIRED
FORE DECK
4 only 250 m. × Ø80 mm. Polypropelene
2 only 250 m. × Ø80 mm. Poly. Spare
AFTER DECK
4 only 250 m. × Ø80 mm. Polypropelene
2 only 250 m. × Ø80 mm. Poly. Spare
1
6
Dimensions of Mooring lines in millimetres


DAMPIER
Sea Buoy
Departure Track
Quarantine Line
PILOT BOARDING GROUND
Piloted Approach to Ore & General Cargo Berths
Courtenay Head
Malus Is.
High Point
Conzinc Is.
MERMAID SOUND
Proposed Port Development LNG/LPG Facilities
Proposed Port Development
King Bay
General Wharf
Parker Point
Ore Wharf
DAMPIER
Railway to Mine
Tug Jetty
East Inter. Is.
East Mid Inter. Is.
Ore Wharf
SALT WHARF
Mistaken Is.
Inter Is.
East Lewis Island
West Lewis Is.
116° 45' E
20° 30' S
N

DAMPIER


N
PARKER POINT ORE JETTY
140,000 DWT Ore Carrier
83.30 m.
Loading Basin 17.20 m. L.A.T.

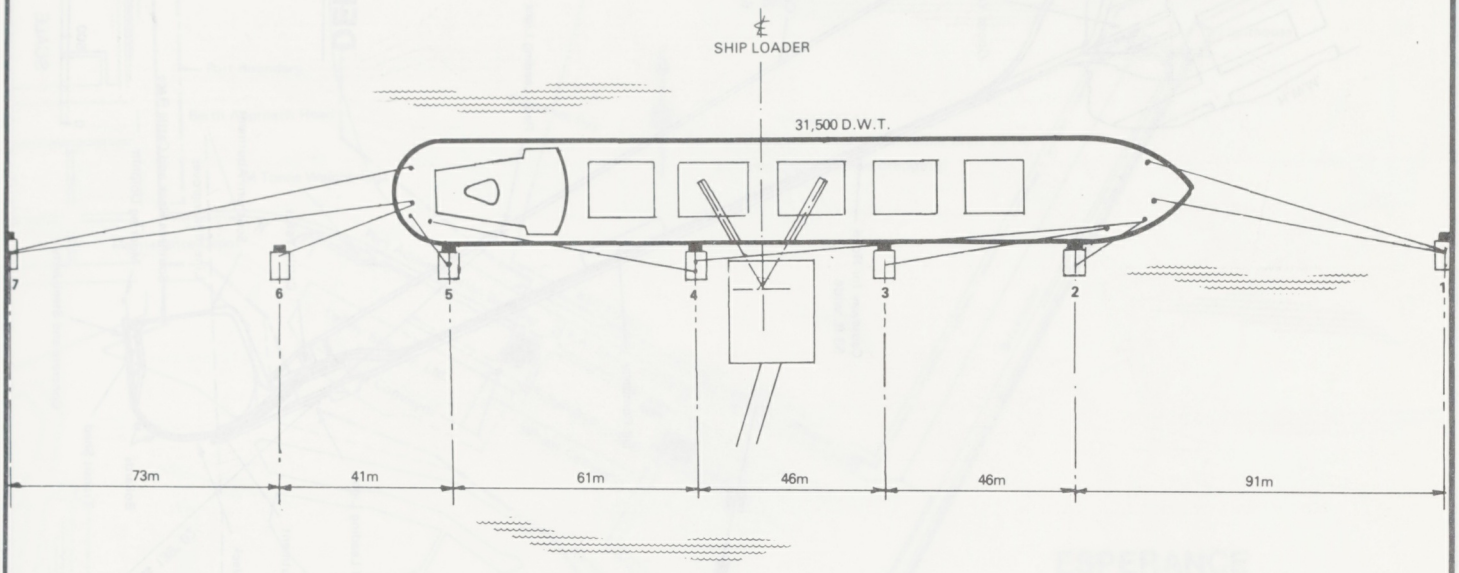

Departure Channel 15.35 m.
EAST INTERCOURSE ISLAND ORE WHARF
Loading Basin 21.50 m. L.A.T.
429.8 m.
83.82 m.
230,000 DWT Ore Carrier
DAMPIER
40,000 DWT Salt Carrier
358.2 m.
MISTAKEN ISLAND
SALT BERTH
Departure Channel 15.35 m. L.A.T.
Minimum depth alongside 12 m.

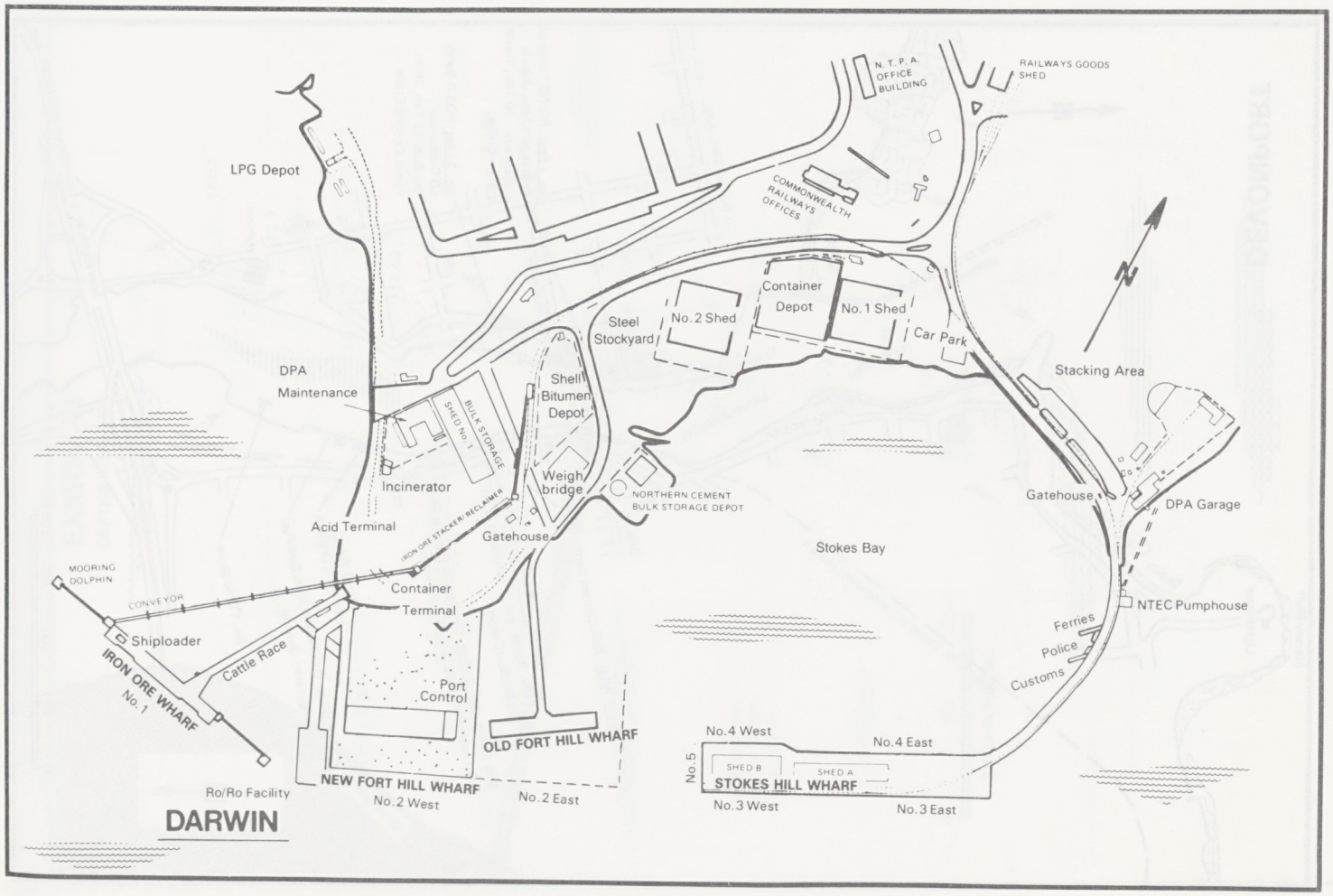

DAMPIER
PORT DAMPIER SERVICE WHARF
Mooring Buoy
Railway
30,000 DWT Tanker
Mooring Buoy
243.84 m.
Basin 7.73 m. L.A.T.
38.10 m.

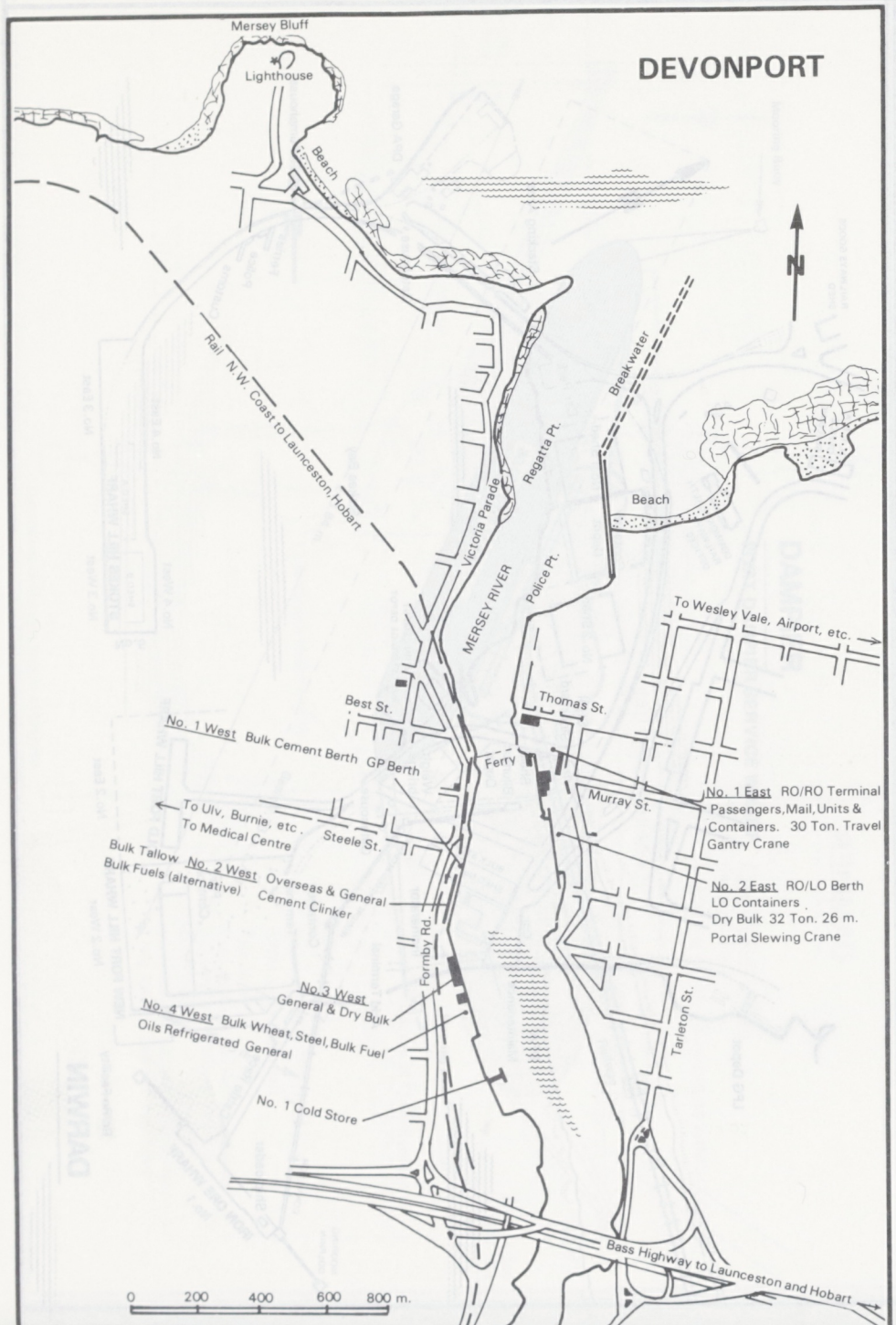
DAMPIER

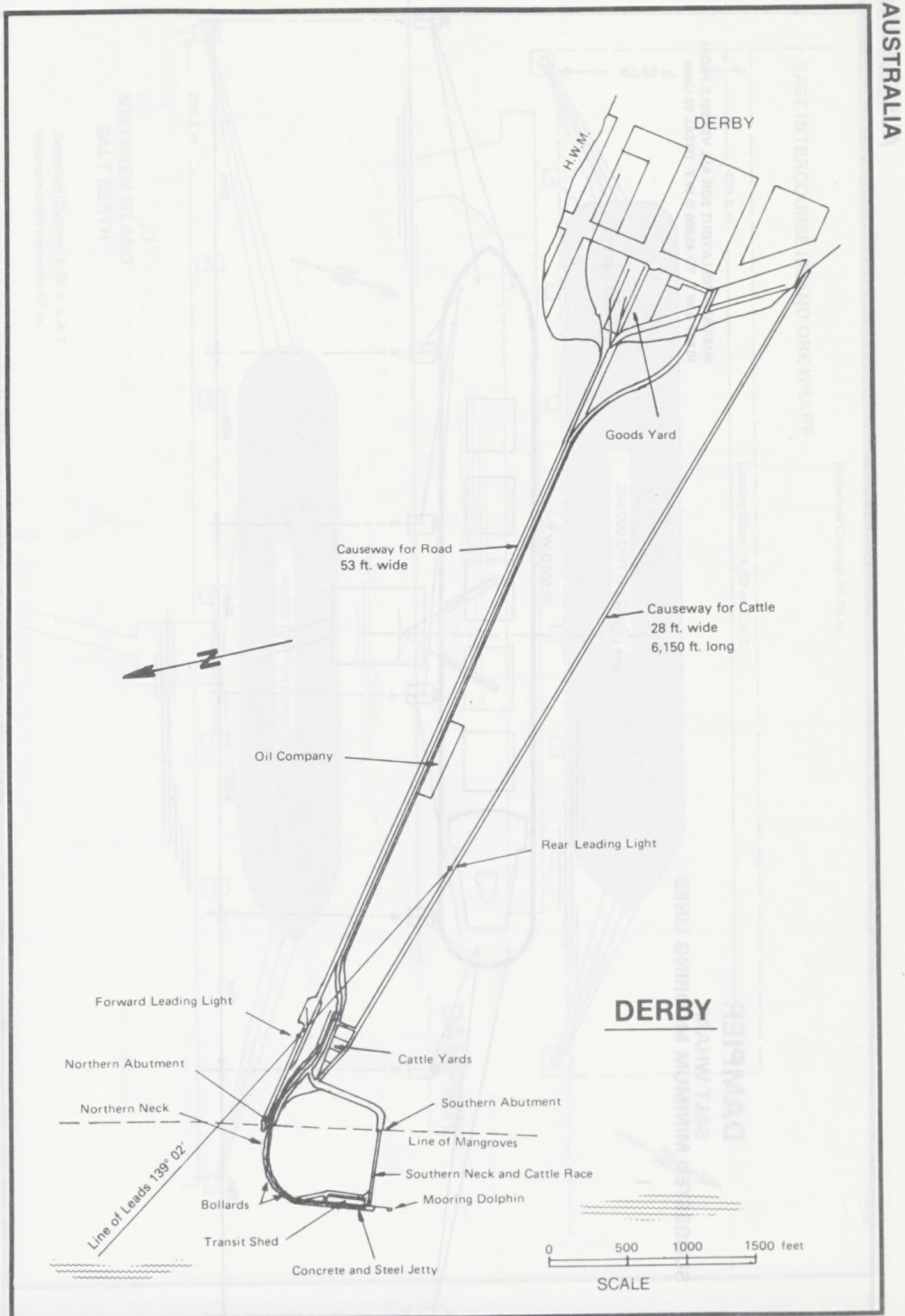
SALT WHARF
SUGGESTED MINIMUM MOORING LINES

SIMILAR LINE LAYOUT FOR ALL VESSELS FROM
10,000 D.W.T. TO 45,000 D.W.T. TOTAL 10 Lines

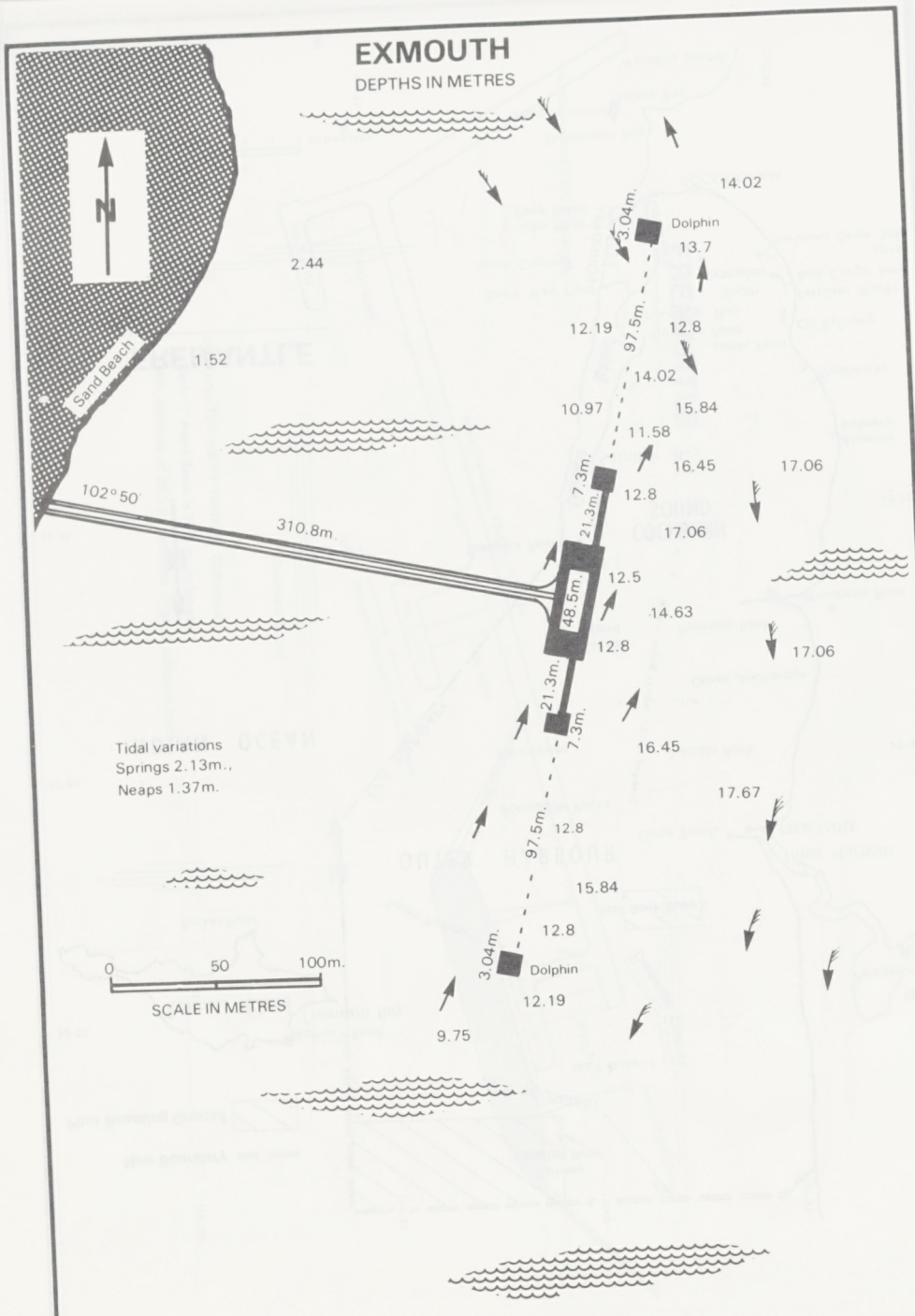


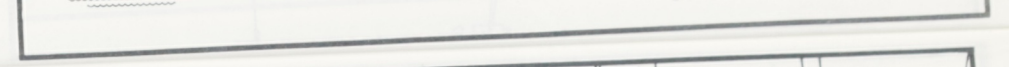


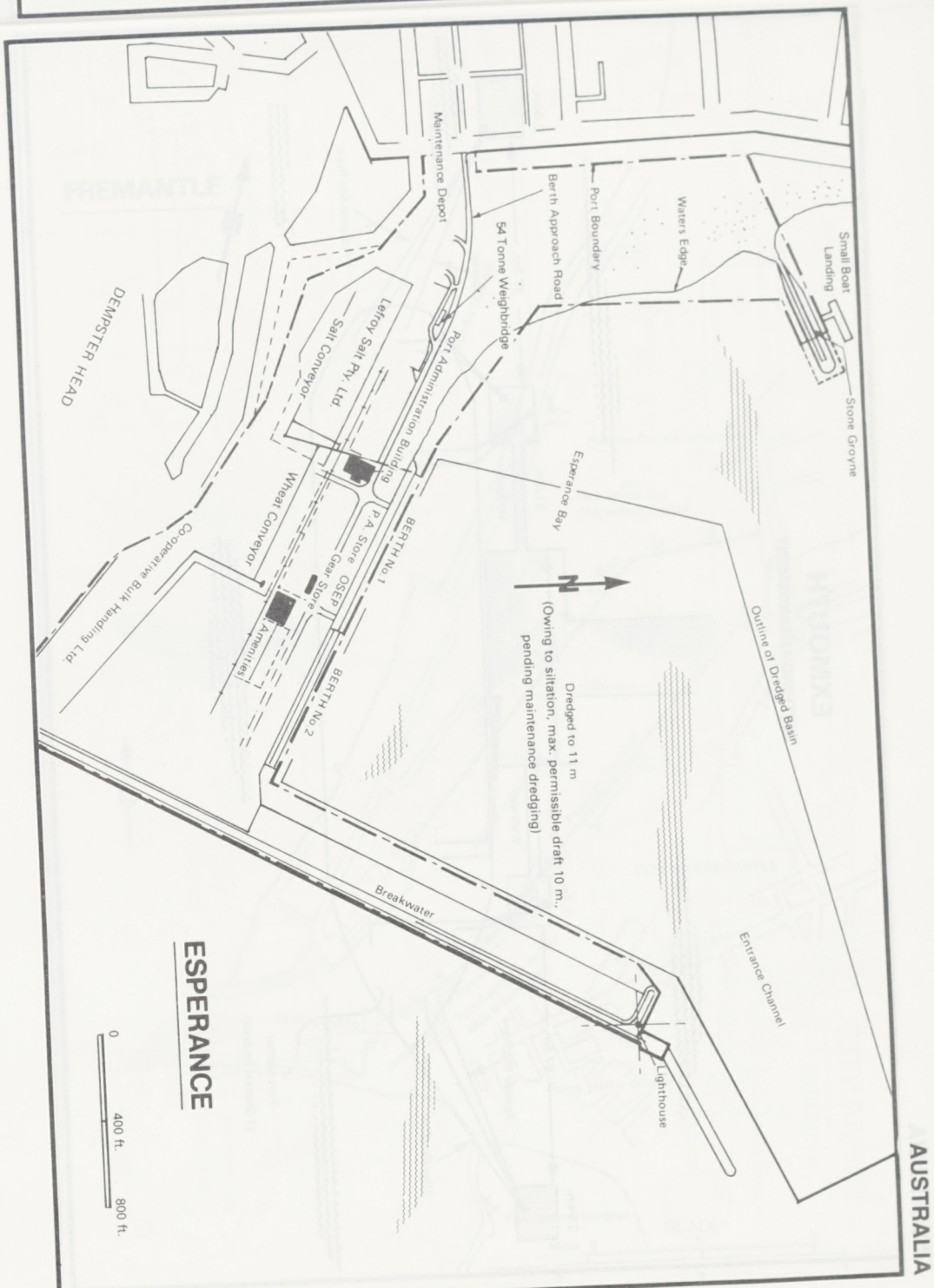

DEVONPORT
Mersey Bluff
Lighthouse
Beach
N
Rail N.W. Coast to Launceston, Hobart
Victoria Parade
Regatta Pt.
Break water
Beach
MERSEY RIVER
Police Pt.
To Wesley Vale, Airport, etc.
Thomas St.
Best St.
No. 1 West Bulk Cement Berth GP Berth
Ferry
Murray St.
No. 1 East RO/RO Terminal
Passengers, Mail, Units & Containers. 30 Ton. Travel Gantry Crane
To Ulv, Burnie, etc.
To Medical Centre
Steele St.
Bulk Tallow No. 2 West Overseas & General
Bulk Fuels (alternative) Cement Clinker
No. 2 East RO/LO Berth
LO Containers.
Dry Bulk 32 Ton. 26 m.
Portal Slewing Crane
Formby Rd.
No. 3 West
General & Dry Bulk
No. 4 West Bulk Wheat, Steel, Bulk Fuel
Oils Refrigerated General
No. 1 Cold Store
Tarleton St.
Bass Highway to Launceston and Hobart
0 200 400 600 800 m.


DERBY
H.W.M.
Goods Yard
Causeway for Road
53 ft. wide
Causeway for Cattle
28 ft. wide
6,150 ft. long
N
Oil Company
Rear Leading Light
Forward Leading Light
Cattle Yards
Northern Abutment
Southern Abutment
Northern Neck
Line of Mangroves
Line of Leads 139° 02'
Southern Neck and Cattle Race
Mooring Dolphin
Bollards
Transit Shed
Concrete and Steel Jetty
DERBY
0 500 1000 1500 feet
SCALE

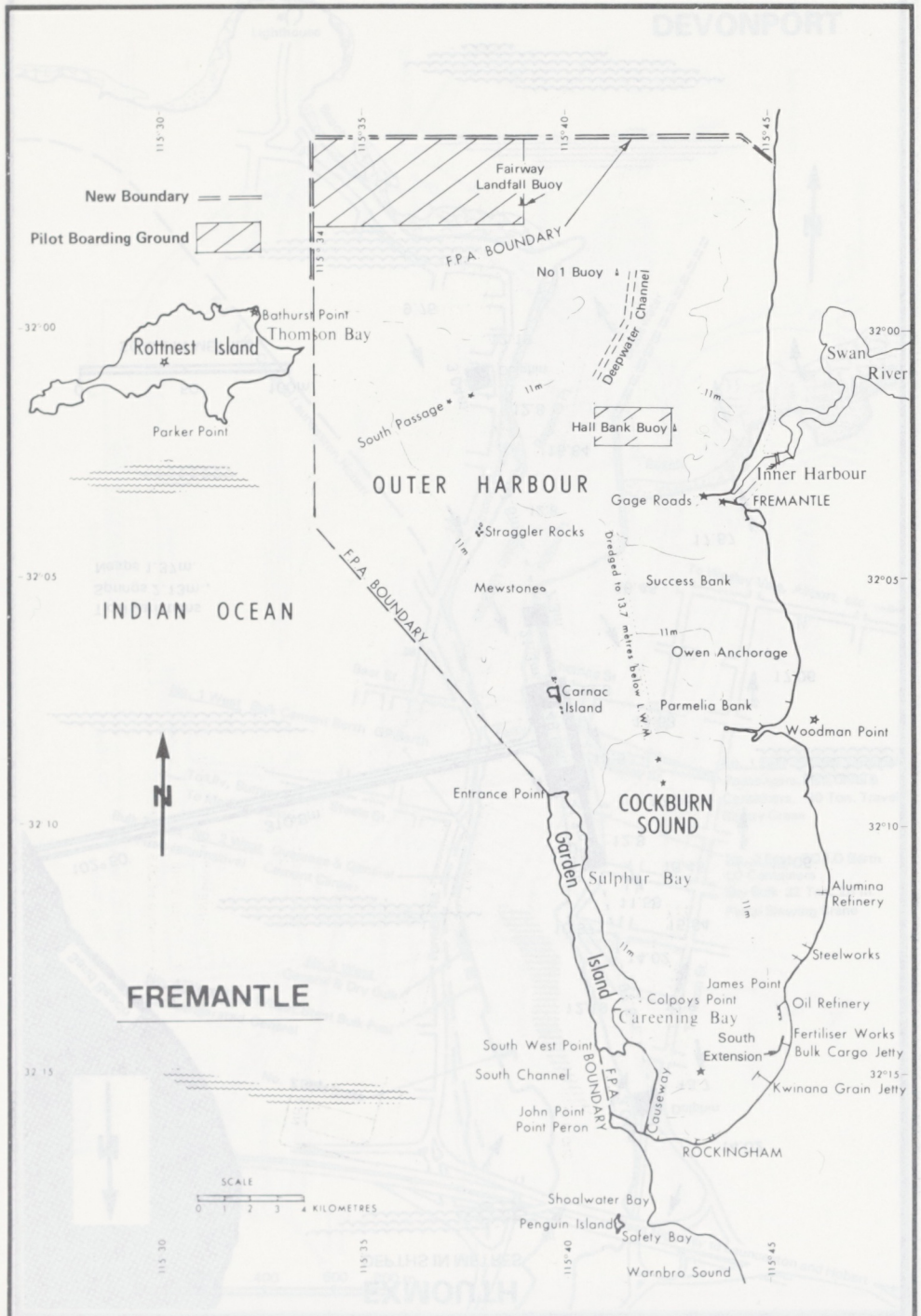
0 200 400 600 800 m.
to Launceston and Hobart

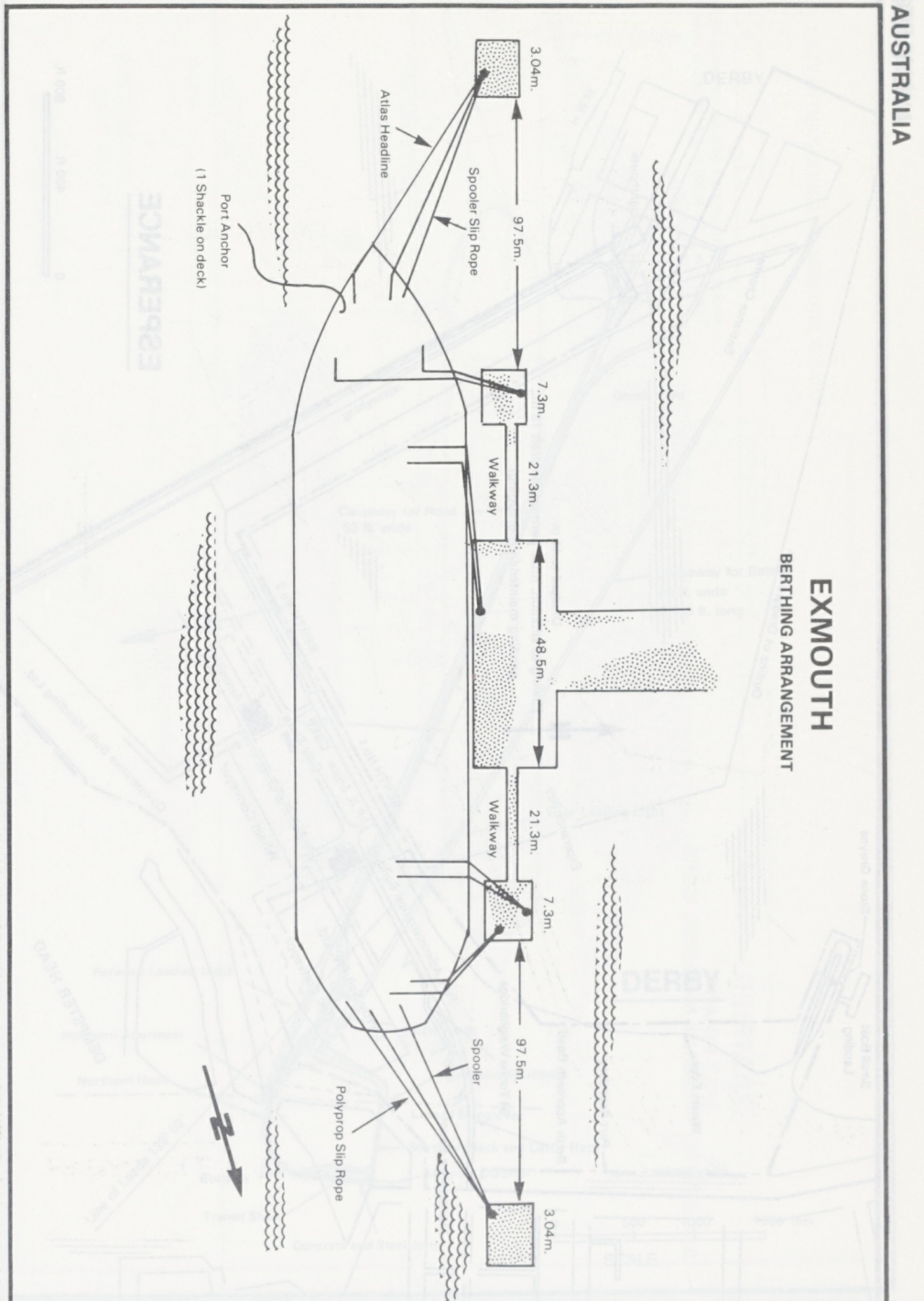

EXMOUTH
DEPTHS IN METRES
N
Sand Beach
1.52
2.44
14.02
3.04m.
Dolphin
13.7
12.19
97.5m.
12.8
14.02
10.97
15.84
11.58
7.3m.
16.45
17.06
12.8
21.3m.
102° 50'
310.8m.
17.06
12.5
48.5m.
14.63
12.8
17.06
21.3m.
7.3m.
16.45
Tidal variations
Springs 2.13m.,
Neaps 1.37m.
17.67
12.8
97.5m.
15.84
12.8
3.04m.
Dolphin
12.19
9.75
0 50 100m.
SCALE IN METRES



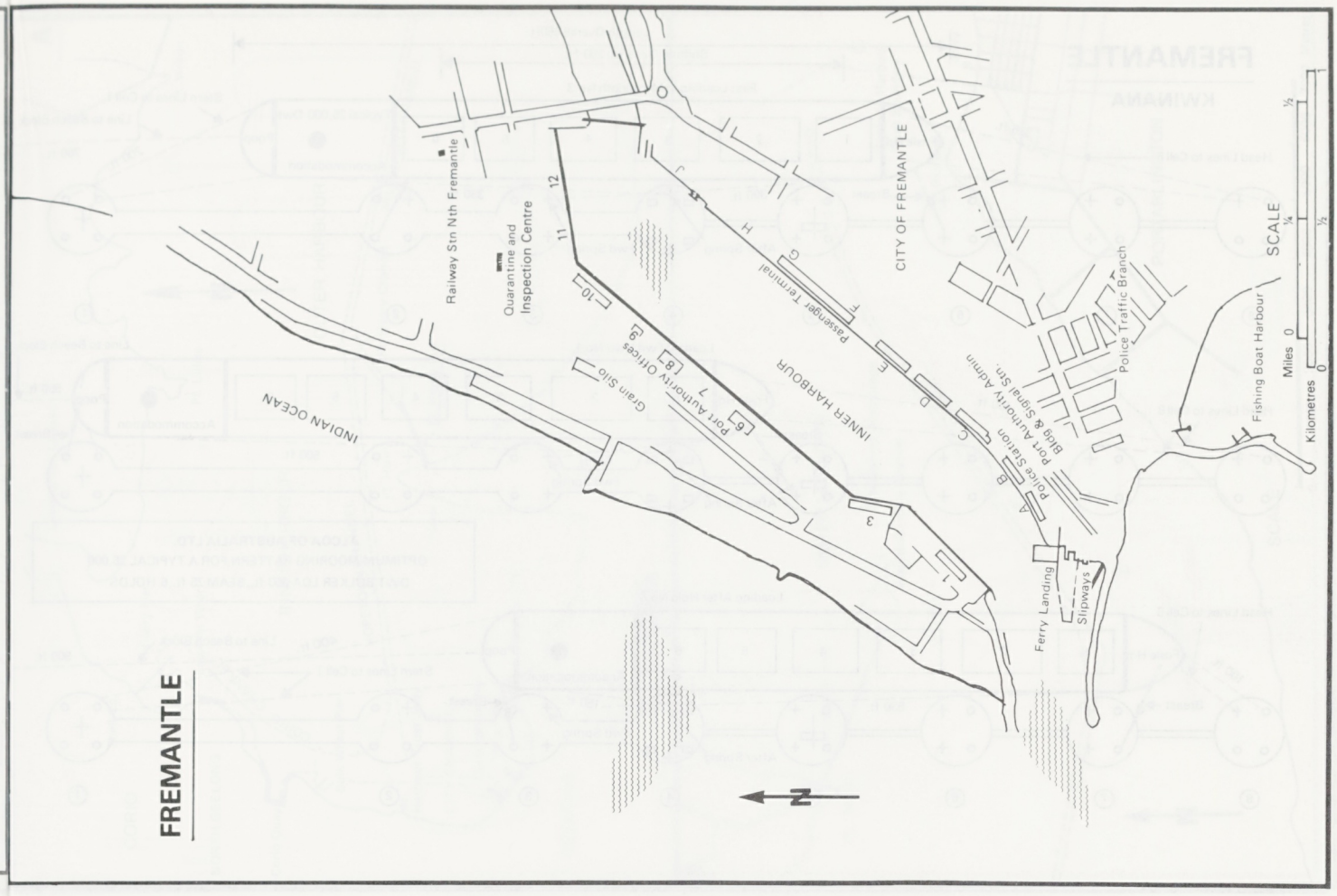

ESPERANCE
DEMPSTER HEAD
Maintenance Depot
Berth Approach Road
Port Boundary
Waters Edge
Small Boat Landing
54 Tonne Weighbridge
Stone Groyne
Port Administration Building
Left by Salt Pty. Ltd.
Salt Conveyor
Wheat Conveyor
Co-operative Bulk Handling Ltd.
Esperance Bay
BERTH No. 1
BERTH No. 2
A.A.S.E. Store
Gear Store
Amenities
N
Outline of Dredged Basin
Dredged to 11 m
(Owing to silt ation, max. permissible draft 10 m.,
pending maintenance dredging)
Breakwater
Entrance Channel
Lighthouse
0 400 ft. 800 ft.

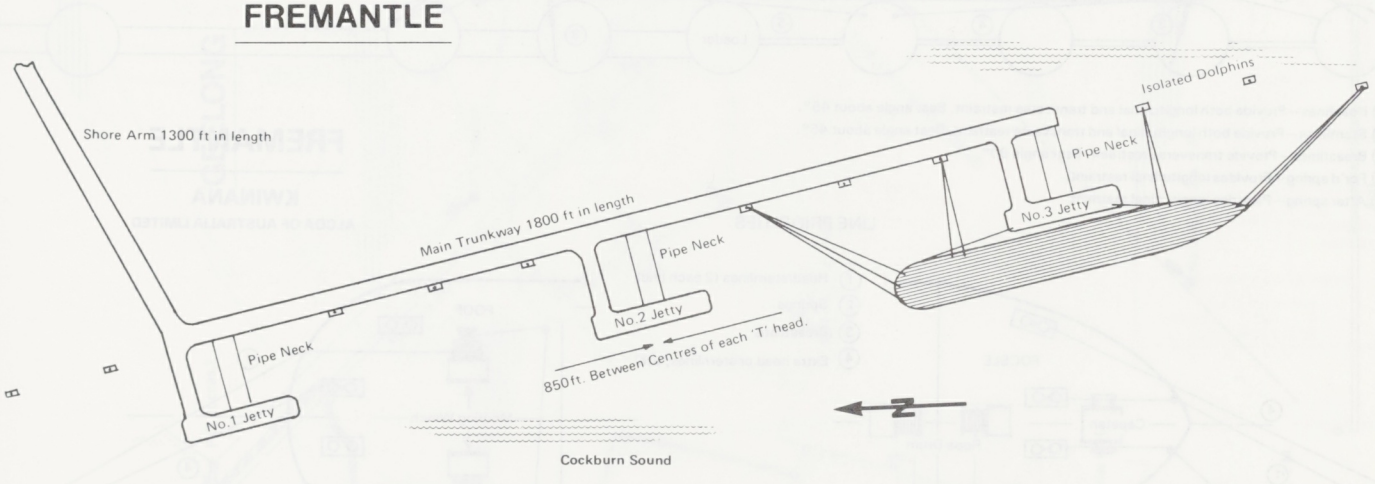
AUSTRALIA





"Plan supplied by Ship's Master"

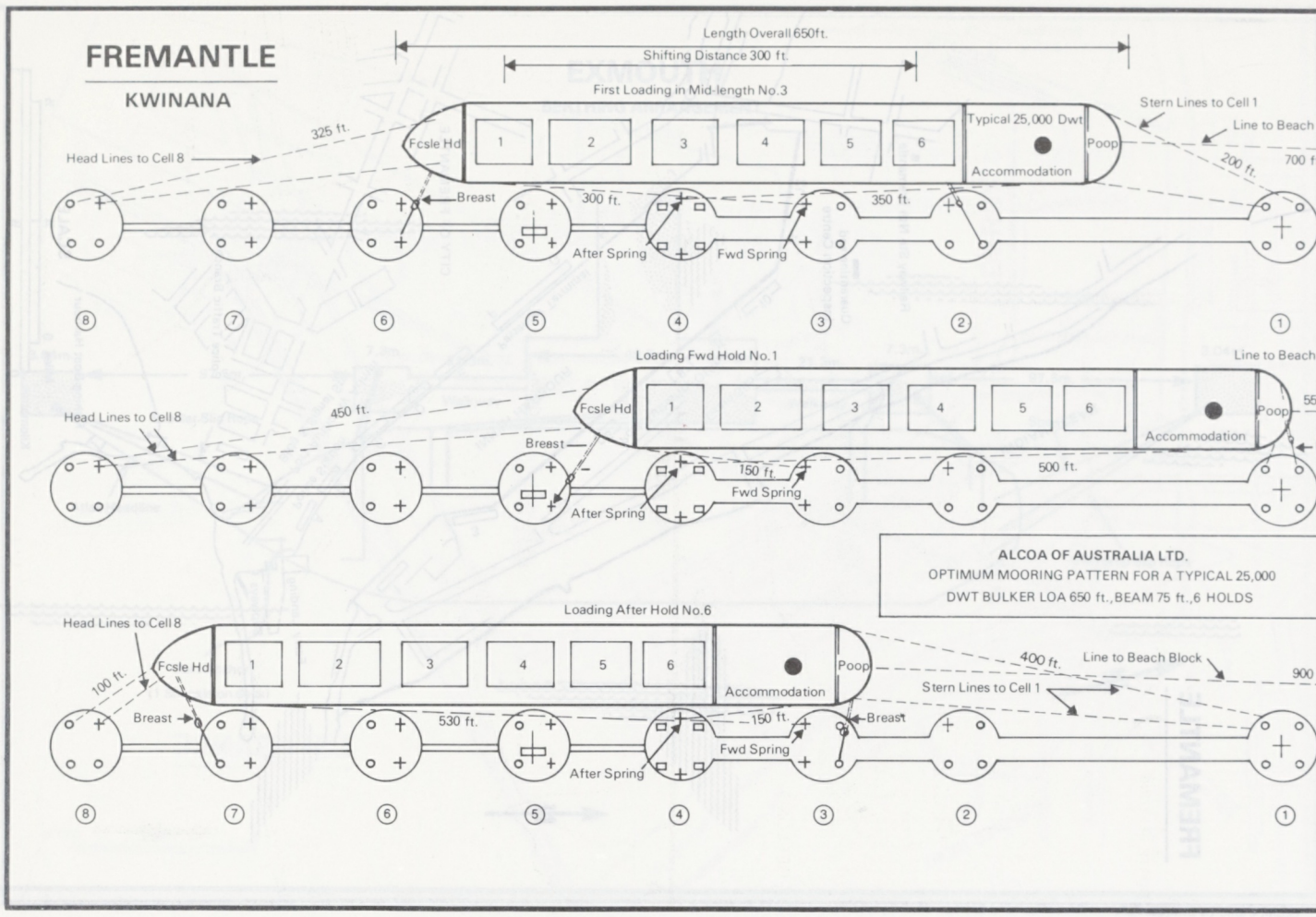


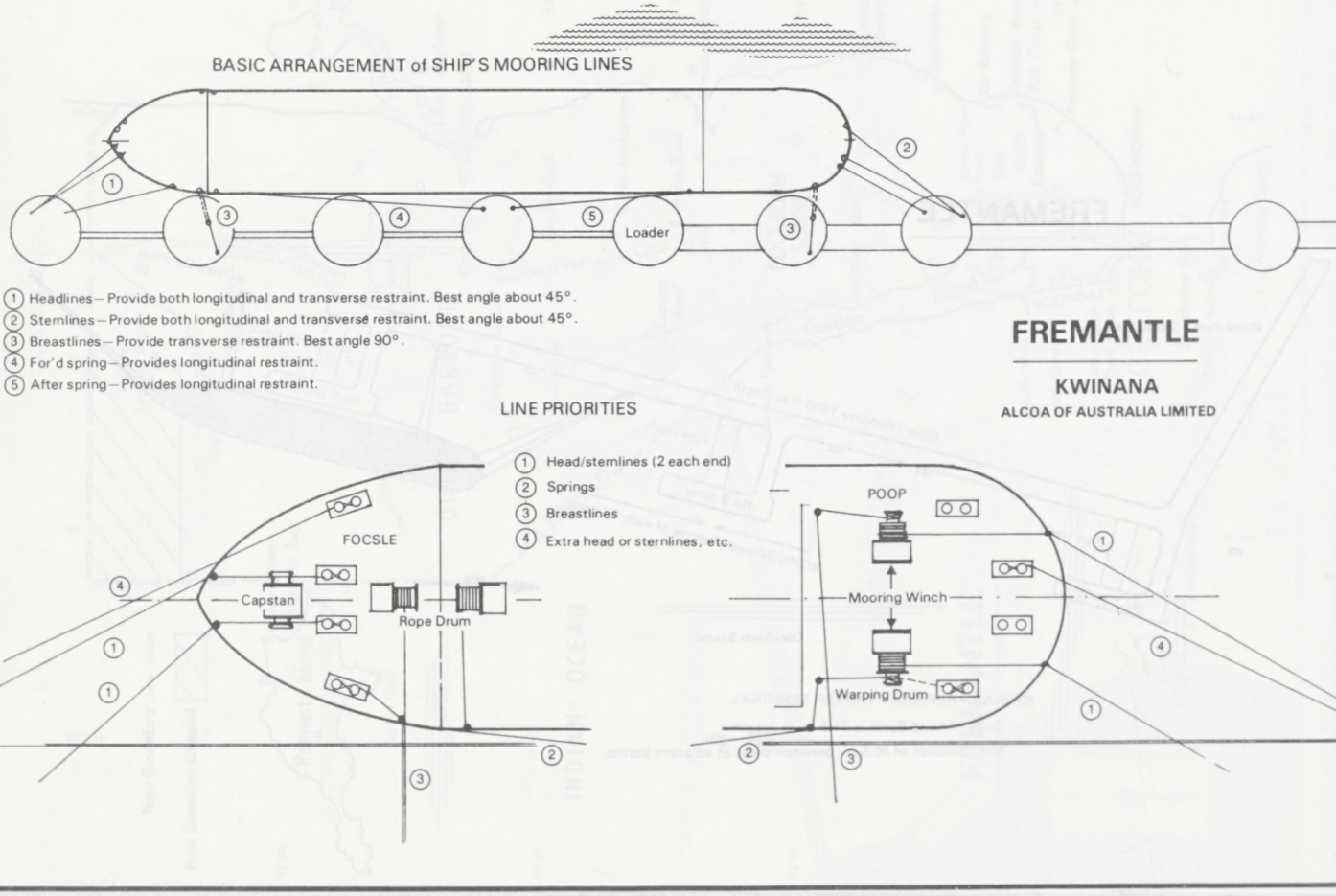


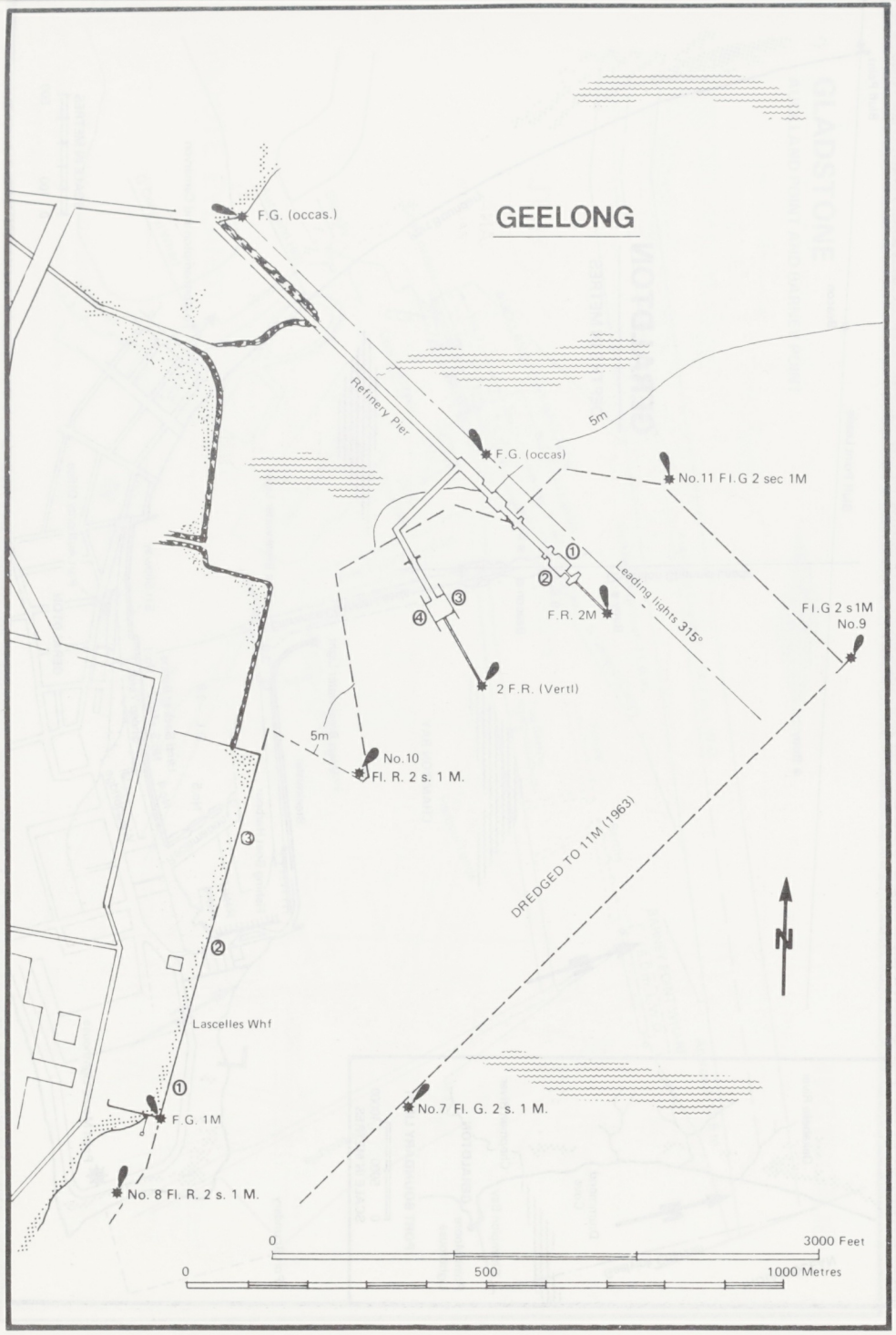
KWINANA REFINERY TANKER TERMINAL

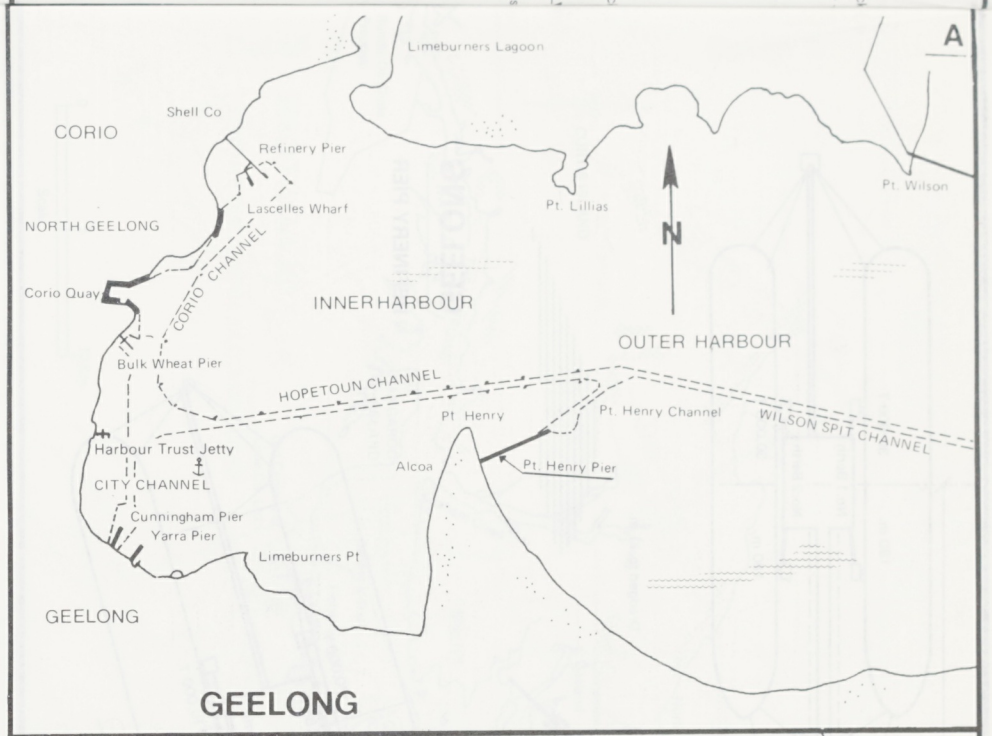
Each 'T' head Berth is 71.6 m. in length

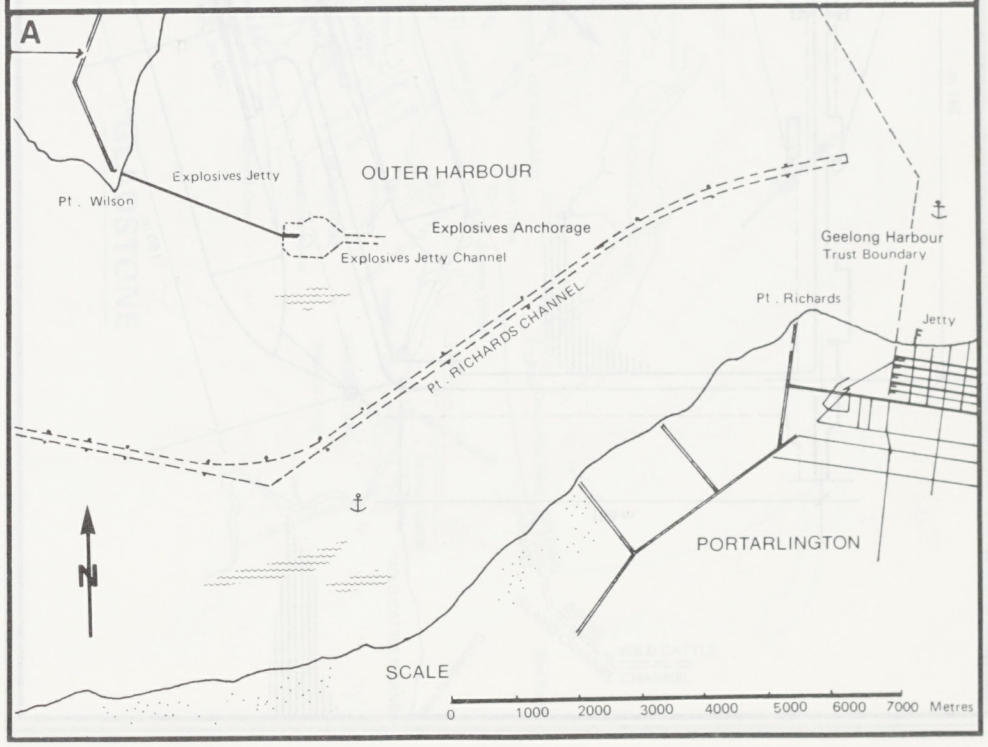
Min. distance of 30.5 m. between ships at adjacent berths.

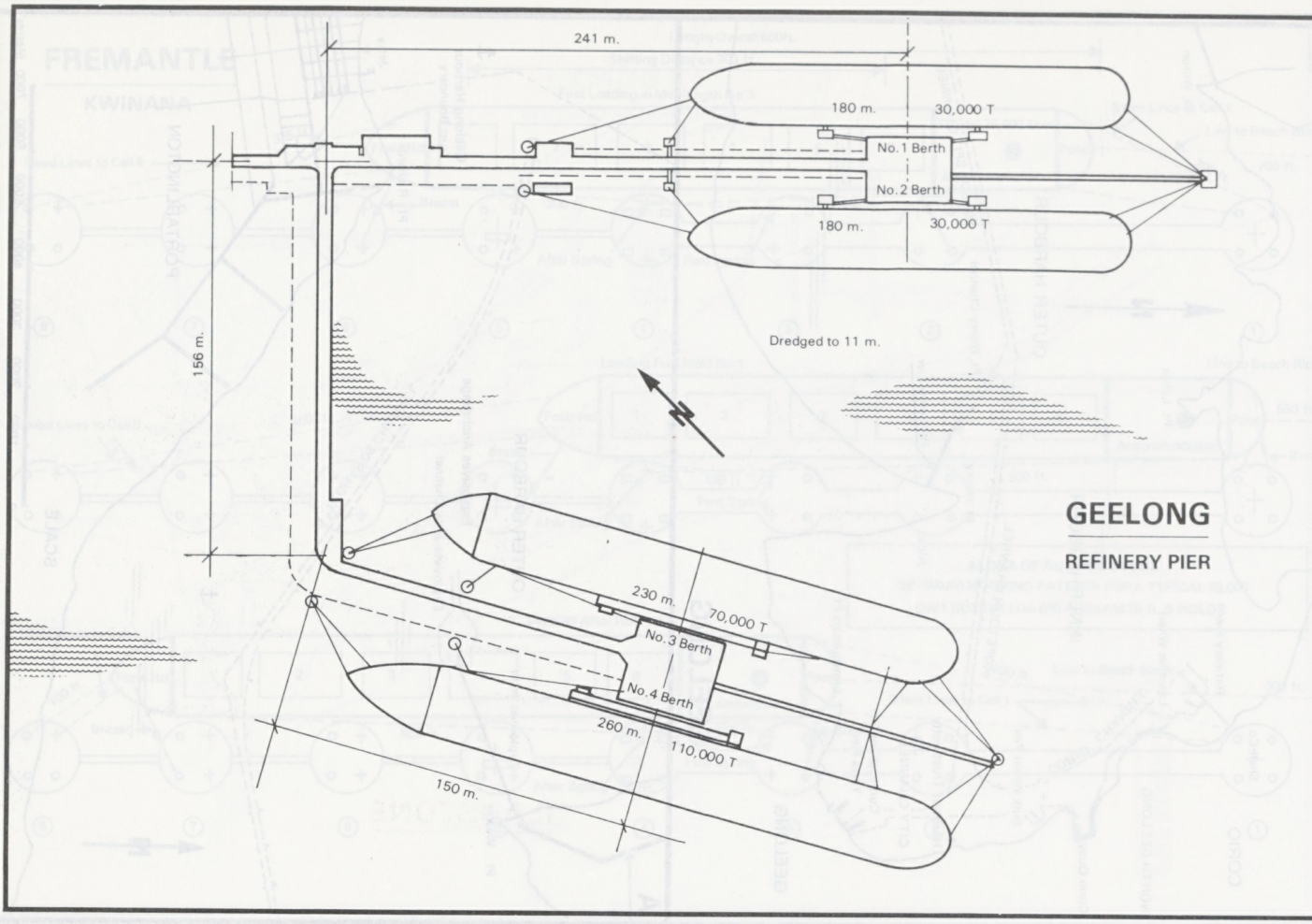

FREMANTLE
KWINANA
Length Overall 650ft.
Shifting Distance 300 ft.
First Loading in Mid-length No.3
Typical 25,000 Dwt
Accommodation
Poop
Fcsle Hd
Head Lines to Cell 8
325 ft.
Breast
300 ft.
350 ft.
After Spring
Fwd Spring
Stern Lines to Cell 1
Line to Beach
200 ft.
700 ft
Loading Fwd Hold No.1
450 ft.
150 ft.
500 ft.
ALCOA OF AUSTRALIA LTD.
OPTIMUM MOORING PATTERN FOR A TYPICAL 25,000
DWT BULKER LOA 650 ft., BEAM 75 ft., 6 HOLDS
Loading After Hold No.6
100 ft.
530 ft.
400 ft.
Line to Beach Block
900
Stern Lines to Cell 1


BASIC ARRANGEMENT of SHIP'S MOORING LINES
Loader
(1) Headlines – Provide both longitudinal and transverse restraint. Best angle about 45°.
(2) Sternlines – Provide both longitudinal and transverse restraint. Best angle about 45°.
(3) Breastlines – Provide transverse restraint. Best angle 90°.
(4) For'd spring – Provides longitudinal restraint.
(5) After spring – Provides longitudinal restraint.
FREMANTLE
KWINANA
ALCOA OF AUSTRALIA LIMITED
LINE PRIORITIES
(1) Head/sternlines (2 each end)
(2) Springs
(3) Breastlines
(4) Extra head or sternlines, etc.
FOCSLE
Capstan
Rope Drum
POOP
Mooring Winch
Warping Drum


GEELONG
F.G. (occas.)
Refinery Pier
5m
F.G. (occas)
No.11 Fl.G 2 sec 1M
Leading lights 315°
F.R. 2M
Fl.G 2 s1M
No.9
2 F.R. (Vertl)
5m
No.10
Fl. R. 2 s. 1 M.
DREDGED TO 11M (1963)
Lascelles Whf
F.G. 1M
No.7 Fl. G. 2 s. 1 M.
No. 8 Fl. R. 2 s. 1 M.
N
0
3000 Feet
0
500
1000 Metres

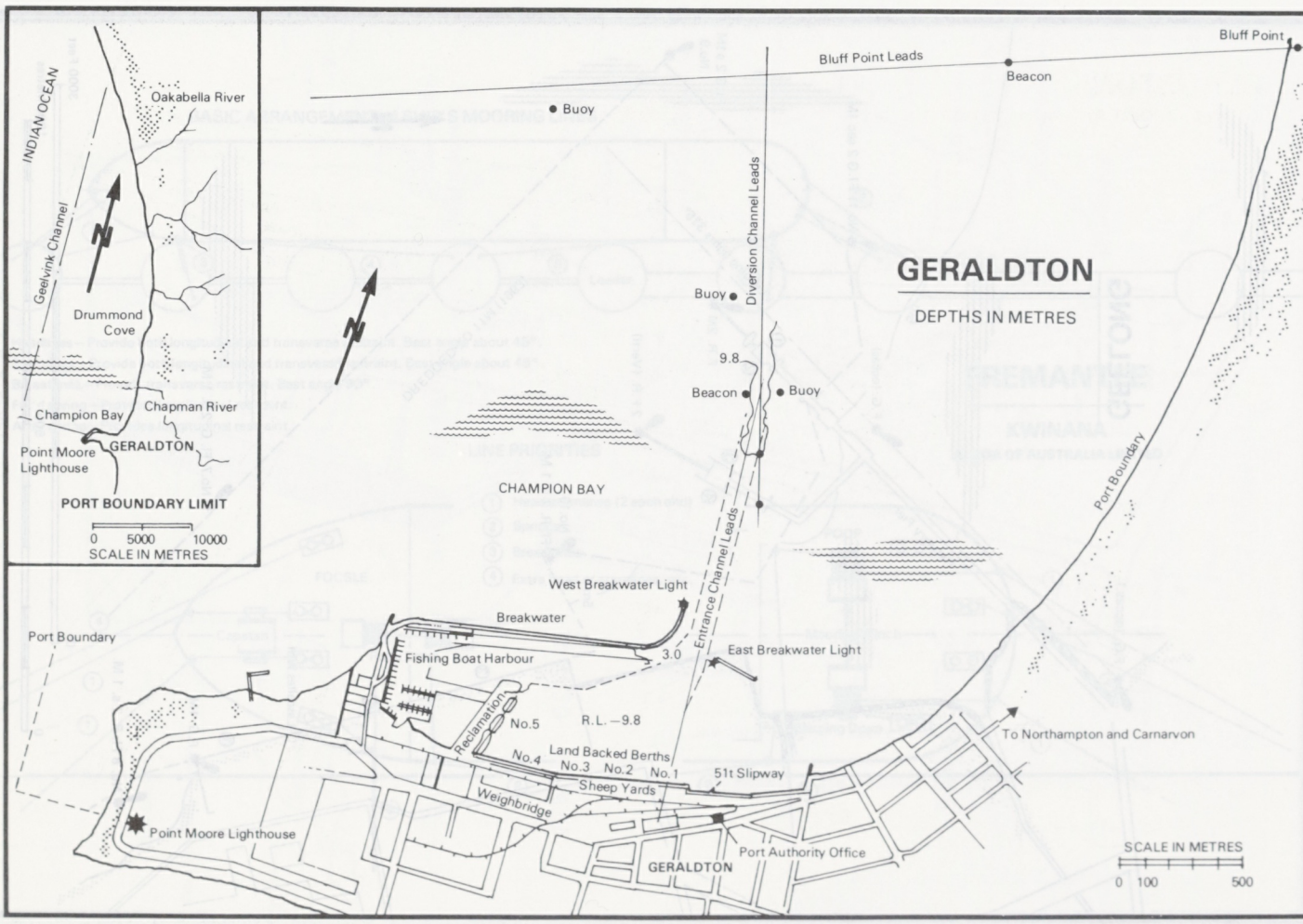

A
Limeburners Lagoon
Shell Co
CORIO
Refinery Pier
Lascelles Wharf
NORTH GEELONG
Pt. Lillias
Pt. Wilson
N
CORIO CHANNEL
Corio Quay
INNER HARBOUR
OUTER HARBOUR
Bulk Wheat Pier
HOPETOUN CHANNEL
Pt. Henry
Pt. Henry Channel
WILSON SPIT CHANNEL
Harbour Trust Jetty
CITY CHANNEL
Alcoa
Pt. Henry Pier
Cunningham Pier
Yarra Pier
Limeburners Pt
GEELONG


GEELONG
A
Explosives Jetty
OUTER HARBOUR
Pt. Wilson
Explosives Anchorage
Explosives Jetty Channel
Geelong Harbour
Trust Boundary
Pt. Richards
Jetty
PT. RICHARDS CHANNEL
N
PORTARLINGTON
SCALE
0
1000
2000
3000
4000
5000
6000
7000 Metres



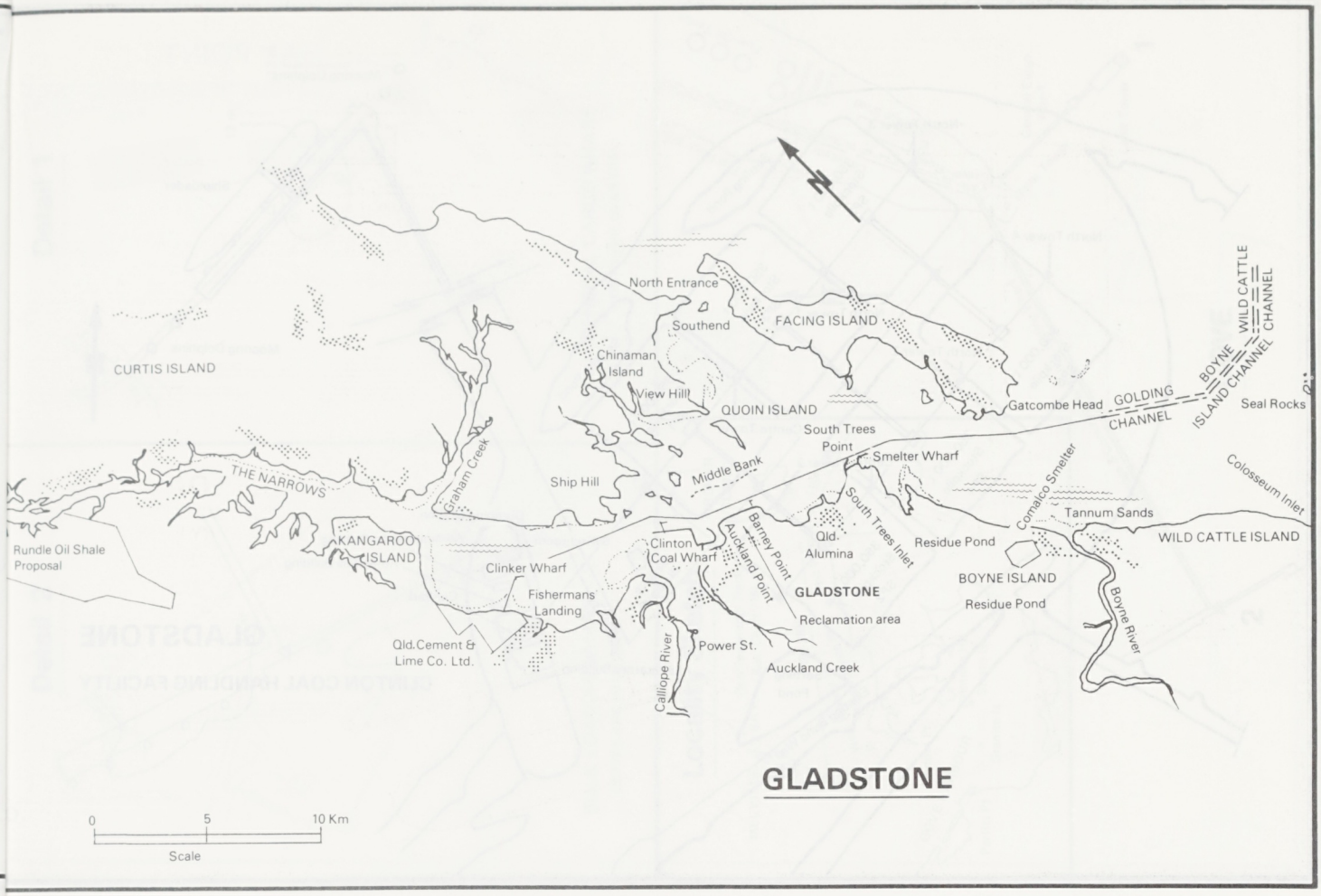
GEELONG

REFINERY PIER



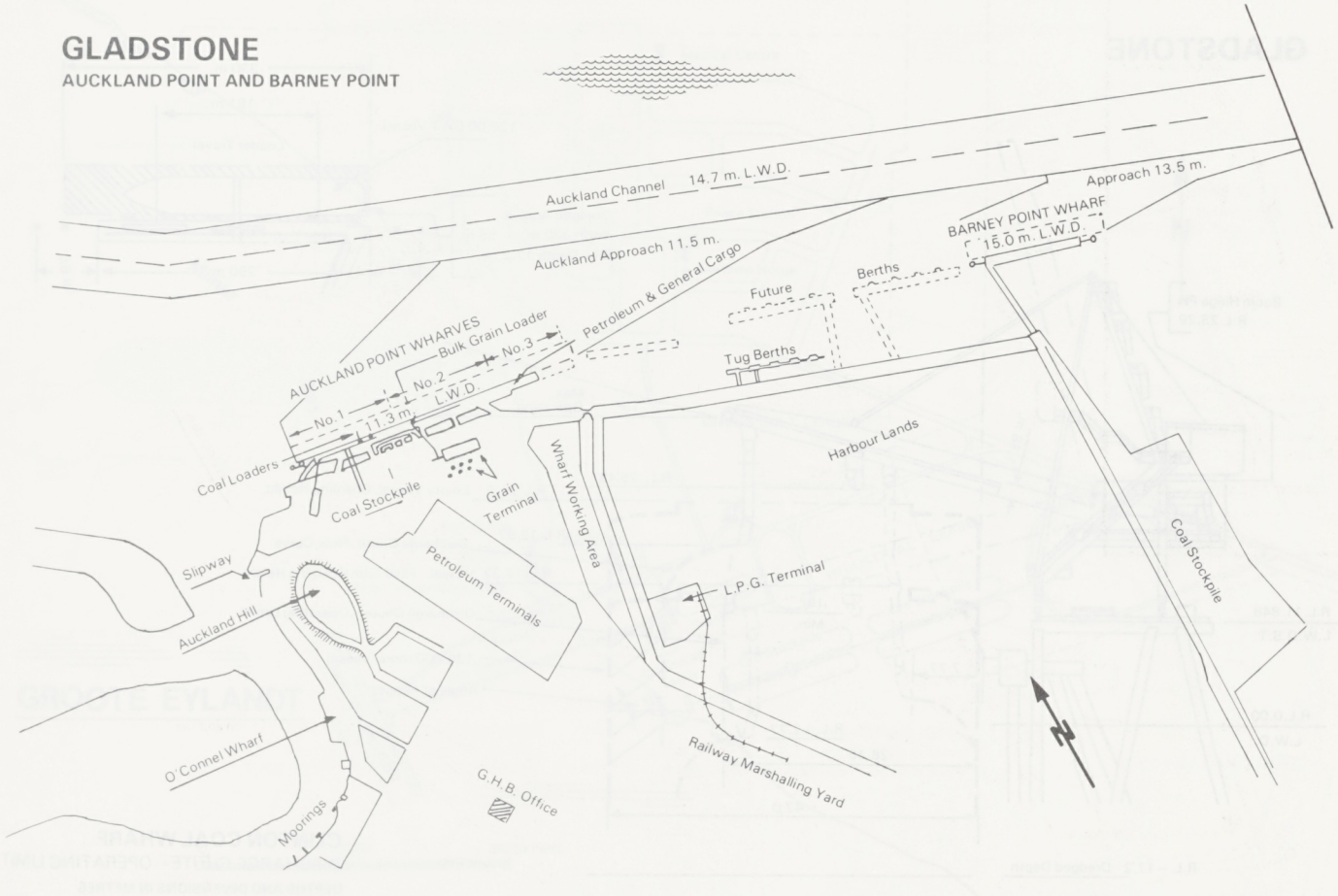
GERALDTON

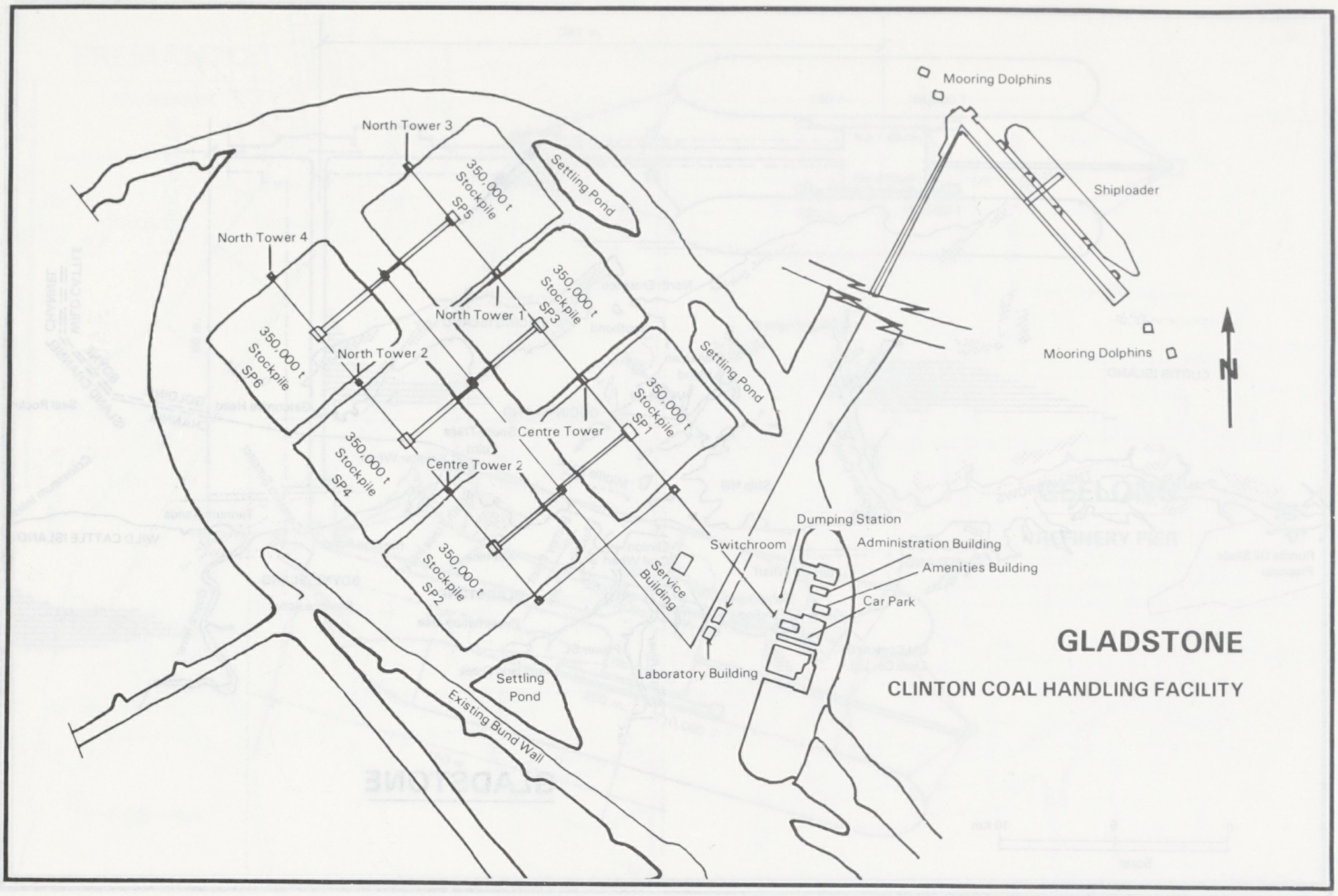
DEPTHS IN METRES



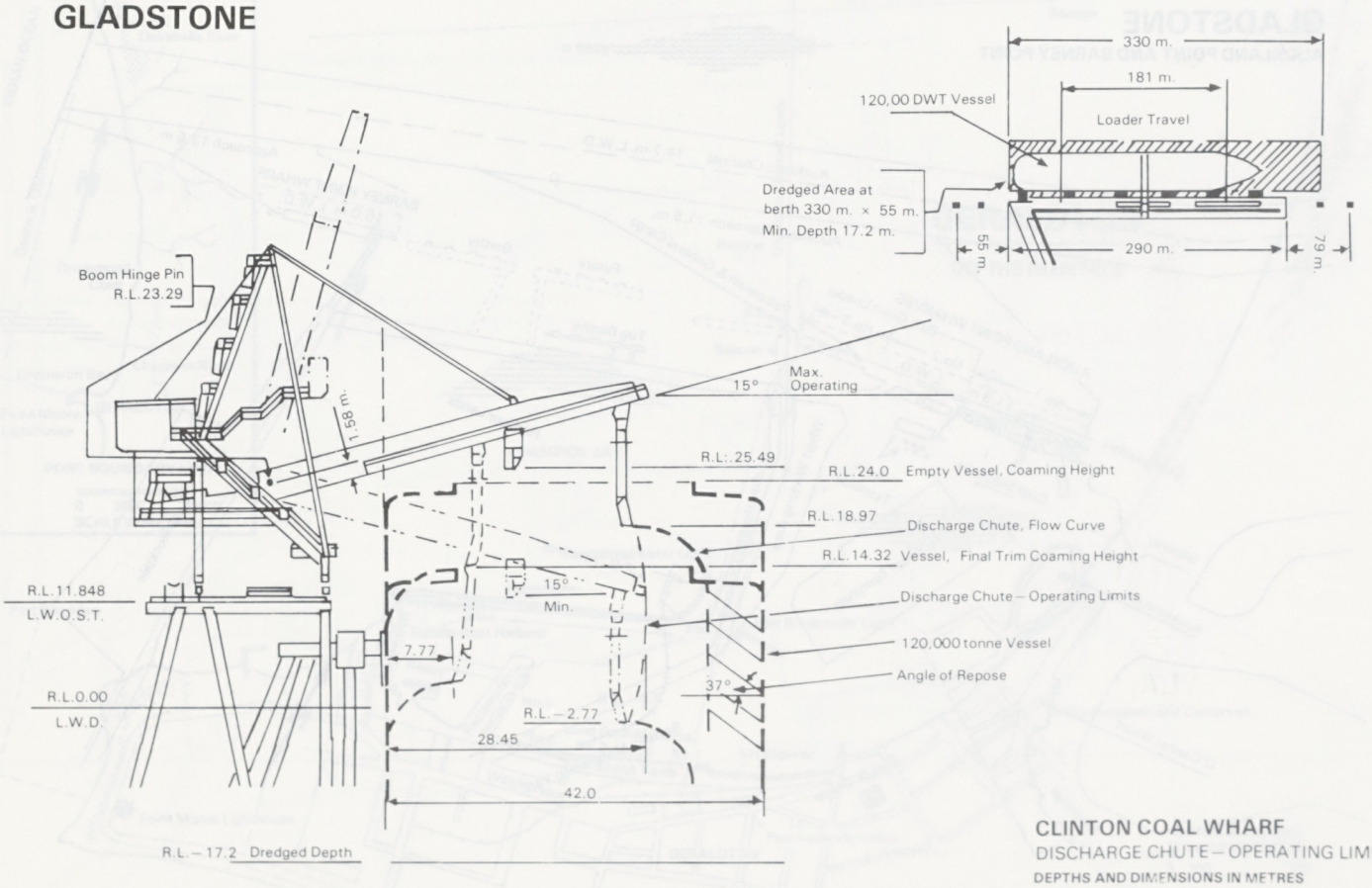
GLADSTONE

AUCKLAND POINT AND BARNEY POINT

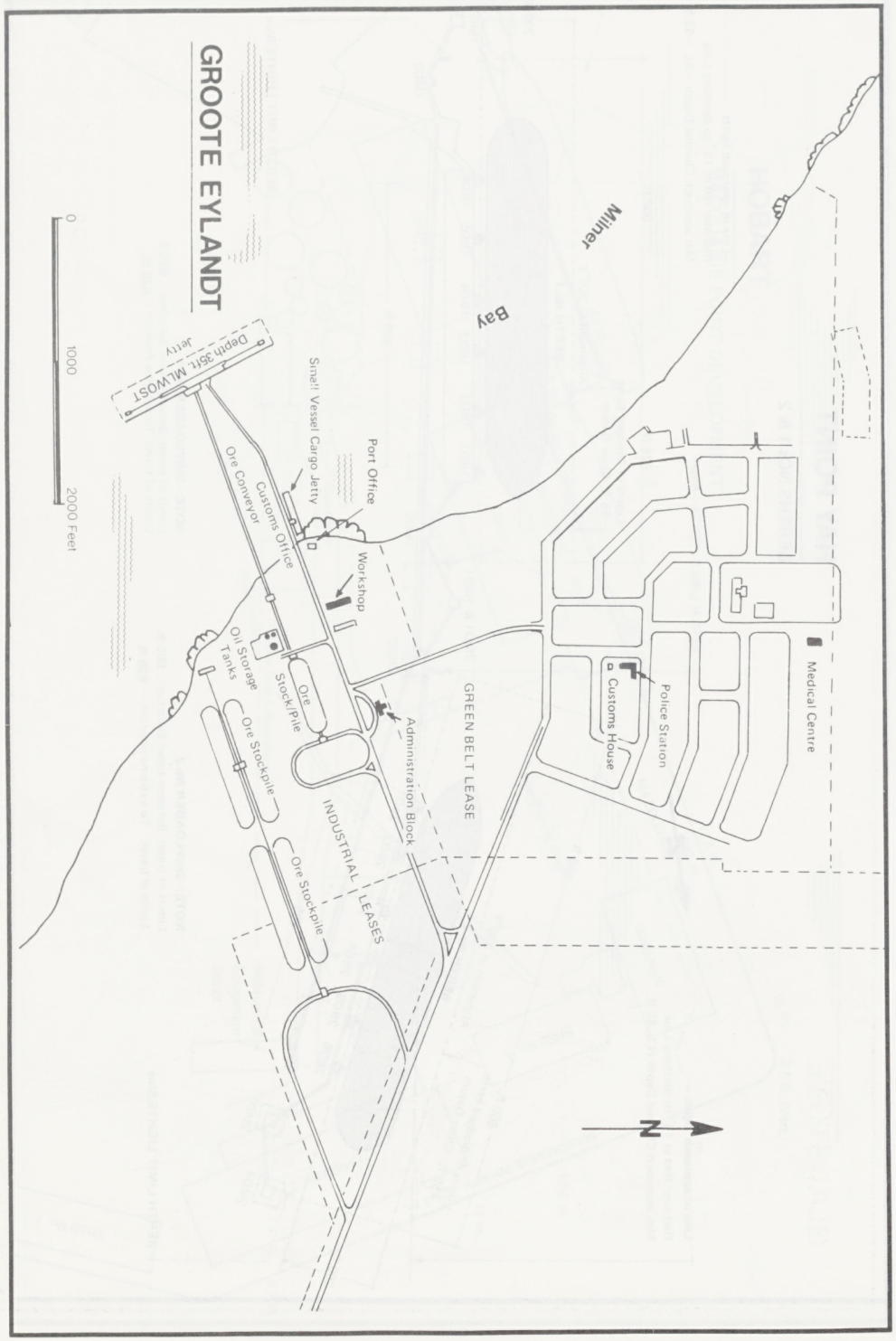


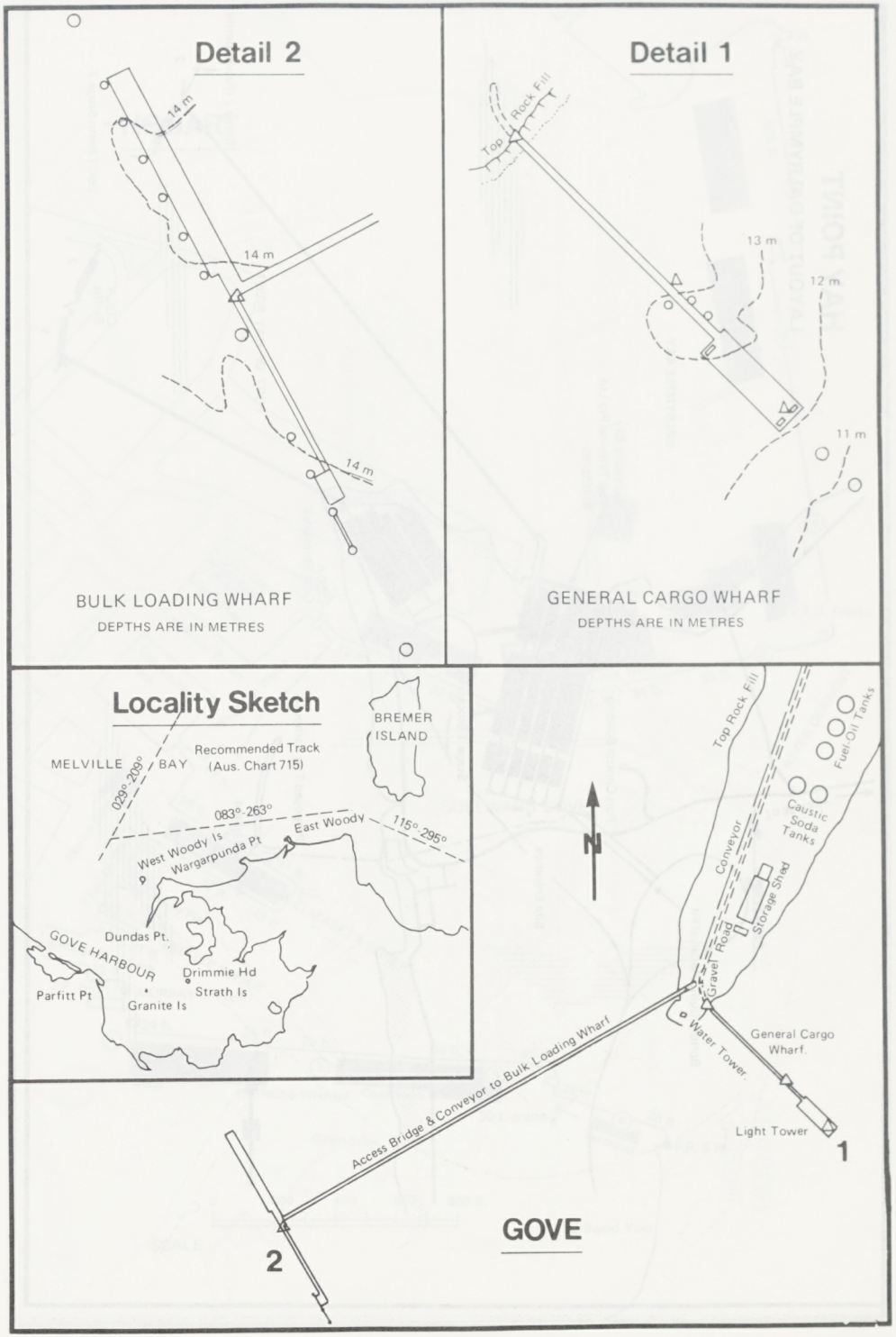


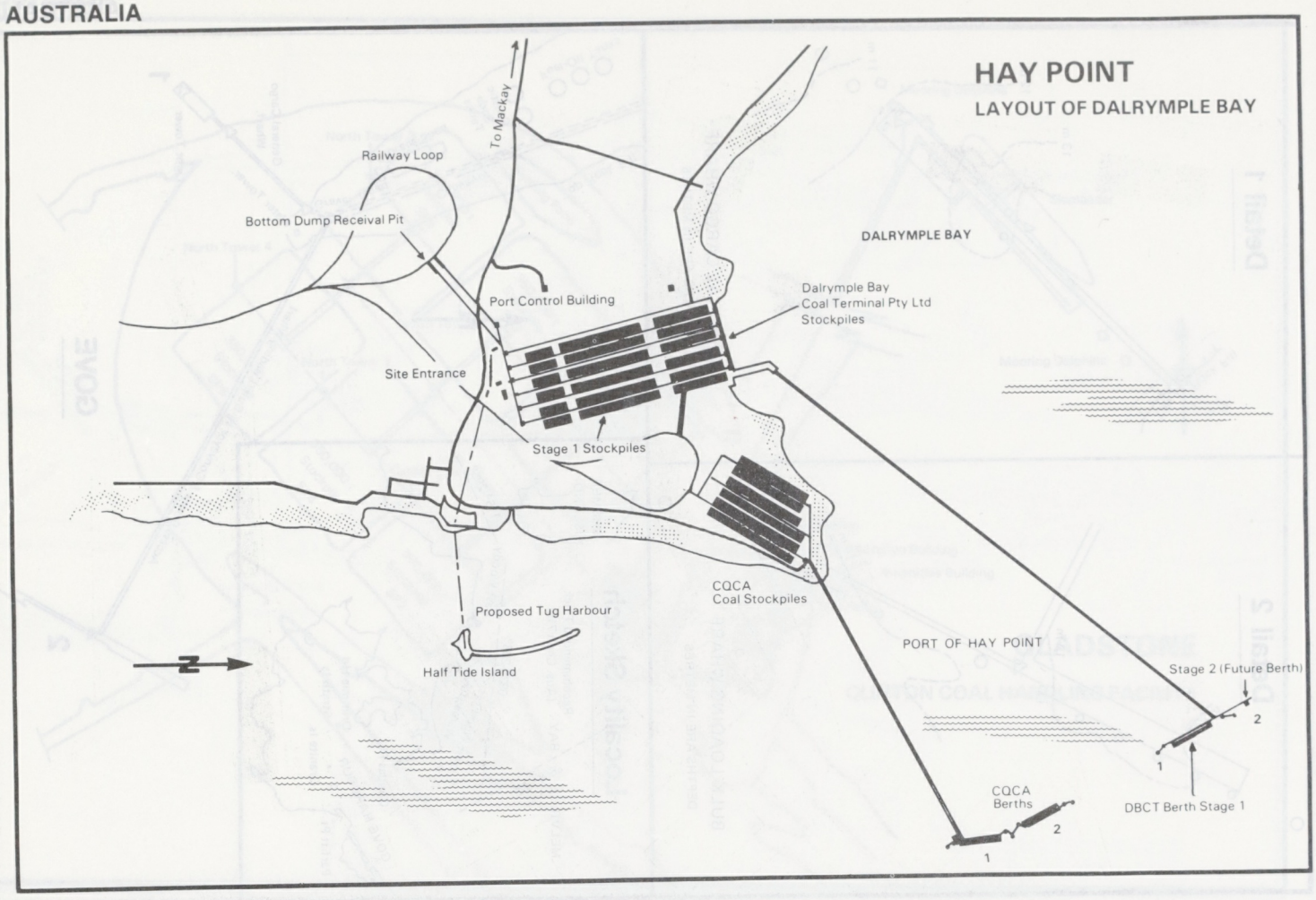
GLADSTONE

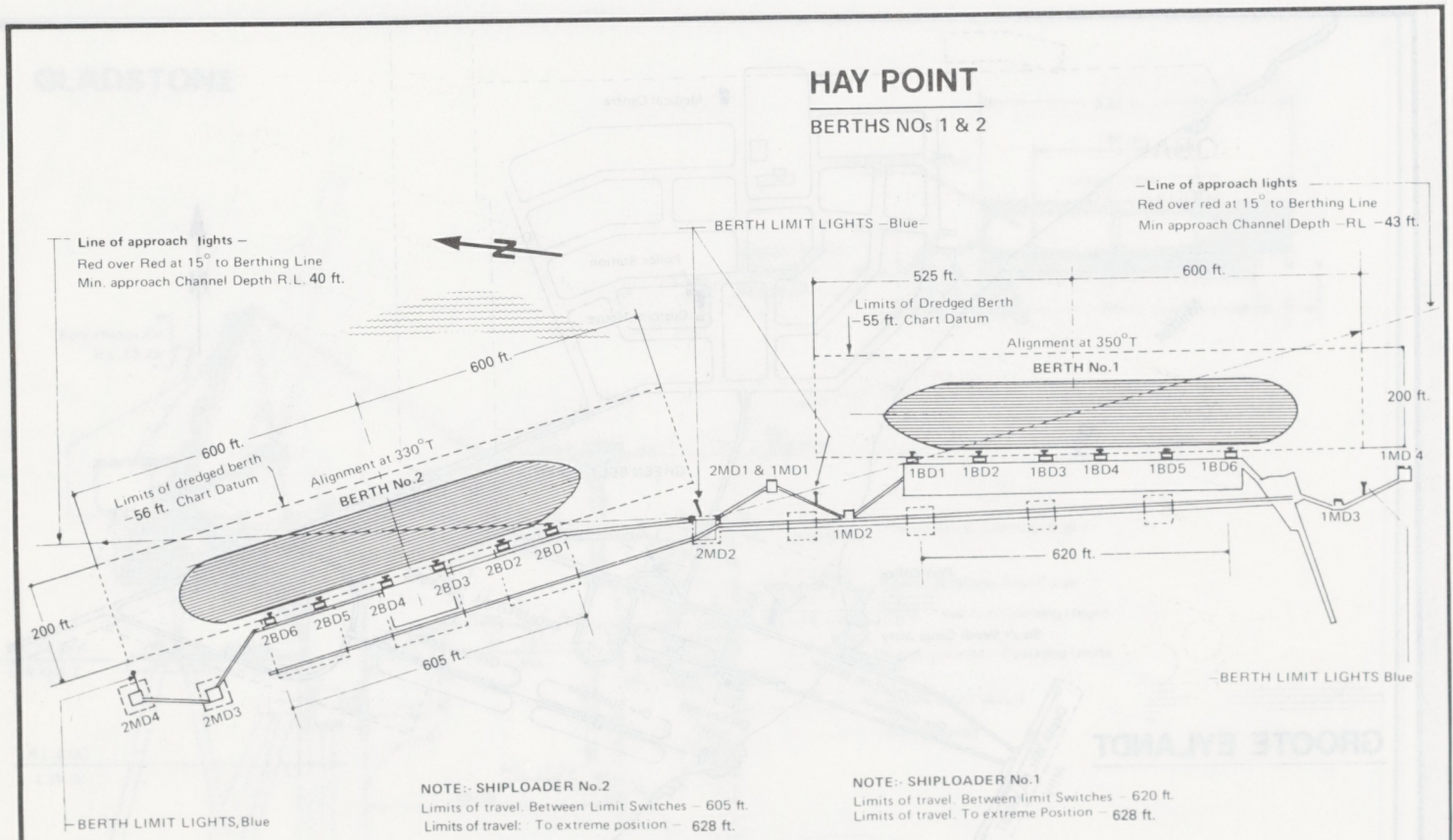


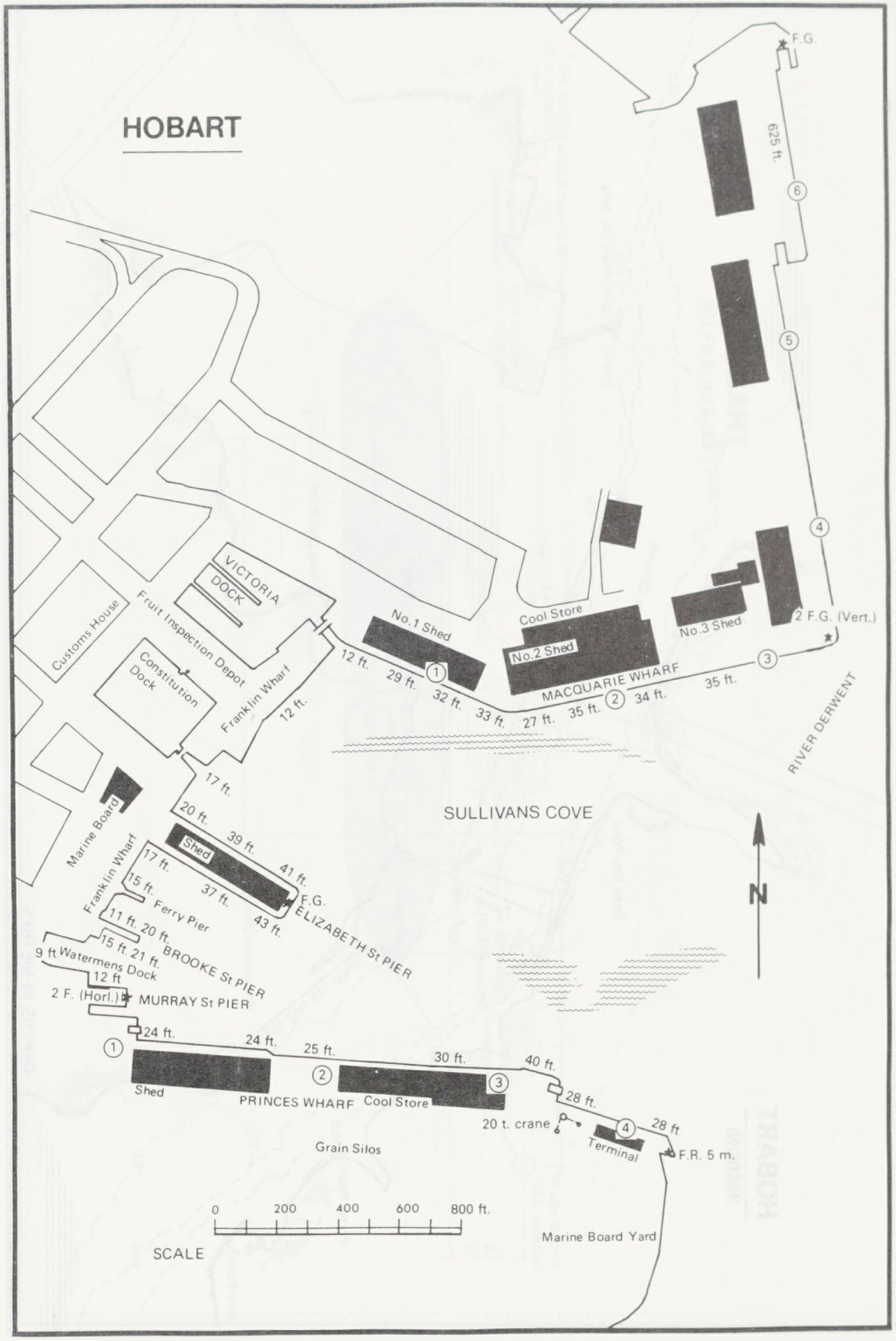
CLINTON COAL WHARF
DISCHARGE CHUTE – OPERATING LIMITS
DEPTHS AND DIMENSIONS IN METRES

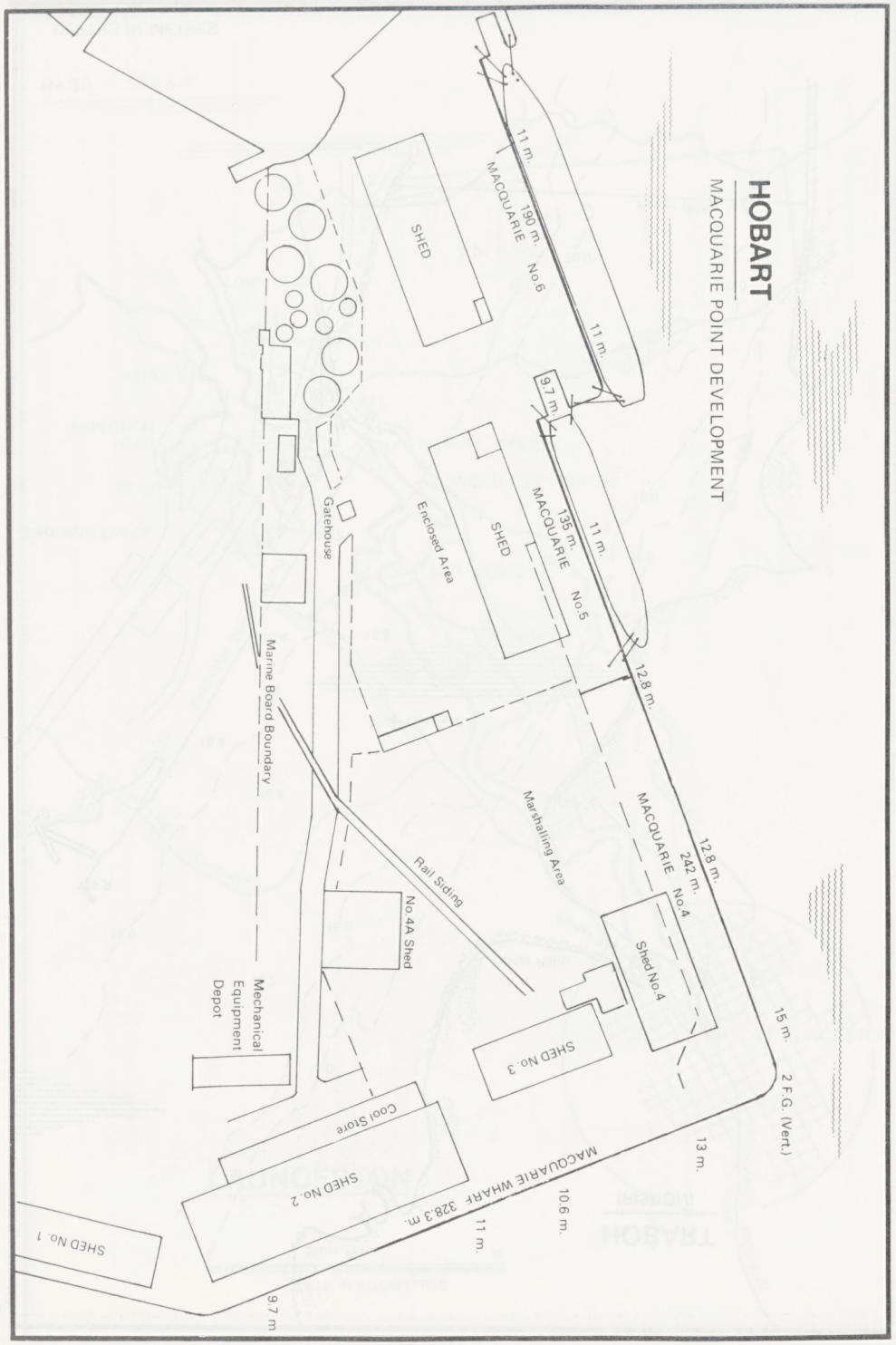

GROOTE EYLANDT
Depth 35ft. MLWOST
Jetty
Small Vessel Cargo Jetty
Port Office
Customs Office
Ore Conveyor
Workshop
Oil Storage Tanks
Ore Stock Pile
Ore Stockpile
Ore Stockpile
Ore Stockpile
INDUSTRIAL LEASES
Administration Block
GREEN BELT LEASE
Customs House
Police Station
Medical Centre
Bay
Milner
0
1000
2000 Feet
N


Detail 2
14 m
14 m
14 m
BULK LOADING WHARF
DEPTHS ARE IN METRES
Detail 1
Top Rock Fill
13 m
12 m
11 m
GENERAL CARGO WHARF
DEPTHS ARE IN METRES
Locality Sketch
MELVILLE BAY
Recommended Track (Aus. Chart 715)
BREMER ISLAND
029°-209°
083°-263°
115°-295°
East Woody
West Woody Is
Wargarpunda Pt
GOVE HARBOUR
Dundas Pt.
Drimmie Hd
Strath Is
Parfitt Pt
Granite Is
N
Top Rock Fill
Fuel Oil Tanks
Caustic Soda Tanks
Conveyor
Storage Shed
Gravel Road
Water Tower
General Cargo Wharf.
Light Tower
1
Access Bridge & Conveyor to Bulk Loading Wharf
2
GOVE

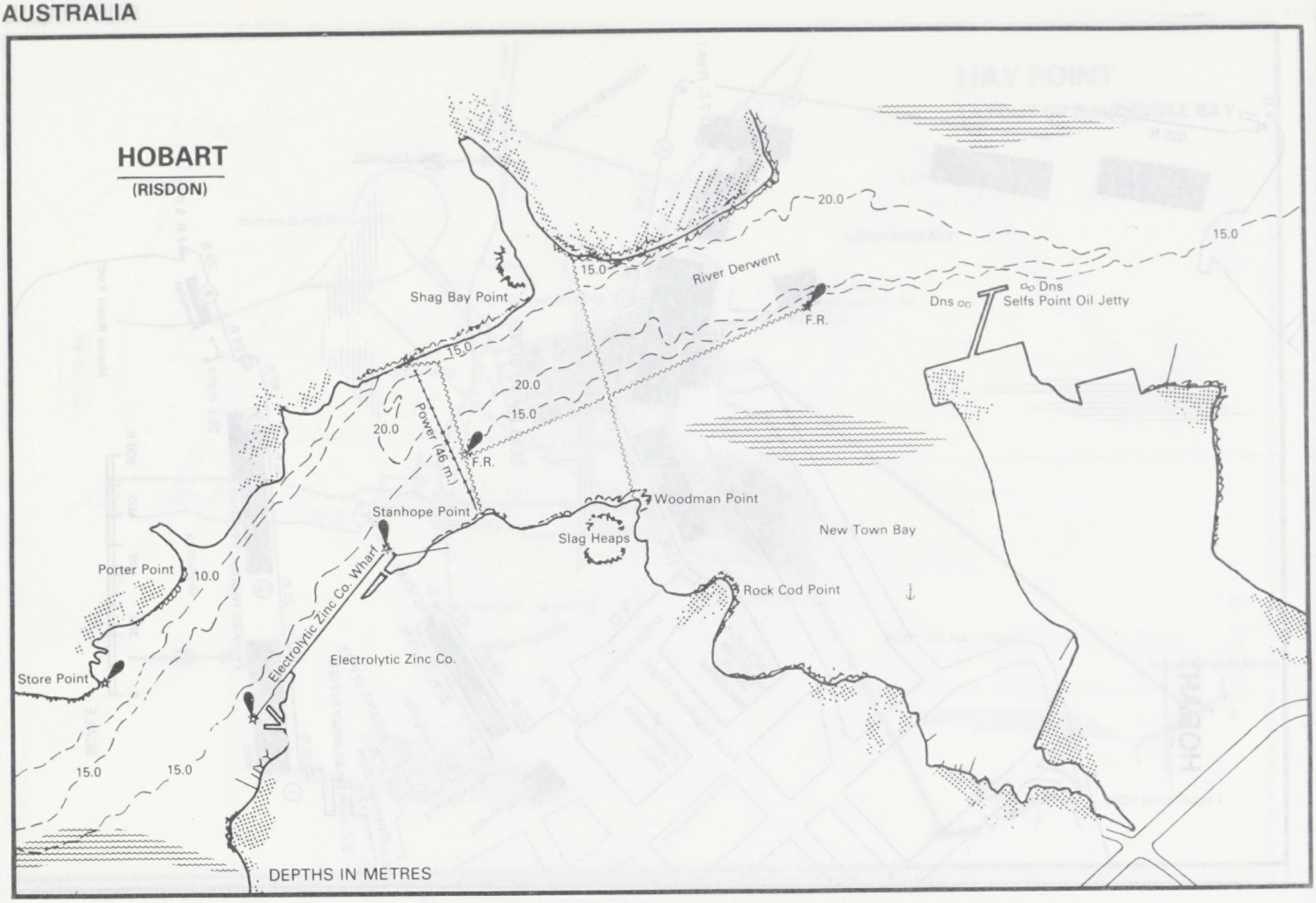

HAY POINT
LAYOUT OF DALRYMPLE BAY
To Mackay
Railway Loop
Bottom Dump Receival Pit
DALRYMPLE BAY
Port Control Building
Dalrymple Bay
Coal Terminal Pty Ltd
Stockpiles
Site Entrance
Stage 1 Stockpiles
CQCA
Coal Stockpiles
Proposed Tug Harbour
Half Tide Island
PORT OF HAY POINT
Stage 2 (Future Berth)
2
1
CQCA
Berths
2
1
DBCT Berth Stage 1

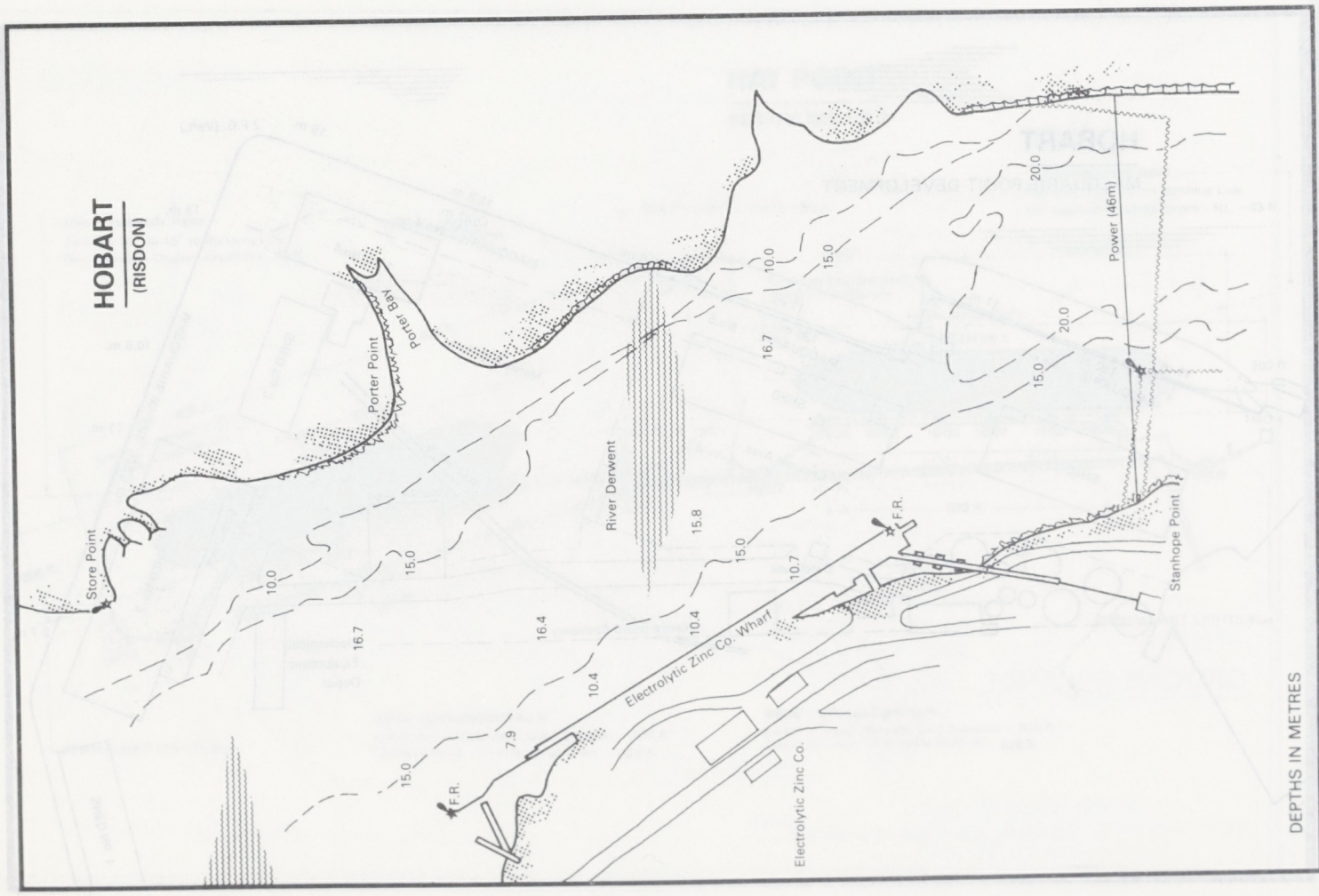

HAY POINT
BERTHS NOs 1 & 2
Line of approach lights –
Red over Red at 15° to Berthing Line
Min. approach Channel Depth R.L. 40 ft.
BERTH LIMIT LIGHTS –Blue–
Line of approach lights
Red over red at 15° to Berthing Line
Min approach Channel Depth –RL –43 ft.
525 ft.
600 ft.
Limits of Dredged Berth
–55 ft. Chart Datum
Alignment at 350°T
BERTH No.1
200 ft.
600 ft.
600 ft.
Limits of dredged berth
–56 ft. Chart Datum
Alignment at 330°T
BERTH No.2
2MD1 & 1MD1
1BD1
1BD2
1BD3
1BD4
1BD5
1BD6
1MD 4
1MD2
1MD3
2MD2
620 ft.
2BD1
2BD2
2BD3
2BD4
2BD5
2BD6
200 ft.
605 ft.
2MD4
2MD3
BERTH LIMIT LIGHTS Blue
BERTH LIMIT LIGHTS, Blue
NOTE:- SHIPLOADER No.2
Limits of travel. Between Limit Switches – 605 ft.
Limits of travel: To extreme position – 628 ft.
NOTE:- SHIPLOADER No.1
Limits of travel. Between limit Switches – 620 ft.
Limits of travel. To extreme Position – 628 ft.

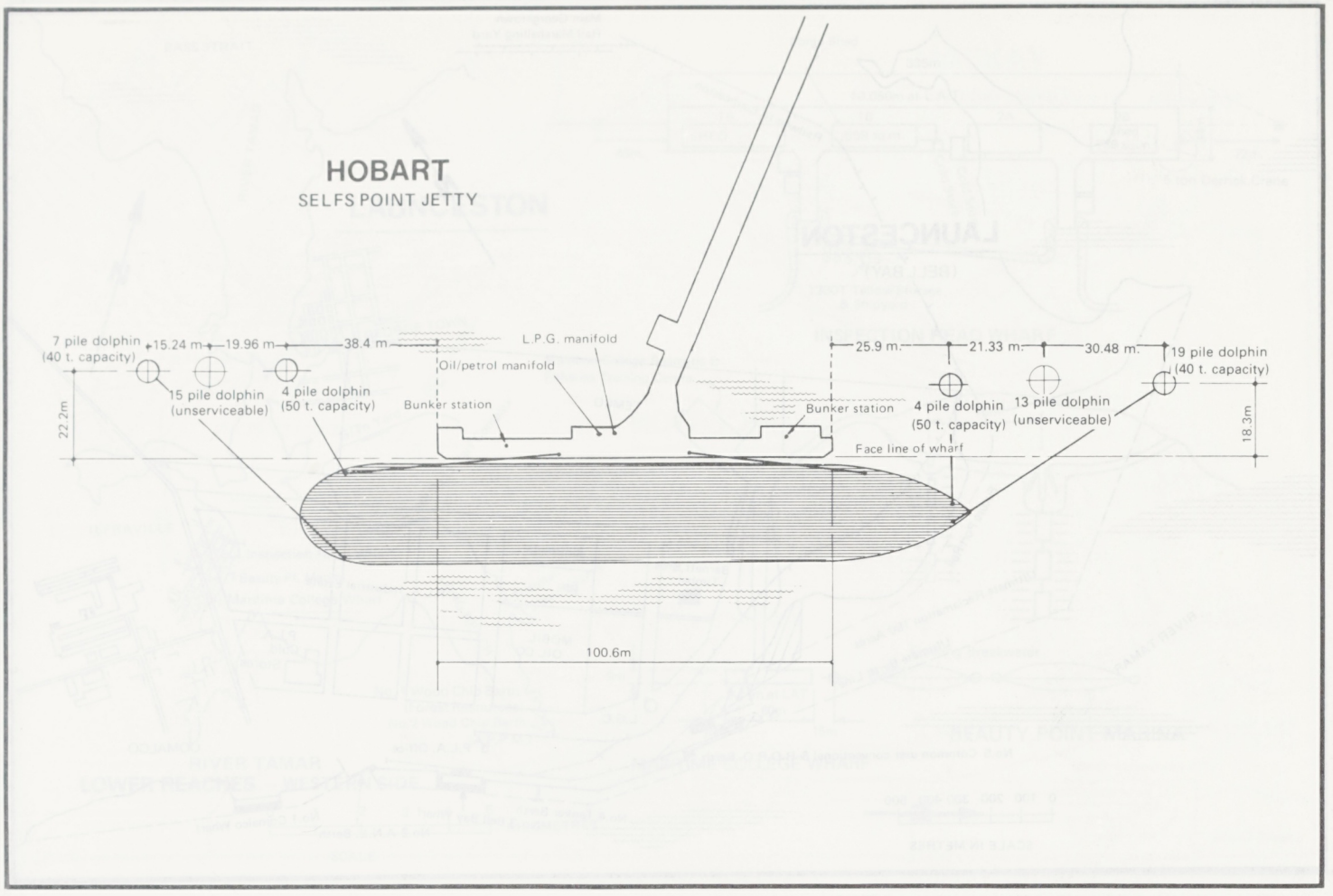

HOBART
F.G.
625 ft.
6
5
4
3
2 F.G. (Vert.)
VICTORIA DOCK
Customs House
Fruit Inspection Depot
Constitution Dock
Franklin Wharf
No. 1 Shed
Cool Store
No.2 Shed
No.3 Shed
12 ft.
29 ft.
32 ft.
33 ft.
27 ft.
35 ft.
34 ft.
35 ft.
MACQUARIE WHARF
RIVER DERWENT
SULLIVANS COVE
N
Marine Board
Franklin Wharf
Shed
17 ft.
20 ft.
39 ft.
41 ft.
37 ft.
43 ft.
F.G.
ELIZABETH St PIER
Ferry Pier
15 ft.
17 ft.
11 ft.
20 ft.
BROOKE St PIER
15 ft.
21 ft.
9 ft
Watermens Dock
12 ft
2 F. (Horl.)
MURRAY St PIER
24 ft.
24 ft.
25 ft.
30 ft.
40 ft.
28 ft.
Shed
PRINCES WHARF
Cool Store
20 t. crane
28 ft
Terminal
F.R. 5 m.
Grain Silos
0
200
400
600
800 ft.
SCALE
Marine Board Yard

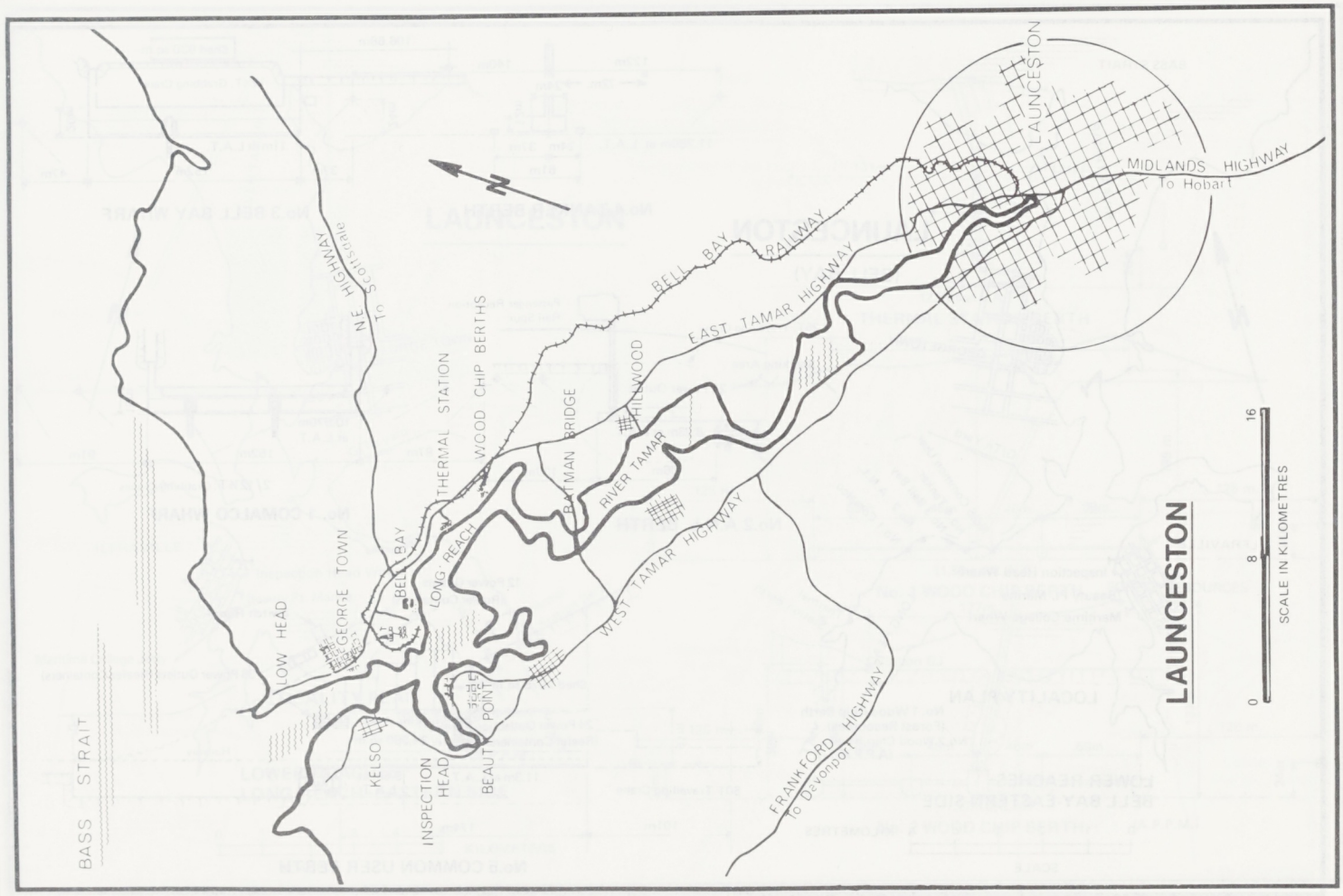

HOBART
MACQUARIE POINT DEVELOPMENT
11 m.
MACQUARIE No.6
190 m.
11 m.
9.7 m.
SHED
Gatehouse
Enclosed Area
SHED
MACQUARIE No.5
135 m.
11 m
12.8 m.
Marine Board Boundary
Marshalling Area
MACQUARIE No.4
242 m.
12.8 m.
Rail Siding
No.4A Shed
Shed No.4
Mechanical Equipment Depot
SHED No. 3
15 m.
2 F.G. (Vert.)
13 m.
Cool Store
SHED No. 2
MACQUARIE WHARF 328.3 m.
10.6 m.
11 m.
SHED No. 1
9.7 m

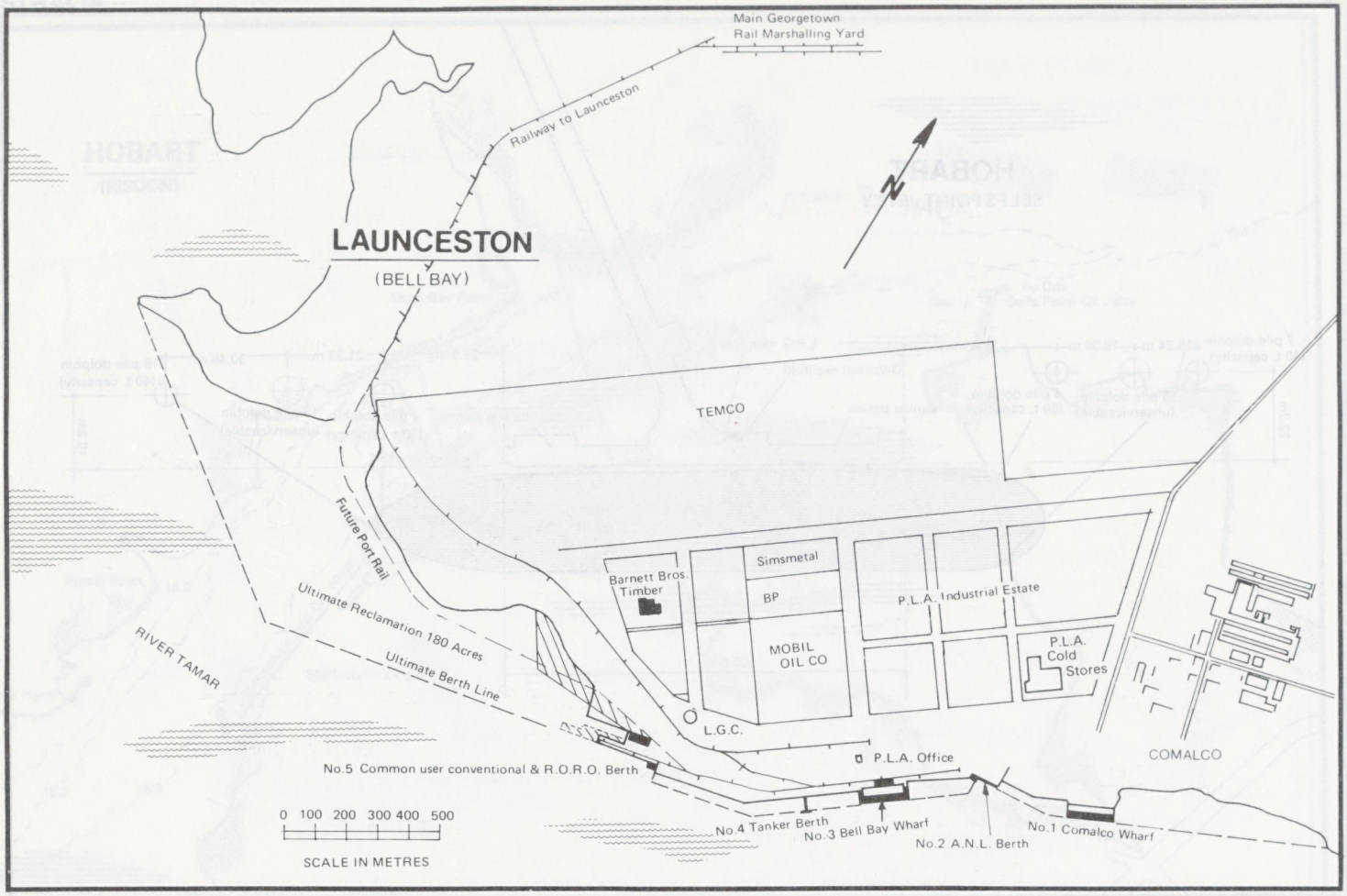
AUSTRALIA

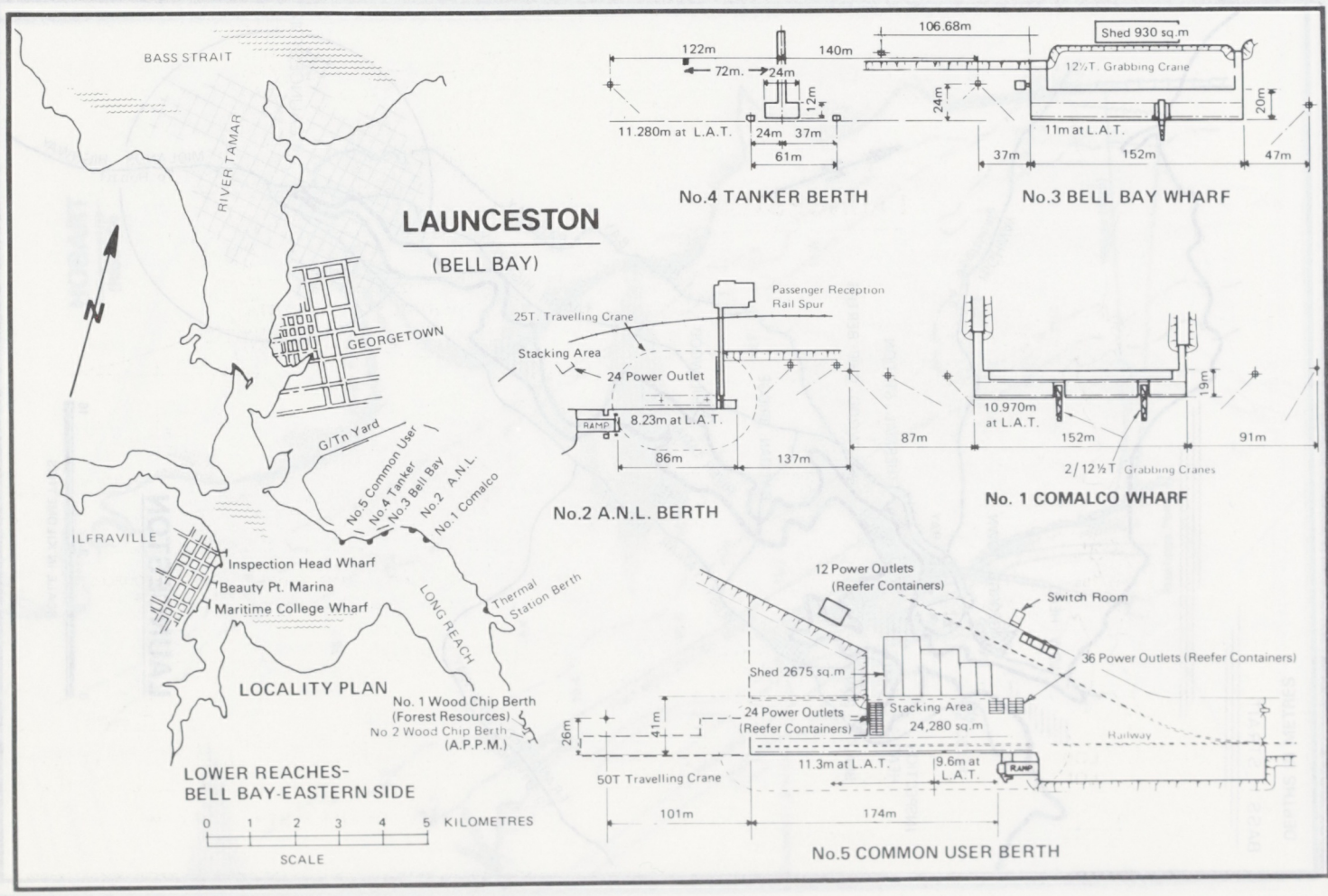

HOBART
(RISDON)
Shag Bay Point
River Derwent
F.R.
Dns
Selfs Point Oil Jetty
Power (46 m.)
Stanhope Point
Woodman Point
Slag Heaps
New Town Bay
Porter Point
Rock Cod Point
Electrolytic Zinc Co. Wharf
Electrolytic Zinc Co.
Store Point
20.0
15.0
10.0
DEPTHS IN METRES

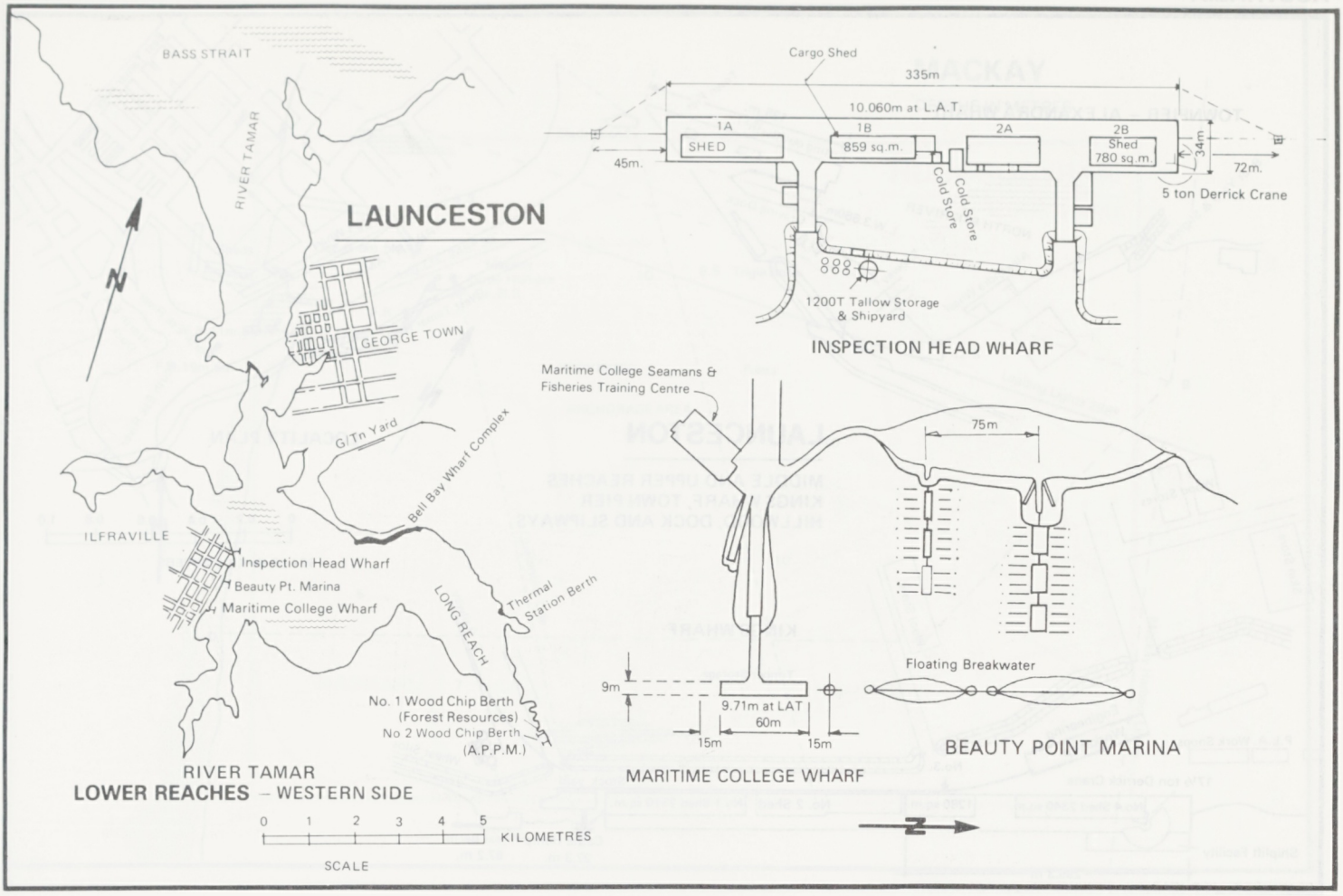

HOBART
(RISDON)
Porter Bay
Porter Point
Store Point
River Derwent
Power (46m)
Stanhope Point
F.R.
Electrolytic Zinc Co. Wharf
Electrolytic Zinc Co.
20.0
15.0
10.0
16.7
15.8
10.7
16.4
10.4
7.9
DEPTHS IN METRES

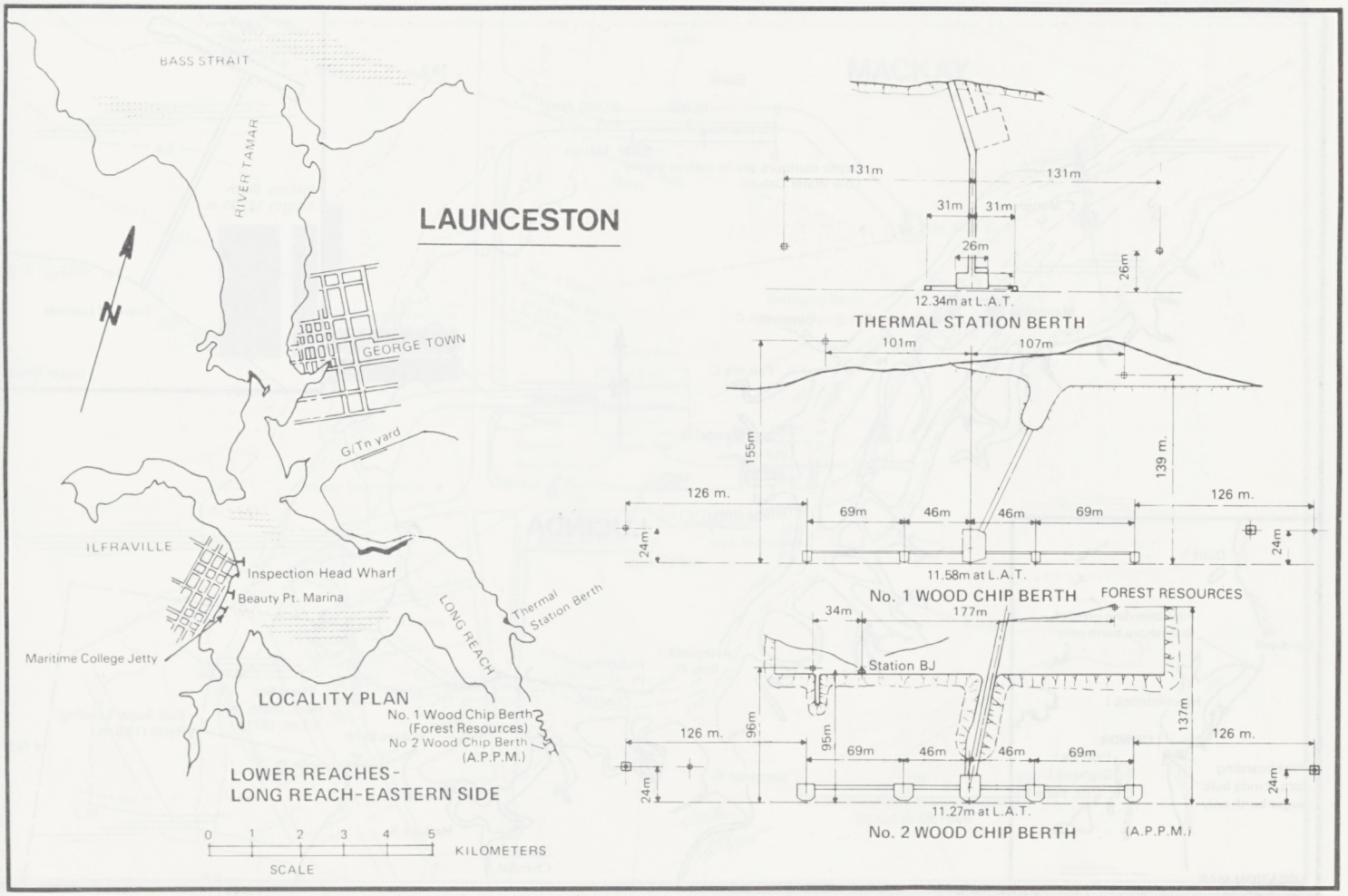

HOBART
SELFS POINT JETTY
7 pile dolphin (40 t. capacity)
15.24 m
19.96 m
38.4 m
15 pile dolphin (unserviceable)
4 pile dolphin (50 t. capacity)
L.P.G. manifold
Oil/petrol manifold
Bunker station
Bunker station
25.9 m.
21.33 m.
30.48 m.
19 pile dolphin (40 t. capacity)
4 pile dolphin (50 t. capacity)
13 pile dolphin (unserviceable)
Face line of wharf
22.2m
18.3m
100.6m

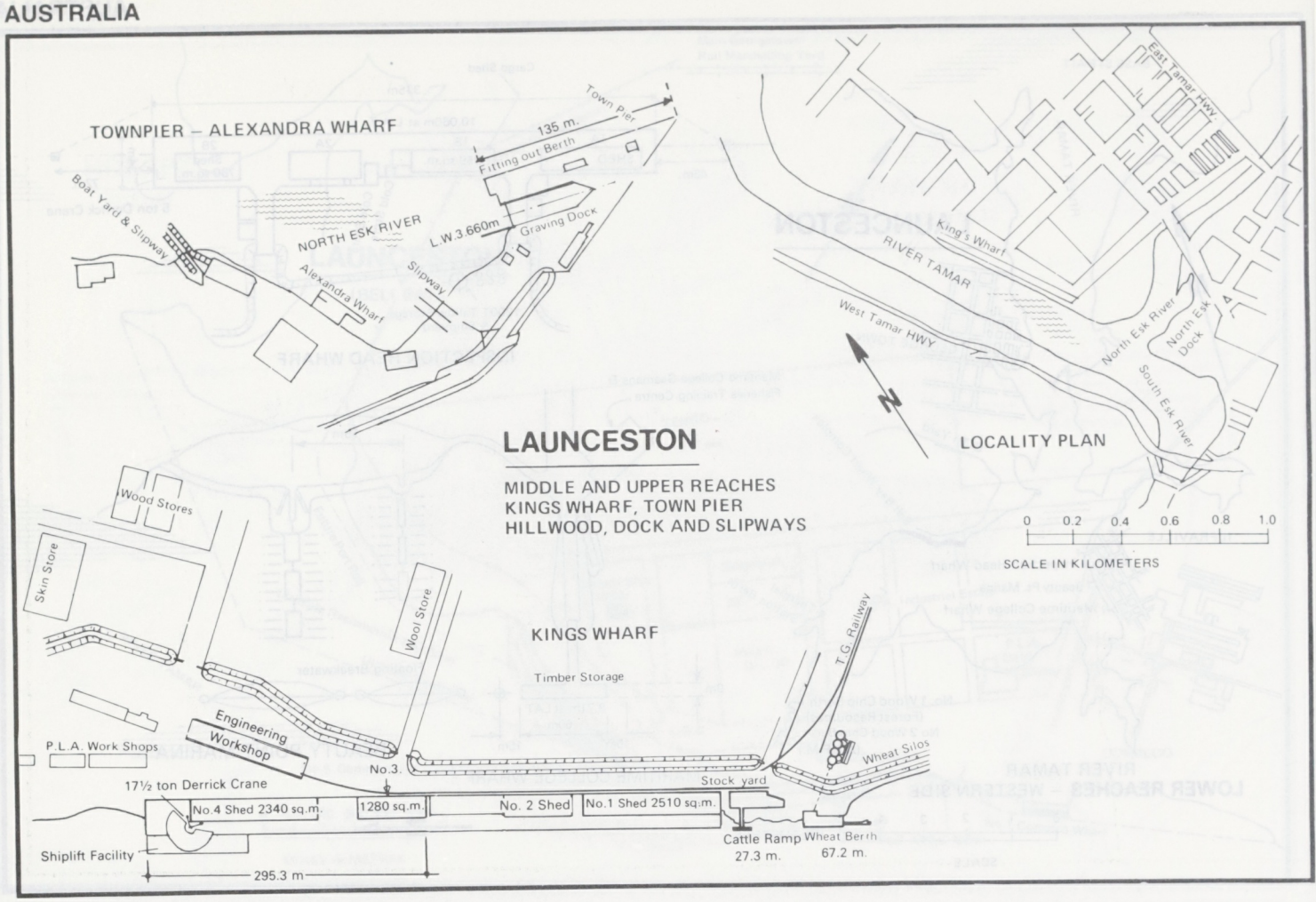

LAUNCESTON
MIDLANDS HIGHWAY
To Hobart
BELL BAY RAILWAY
EAST TAMAR HIGHWAY
N.E. Coastal HIGHWAY
To
THERMAL STATION
WOOD CHIP BERTHS
BATMAN BRIDGE
HILLWOOD
RIVER TAMAR
LONG REACH
BELL BAY
GEORGE TOWN
LOW HEAD
WEST TAMAR HIGHWAY
KELSO
INSPECTION HEAD
BEAUTY POINT
FRANKFORD HIGHWAY
To Devonport
BASS STRAIT
LAUNCESTON
0
8
16
SCALE IN KILOMETRES

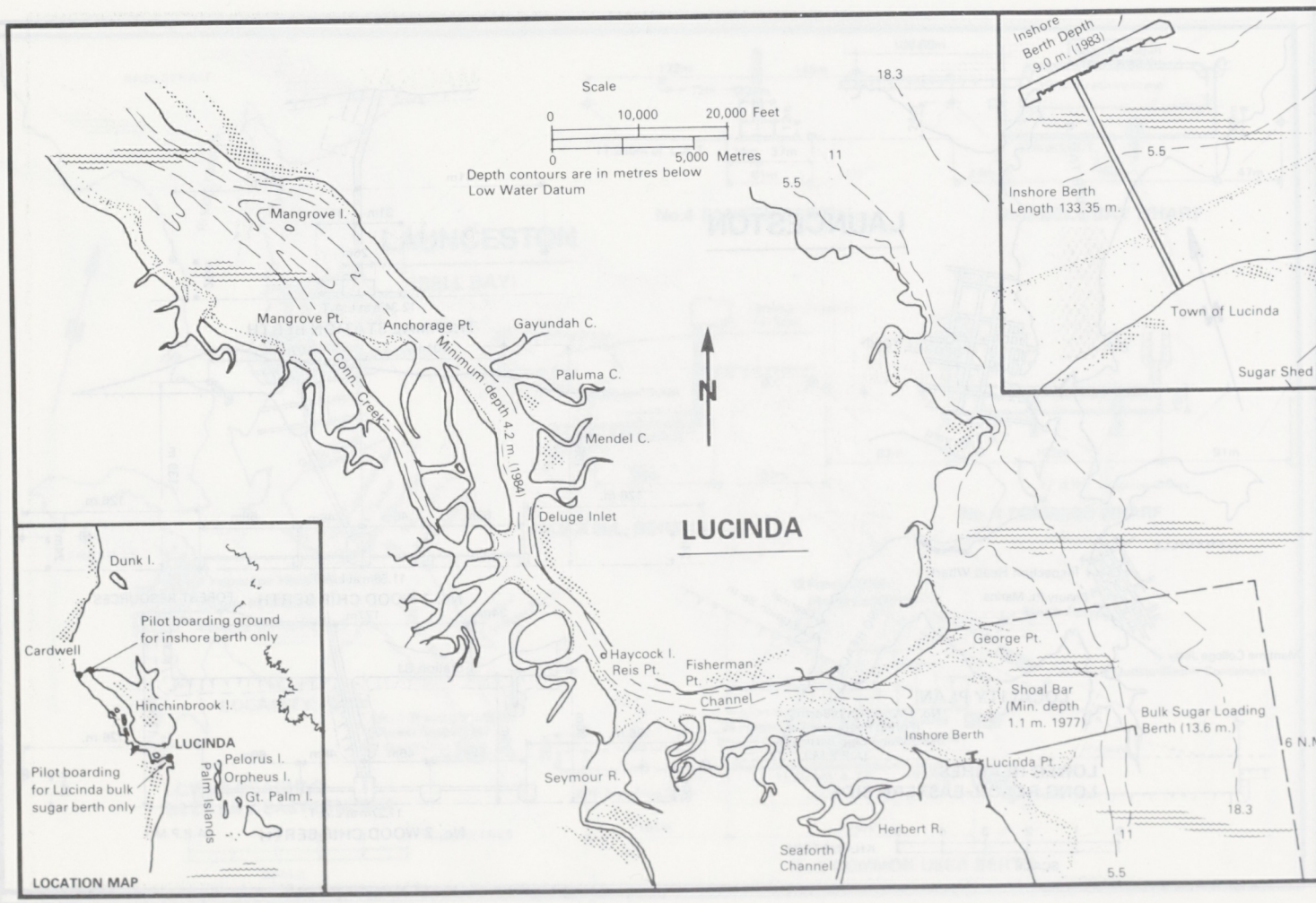

Main Georgetown
Rail Marshalling Yard
Railway to Launceston
LAUNCESTON
(BELL BAY)
TEMCO
Future Port Rail
Ultimate Reclamation 180 Acres
Ultimate Berth Line
RIVER TAMAR
Barnett Bros. Timber
Simsmetal
BP
MOBIL OIL CO
P.L.A. Industrial Estate
P.L.A. Cold Stores
L.G.C.
P.L.A. Office
COMALCO
No.5 Common user conventional & R.O.R.O. Berth
No.4 Tanker Berth
No.3 Bell Bay Wharf
No.2 A.N.L. Berth
No.1 Comalco Wharf
0 100 200 300 400 500
SCALE IN METRES

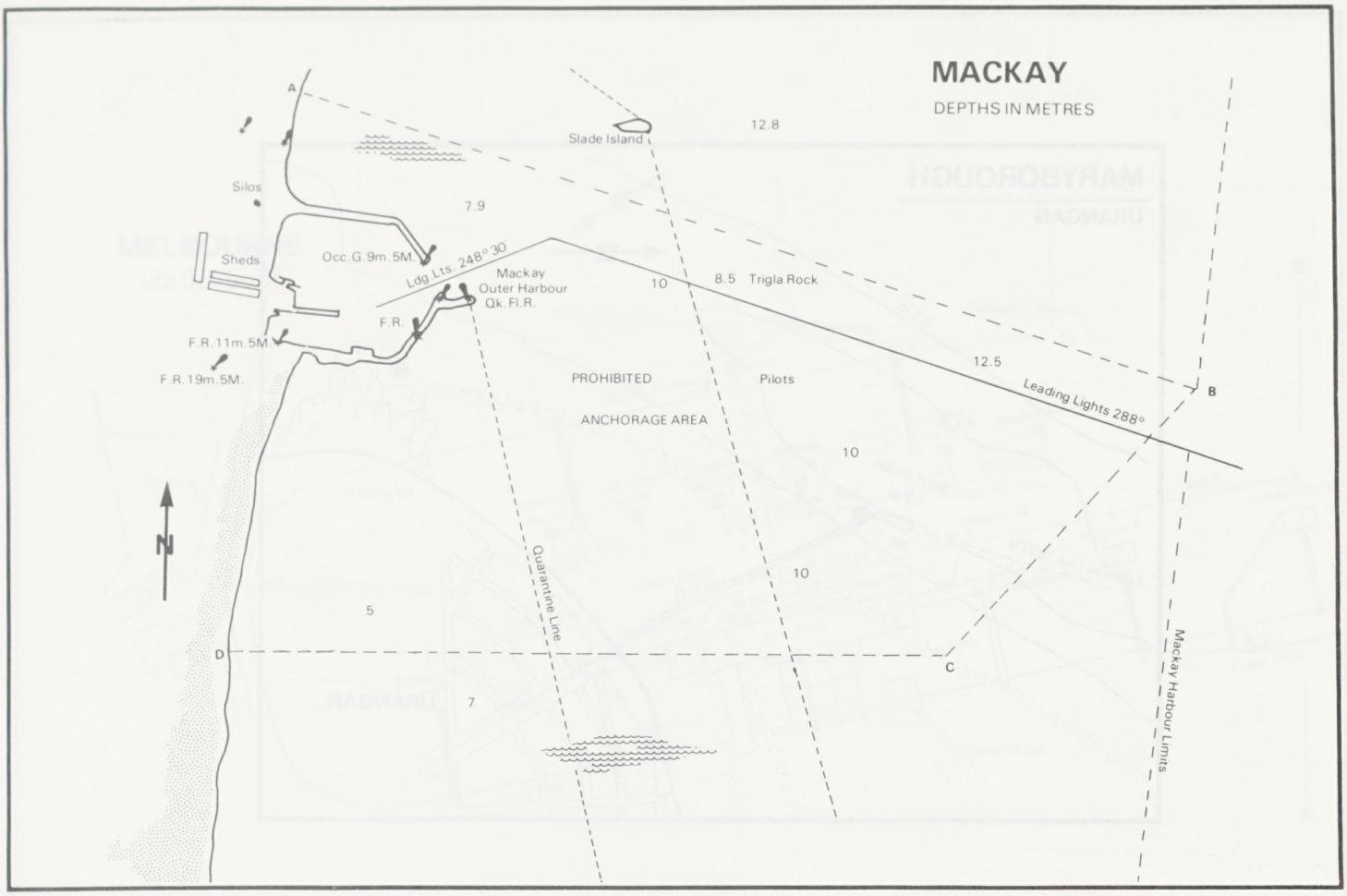

BASS STRAIT
RIVER TAMAR
LAUNCESTON
(BELL BAY)
GEORGETOWN
G/Tn Yard
No.5 Common User
No.4 Tanker
No.3 Bell Bay
No.2 A.N.L.
No.1 Comalco
ILFRAVILLE
Inspection Head Wharf
Beauty Pt. Marina
Maritime College Wharf
LONG REACH
Thermal Station Berth
LOCALITY PLAN
No. 1 Wood Chip Berth (Forest Resources)
No 2 Wood Chip Berth (A.P.P.M.)
LOWER REACHES-
BELL BAY-EASTERN SIDE
0 1 2 3 4 5 KILOMETRES
SCALE
122m
72m.
24m
140m
12m
11.280m at L.A.T.
24m
37m
61m
No.4 TANKER BERTH
106.68m
Shed 930 sq.m
12½T. Grabbing Crane
24m
20m
11m at L.A.T.
37m
152m
47m
No.3 BELL BAY WHARF
Passenger Reception
Rail Spur
25T. Travelling Crane
Stacking Area
24 Power Outlet
RAMP
8.23m at L.A.T.
86m
137m
No.2 A.N.L. BERTH
19m
10.970m at L.A.T.
87m
152m
91m
2/12½T. Grabbing Cranes
No. 1 COMALCO WHARF
12 Power Outlets
(Reefer Containers)
Switch Room
36 Power Outlets (Reefer Containers)
Shed 2675 sq.m
24 Power Outlets
(Reefer Containers)
Stacking Area
24,280 sq.m
Railway
26m
41m
50T Travelling Crane
11.3m at L.A.T.
9.6m at L.A.T.
RAMP
101m
174m
No.5 COMMON USER BERTH

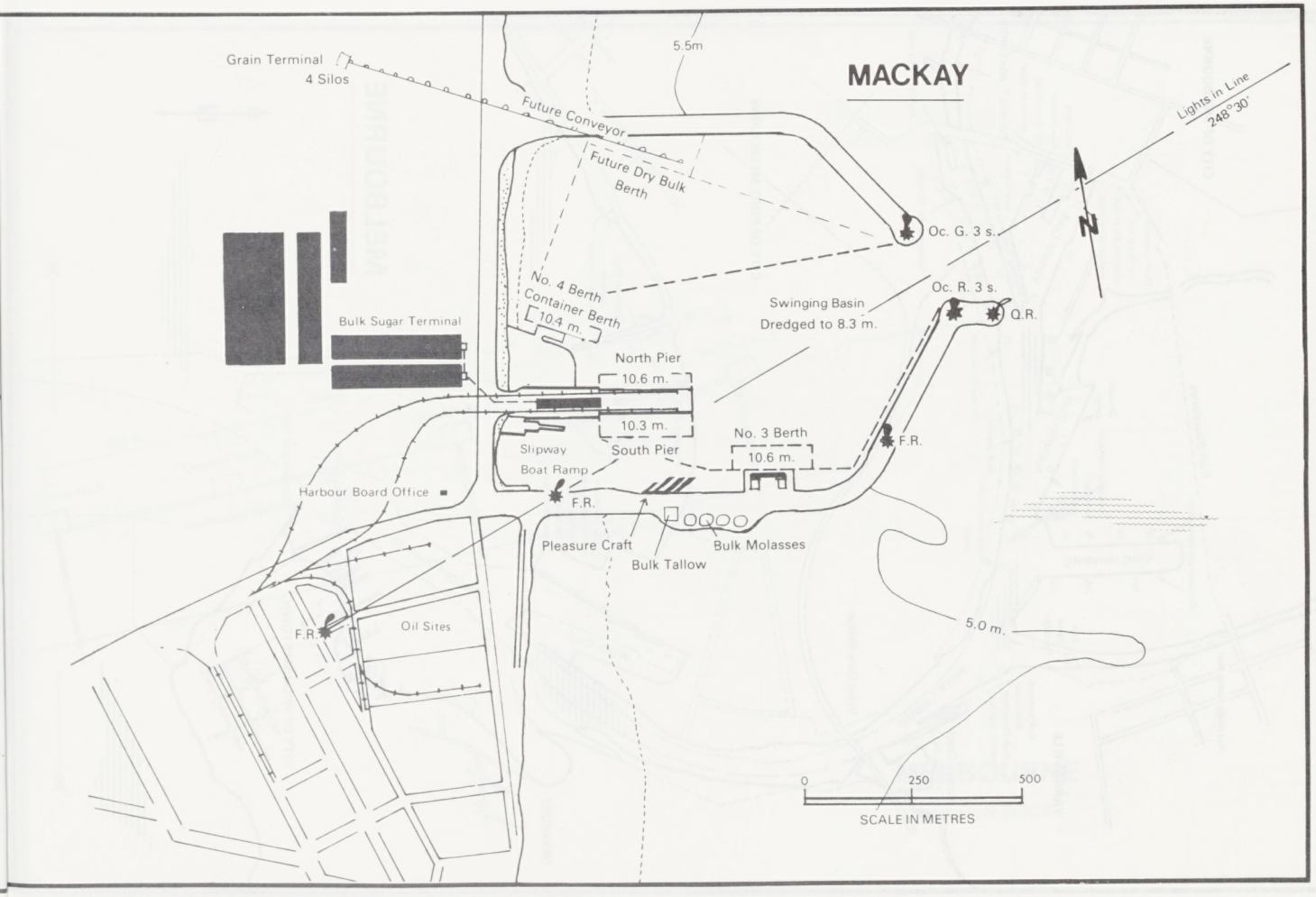

BASS STRAIT
RIVER TAMAR
LAUNCESTON
N
GEORGE TOWN
G/Tn Yard
Bell Bay Wharf Complex
ILFRAVILLE
Inspection Head Wharf
Beauty Pt. Marina
Maritime College Wharf
LONG REACH
Thermal Station Berth
No. 1 Wood Chip Berth
(Forest Resources)
No 2 Wood Chip Berth
(A.P.P.M.)
RIVER TAMAR
LOWER REACHES – WESTERN SIDE
0 1 2 3 4 5
KILOMETRES
SCALE
Cargo Shed
335m
10.060m at L.A.T.
1A
SHED
45m.
1B
859 sq.m.
2A
2B
Shed
780 sq.m.
34m.
72m.
5 ton Derrick Crane
Cold Store
Cold Store
1200T Tallow Storage
& Shipyard
INSPECTION HEAD WHARF
Maritime College Seamans &
Fisheries Training Centre
75m
Floating Breakwater
9m
9.71m at LAT
60m
15m
15m
BEAUTY POINT MARINA
MARITIME COLLEGE WHARF


BASS STRAIT
RIVER TAMAR
LAUNCESTON
N
GEORGE TOWN
G/Tn yard
ILFRAVILLE
Inspection Head Wharf
Beauty Pt. Marina
Maritime College Jetty
LONG REACH
Thermal Station Berth
LOCALITY PLAN
No. 1 Wood Chip Berth
(Forest Resources)
No 2 Wood Chip Berth
(A.P.P.M.)
LOWER REACHES-
LONG REACH-EASTERN SIDE
0 1 2 3 4 5
KILOMETERS
SCALE
131m
131m
31m
31m
26m
26m
12.34m at L.A.T.
THERMAL STATION BERTH
101m
107m
155m
139 m.
126 m.
69m
46m
46m
69m
126 m.
24m
24m
11.58m at L.A.T.
No. 1 WOOD CHIP BERTH
FOREST RESOURCES
34m
177m
Station BJ
96m
95m
137m
126 m.
69m
46m
46m
69m
126 m.
24m
24m
11.27m at L.A.T.
No. 2 WOOD CHIP BERTH
(A.P.P.M.)

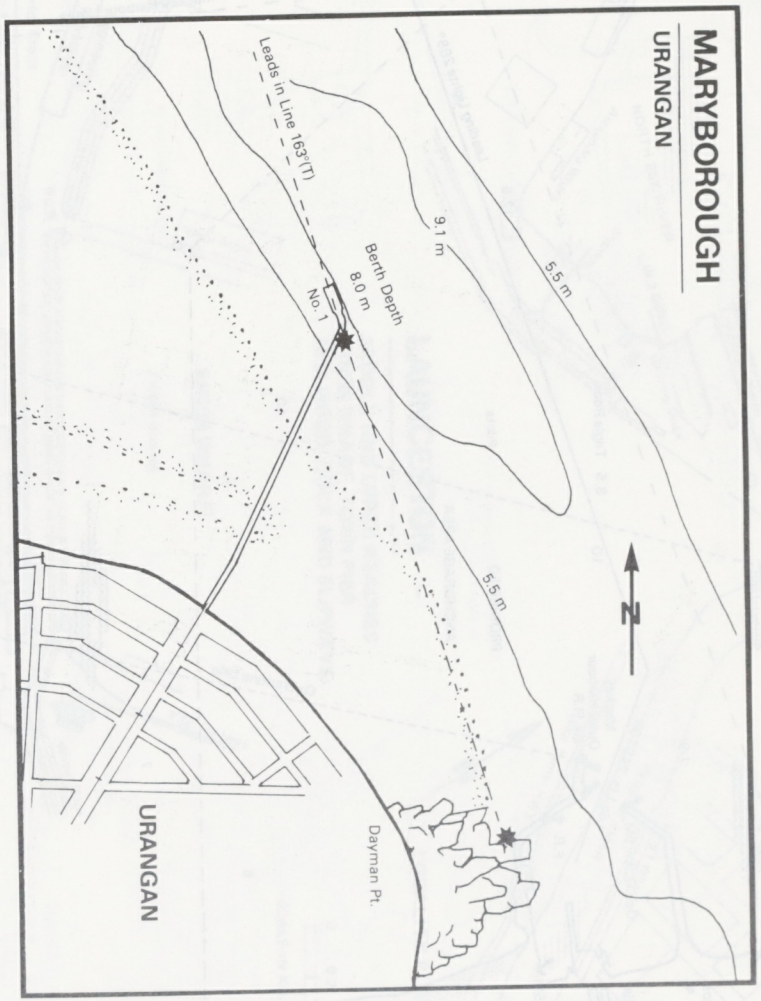

TOWNPIER – ALEXANDRA WHARF
Town Pier
135 m.
Fitting out Berth
Boat Yard & Slipway
NORTH ESK RIVER
L.W.3.660m
Graving Dock
Alexandra Wharf
Slipway
East Tamar Hwy.
King's Wharf
RIVER TAMAR
West Tamar HWY
North Esk River
North Esk Dock
South Esk River
N
LAUNCESTON
MIDDLE AND UPPER REACHES
KINGS WHARF, TOWN PIER
HILLWOOD, DOCK AND SLIPWAYS
LOCALITY PLAN
0 0.2 0.4 0.6 0.8 1.0
SCALE IN KILOMETERS
Wood Stores
Skin Store
Wool Store
KINGS WHARF
Timber Storage
T.G. Railway
Engineering Workshop
P.L.A. Work Shops
No.3.
Wheat Silos
17½ ton Derrick Crane
Stock yard
No.4 Shed 2340 sq.m.
1280 sq.m.
No. 2 Shed
No.1 Shed 2510 sq.m.
Shiplift Facility
295.3 m
Cattle Ramp 27.3 m.
Wheat Berth 67.2 m.


Scale
0 10,000 20,000 Feet
0 5,000 Metres
Depth contours are in metres below Low Water Datum
Inshore Berth Depth 9.0 m. (1983)
Inshore Berth Length 133.35 m.
Town of Lucinda
Sugar Shed
Mangrove I.
Mangrove Pt.
Anchorage Pt.
Gayundah C.
Conn. Creek
Minimum depth 4.2 m (1984)
Paluma C.
Mendel C.
Deluge Inlet
LUCINDA
N
Dunk I.
Pilot boarding ground for inshore berth only
Cardwell
Hinchinbrook I.
LUCINDA
Pelorus I.
Orpheus I.
Gt. Palm I.
Palm Islands
Pilot boarding for Lucinda bulk sugar berth only
LOCATION MAP
Haycock I.
Reis Pt.
Fisherman Pt.
Channel
George Pt.
Shoal Bar (Min. depth 1.1 m. 1977)
Bulk Sugar Loading Berth (13.6 m.)
Inshore Berth
Lucinda Pt.
Seymour R.
Herbert R.
Seaforth Channel
18.3
11
5.5


MACKAY
DEPTHS IN METRES
A
Slade Island
12.8
Silos
7.9
Sheds
Occ.G.9m.5M.
Ldg.Lts. 248°30'
Mackay
Outer Harbour
Qk.Fl.R.
10
8.5 Trigla Rock
F.R.
F.R.11m.5M.
F.R.19m.5M.
PROHIBITED
Pilots
12.5
Leading Lights 288°
B
ANCHORAGE AREA
10
Quarantine Line
10
5
D
C
7
Mackay Harbour Limits
N

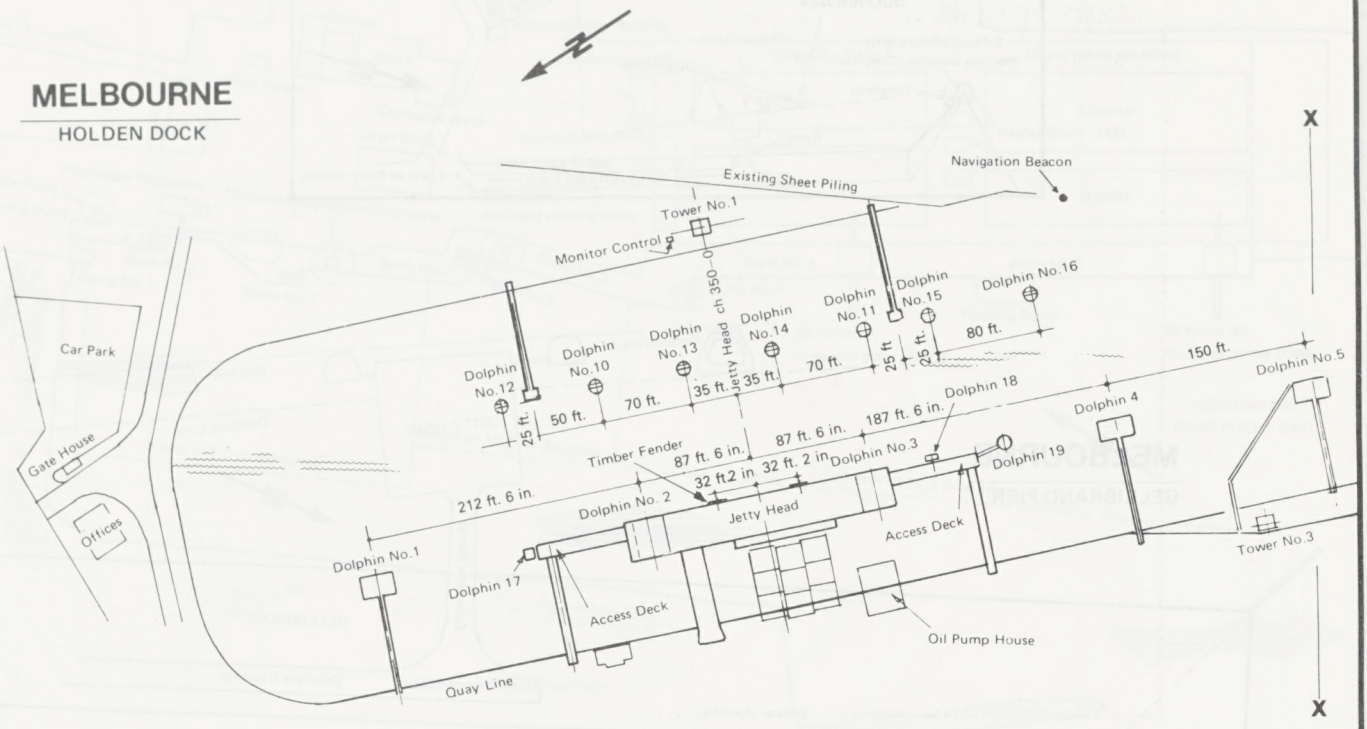

MACKAY
5.5m
Grain Terminal
4 Silos
Future Conveyor
Future Dry Bulk
Berth
Lights in Line
248°30'
Oc. G. 3 s.
N
No. 4 Berth
Container Berth
10.4 m.
Oc. R. 3 s.
Swinging Basin
Dredged to 8.3 m.
Q.R.
Bulk Sugar Terminal
North Pier
10.6 m.
10.3 m.
No. 3 Berth
10.6 m.
F.R.
Slipway
Boat Ramp
South Pier
Harbour Board Office
F.R.
Pleasure Craft
Bulk Tallow
Bulk Molasses
F.R.
Oil Sites
5.0 m.
0
250
500
SCALE IN METRES

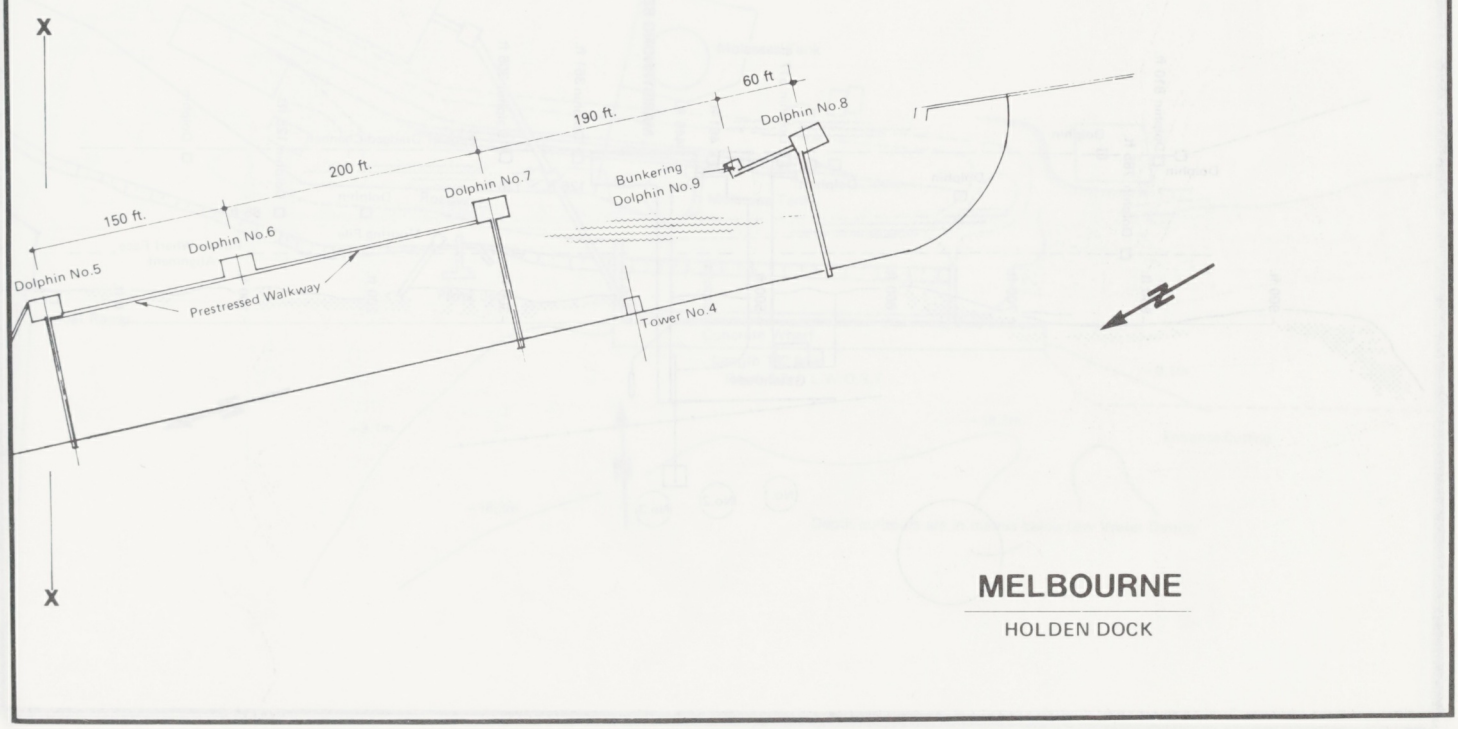
MELBOURNE
Port Boundaries
CITY OF MELBOURNE
CITY OF PORT MELBOURNE
CITY OF WILLIAMSTOWN
YARRAVILLE
NEWPORT
RIVER YARRA
West Gate Bridge
Swanson Dock
Appleton Dock
Victoria Dock
Webb Dock
Princes Pier
Station Pier
Overseas Passenger Terminal
Gellibrand Pier
Oil
Breakwater Pier
Holden Dock
Oil
World Trade Centre
Dry Dock Ship repair
Shipping Control Centre
Dredged Channels
Port Phillip fishing fleet
Overseas container cargo
Bulk liquid cargo
Bulk ammonia
Bulk sugar
Bulk Phosphate
Soda ash sulphur
Overseas container unit load conventional cargo
Dry bulk cargo
Multi-purpose Ro-Ro Lo-Lo unit load, Break bulk and container cargo
Coastal and New Zealand Ro-Ro unit and container cargo
Bulk cement
Bulk gypsum
Overseas Ro/Ro cargo
Coastal Ro-Ro steel
Timber
Tasmanian Ro-Ro cargo
Coastal passenger coastal and overseas Ro/Ro Lo/Lo container and unit load cargo
N


MARYBOROUGH
URANGAN
Leads in Line 163°(T)
Berth Depth 8.0 m
No. 1
9.1 m
5.5 m
5.5 m
Dayman Pt.
URANGAN
N

MELBOURNE

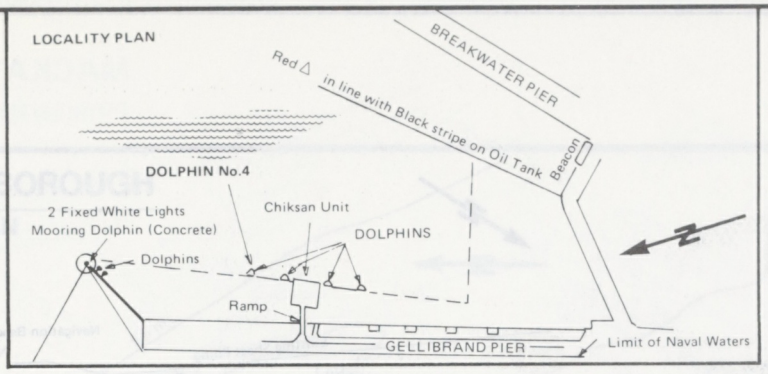
HOLDEN DOCK

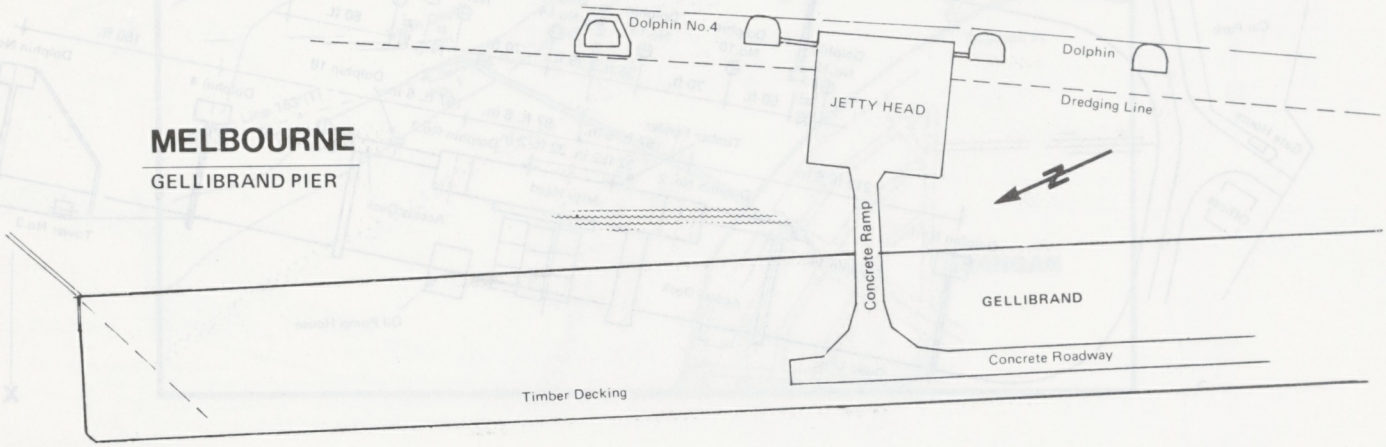




MELBOURNE

HOLDEN DOCK



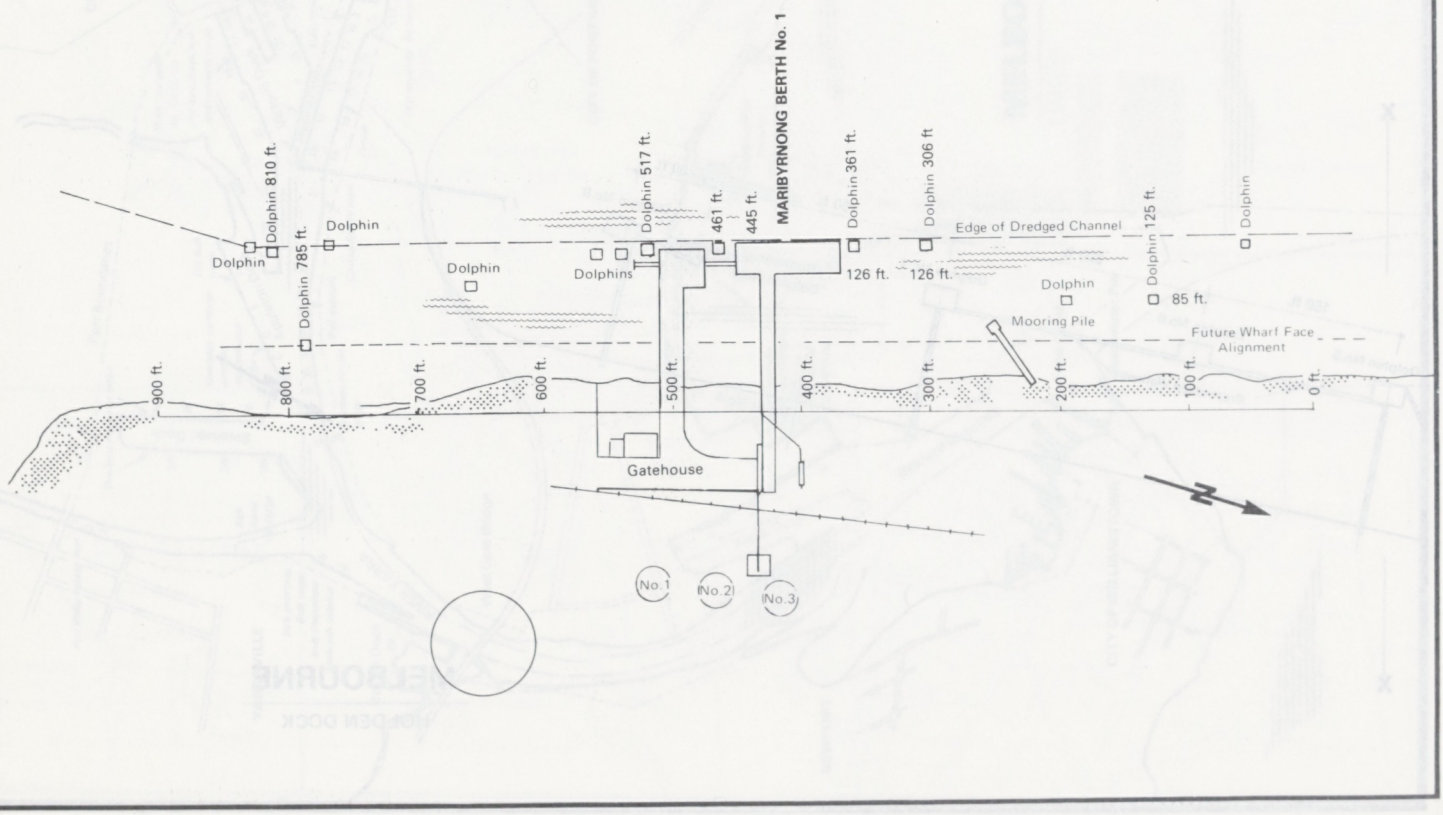


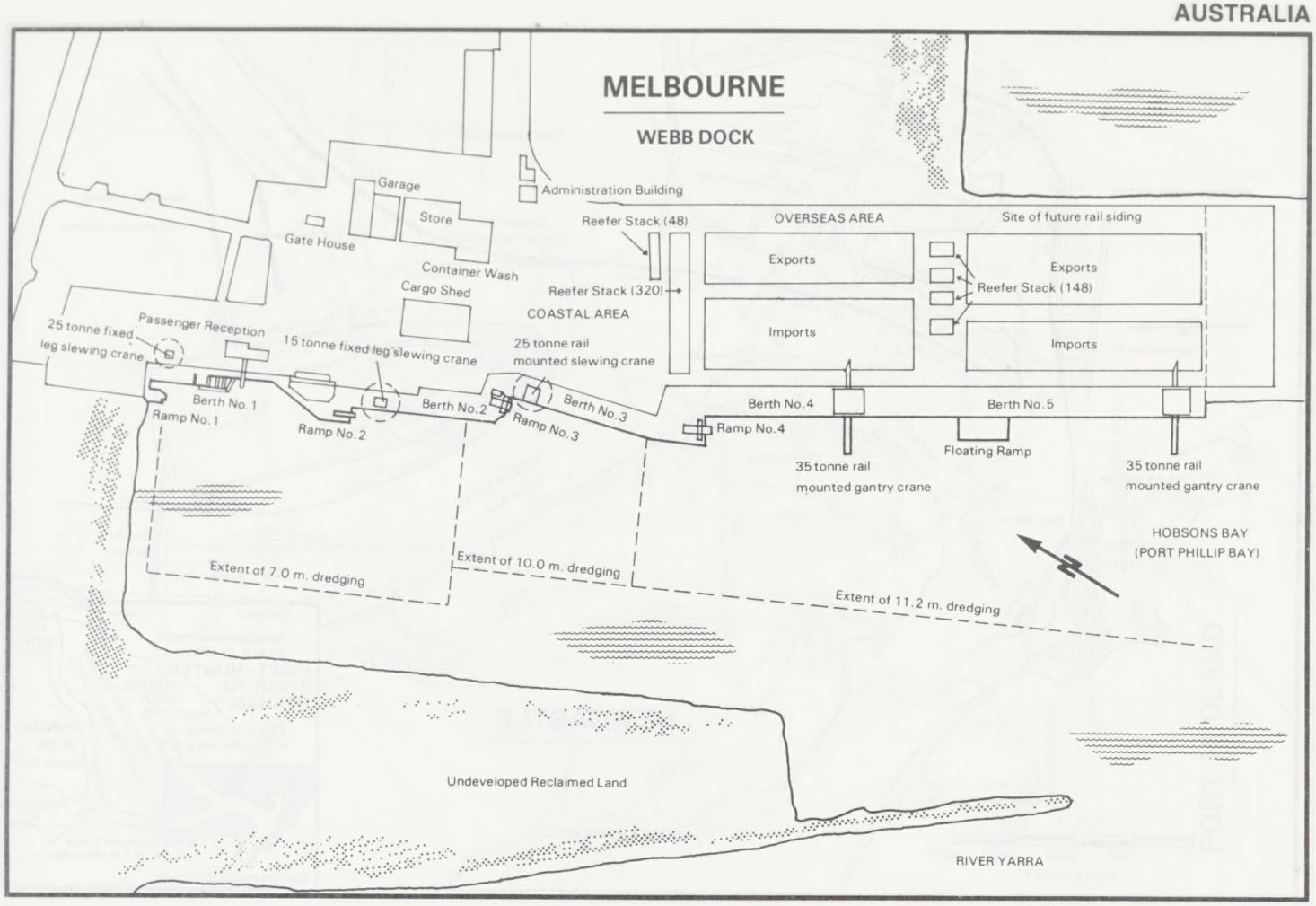
MELBOURNE

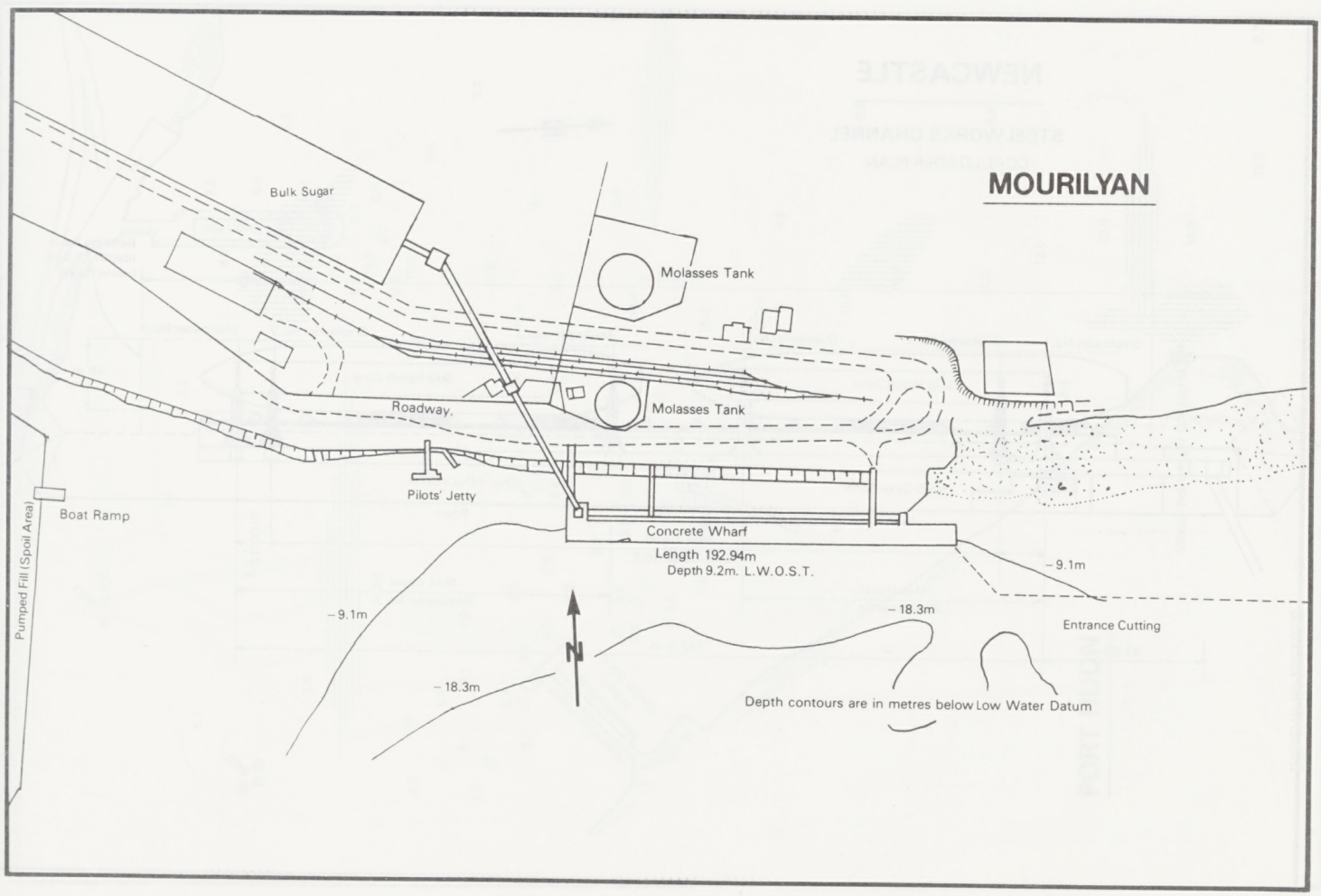
GELLIBRAND PIER

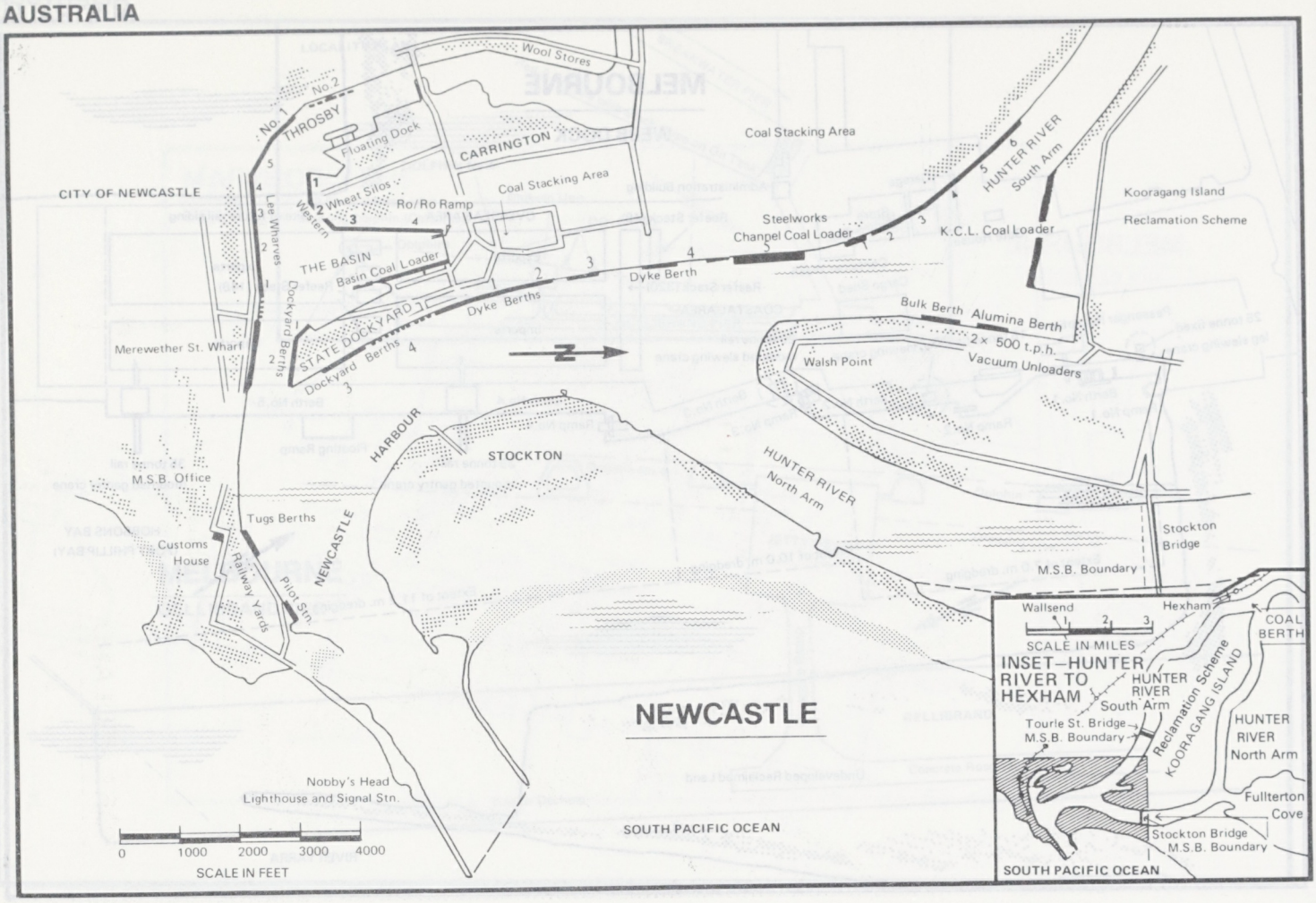
MELBOURNE

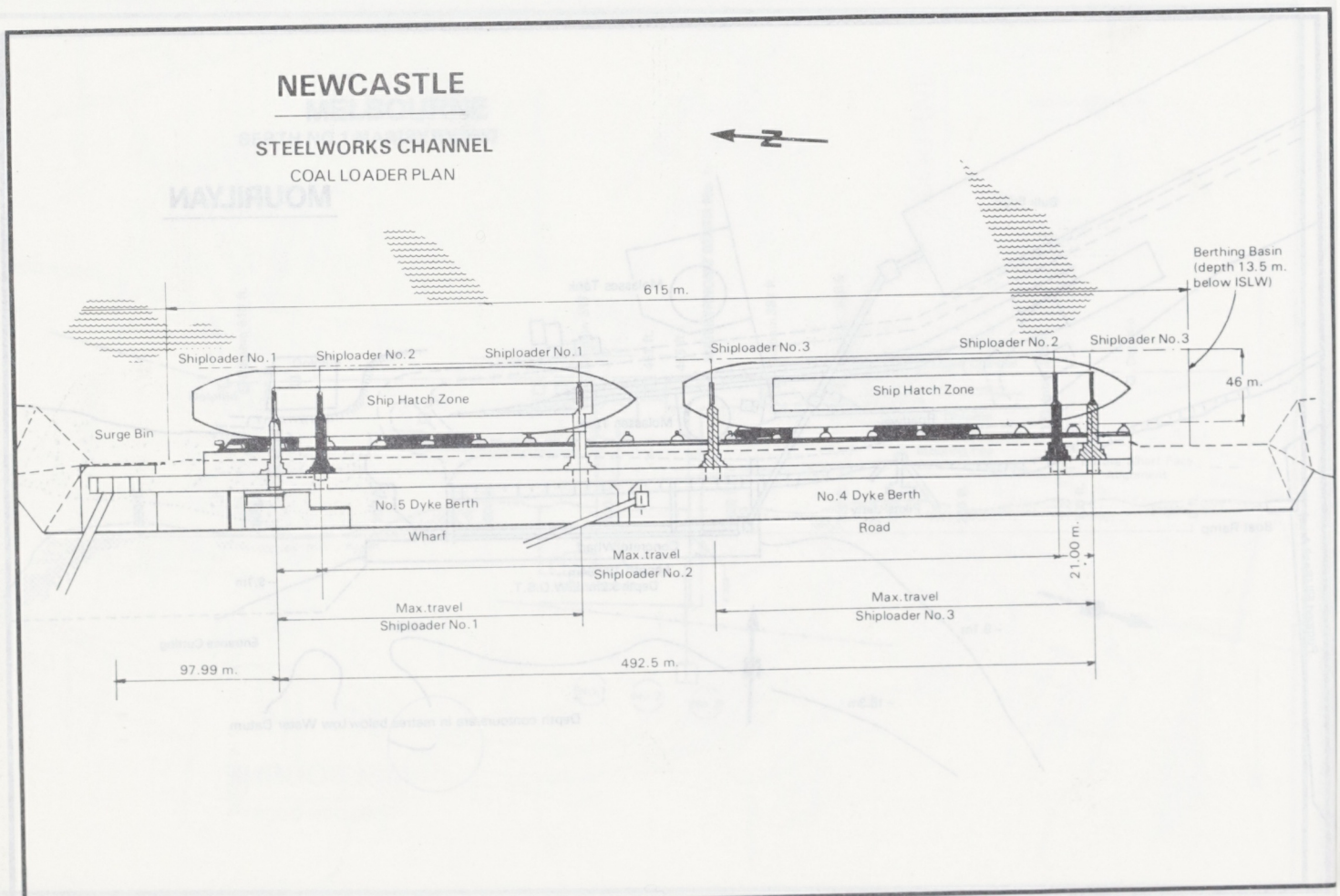
BERTH NO.1 MARIBYRNONG

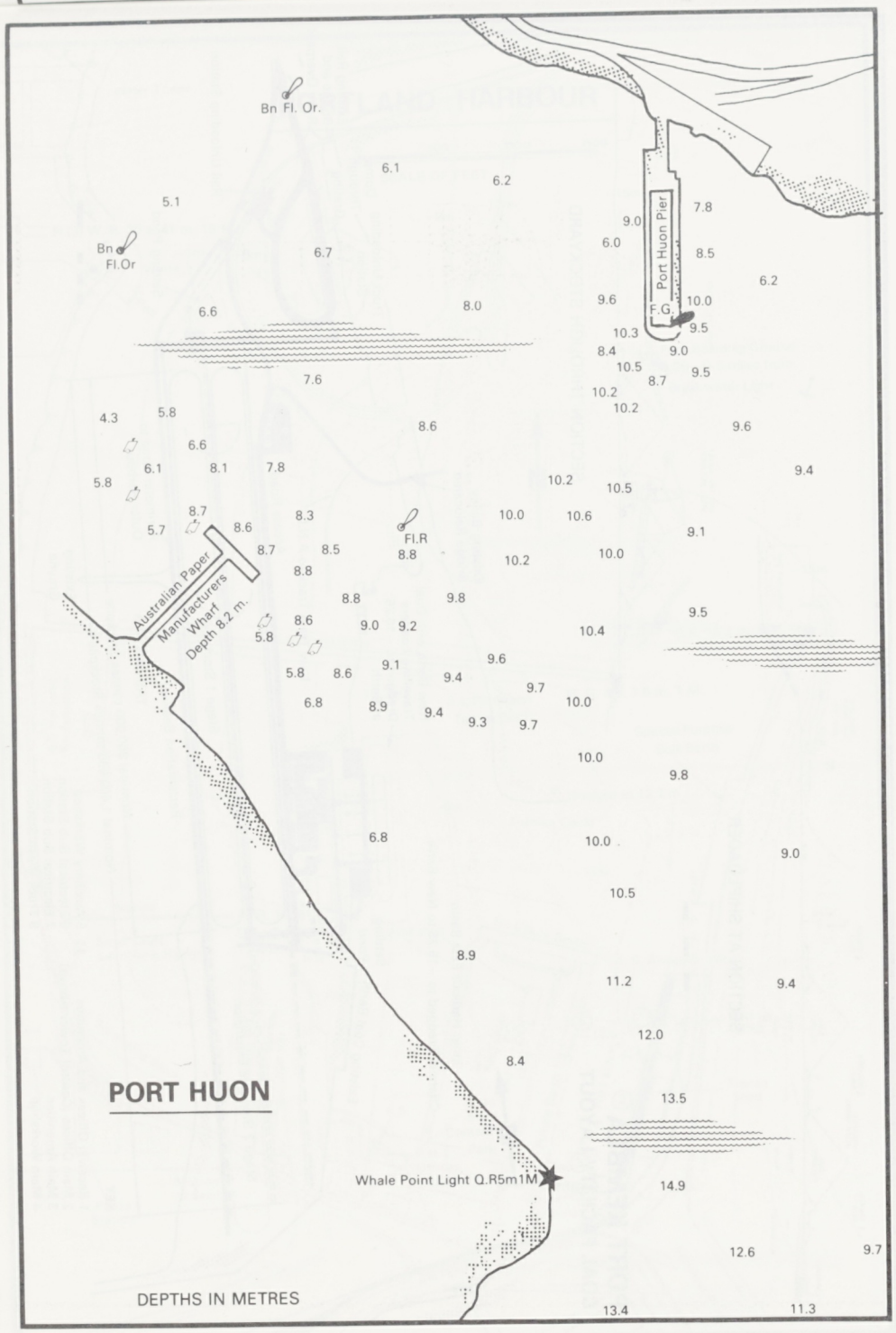


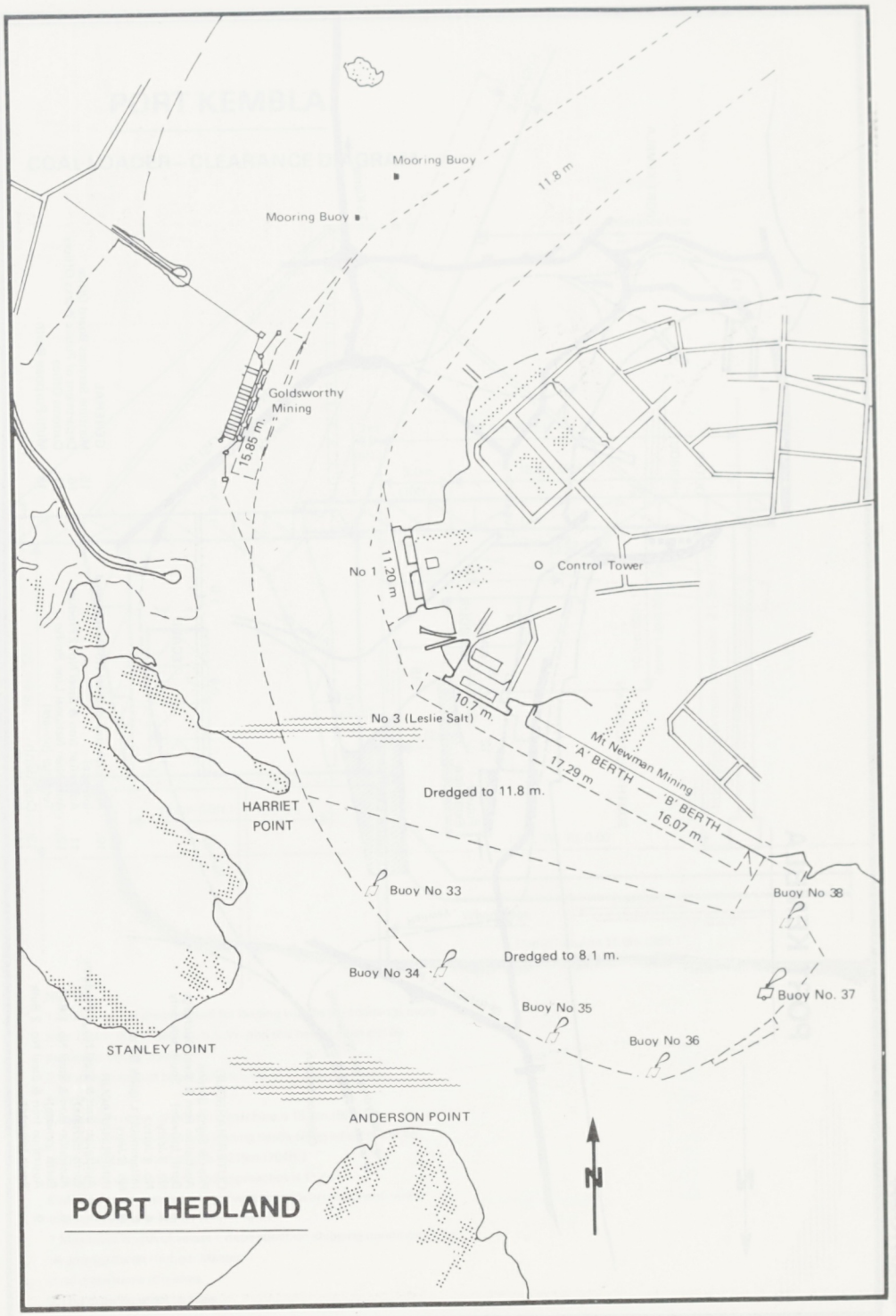

MELBOURNE
WEBB DOCK
Garage
Store
Gate House
Container Wash
Cargo Shed
Administration Building
Reefer Stack (48)
OVERSEAS AREA
Site of future rail siding
Exports
Reefer Stack (320)
COASTAL AREA
Imports
Exports
Reefer Stack (148)
Imports
25 tonne fixed leg slewing crane
Passenger Reception
15 tonne fixed leg slewing crane
25 tonne rail mounted slewing crane
Berth No.1
Ramp No.1
Berth No.2
Ramp No.2
Berth No.3
Ramp No.3
Berth No.4
Ramp No.4
Berth No.5
Floating Ramp
35 tonne rail mounted gantry crane
35 tonne rail mounted gantry crane
HOBSONS BAY
(PORT PHILLIP BAY)
Extent of 7.0 m. dredging
Extent of 10.0 m. dredging
Extent of 11.2 m. dredging
Undeveloped Reclaimed Land
RIVER YARRA

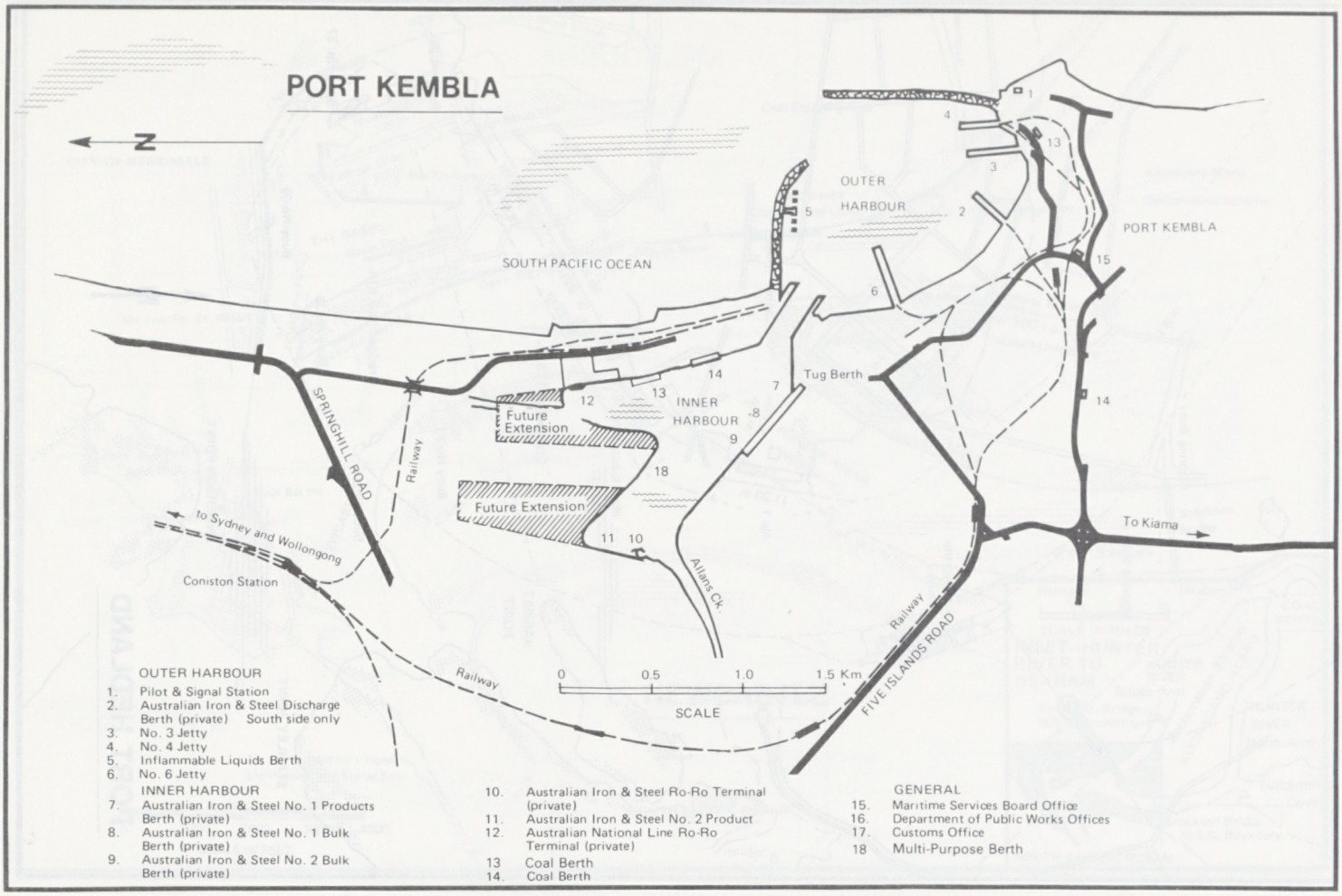

MOURILYAN
Bulk Sugar
Molasses Tank
Molasses Tank
Roadway.
Pilots' Jetty
Boat Ramp
Pumped Fill (Spoil Area)
Concrete Wharf
Length 192.94m
Depth 9.2m. L.W.O.S.T.
-9.1m
-18.3m
-9.1m
-18.3m
Entrance Cutting
N
Depth contours are in metres below Low Water Datum

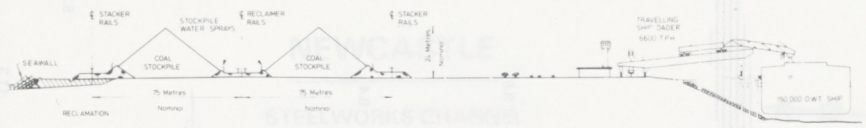

NEWCASTLE
CITY OF NEWCASTLE
THROSBY
CARRINGTON
Wool Stores
Floating Dock
Wheat Silos
Ro/Ro Ramp
Coal Stacking Area
Coal Stacking Area
HUNTER RIVER
South Arm
Kooragang Island
Reclamation Scheme
Steelworks
Chanpel Coal Loader
K.C.L. Coal Loader
THE BASIN
Basin Coal Loader
Dyke Berth
Dyke Berths
Bulk Berth
Alumina Berth
2 × 500 t.p.h.
Vacuum Unloaders
Walsh Point
Merewether St. Wharf
STATE DOCKYARD
Dockyard Berths
Dockyard Berths
Lee Wharves
Western
HARBOUR
STOCKTON
HUNTER RIVER
North Arm
M.S.B. Office
Tugs Berths
Customs
House
Railway Yards
Pilot Stn.
NEWCASTLE
Stockton
Bridge
M.S.B. Boundary
Nobby's Head
Lighthouse and Signal Stn.
SOUTH PACIFIC OCEAN
0 1000 2000 3000 4000
SCALE IN FEET
Wallsend
Hexham
COAL
BERTH
SCALE IN MILES
INSET—HUNTER
RIVER TO
HEXHAM
HUNTER
RIVER
South Arm
Reclamation Scheme
KOORAGANG ISLAND
Tourle St. Bridge
M.S.B. Boundary
HUNTER
RIVER
North Arm
Fullterton
Cove
Stockton Bridge
M.S.B. Boundary
SOUTH PACIFIC OCEAN


NEWCASTLE
STEELWORKS CHANNEL
COAL LOADER PLAN
615 m.
Berthing Basin
(depth 13.5 m.
below ISLW)
Shiploader No.1
Shiploader No.2
Shiploader No.1
Shiploader No.3
Shiploader No.2
Shiploader No.3
46 m.
Ship Hatch Zone
Ship Hatch Zone
Surge Bin
No.5 Dyke Berth
Wharf
No.4 Dyke Berth
Road
21.00 m.
Max.travel
Shiploader No.2
Max.travel
Shiploader No.1
Max.travel
Shiploader No.3
97.99 m.
492.5 m.

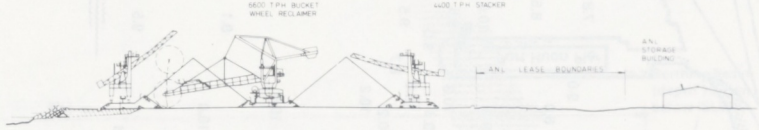

Bn Fl. Or.
Bn Fl.Or
Port Huon Pier
F.G.
Fl.R
Australian Paper Manufacturers Wharf Depth 8.2 m.
Whale Point Light Q.R5m1M
PORT HUON
DEPTHS IN METRES


Mooring Buoy
Mooring Buoy
11.8 m
Goldsworthy Mining
15.85 m.
No 1
11.20 m
Control Tower
10.7 m.
No 3 (Leslie Salt)
Mt Newman Mining
'A' BERTH
17.29 m
'B' BERTH
16.07 m.
Dredged to 11.8 m.
HARRIET POINT
Buoy No 33
Buoy No 38
Dredged to 8.1 m.
Buoy No 34
Buoy No. 37
Buoy No 35
Buoy No 36
STANLEY POINT
ANDERSON POINT
N
PORT HEDLAND



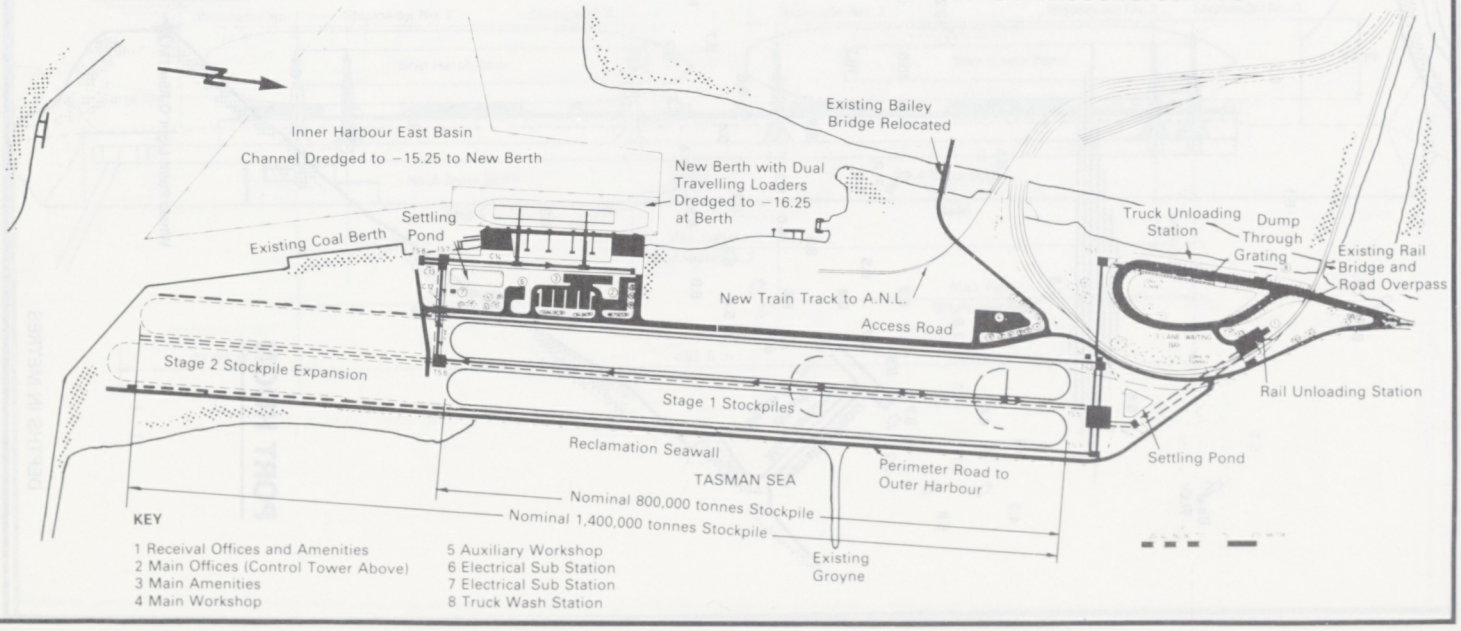


SECTION AT SHIPLOADER

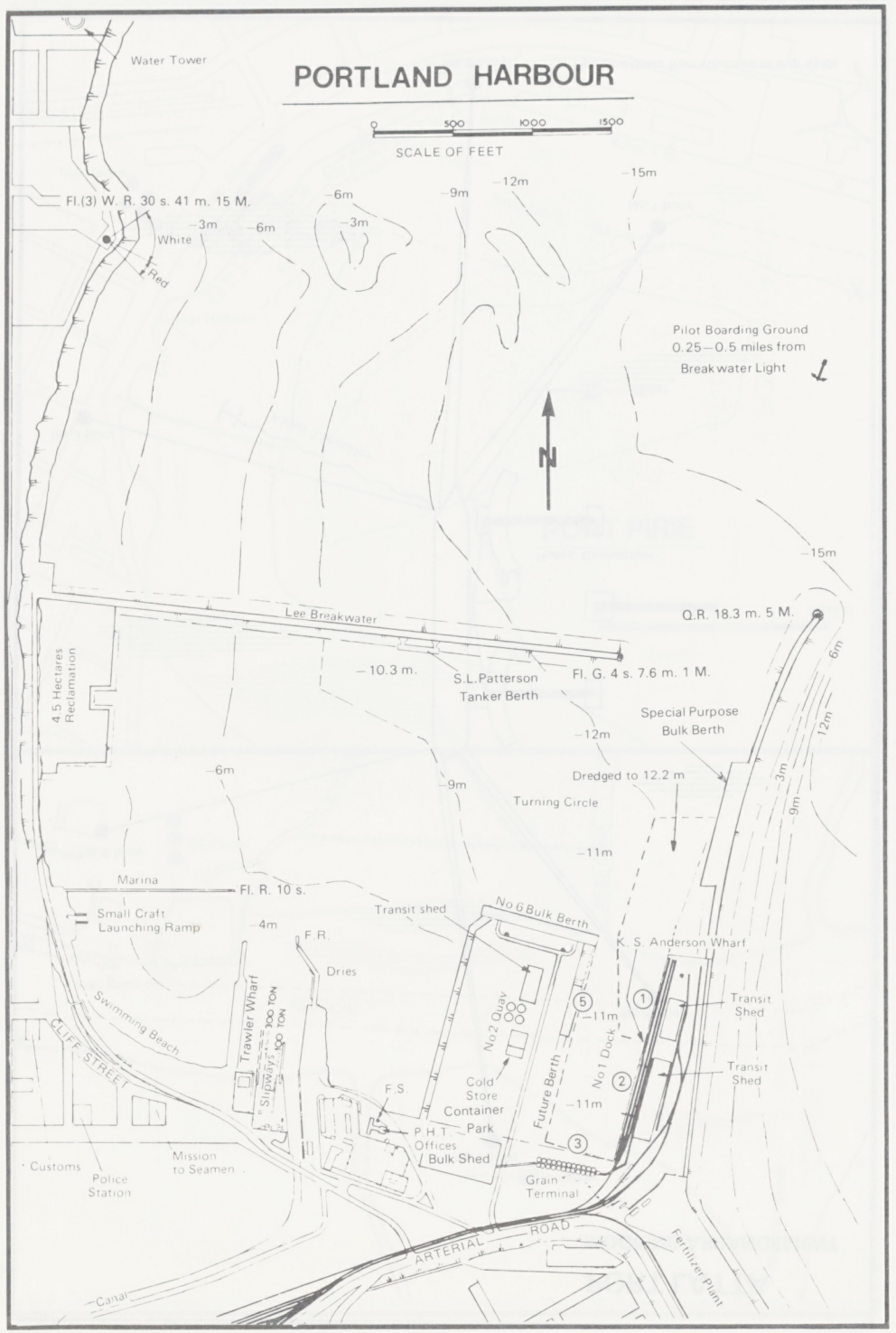


SECTION THROUGH STOCKYARD

PORT KEMBLA
COAL FACILITY LAYOUT

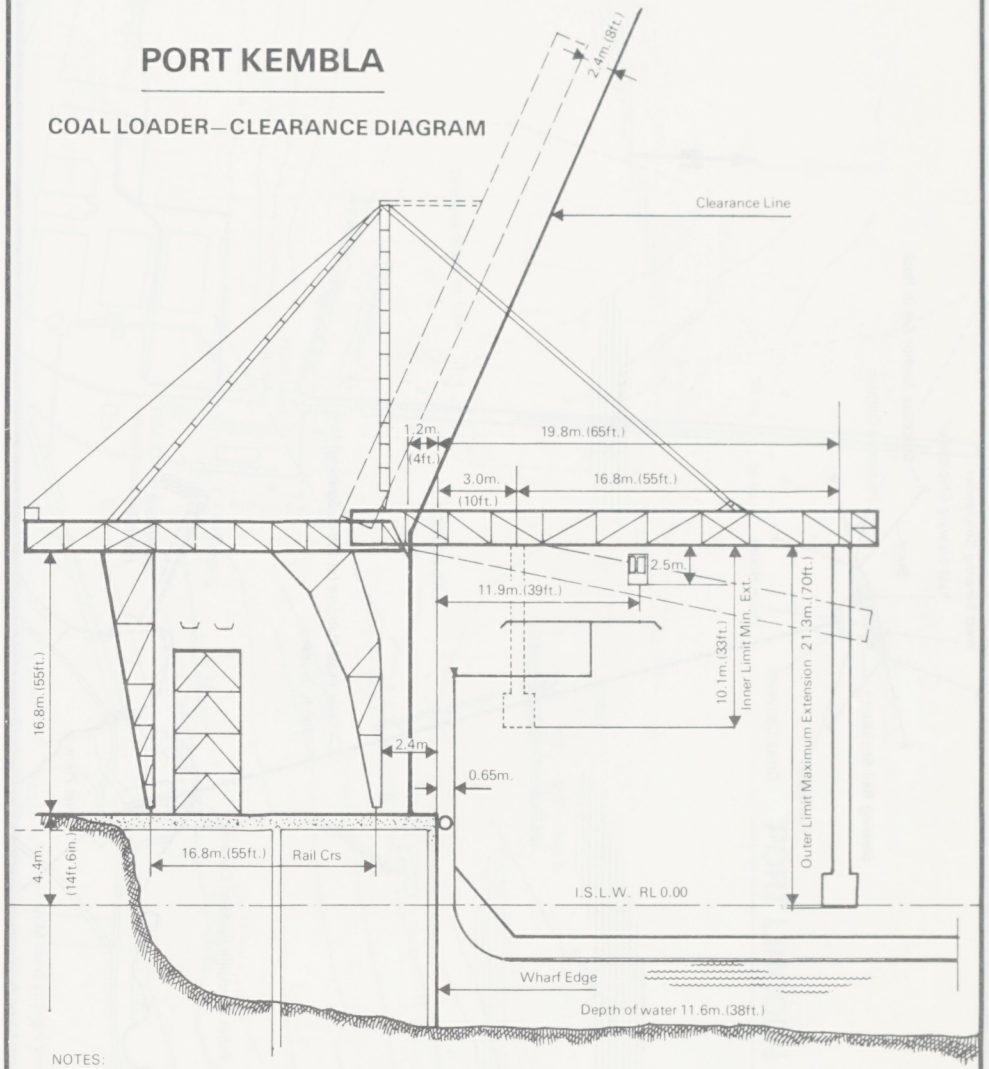


PORTLAND HARBOUR



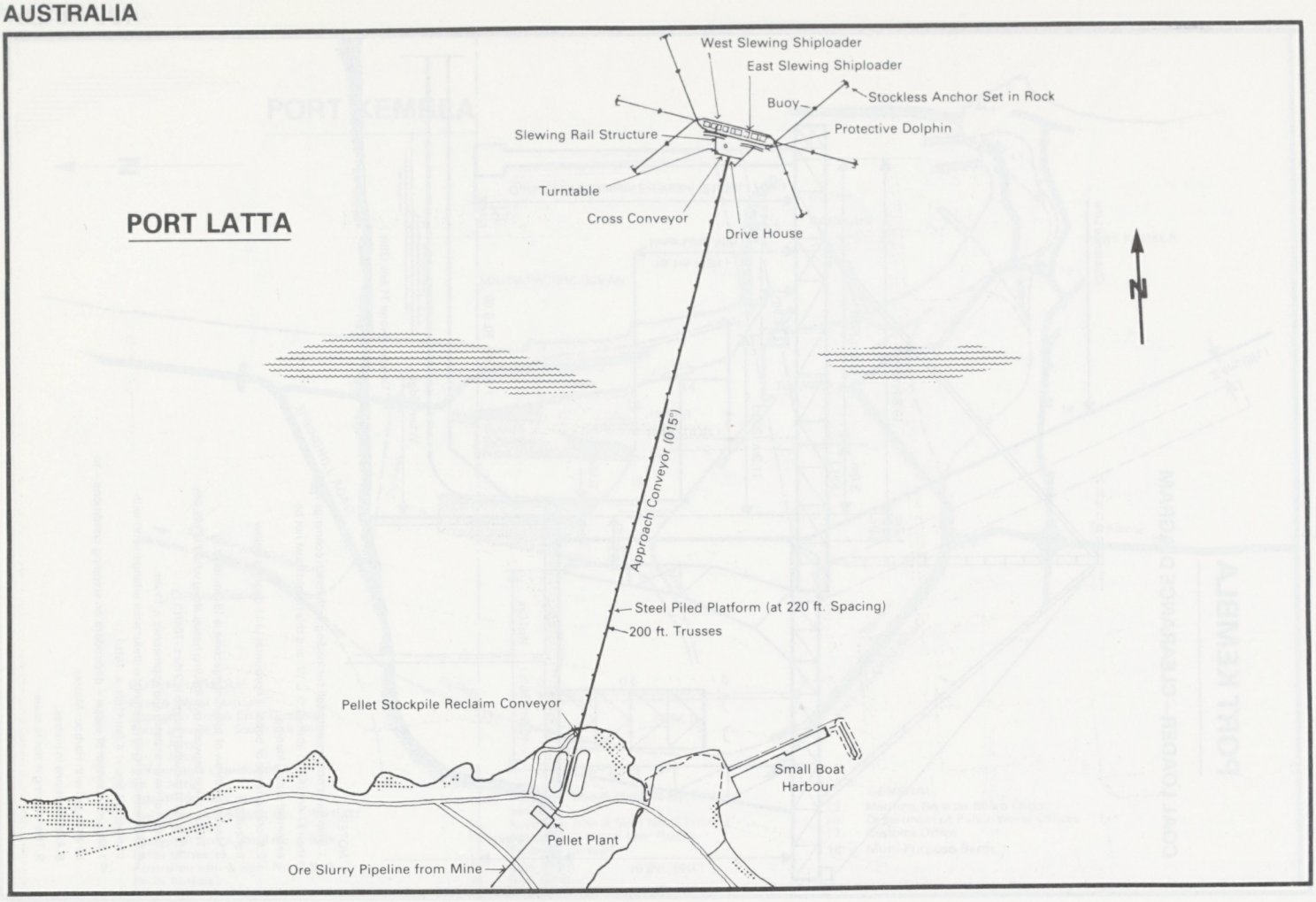
PORT KEMBLA

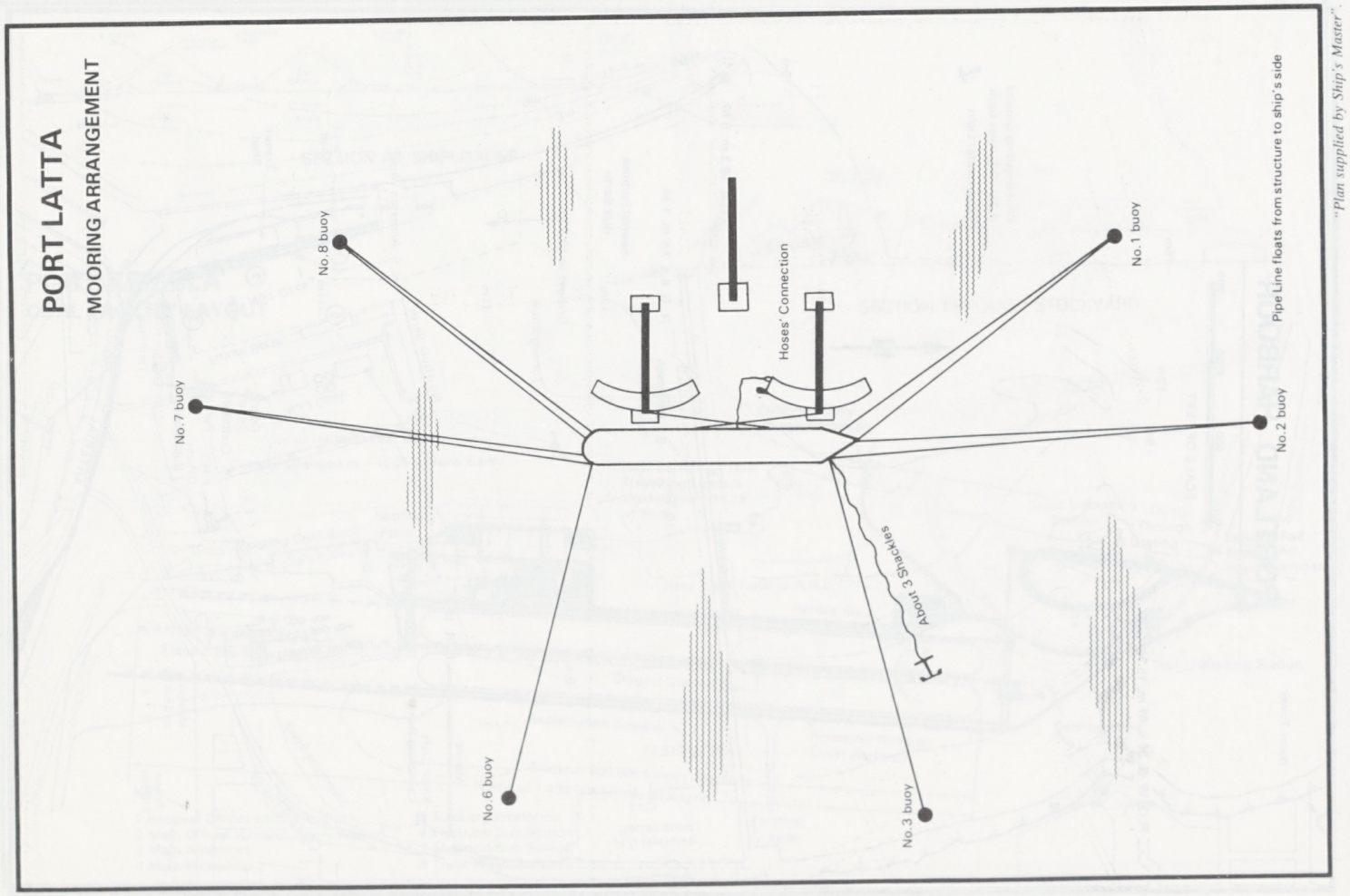
COAL LOADER—CLEARANCE DIAGRAM



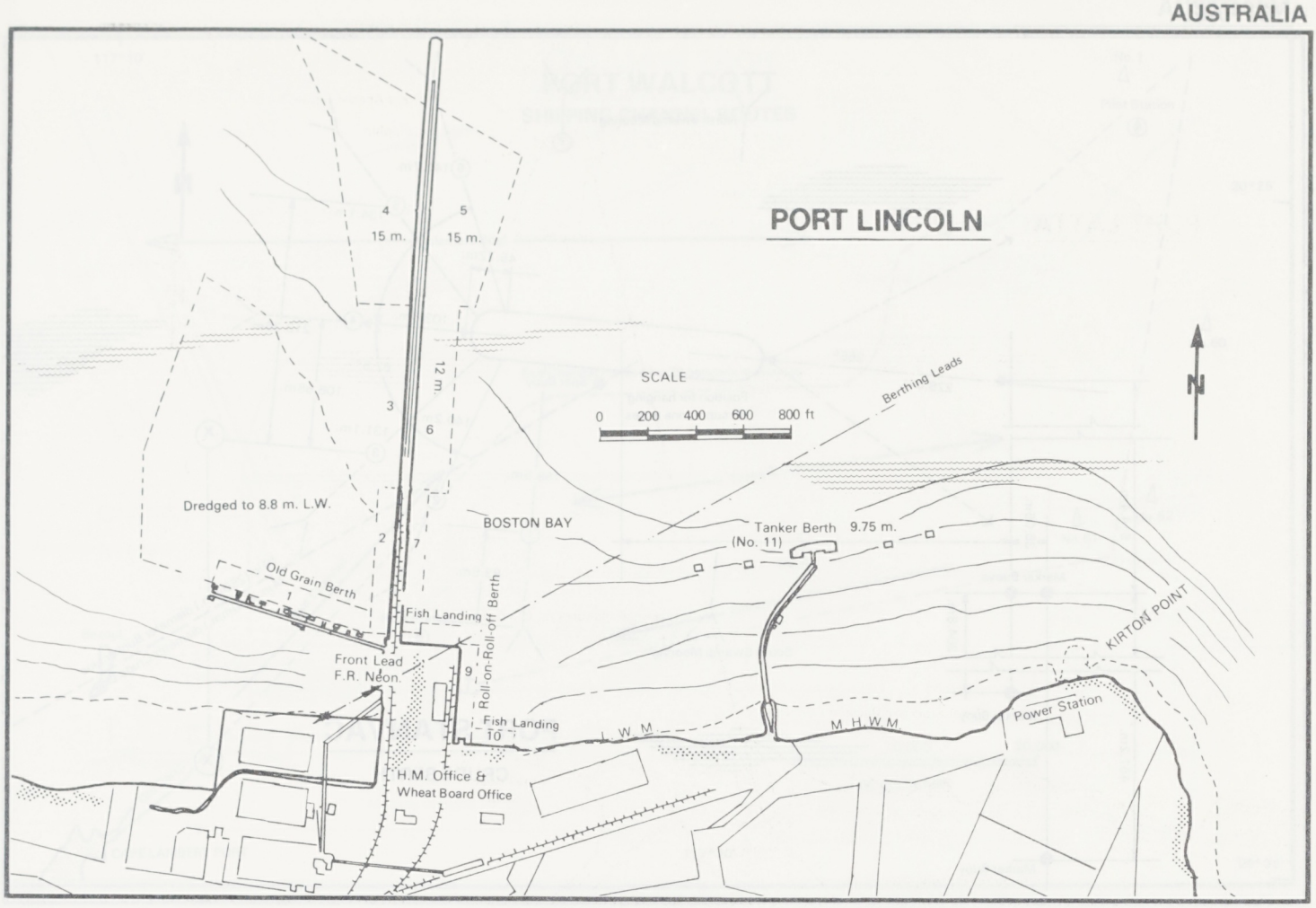
NOTES:

1. Ship must not present itself for loading with hatch coamings more than 17.4m.(57ft.) above I.S.L.W. and this height must not be exceeded during loading.
2. Working range of boom is horizontal to 11 degrees below horizontal.
3. Maximum throw of trimming machine is 18.3m.(60ft.)
4. Travel range between two loading heads along wharf is 149.4m. (490ft.) and the wharf length is 215m.(704ft.)
5. Depth of water at berth and approaches is 11.4m.
6. Minimum size hatch opening (without prior arrangement) with trimmer is 4.9m. × 4.9m.(16ft. × 16ft.).
7. Maximum length of vessel — dependent on shipping conditions — to be arranged with Harbour Master.
8. All dimensions in metres.
9. This drawing is not to scale.

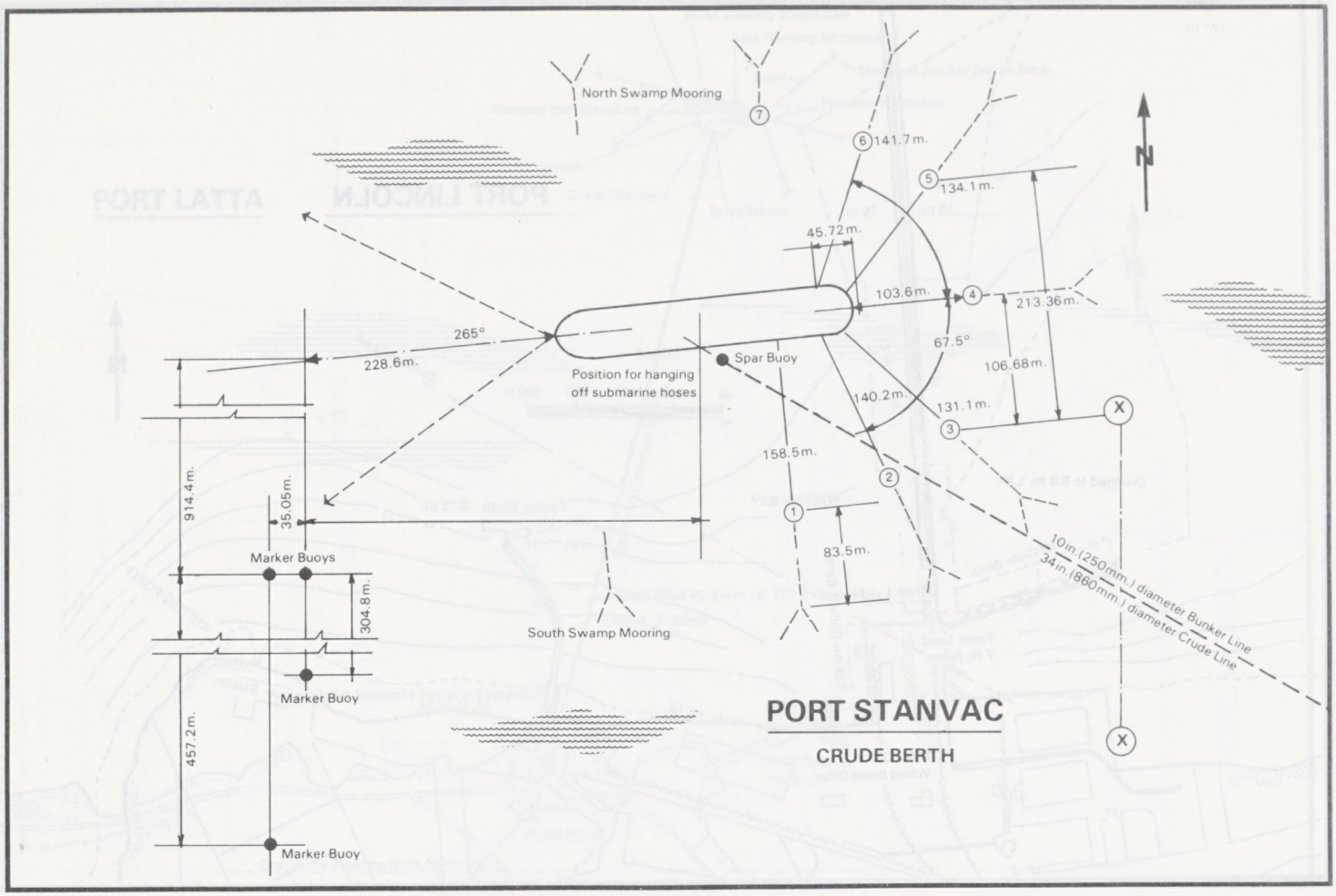


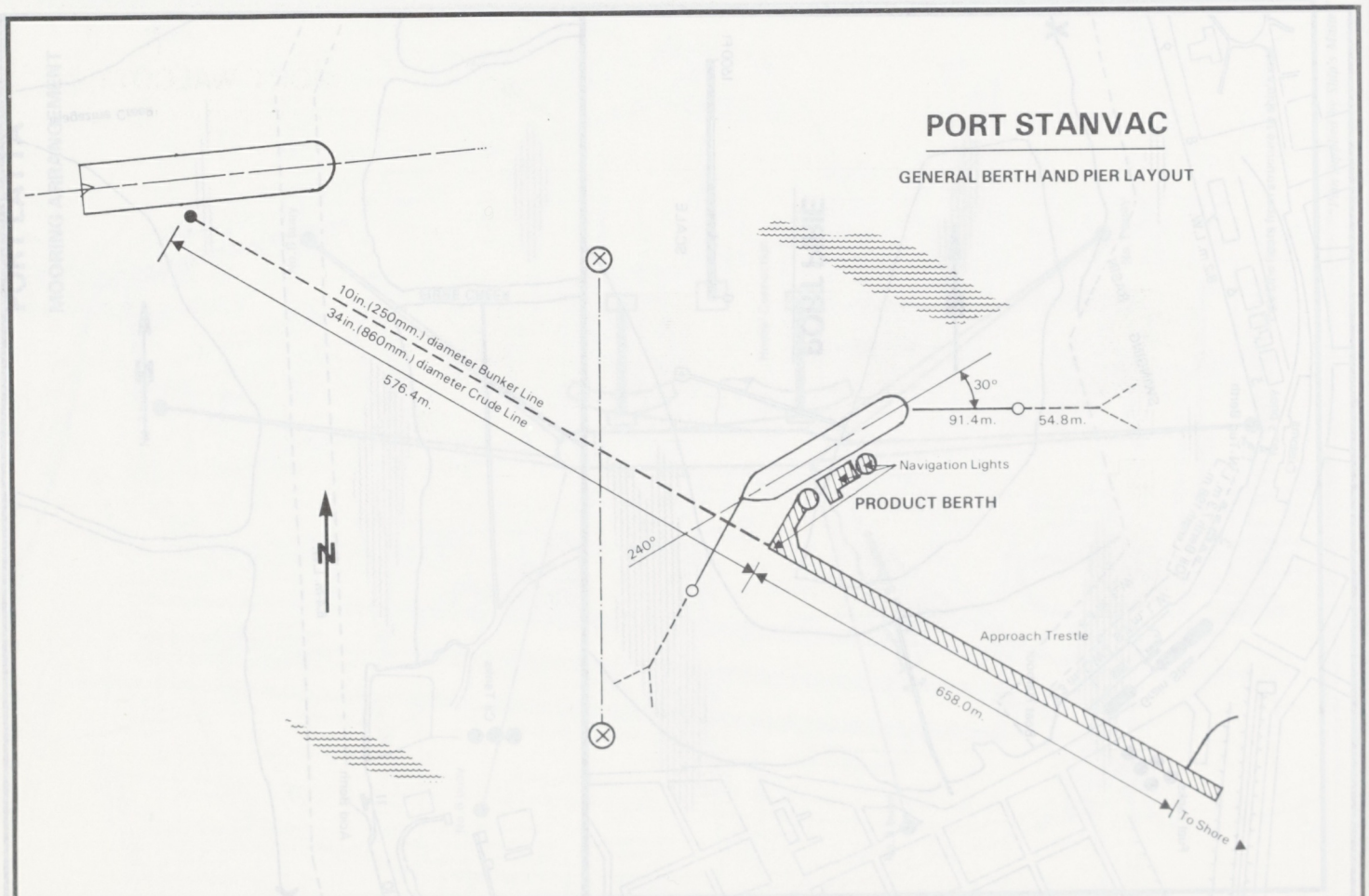


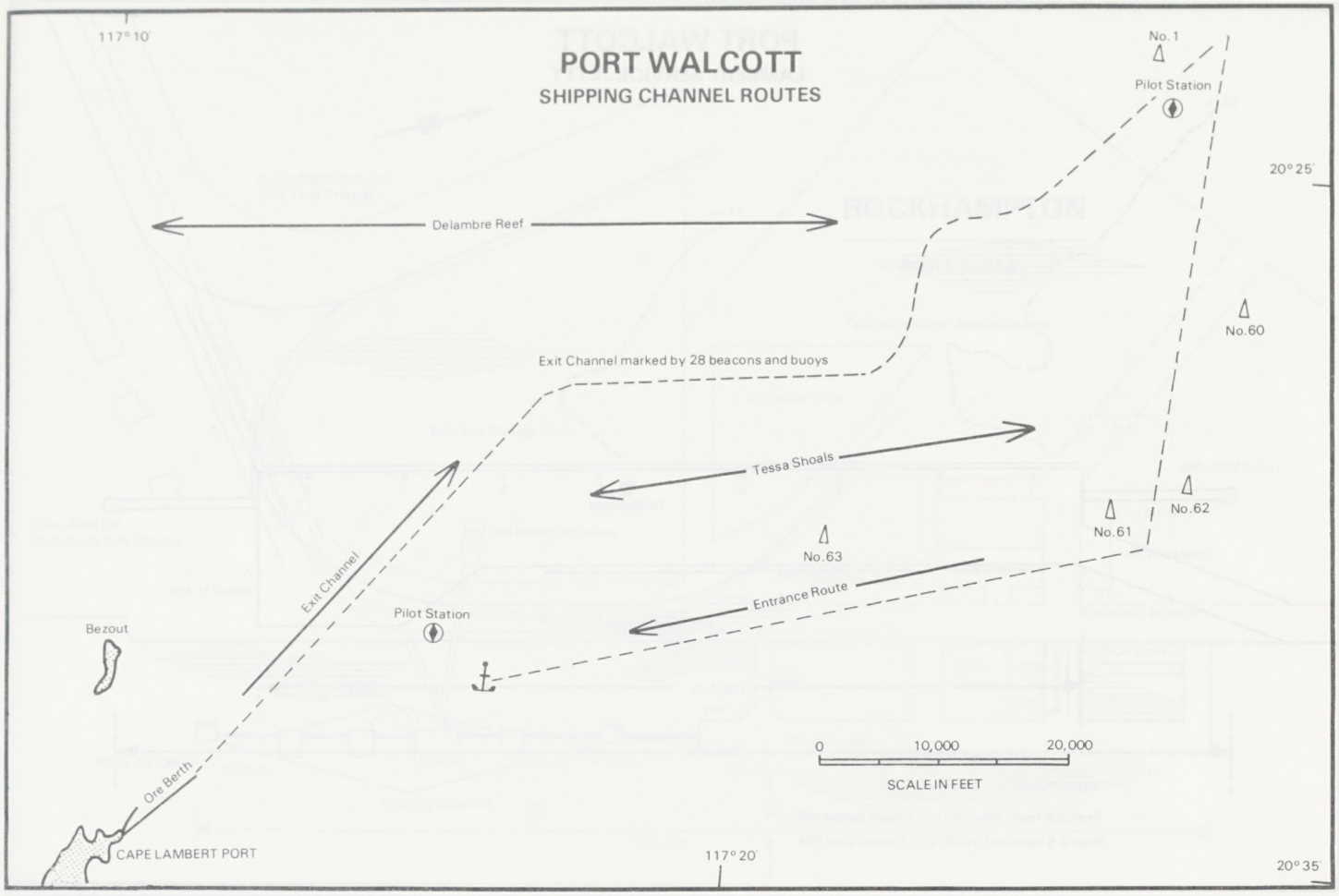
"Plan supplied by Ship's Master".

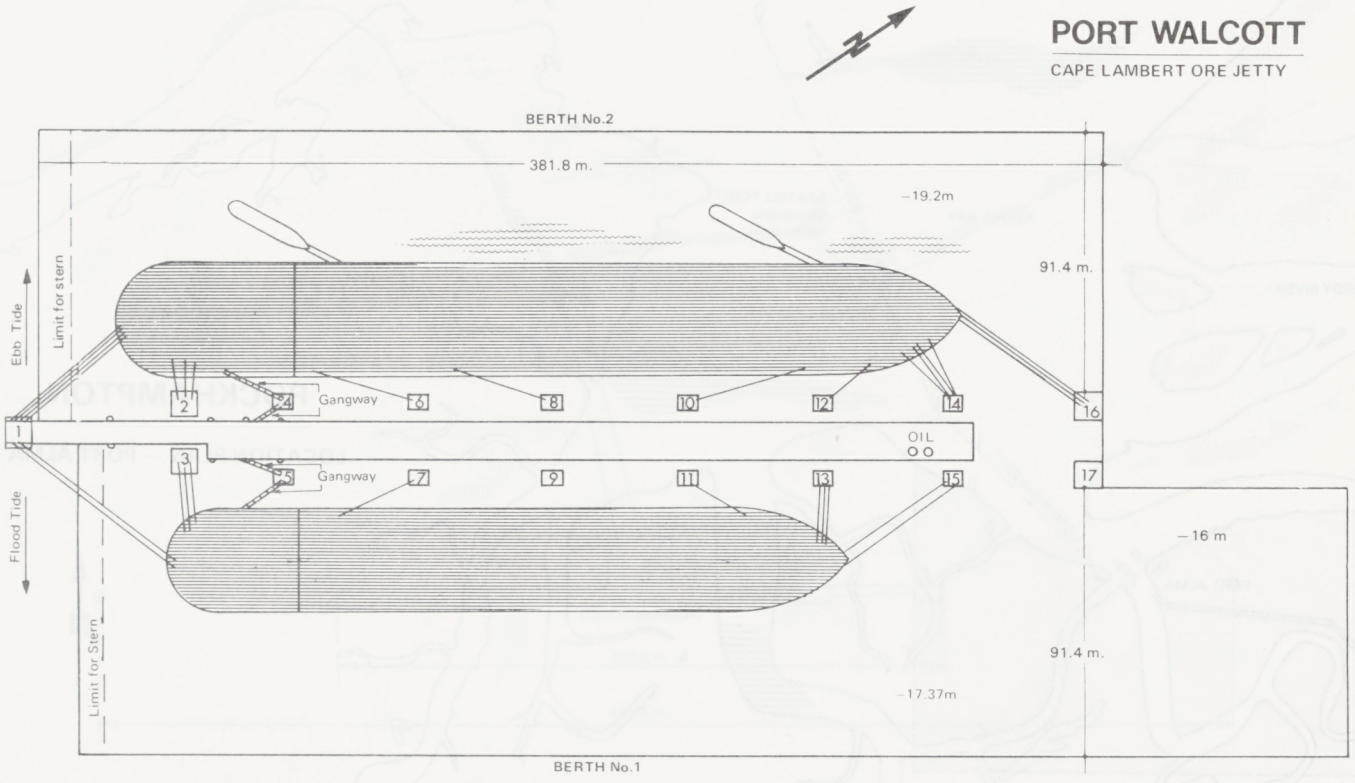

PORT LINCOLN
SCALE
0 200 400 600 800 ft
N
Berthing Leads
4
15 m.
5
15 m.
12 m.
3
6
Dredged to 8.8 m. L.W.
2
7
BOSTON BAY
Tanker Berth 9.75 m.
(No. 11)
Old Grain Berth
1
Fish Landing
Roll-on-Roll-off Berth
Front Lead
F.R. Neon.
9
KIRTON POINT
Fish Landing
10
L.W.M.
M.H.W.M.
Power Station
H.M. Office &
Wheat Board Office

PORT PIRIE
SCALE
1600 Ft
0
N
SWINGING BASIN
8.2 m. L.W.
Customs
Tug Berth
Length 138 m.
3 Berths 7.3 m. L.W.
6.4 m. L.W.
8.2 m. L.W.
7.3 m. L.W.
Grain Silos
Boat Harbour
Fuel Tanks
FIBRE CREEK
Magazine Creek
6.4 m. L.W.
Oil Tanks
Acid Berth


North Swamp Mooring
7
6
141.7m.
5
134.1m.
45.72m.
N
103.6m.
4
213.36m.
265°
228.6m.
67.5°
106.68m.
Spar Buoy
Position for hanging
off submarine hoses
140.2m.
131.1m.
3
X
158.5m.
2
1
914.4m.
35.05m.
83.5m.
Marker Buoys
304.8m.
South Swamp Mooring
10in.(250mm.) diameter Bunker Line
34in.(860mm.) diameter Crude Line
Marker Buoy
457.2m.
PORT STANVAC
CRUDE BERTH
X
Marker Buoy

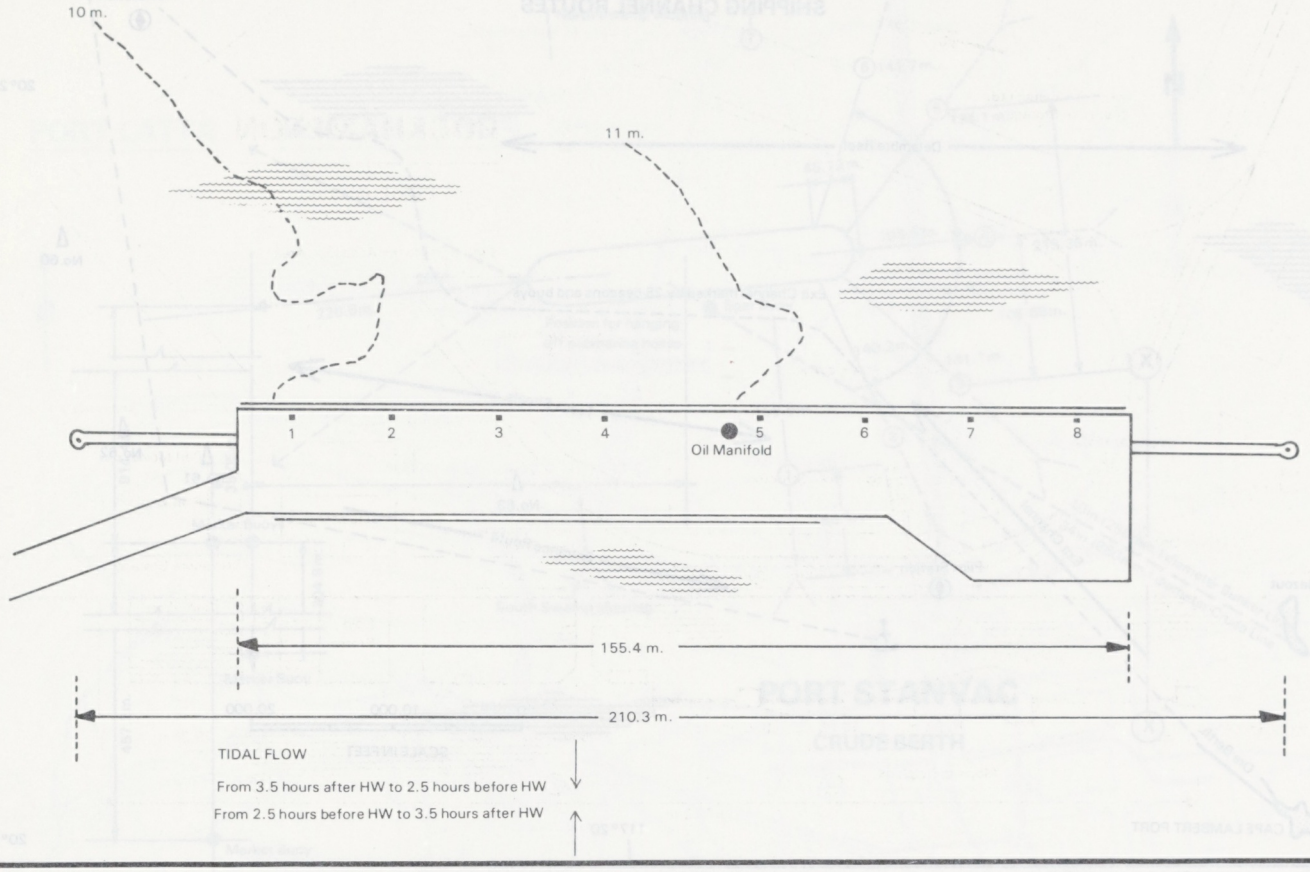

PORT STANVAC
GENERAL BERTH AND PIER LAYOUT
10in.(250mm.) diameter Bunker Line
34in.(860mm.) diameter Crude Line
576.4m.
30°
91.4m.
54.8m.
Navigation Lights
PRODUCT BERTH
N
240°
Approach Trestle
658.0m.
To Shore

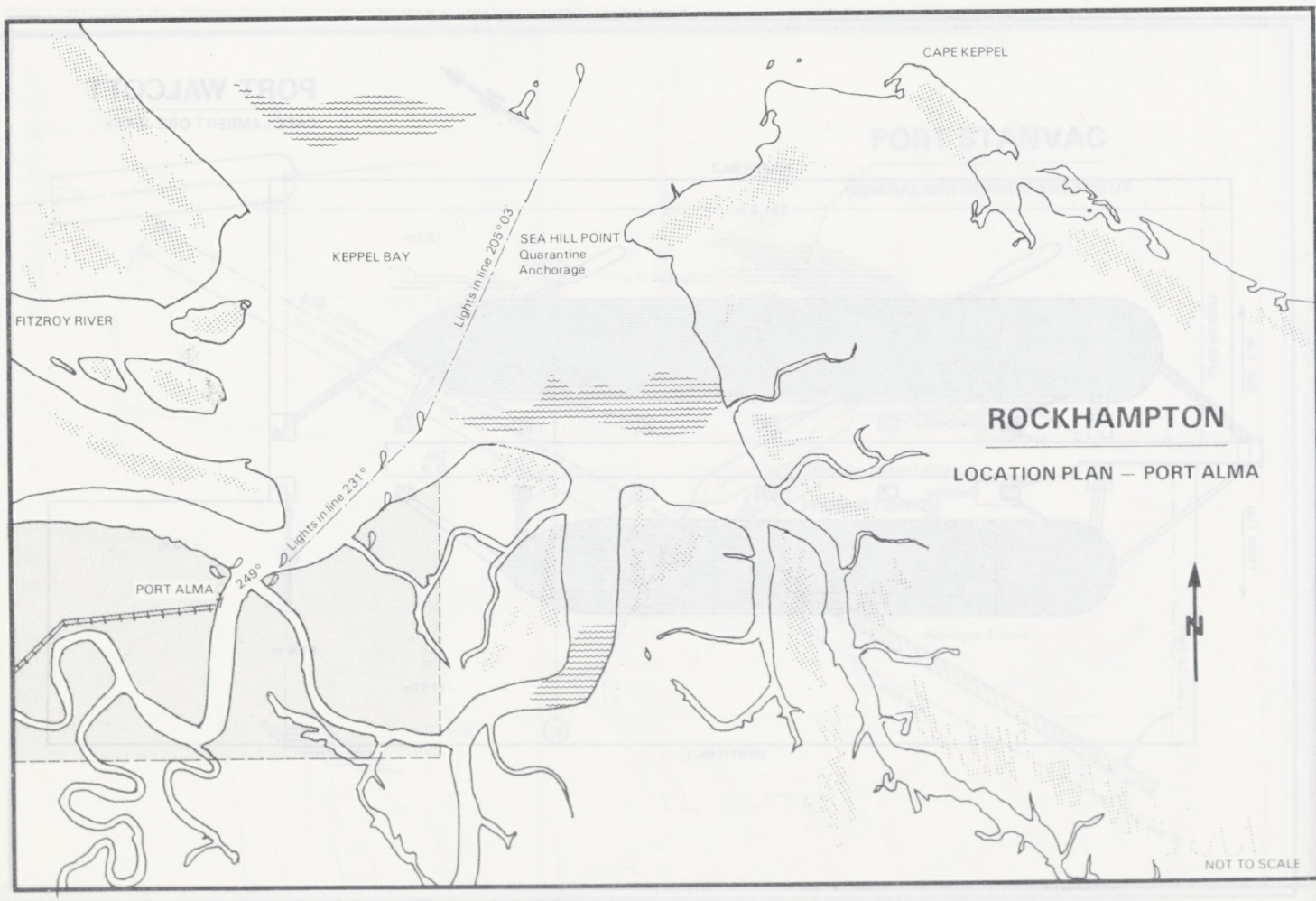

117° 10'
PORT WALCOTT
SHIPPING CHANNEL ROUTES
No. 1
Pilot Station
20° 25'
Delambre Reef
No. 60
Exit Channel marked by 28 beacons and buoys
Tessa Shoals
No. 62
No. 61
No. 63
Exit Channel
Entrance Route
Pilot Station
Bezout
0
10,000
20,000
SCALE IN FEET
Ore Berth
CAPE LAMBERT PORT
117° 20'
20° 35'


PORT WALCOTT
CAPE LAMBERT ORE JETTY
BERTH No.2
381.8 m.
-19.2m
91.4 m.
Ebb Tide
Limit for stern
Gangway
Gangway
OIL
Flood Tide
Limit for Stern
-16 m
91.4 m.
-17.37m
BERTH No.1

PORT WALCOTT

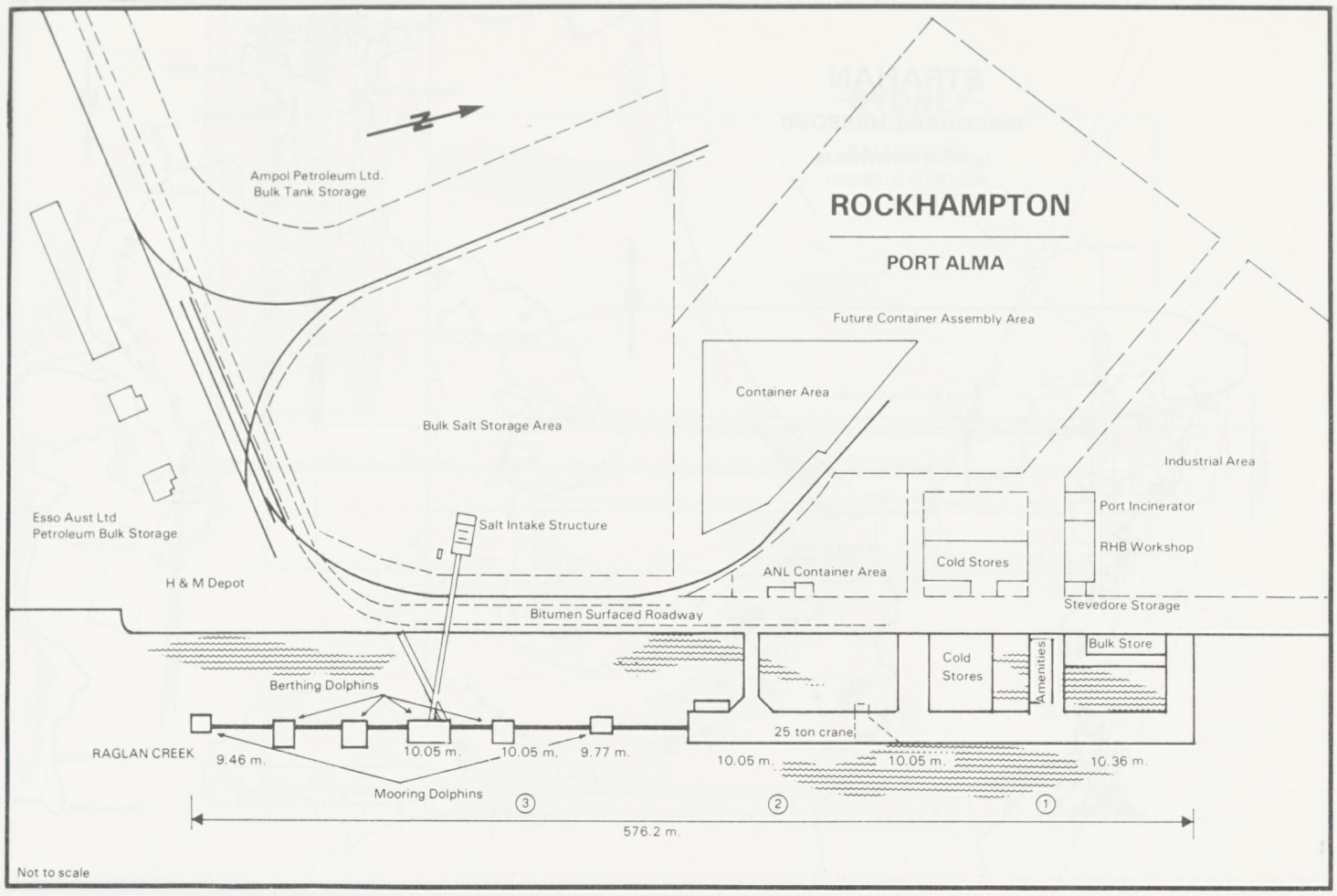
LAMBERT SERVICE JETTY

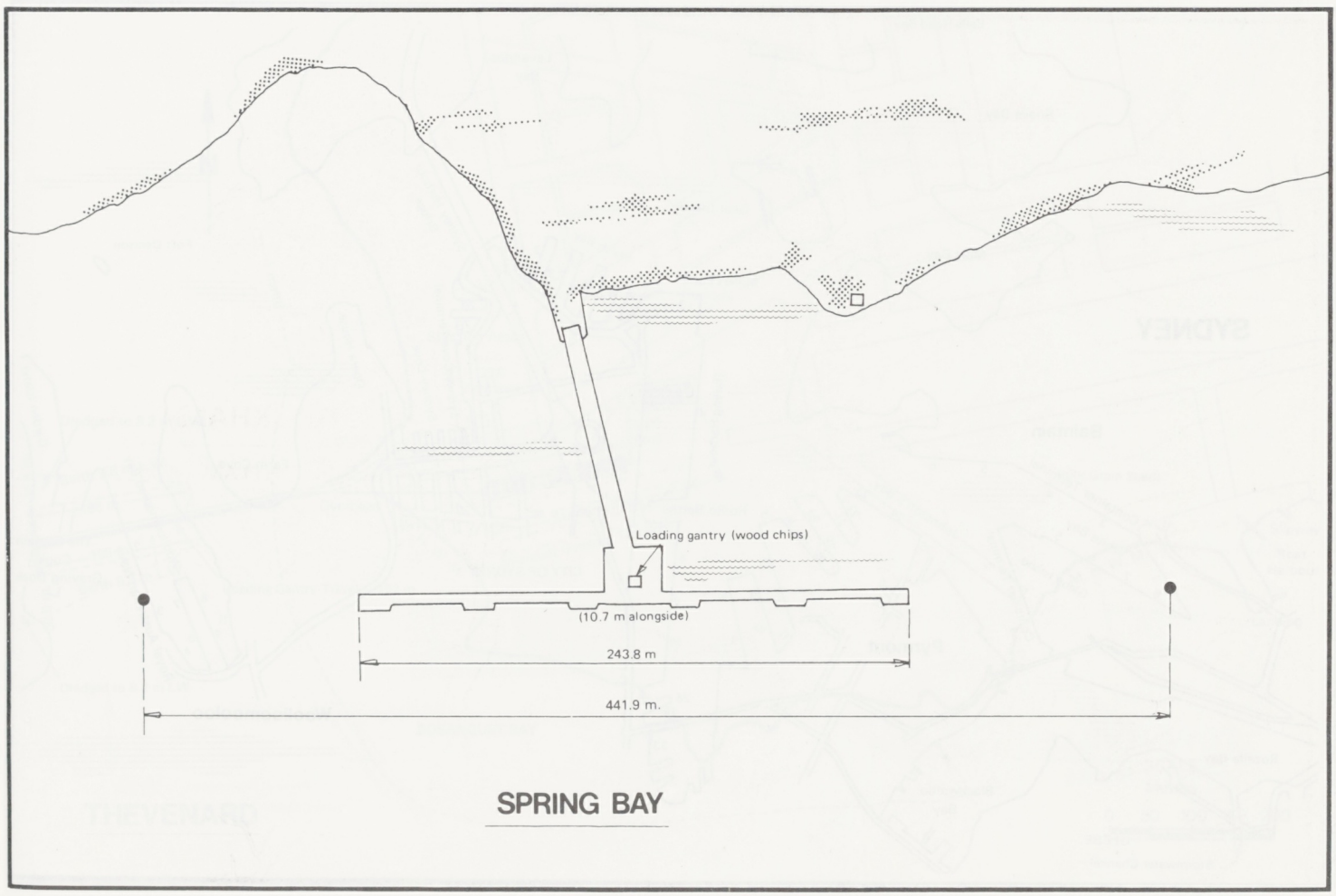




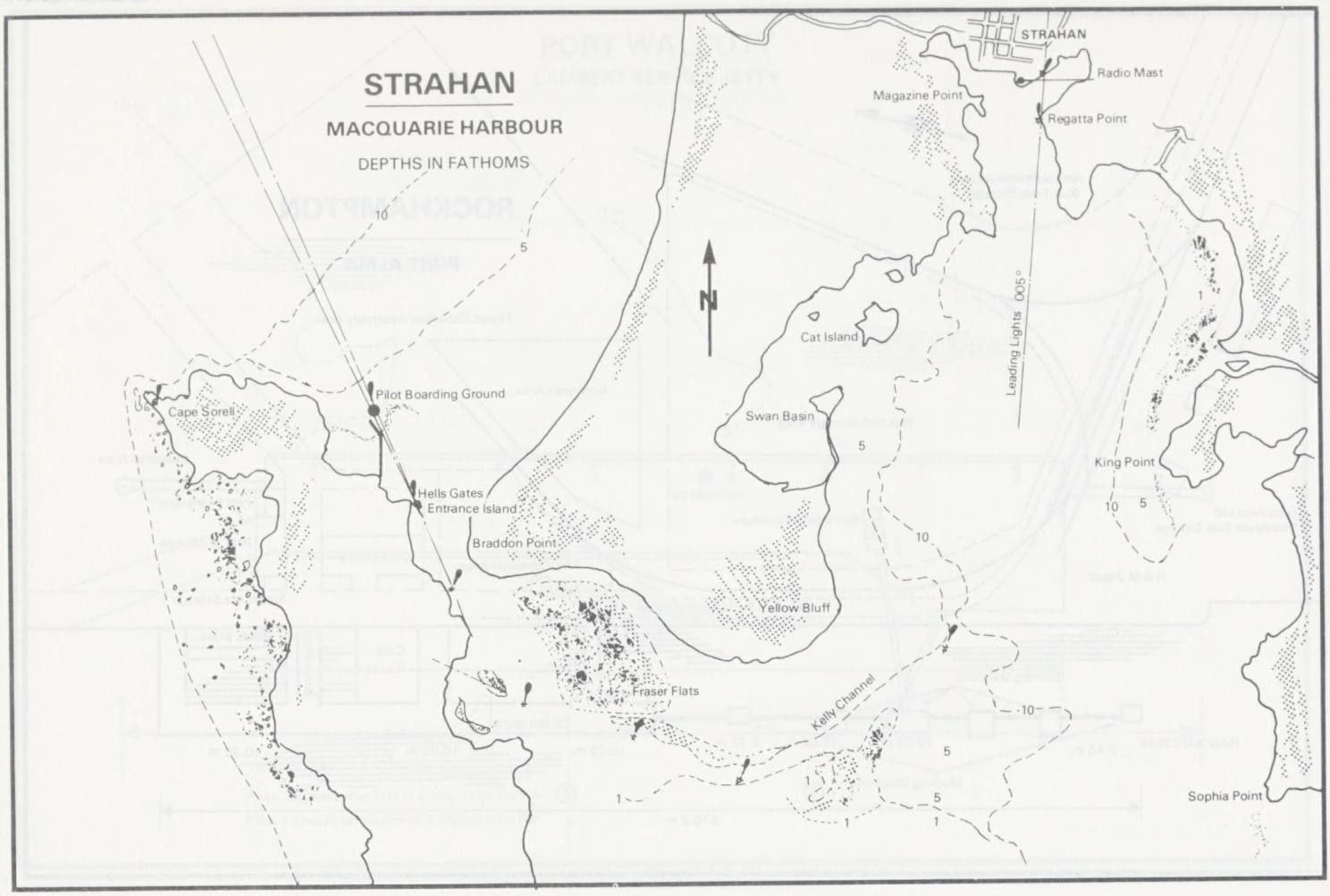
ROCKHAMPTON

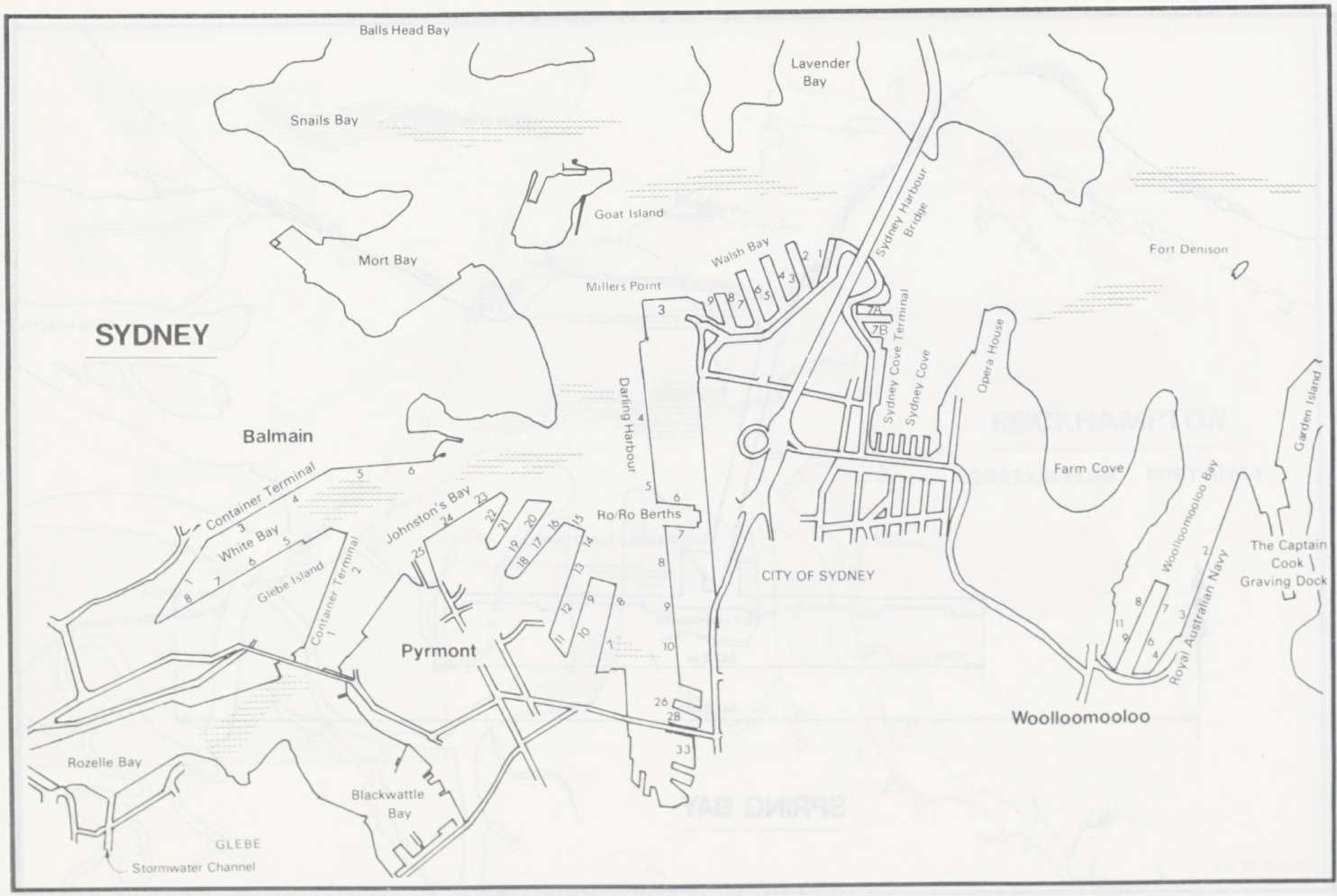
LOCATION PLAN — PORT ALMA

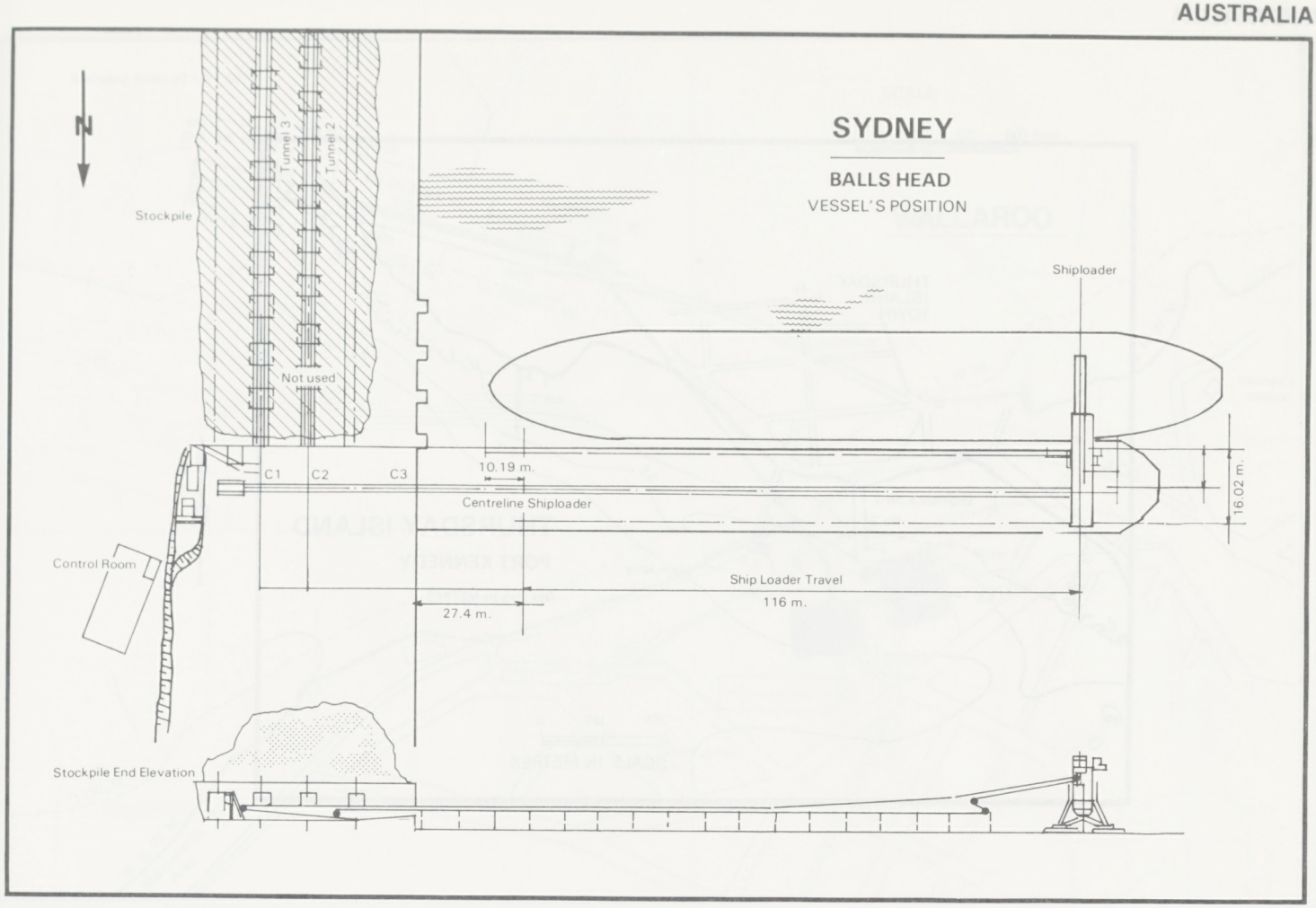

ROCKHAMPTON
PORT ALMA
Ampol Petroleum Ltd.
Bulk Tank Storage
Future Container Assembly Area
Container Area
Bulk Salt Storage Area
Industrial Area
Esso Aust Ltd
Petroleum Bulk Storage
Salt Intake Structure
Port Incinerator
RHB Workshop
H & M Depot
ANL Container Area
Cold Stores
Stevedore Storage
Bitumen Surfaced Roadway
Berthing Dolphins
Cold Stores
Amenities
Bulk Store
25 ton crane
RAGLAN CREEK
9.46 m.
10.05 m.
10.05 m.
9.77 m.
10.05 m.
10.05 m.
10.36 m.
Mooring Dolphins
3
2
1
576.2 m.
Not to scale

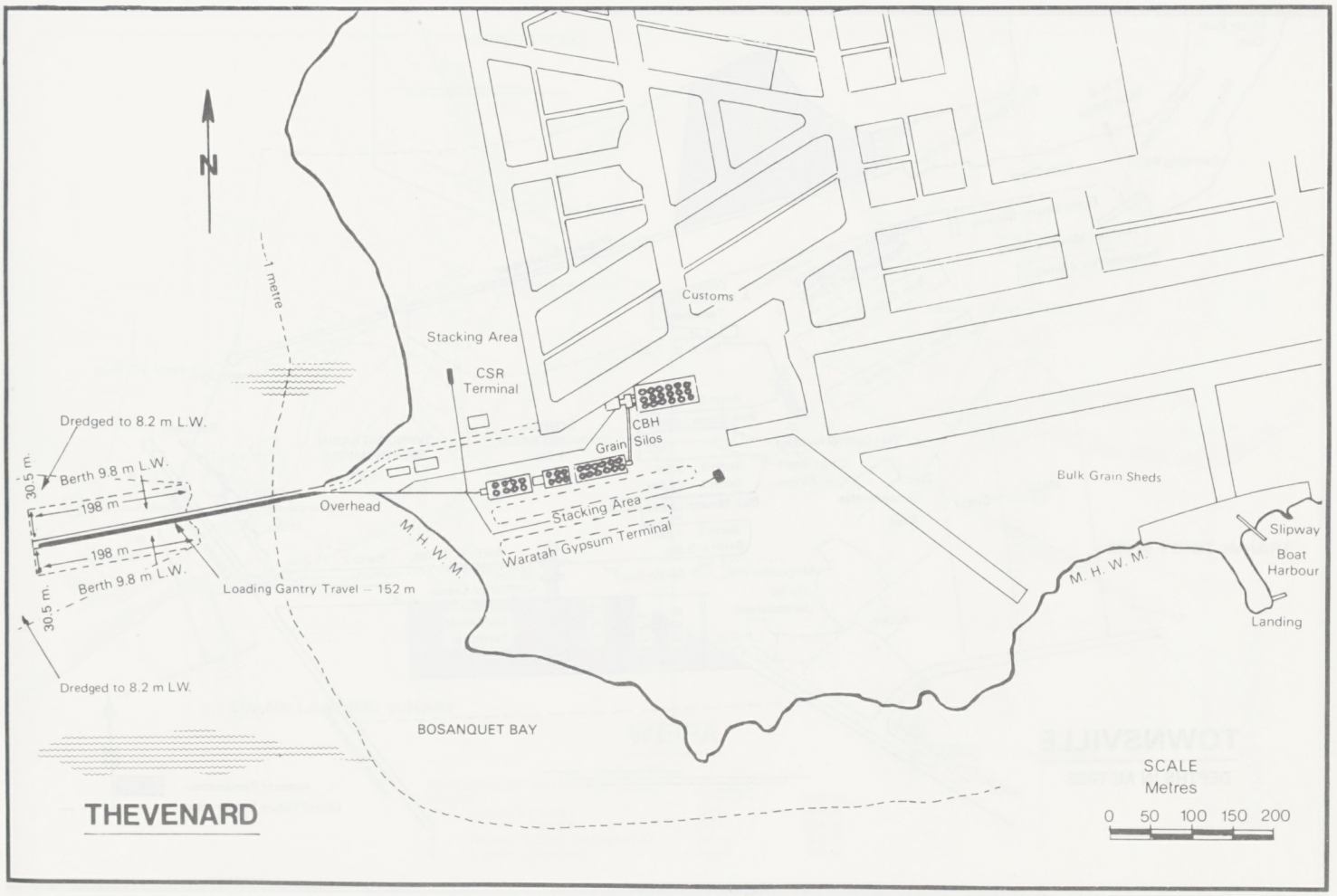

Loading gantry (wood chips)
(10.7 m alongside)
243.8 m
441.9 m.

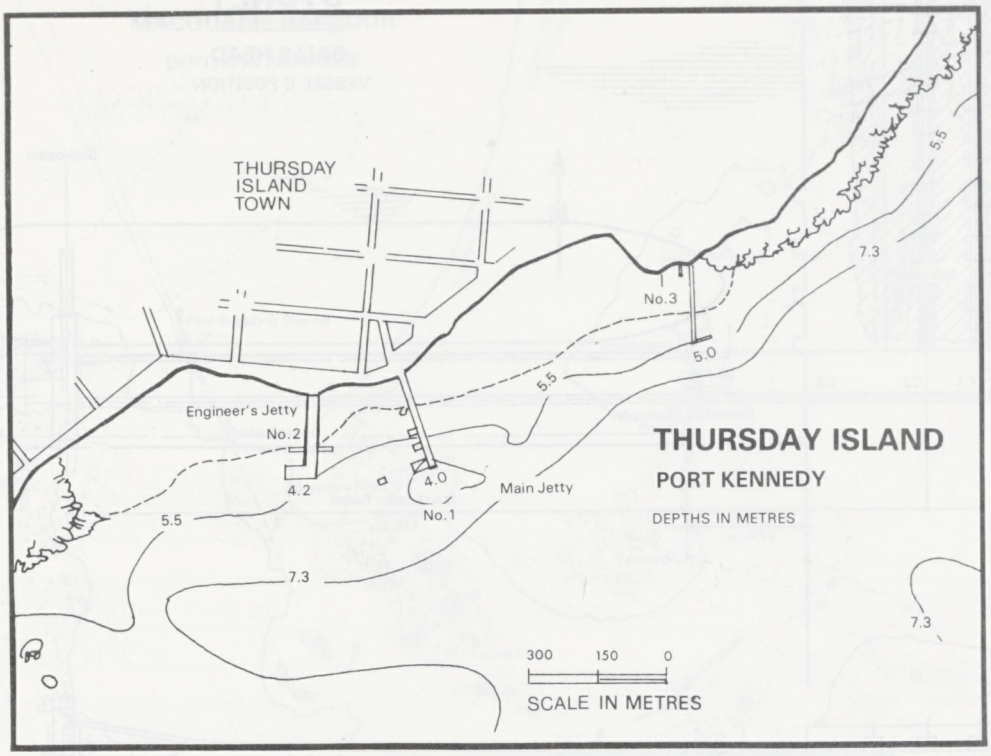
SPRING BAY

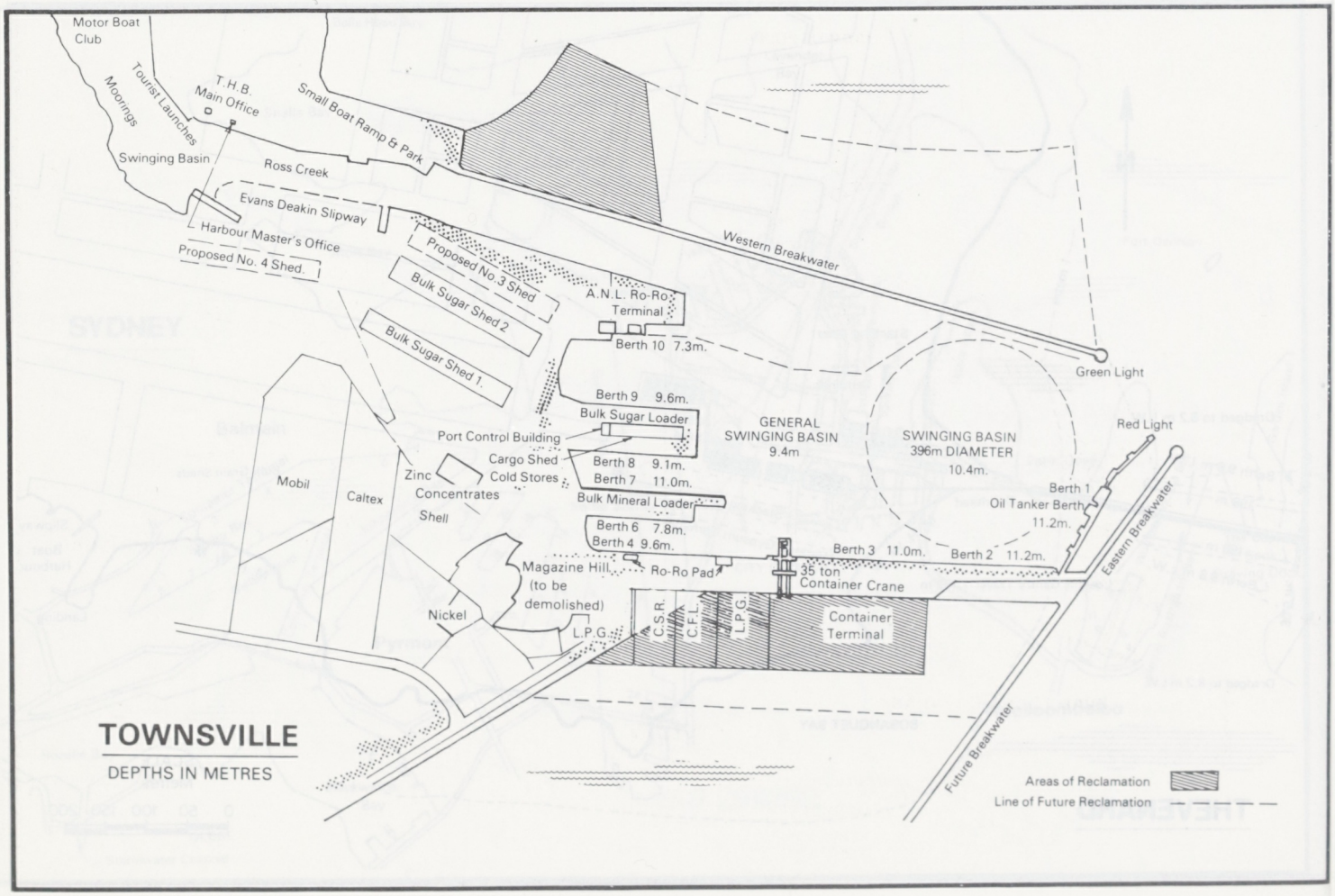

STRAHAN
MACQUARIE HARBOUR
DEPTHS IN FATHOMS
STRAHAN
Radio Mast
Magazine Point
Regatta Point
Leading Lights 005°
Cat Island
Swan Basin
King Point
Pilot Boarding Ground
Cape Sorell
Hells Gates
Entrance Island
Braddon Point
Yellow Bluff
Fraser Flats
Kelly Channel
Sophia Point
10
5
1

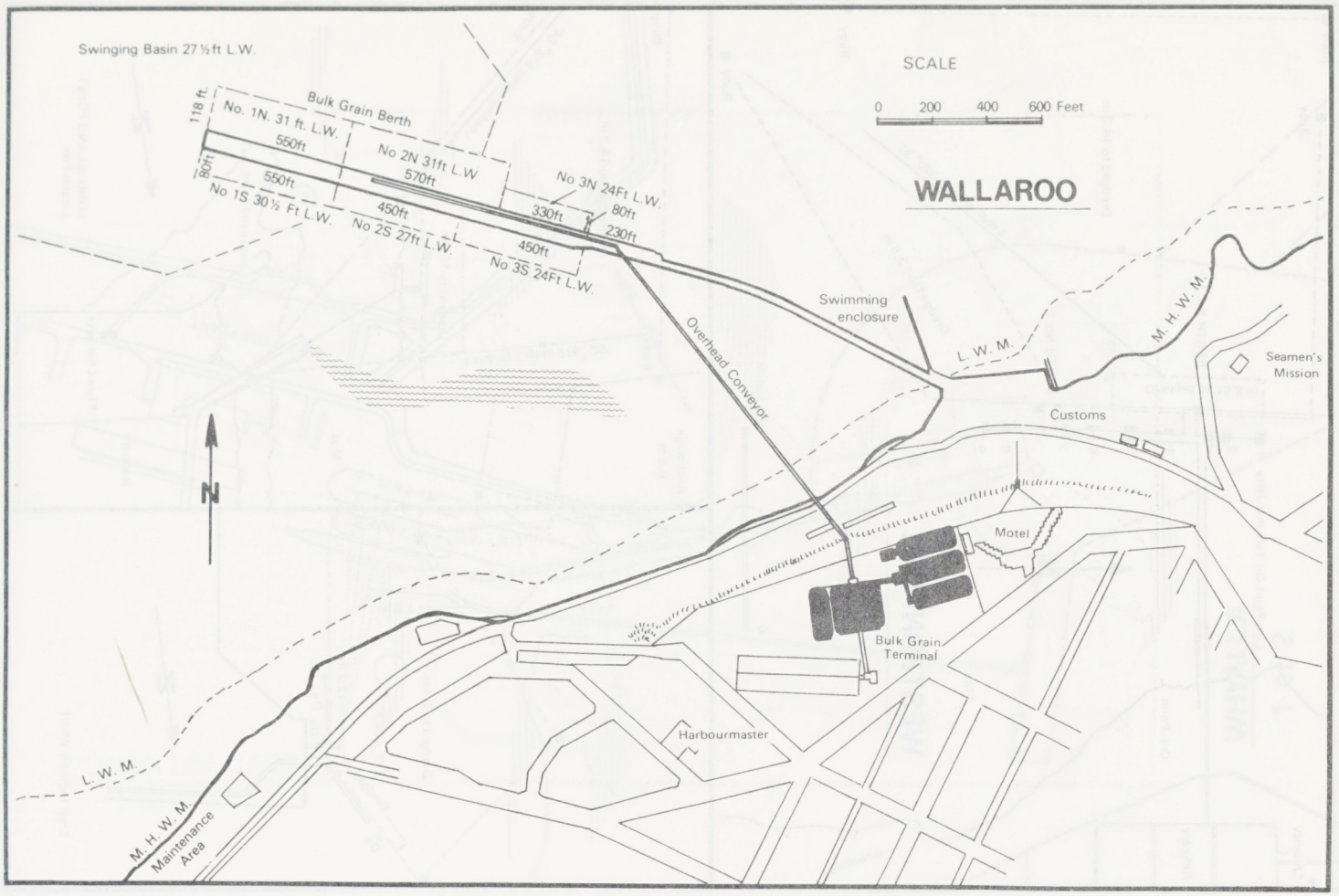

SYDNEY
Balls Head Bay
Snails Bay
Mort Bay
Goat Island
Lavender Bay
Walsh Bay
Millers Point
Sydney Harbour Bridge
Fort Denison
Darling Harbour
Sydney Cove Terminal
Sydney Cove
Opera House
Balmain
Container Terminal
White Bay
Glebe Island
Container Terminal
Johnston's Bay
Ro/Ro Berths
Farm Cove
Garden Island
Woolloomooloo Bay
The Captain Cook Graving Dock
Royal Australian Navy
CITY OF SYDNEY
Pyrmont
Woolloomooloo
Rozelle Bay
Blackwattle Bay
GLEBE
Stormwater Channel

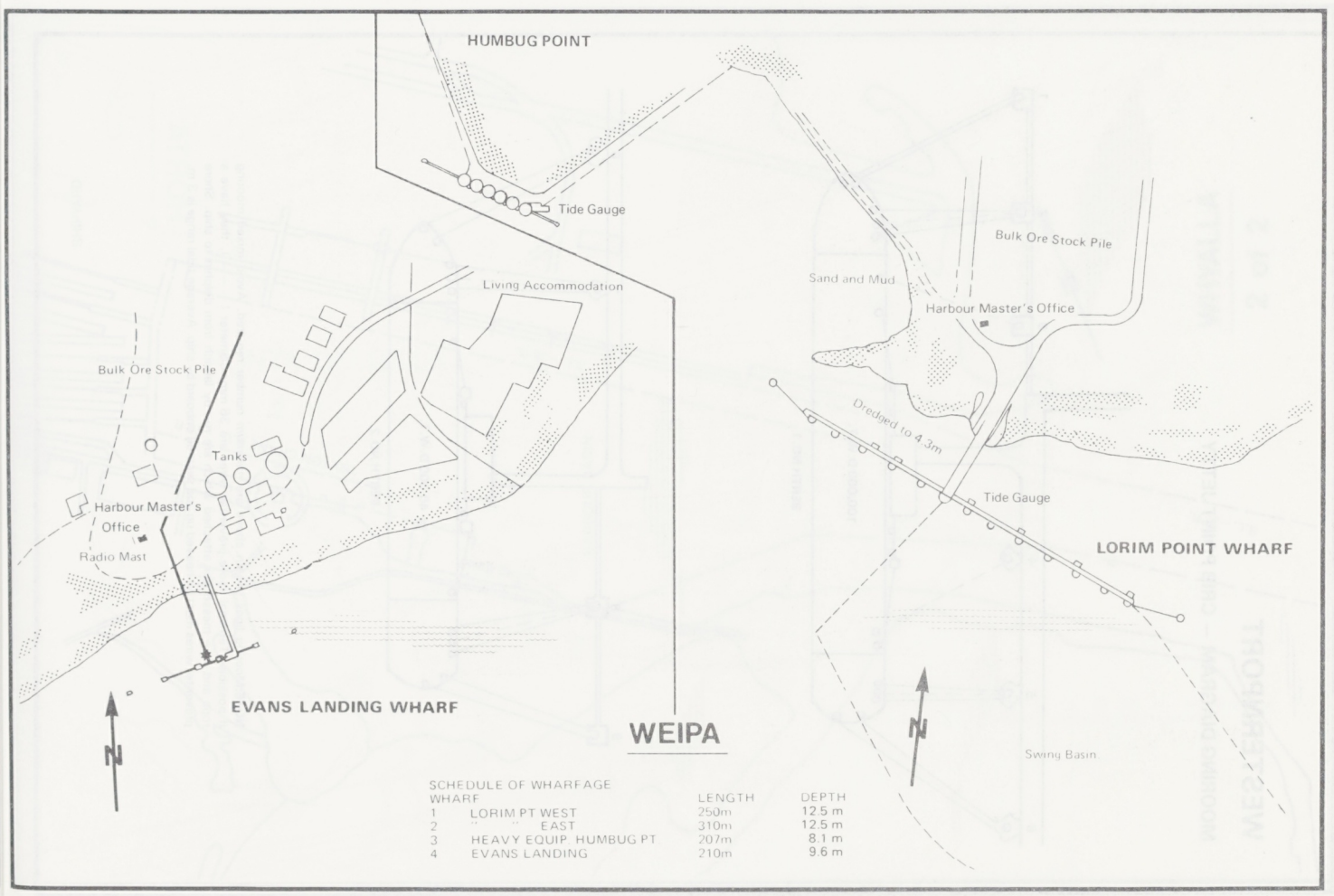

N
SYDNEY
BALLS HEAD
VESSEL'S POSITION
Stockpile
Tunnel 3
Tunnel 2
Not used
Shiploader
C1
C2
C3
10.19 m.
Centreline Shiploader
16.02 m.
Control Room
Ship Loader Travel
116 m.
27.4 m.
Stockpile End Elevation


N
1 metre
Customs
Stacking Area
CSR Terminal
CBH Grain Silos
Dredged to 8.2 m L.W.
30.5 m.
Berth 9.8 m L.W.
198 m
Overhead
M. H. W. M.
Stacking Area
Waratah Gypsum Terminal
Bulk Grain Sheds
Slipway
Boat Harbour
M. H. W. M.
Landing
198 m
Berth 9.8 m L.W.
30.5 m.
Loading Gantry Travel – 152 m
Dredged to 8.2 m L.W.
BOSANQUET BAY
THEVENARD
SCALE
Metres
0 50 100 150 200


THURSDAY ISLAND TOWN
No.3
5.5
7.3
5.0
5.5
Engineer's Jetty
No.2
4.2
4.0
No.1
Main Jetty
5.5
7.3
7.3
THURSDAY ISLAND
PORT KENNEDY
DEPTHS IN METRES
300 150 0
SCALE IN METRES


Motor Boat Club
Tourist Launches
Moorings
T.H.B. Main Office
Small Boat Ramp & Park
Swinging Basin
Ross Creek
Evans Deakin Slipway
Harbour Master's Office
Proposed No. 4 Shed.
Proposed No. 3 Shed
Bulk Sugar Shed 2
Bulk Sugar Shed 1.
Western Breakwater
A.N.L. Ro-Ro Terminal
Berth 10 7.3m.
Green Light
Berth 9 9.6m.
Bulk Sugar Loader
Port Control Building
Cargo Shed
Cold Stores
Berth 8 9.1m.
Berth 7 11.0m.
GENERAL SWINGING BASIN 9.4m
SWINGING BASIN 396m DIAMETER 10.4m.
Red Light
Mobil
Caltex
Zinc Concentrates
Shell
Bulk Mineral Loader
Berth 6 7.8m.
Berth 4 9.6m.
Berth 1 Oil Tanker Berth 11.2m.
Eastern Breakwater
Berth 3 11.0m.
Berth 2 11.2m.
Magazine Hill (to be demolished)
Ro-Ro Pad
35 ton Container Crane
Nickel
L.P.G.
C.S.R.
C.F.L.
L.P.G.
Container Terminal
TOWNSVILLE
DEPTHS IN METRES
Future Breakwater
Areas of Reclamation
Line of Future Reclamation



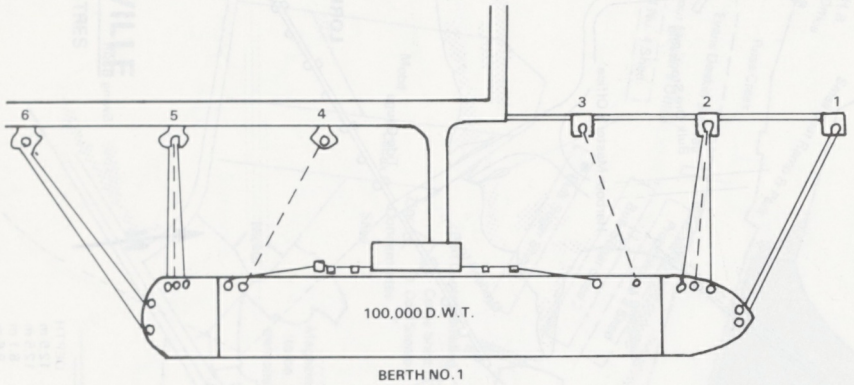


SCHEDULE OF WHARFAGE

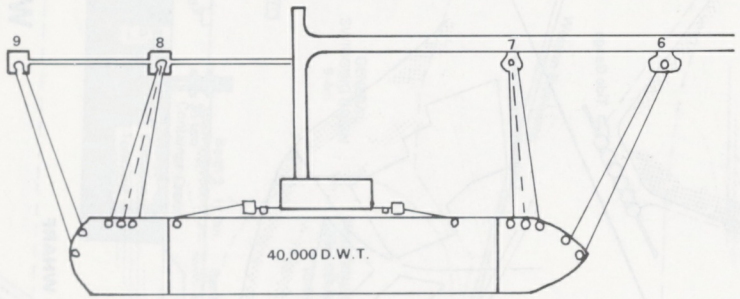
WHARF		LENGTH	DEPTH
1	LORIM PT WEST	250m	12.5 m
2	" " EAST	310m	12.5 m
3	HEAVY EQUIP. HUMBUG PT	207m	8.1 m
4	EVANS LANDING	210m	9.6 m

WESTERNPORT

MOORING DIAGRAM — CRIB POINT JETTY

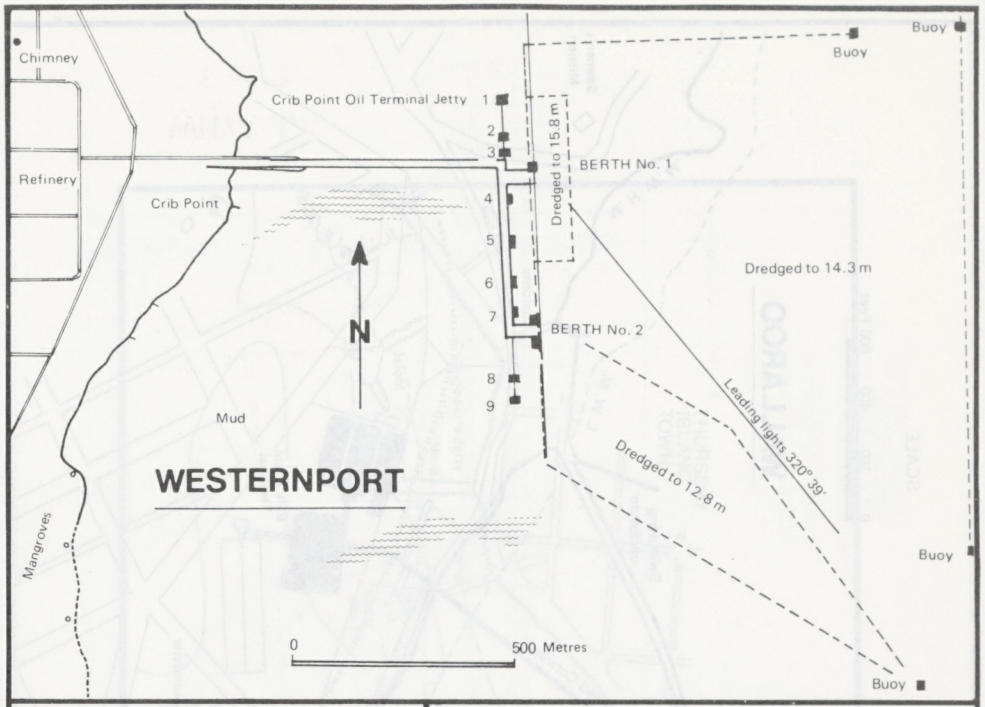


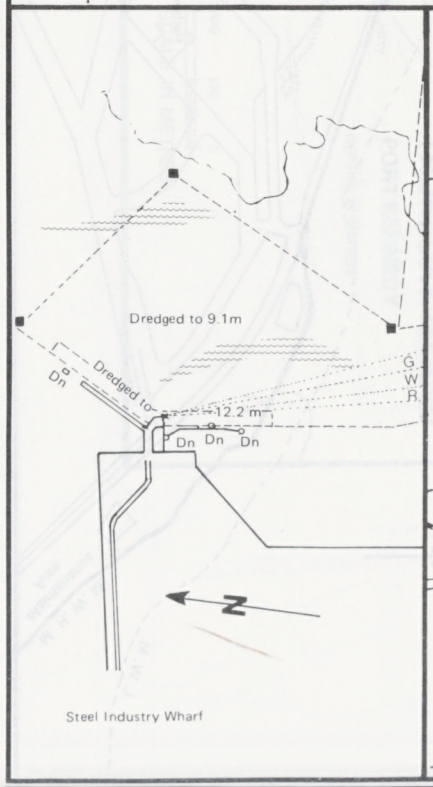
BERTH NO.1

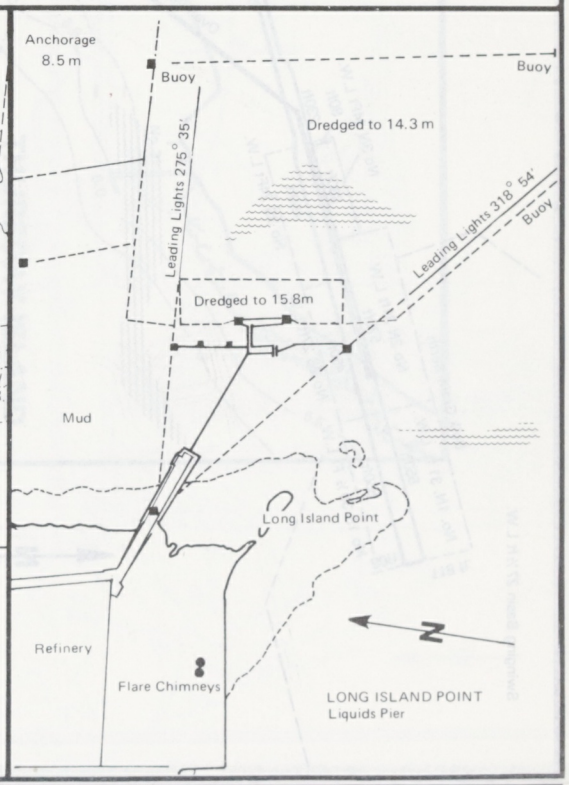


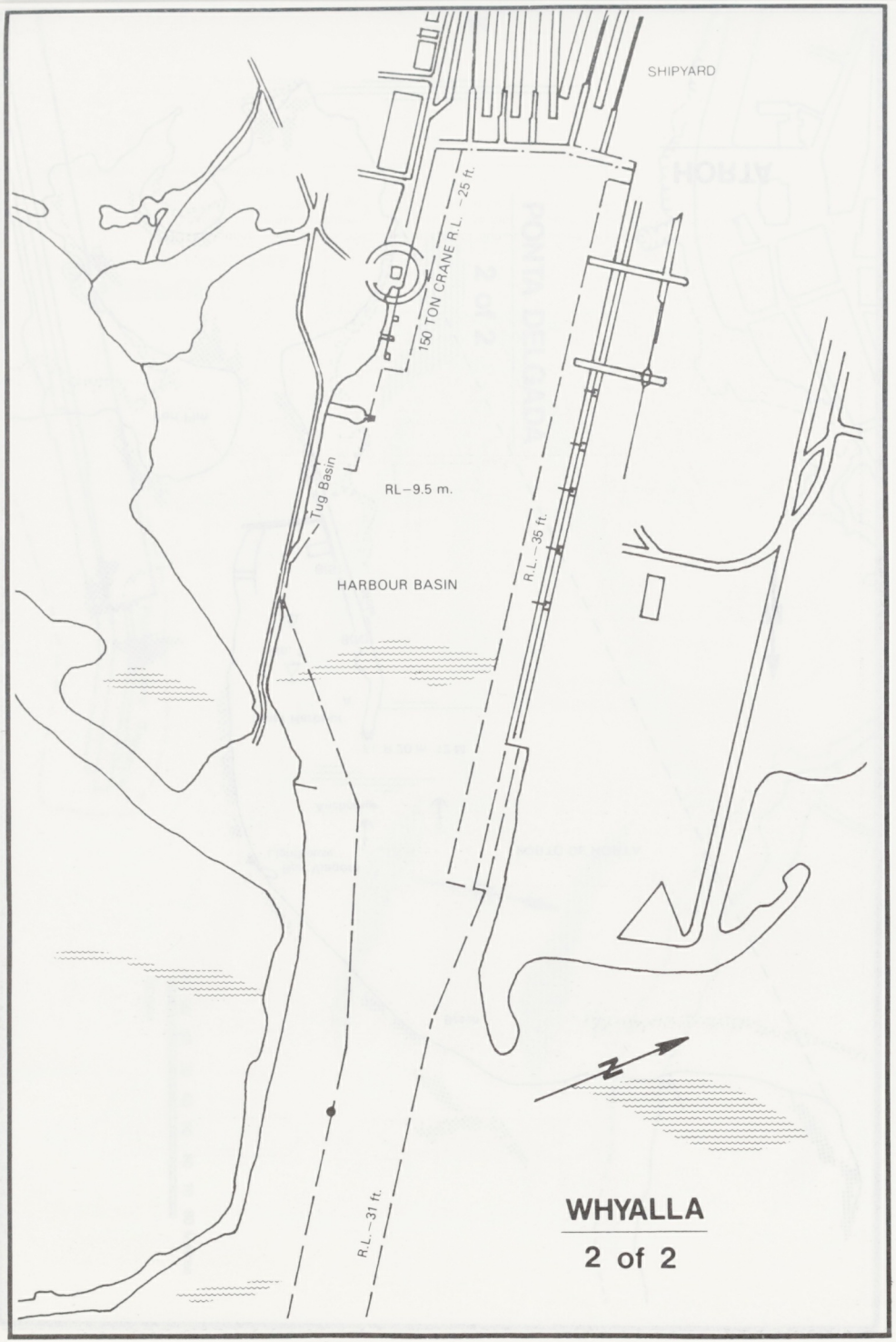
BERTH NO.2

NOTE:Mooring lines shown above are *minimum* number required. Avoid mixed mooring if possible. Terminal shore preventer wires are 36 mm. diameter (– – –), they have a rope and wire messenger attached which are run by launch from dolphin to ship. Shore preventer wires must be heaved up and secured onboard by ship. Average tidal range is 3 m.



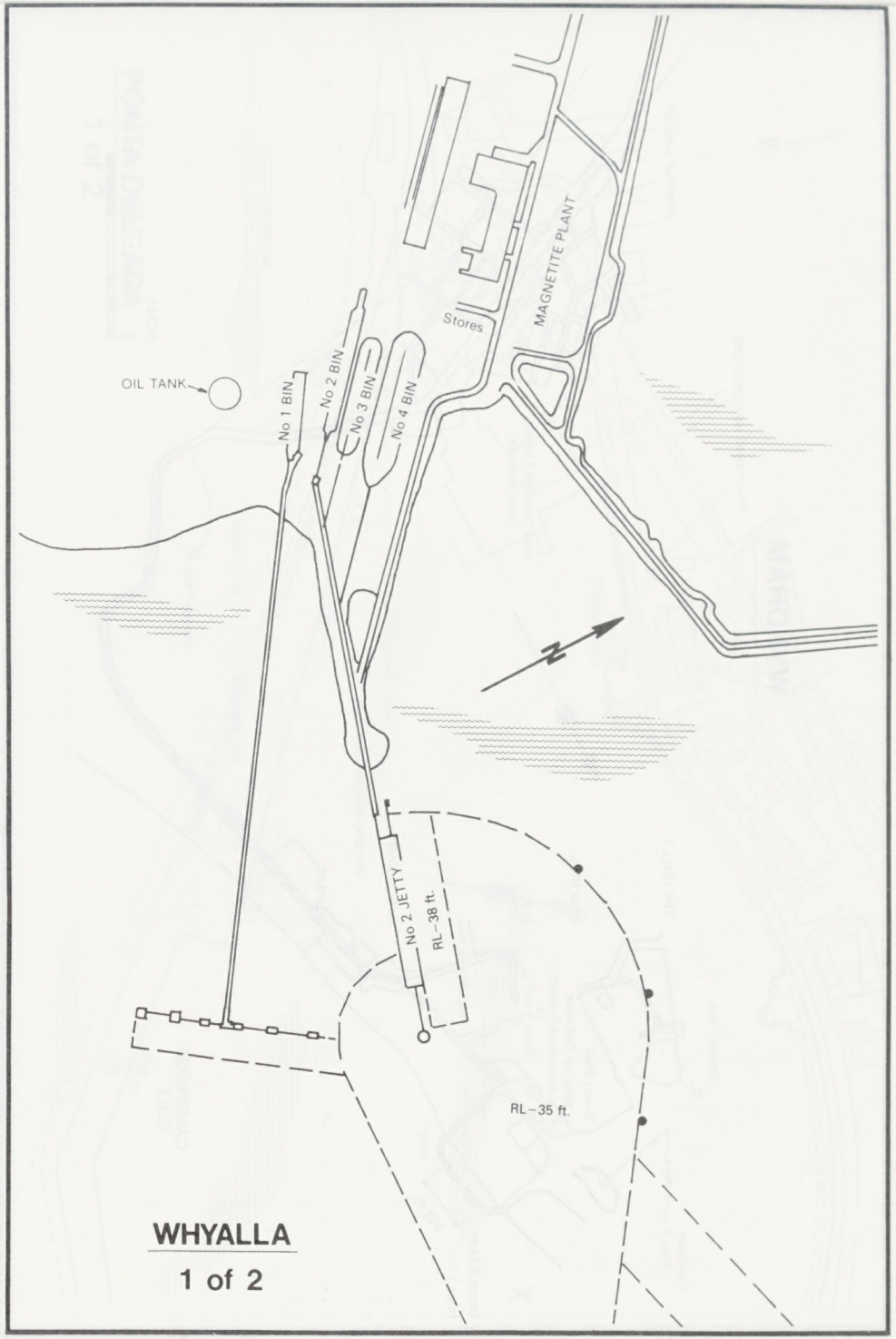






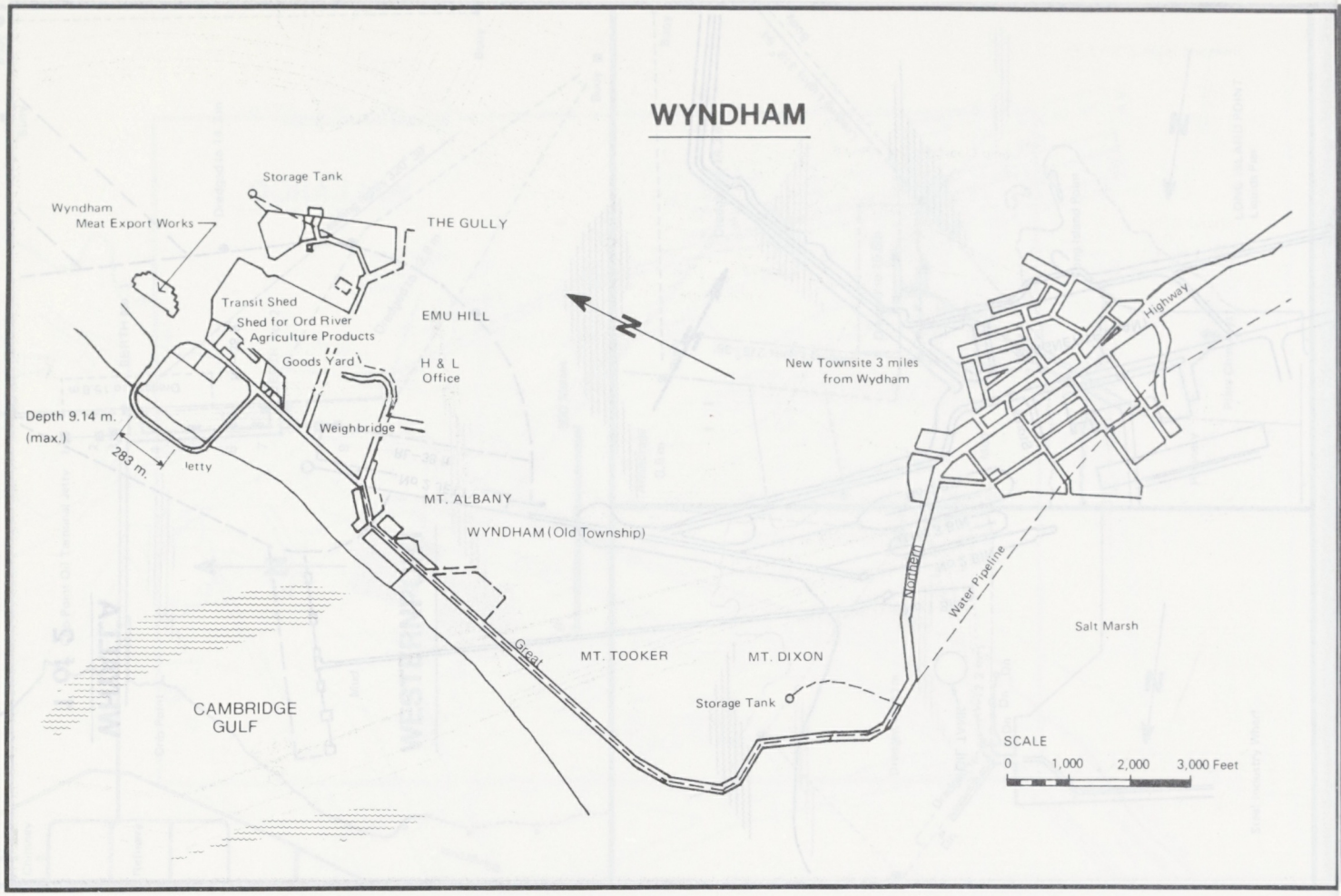
WHYALLA

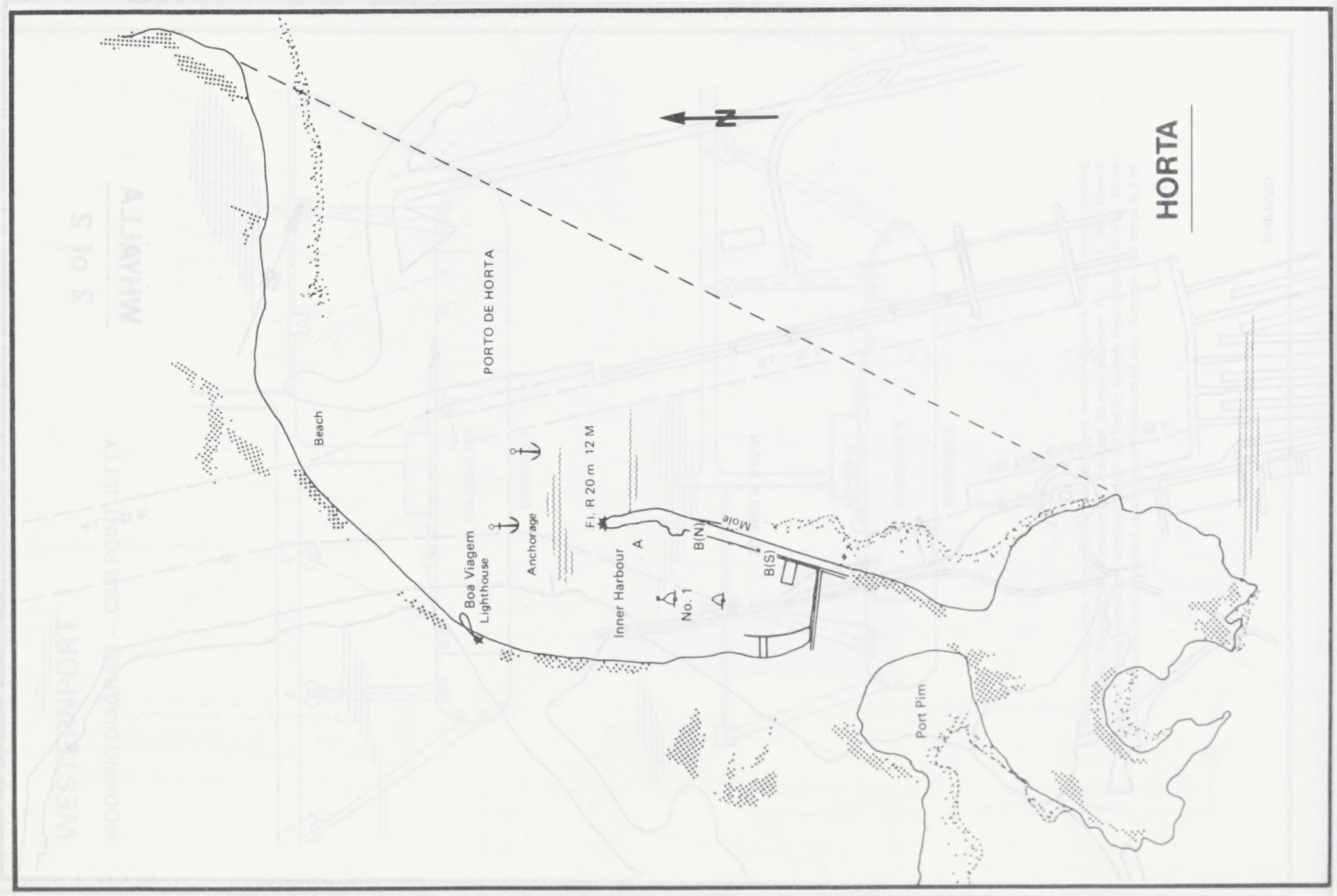
2 of 2

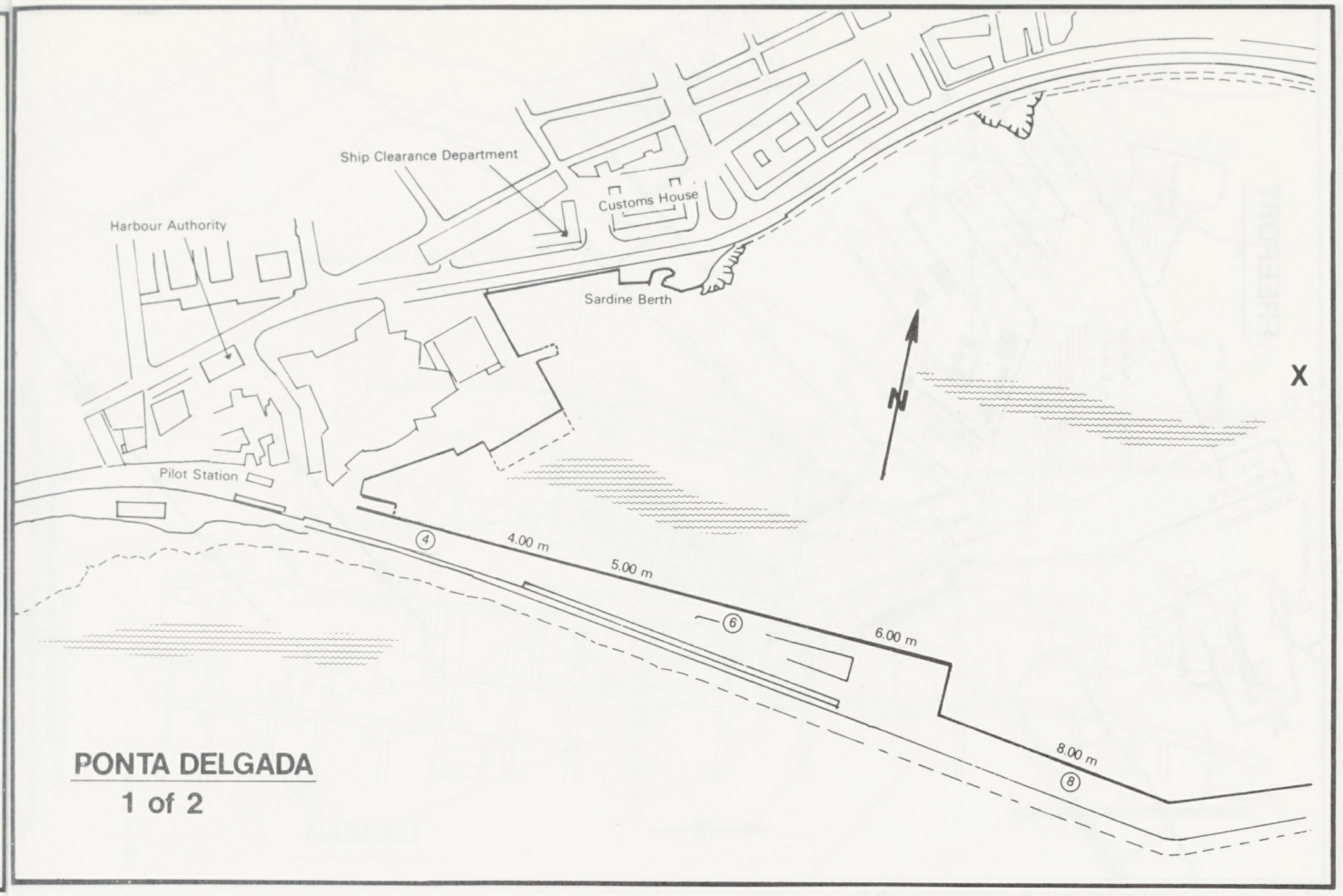


WHYALLA

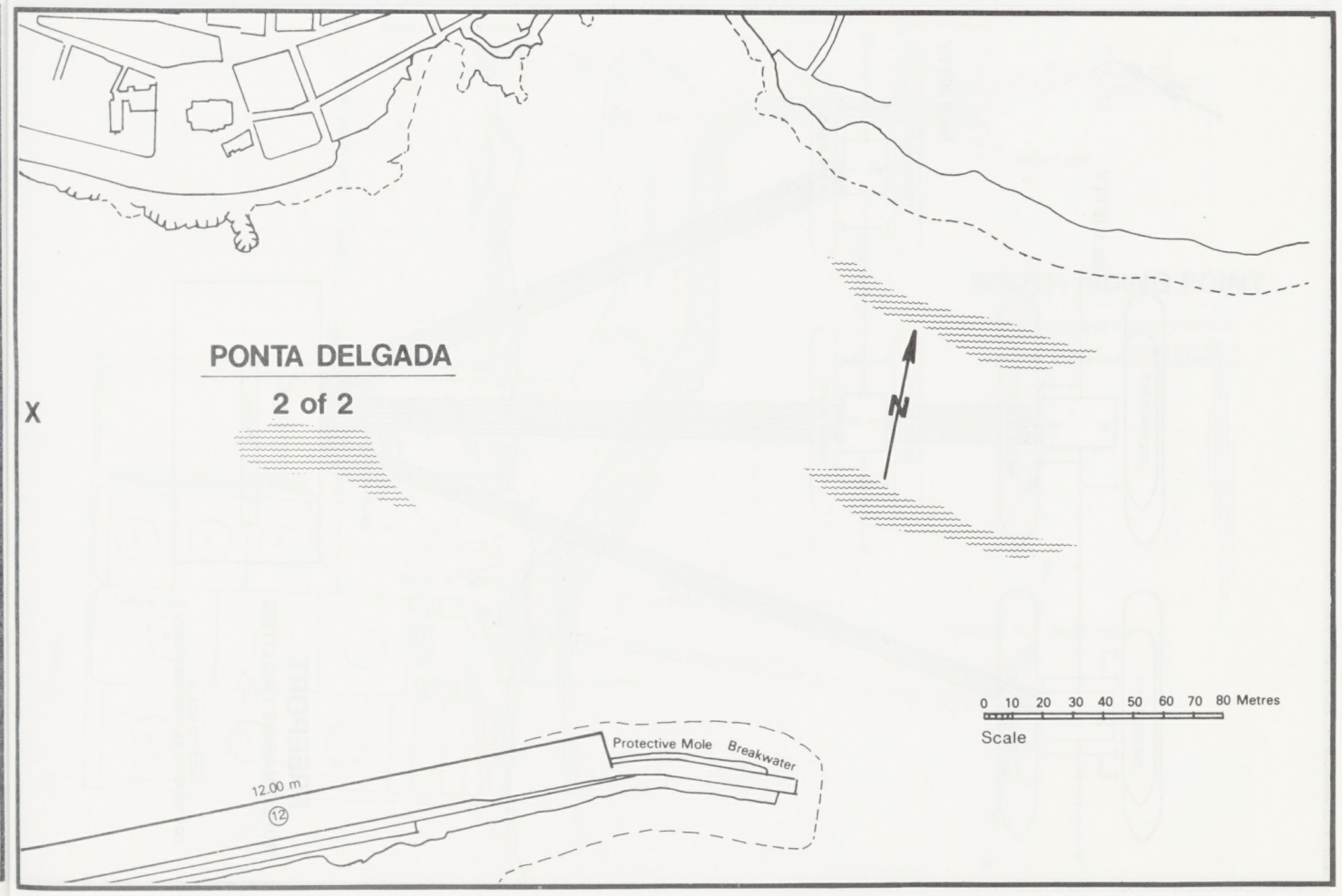
1 of 2


WYNDHAM
Storage Tank
Wyndham
Meat Export Works
THE GULLY
Transit Shed
Shed for Ord River
Agriculture Products
EMU HILL
Goods Yard
H & L
Office
Depth 9.14 m.
(max.)
283 m.
Jetty
Weighbridge
MT. ALBANY
WYNDHAM (Old Township)
New Townsite 3 miles
from Wydham
Highway
Northern
Water Pipeline
Salt Marsh
Great
MT. TOOKER
MT. DIXON
Storage Tank
CAMBRIDGE
GULF
SCALE
0 1,000 2,000 3,000 Feet

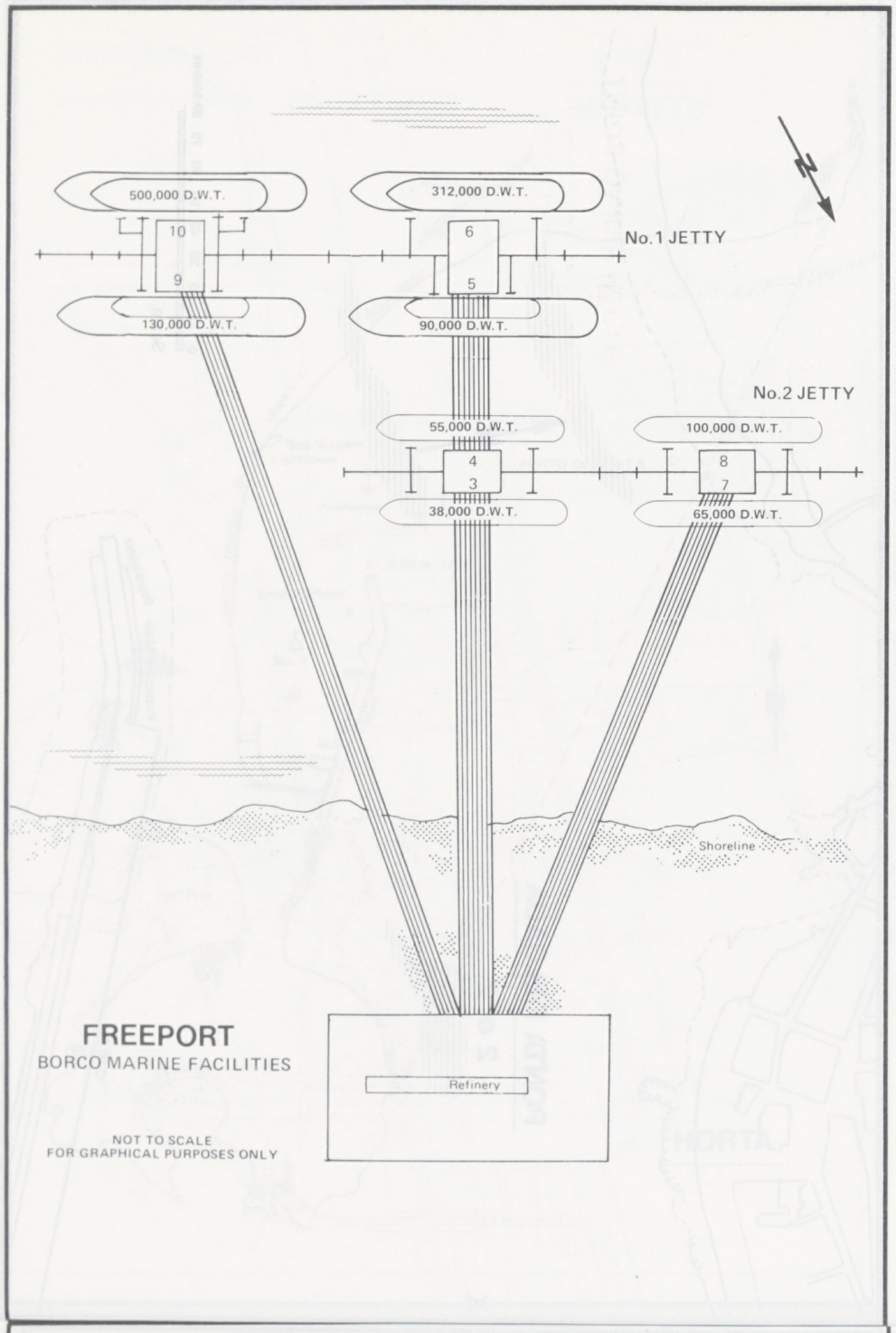

HORTA
PORTO DE HORTA
Beach
Boa Viagem
Lighthouse
Anchorage
Fl. R 20 m 12 M
Inner Harbour
A
B(N)
Mole
B(S)
No. 1
Port Pim

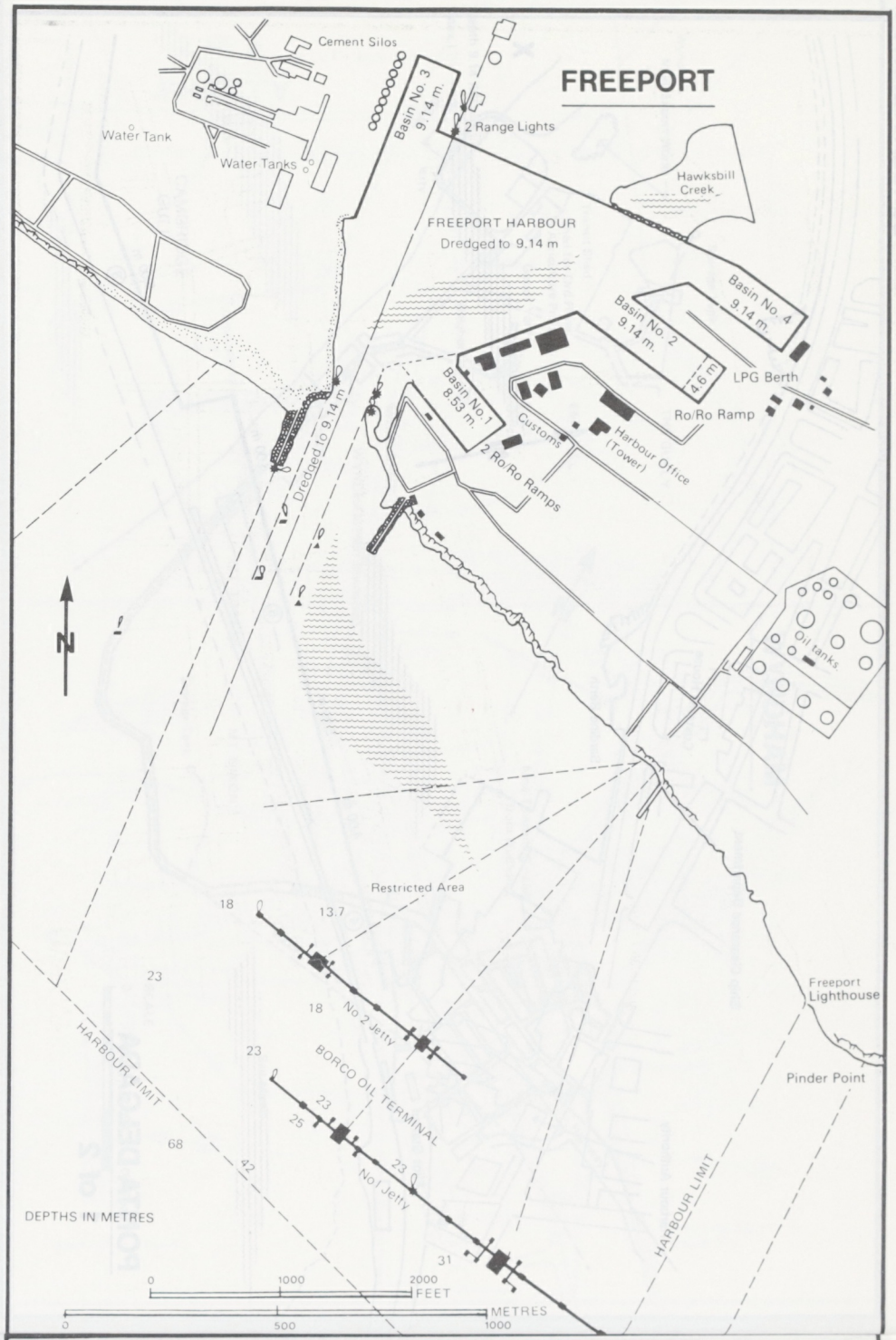


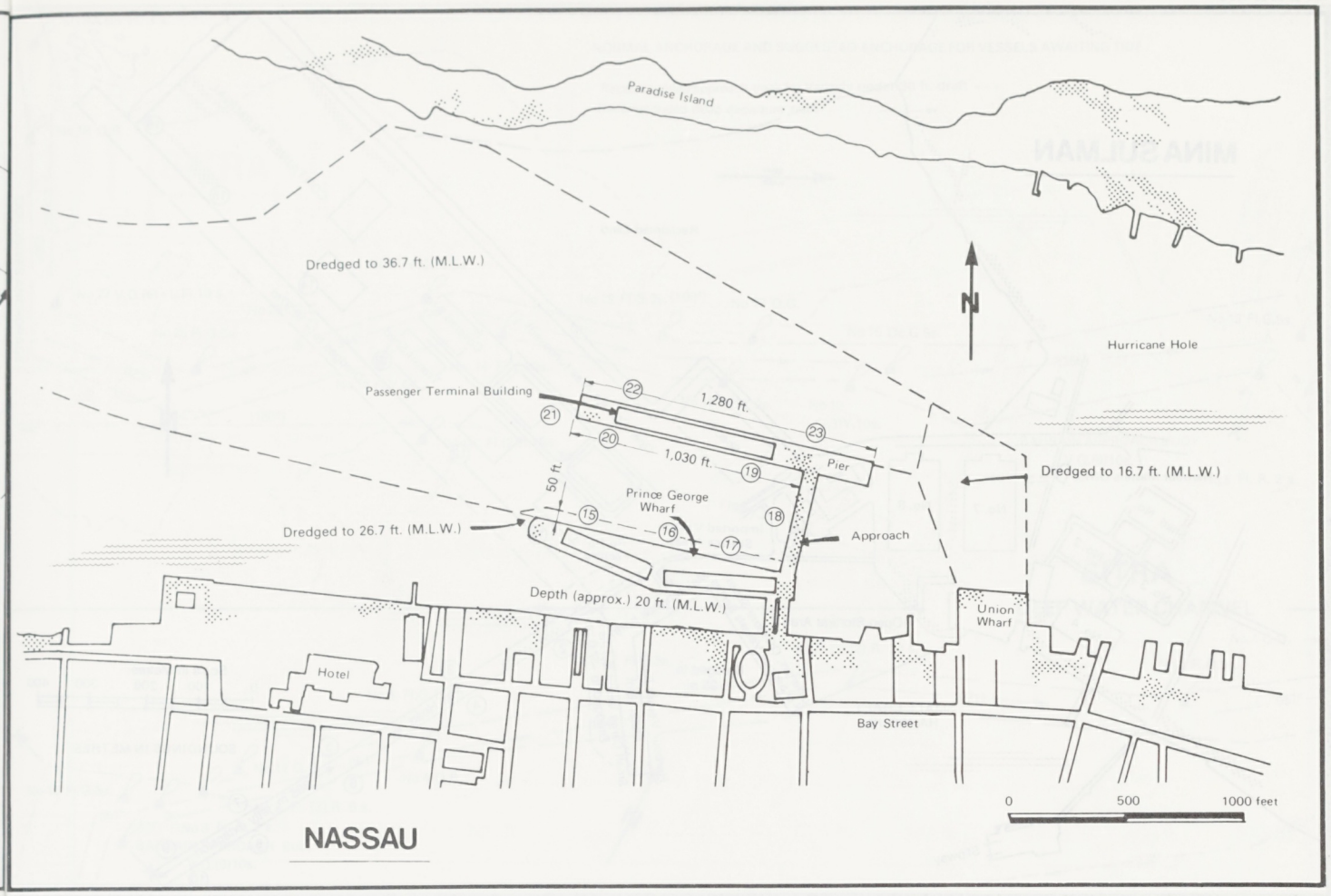
PONTA DELGADA
1 of 2



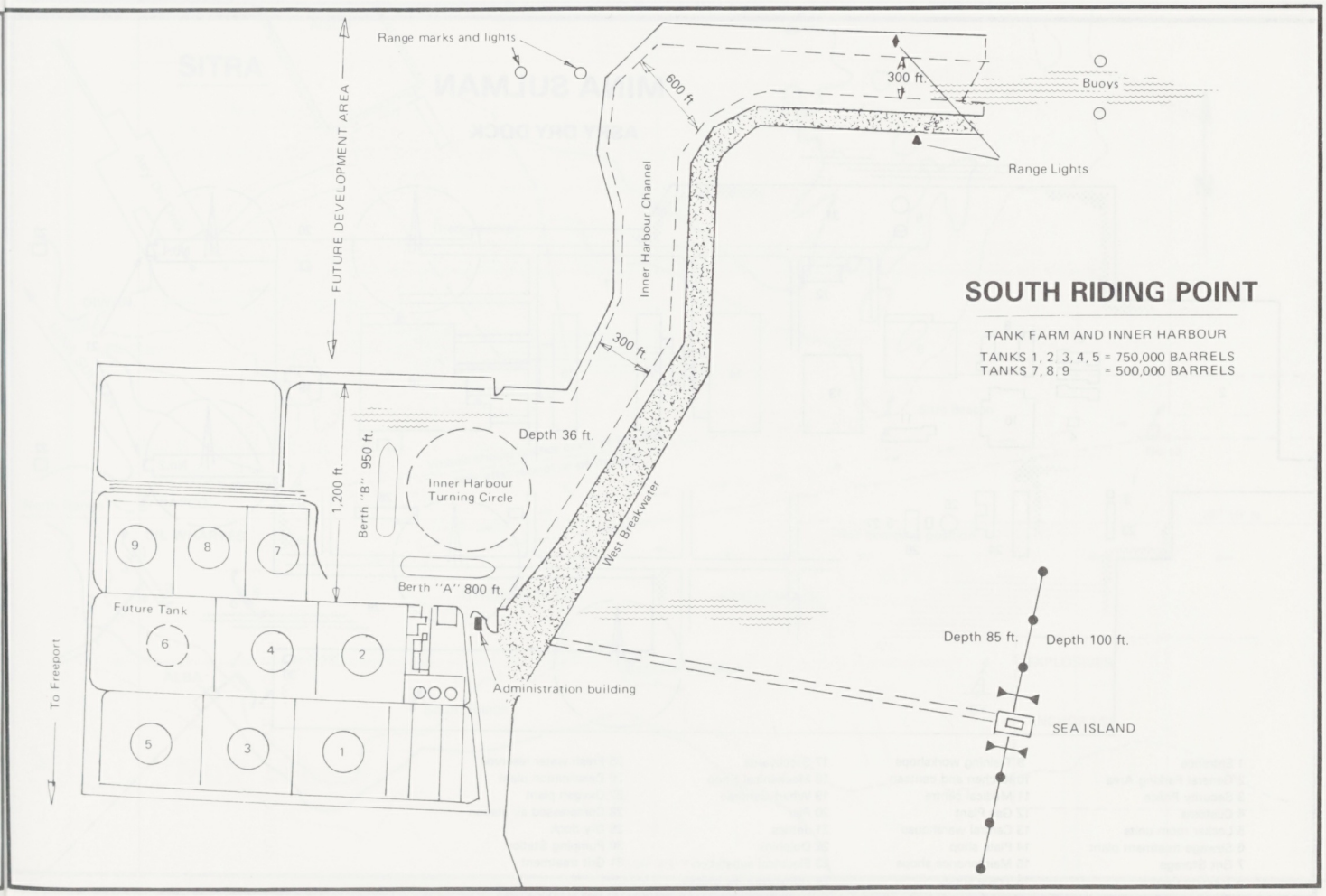
PONTA DELGADA
2 of 2


500,000 D.W.T.
312,000 D.W.T.
No.1 JETTY
10
9
6
5
130,000 D.W.T.
90,000 D.W.T.
No.2 JETTY
55,000 D.W.T.
100,000 D.W.T.
4
3
8
7
38,000 D.W.T.
65,000 D.W.T.
Shoreline
Refinery
FREEPORT
BORCO MARINE FACILITIES
NOT TO SCALE
FOR GRAPHICAL PURPOSES ONLY


FREEPORT
Cement Silos
Water Tank
Water Tanks
Basin No. 3
9.14 m.
2 Range Lights
Hawksbill Creek
FREEPORT HARBOUR
Dredged to 9.14 m
Basin No. 4
9.14 m.
Basin No. 2
9.14 m.
Basin No. 1
8.53 m.
LPG Berth
Ro/Ro Ramp
Customs
Harbour Office
(Tower)
2 Ro/Ro Ramps
Dredged to 9.14 m
Oil tanks
Restricted Area
18
13.7
23
18
No.2 Jetty
23
BORCO OIL TERMINAL
25
23
23
No.1 Jetty
31
68
42
HARBOUR LIMIT
HARBOUR LIMIT
Freeport
Lighthouse
Pinder Point
DEPTHS IN METRES
0
1000
2000
FEET
0
500
1000
METRES



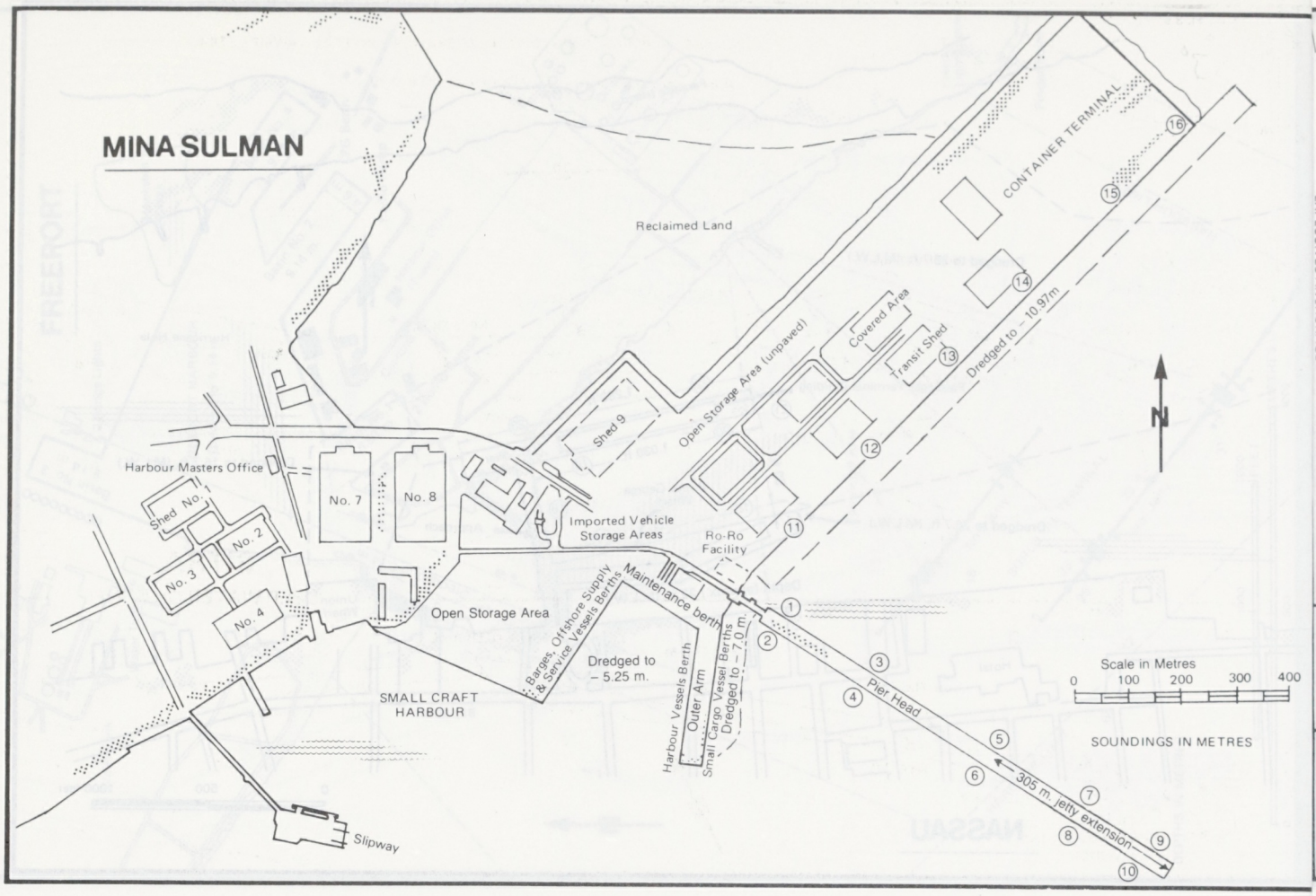
NASSAU

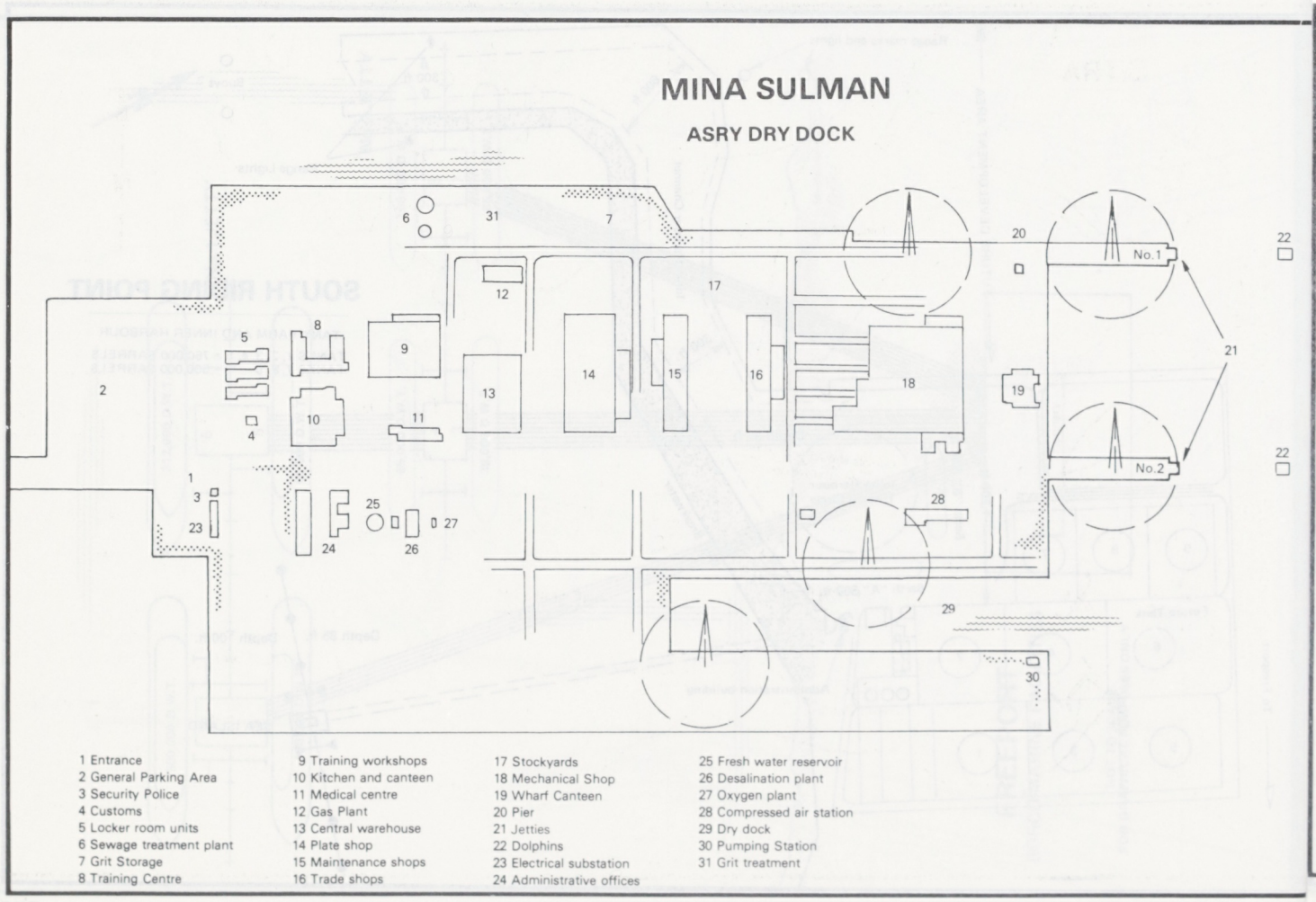


SOUTH RIDING POINT

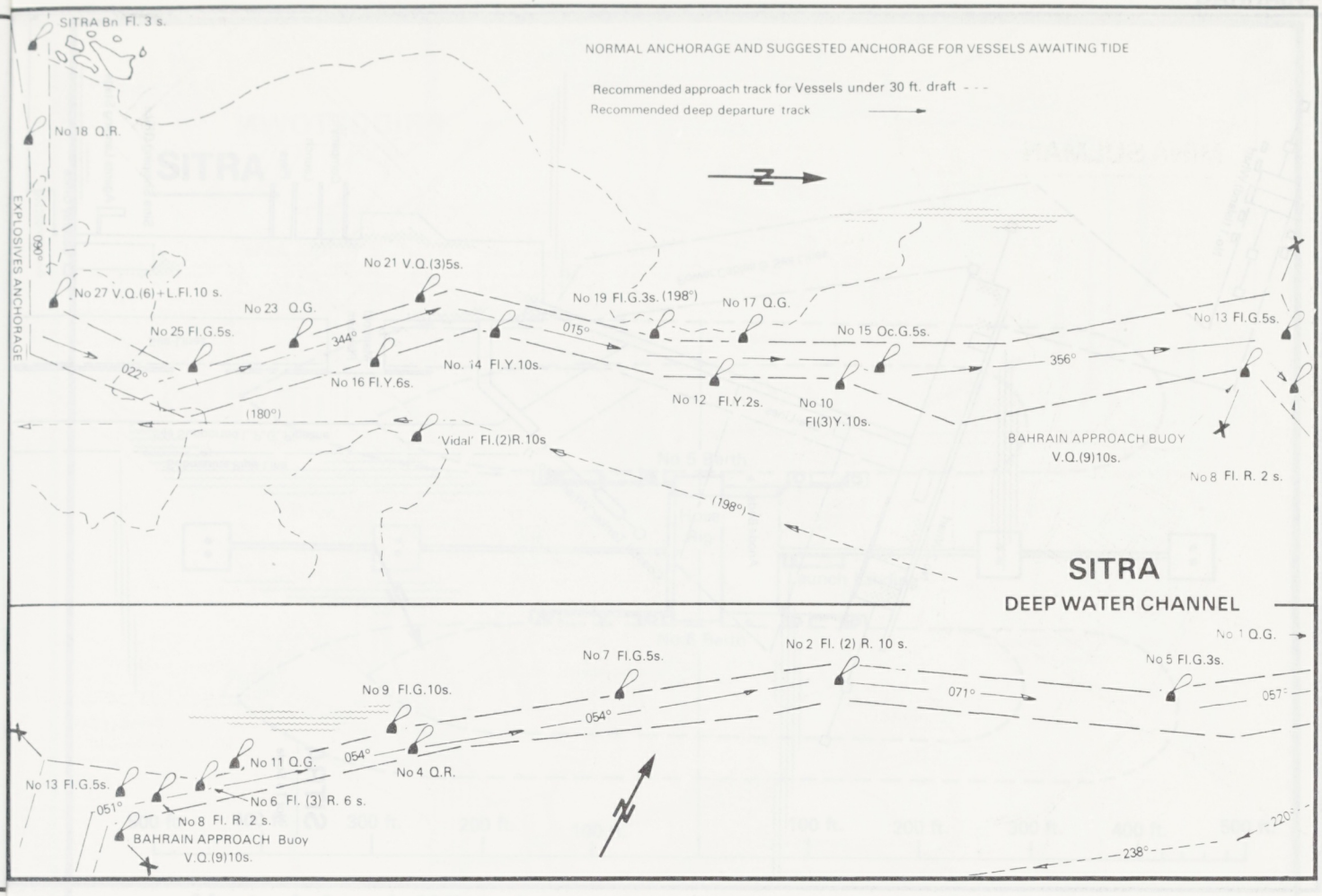
TANK FARM AND INNER HARBOUR

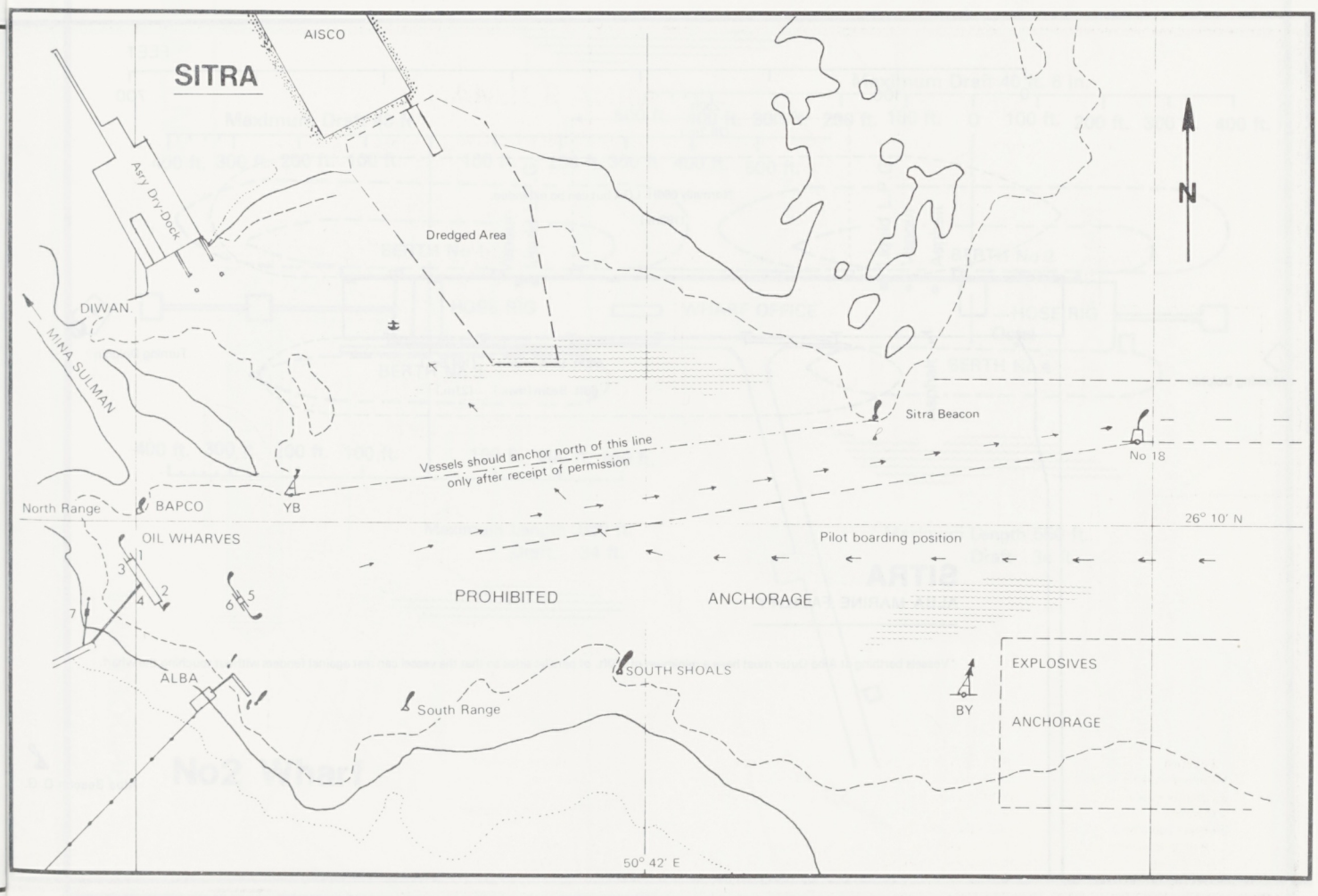
TANKS 1, 2, 3, 4, 5 = 750,000 BARRELS
TANKS 7, 8, 9 = 500,000 BARRELS

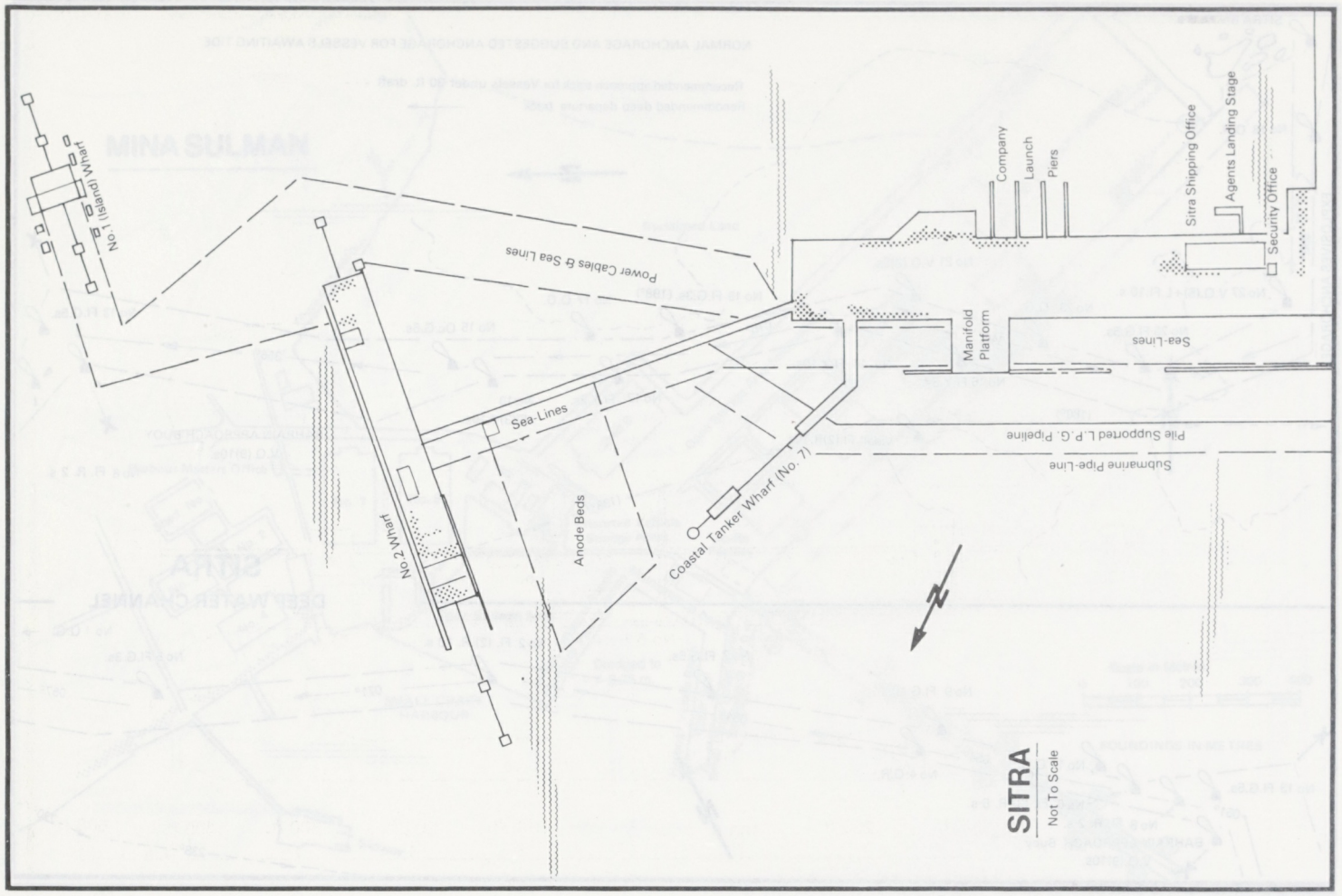


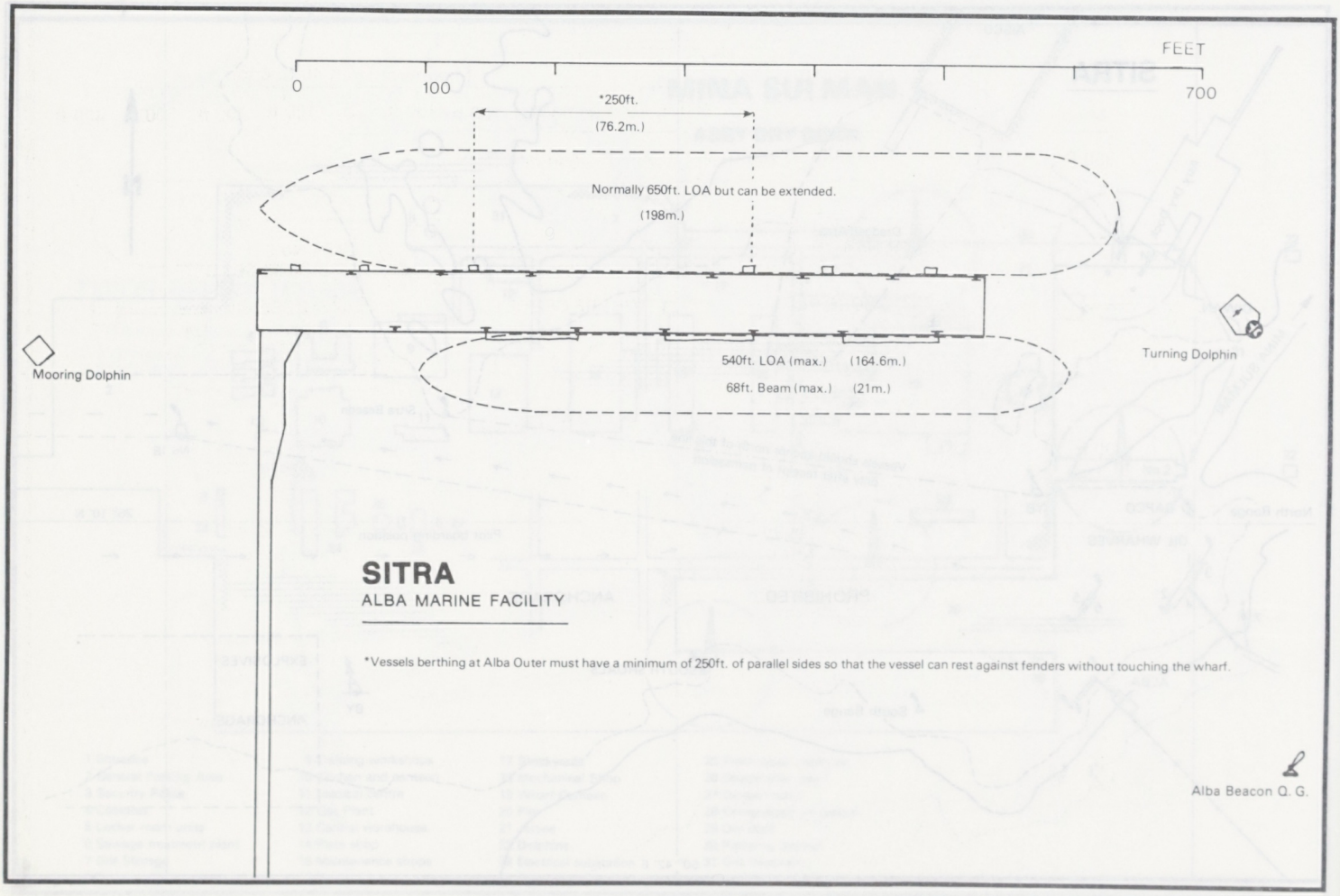


1 Entrance
2 General Parking Area
3 Security Police
4 Customs
5 Locker room units
6 Sewage treatment plant
7 Grit Storage
8 Training Centre
9 Training workshops
10 Kitchen and canteen
11 Medical centre
12 Gas Plant
13 Central warehouse
14 Plate shop
15 Maintenance shops
16 Trade shops
17 Stockyards
18 Mechanical Shop
19 Wharf Canteen
20 Pier
21 Jetties
22 Dolphins
23 Electrical substation
24 Administrative offices
25 Fresh water reservoir
26 Desalination plant
27 Oxygen plant
28 Compressed air station
29 Dry dock
30 Pumping Station
31 Grit treatment


SITRA Bn Fl. 3 s.
NORMAL ANCHORAGE AND SUGGESTED ANCHORAGE FOR VESSELS AWAITING TIDE
Recommended approach track for Vessels under 30 ft. draft - - -
Recommended deep departure track
No 18 Q.R.
EXPLOSIVES ANCHORAGE
090°
No 27 V.Q.(6)+L.Fl.10 s.
No 25 Fl.G.5s.
No 23 Q.G.
No 21 V.Q.(3)5s.
No 16 Fl.Y.6s.
No. 14 Fl.Y.10s.
No 19 Fl.G.3s.(198°)
No 17 Q.G.
No 15 Oc.G.5s.
No 13 Fl.G.5s.
No 12 Fl.Y.2s.
No 10 Fl(3)Y.10s.
'Vidal' Fl.(2)R.10s
BAHRAIN APPROACH BUOY V.Q.(9)10s.
No 8 Fl. R. 2 s.
022°
344°
015°
356°
(180°)
(198°)
SITRA
DEEP WATER CHANNEL
No 1 Q.G.
No 2 Fl. (2) R. 10 s.
No 5 Fl.G.3s.
No 7 Fl.G.5s.
No 9 Fl.G.10s.
No 11 Q.G.
No 4 Q.R.
No 6 Fl. (3) R. 6 s.
No 13 Fl.G.5s.
No 8 Fl. R. 2 s.
BAHRAIN APPROACH Buoy V.Q.(9)10s.
071°
057°
054°
051°
220°
238°


SITRA
AISCO
Asry Dry Dock
Dredged Area
DIWAN
MINA SULMAN
N
Sitra Beacon
No 18
Vessels should anchor north of this line only after receipt of permission
North Range
BAPCO
YB
26° 10' N
OIL WHARVES
Pilot boarding position
PROHIBITED
ANCHORAGE
ALBA
SOUTH SHOALS
South Range
BY
EXPLOSIVES
ANCHORAGE
50° 42' E



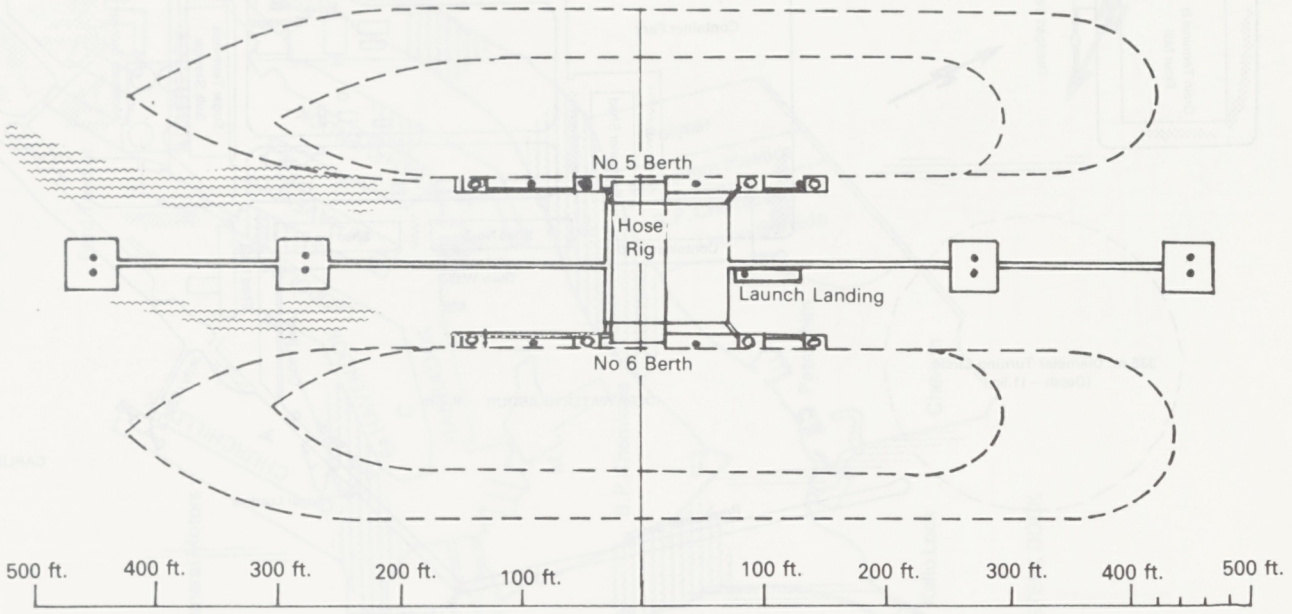


SITRA

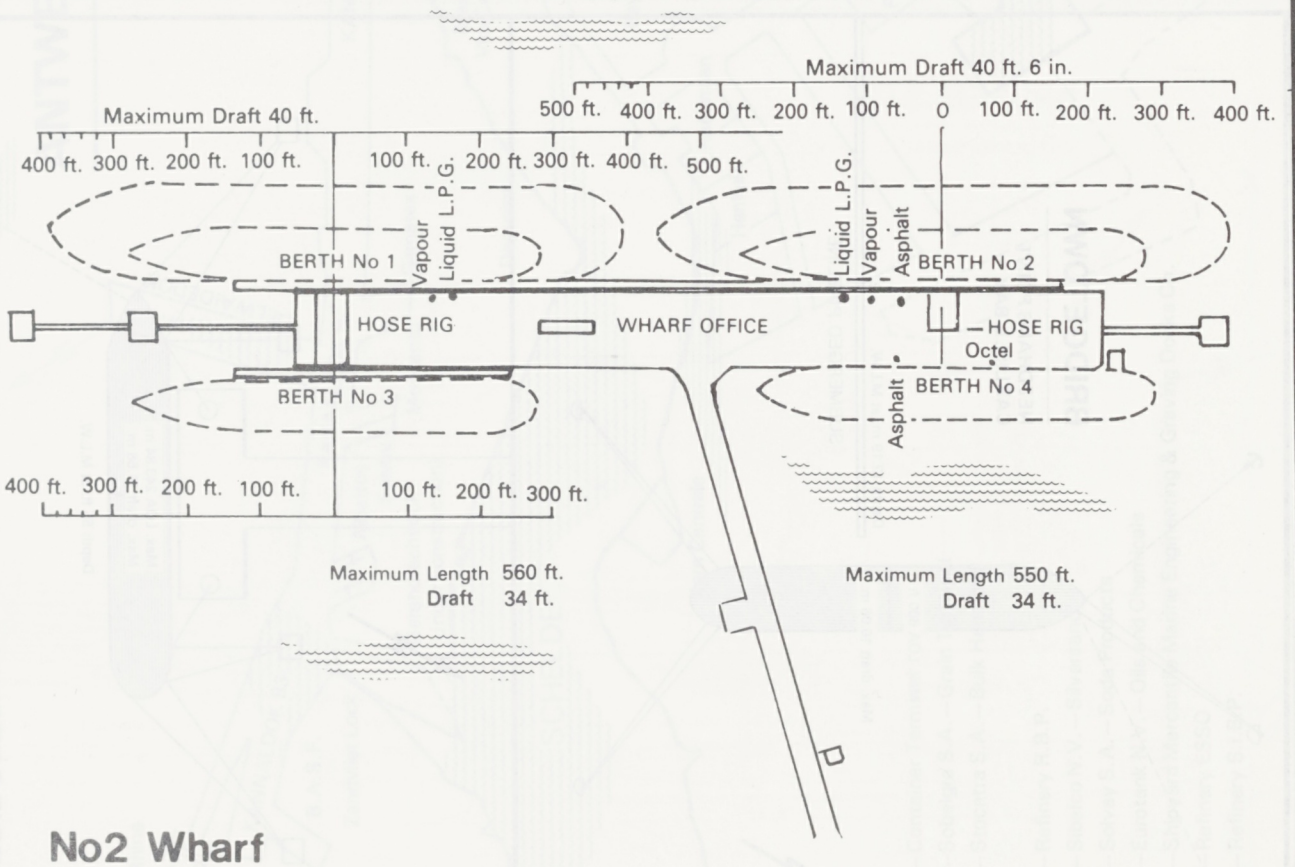
ALBA MARINE FACILITY

*Vessels berthing at Alba Outer must have a minimum of 250ft. of parallel sides so that the vessel can rest against fenders without touching the wharf.

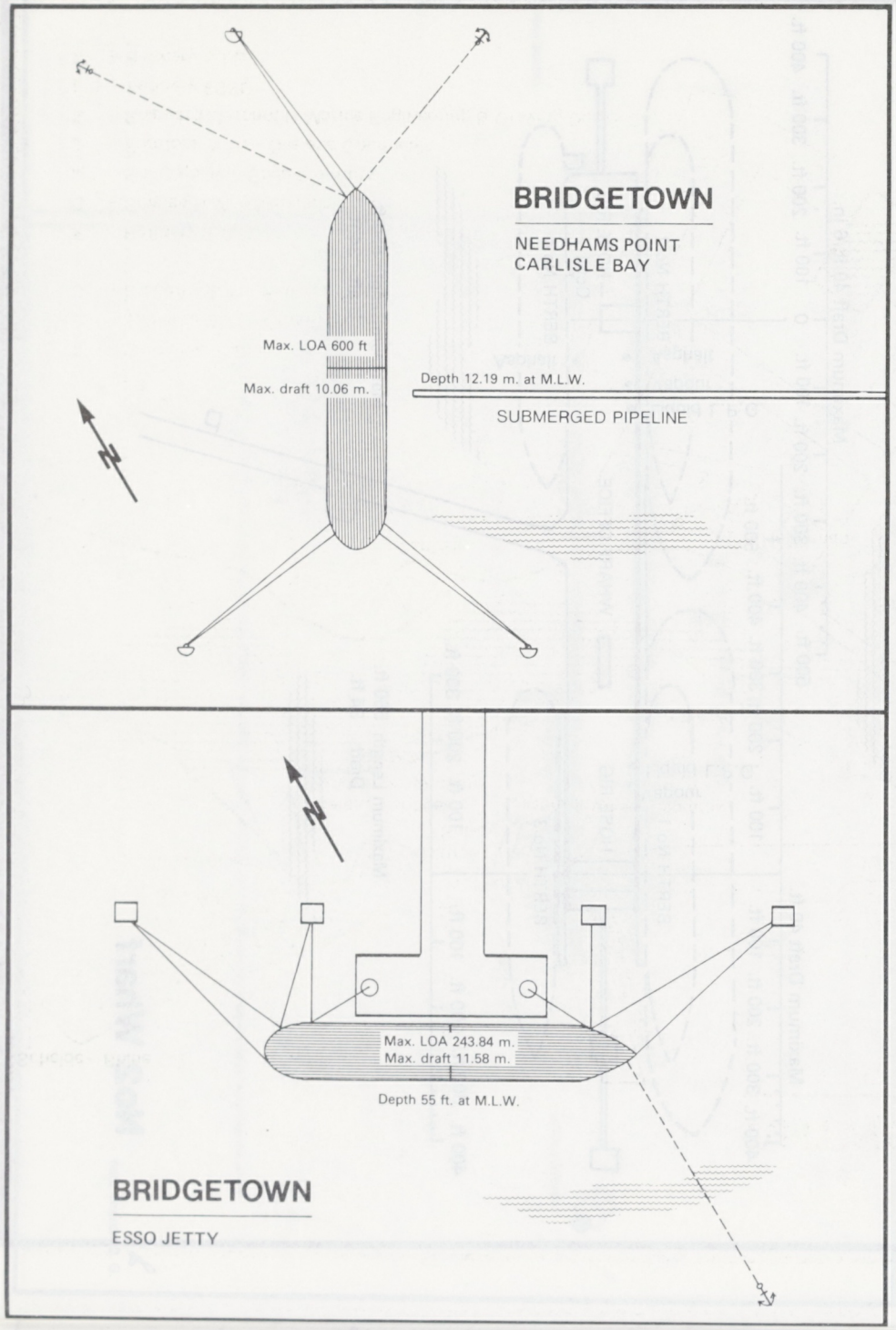
SITRA

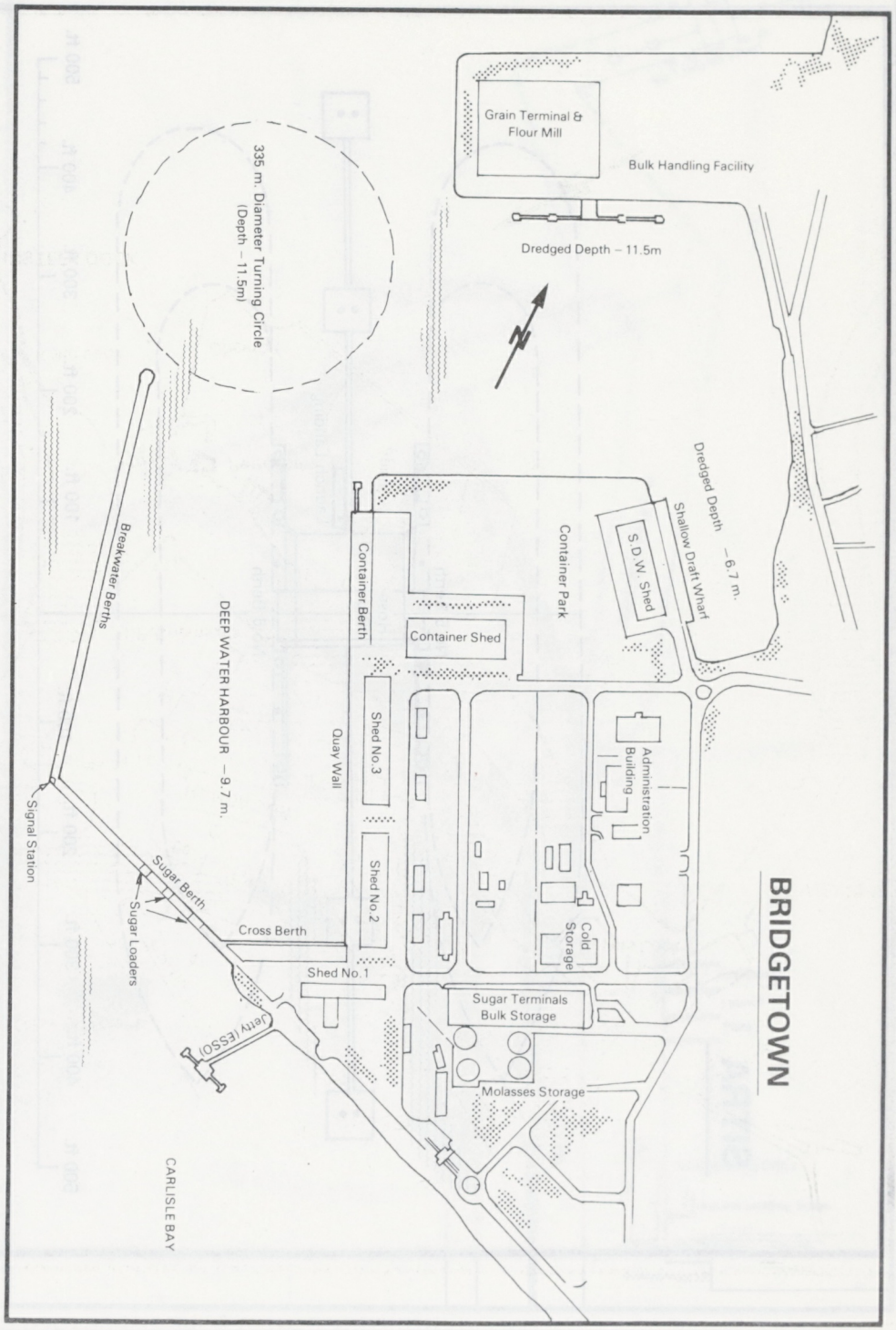


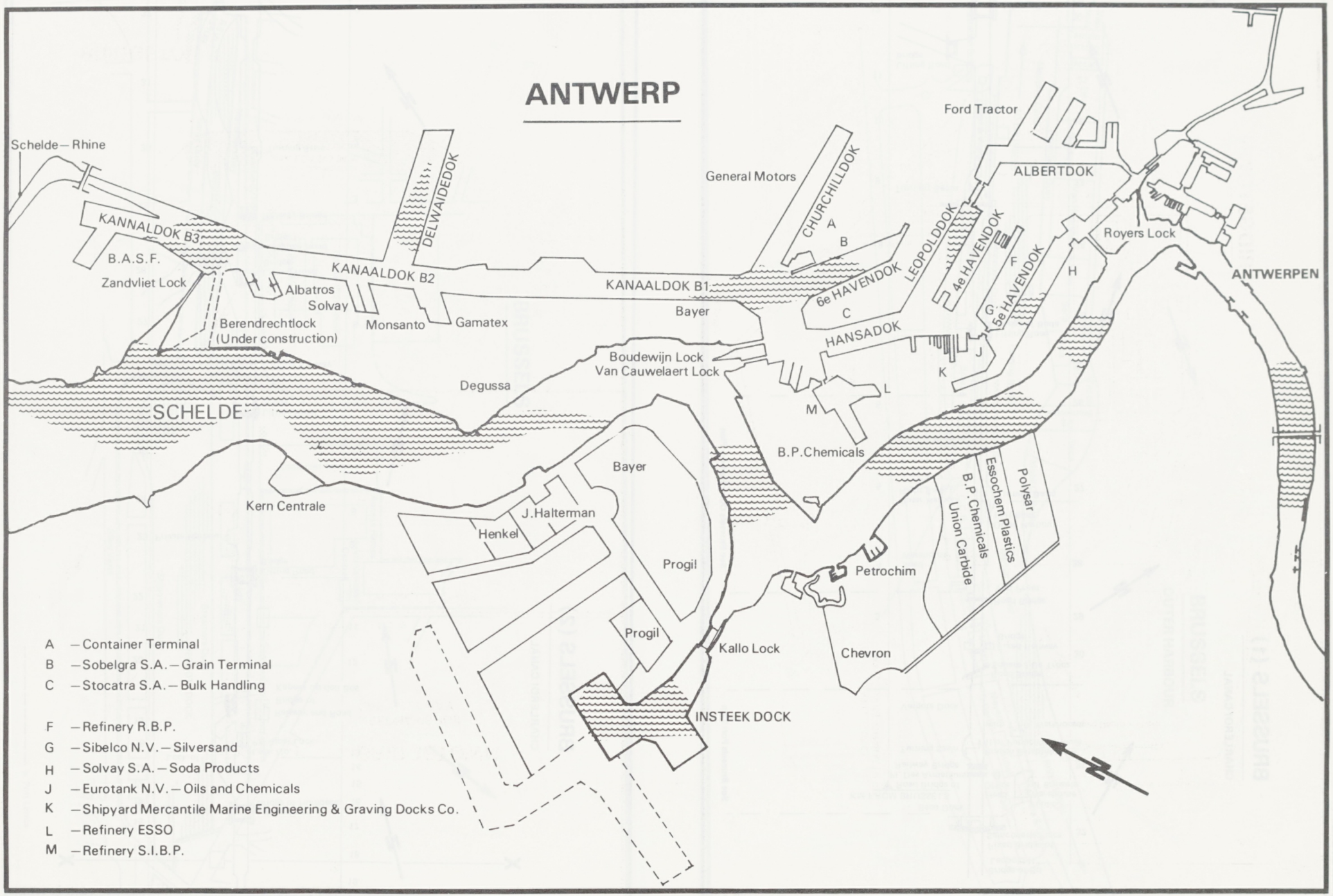
No1 Island Wharf

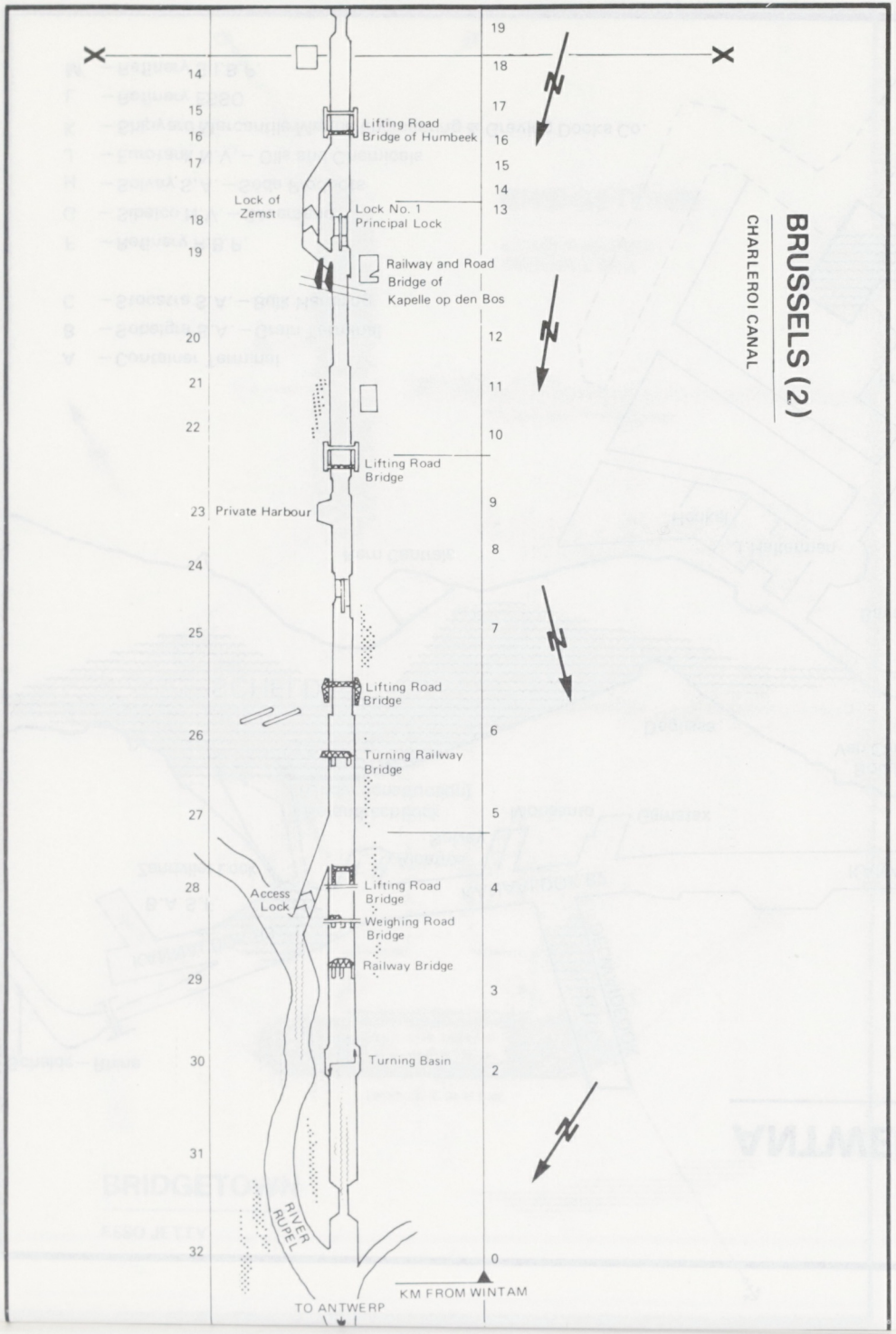


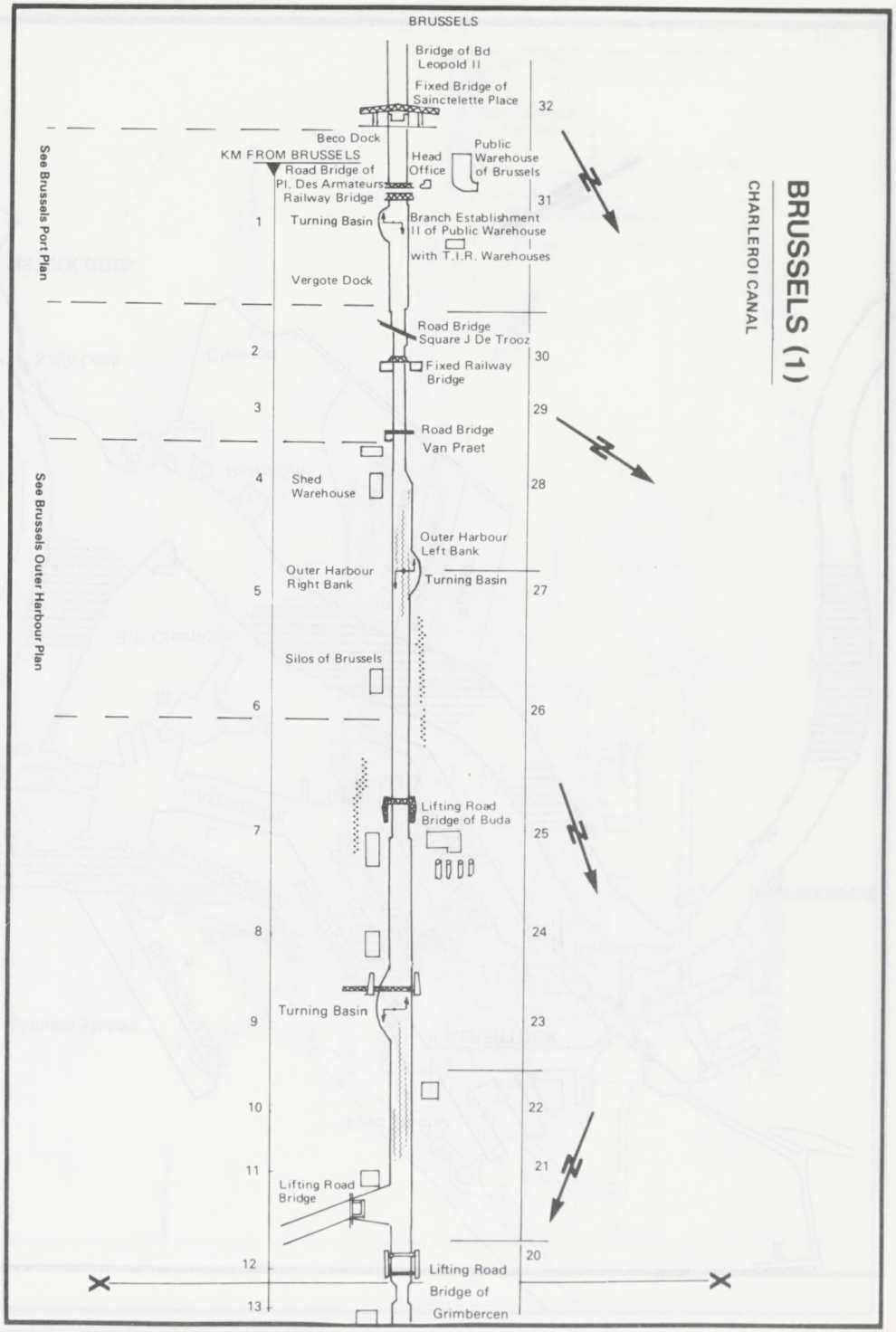
No2 Wharf

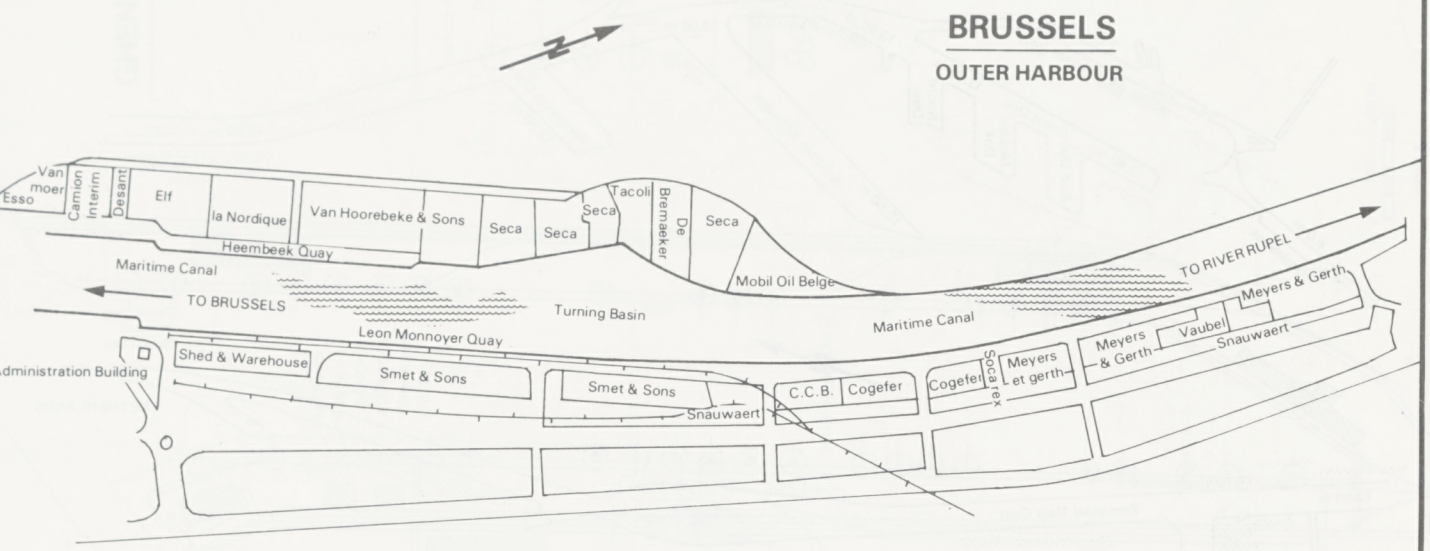

BRIDGETOWN
NEEDHAMS POINT
CARLISLE BAY
Max. LOA 600 ft
Max. draft 10.06 m.
Depth 12.19 m. at M.L.W.
SUBMERGED PIPELINE
Max. LOA 243.84 m.
Max. draft 11.58 m.
Depth 55 ft. at M.L.W.
BRIDGETOWN
ESSO JETTY

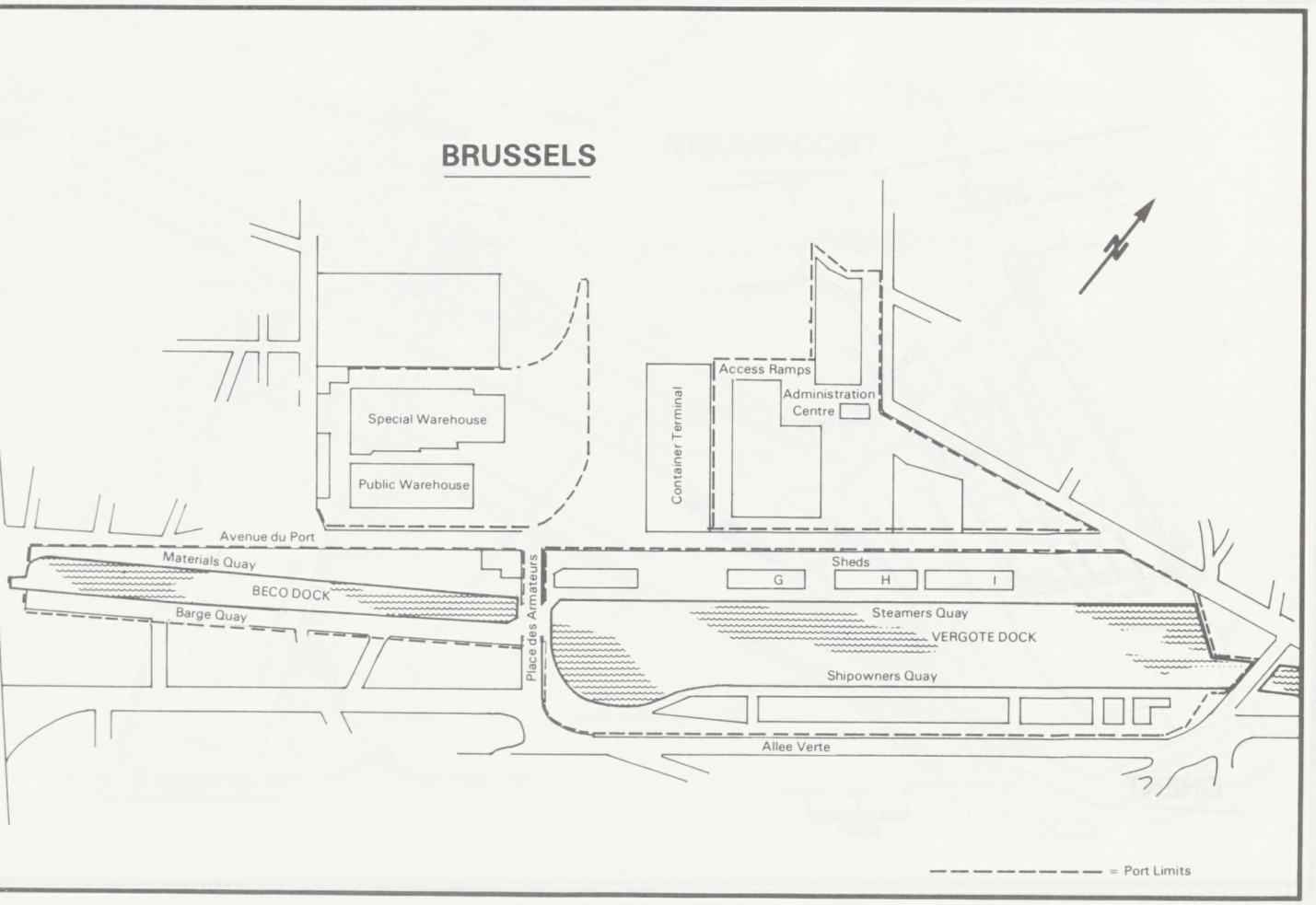

Grain Terminal & Flour Mill
Bulk Handling Facility
Dredged Depth – 11.5m
335 m. Diameter Turning Circle (Depth – 11.5m)
Dredged Depth – 6.7 m.
Shallow Draft Wharf
S.D.W. Shed
Container Park
Container Berth
Container Shed
Breakwater Berths
DEEP WATER HARBOUR – 9.7 m.
Quay Wall
Shed No.3
Shed No.2
Shed No.1
Administration Building
Cold Storage
Sugar Terminals Bulk Storage
Molasses Storage
Cross Berth
Sugar Berth
Sugar Loaders
Signal Station
Jetty (ESSO)
CARLISLE BAY
BRIDGETOWN

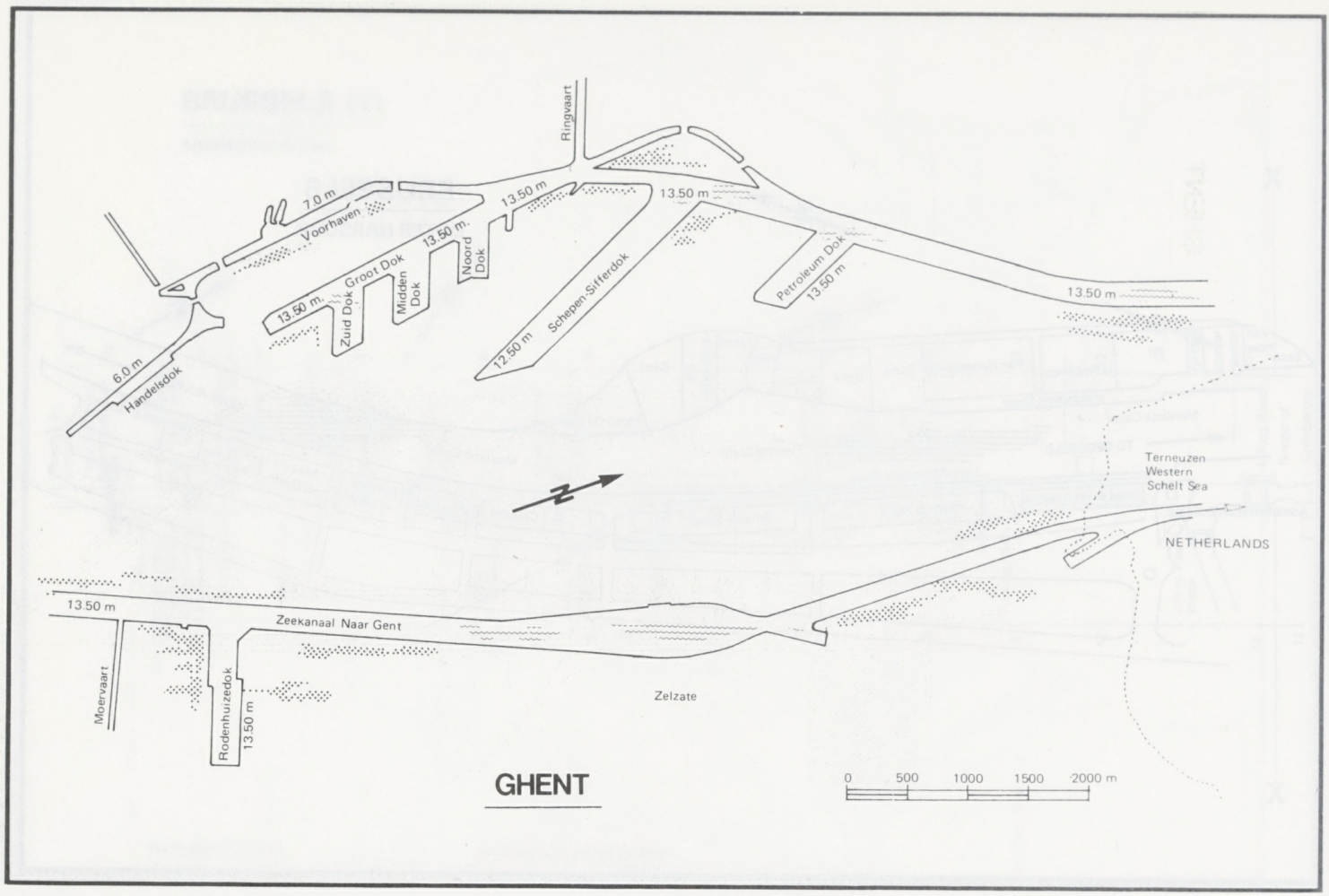

ANTWERP
Schelde – Rhine
KANNALDOK B3
B.A.S.F.
Zandvliet Lock
Berendrechtlock
(Under construction)
DELWAIDEDOK
KANAALDOK B2
Albatros
Solvay
Monsanto
Gamatex
KANAALDOK B1
Bayer
General Motors
CHURCHILLDOK
A
B
6e HAVENDOK
C
LEOPOLDDOK
4e HAVENDOK
F
5e HAVENDOK
G
H
ALBERTDOK
Ford Tractor
Royers Lock
ANTWERPEN
HANSADOK
J
K
L
M
Boudewijn Lock
Van Cauwelaert Lock
Degussa
SCHELDE
B.P.Chemicals
Bayer
Kern Centrale
J.Halterman
Henkel
Progil
Progil
Kallo Lock
INSTEEK DOCK
Petrochim
Chevron
B.P.Chemicals
Union Carbide
Essochem Plastics
Polysar
A – Container Terminal
B – Sobelgra S.A. – Grain Terminal
C – Stocatra S.A. – Bulk Handling
F – Refinery R.B.P.
G – Sibelco N.V. – Silversand
H – Solvay S.A. – Soda Products
J – Eurotank N.V. – Oils and Chemicals
K – Shipyard Mercantile Marine Engineering & Graving Docks Co.
L – Refinery ESSO
M – Refinery S.I.B.P.
BELGIUM

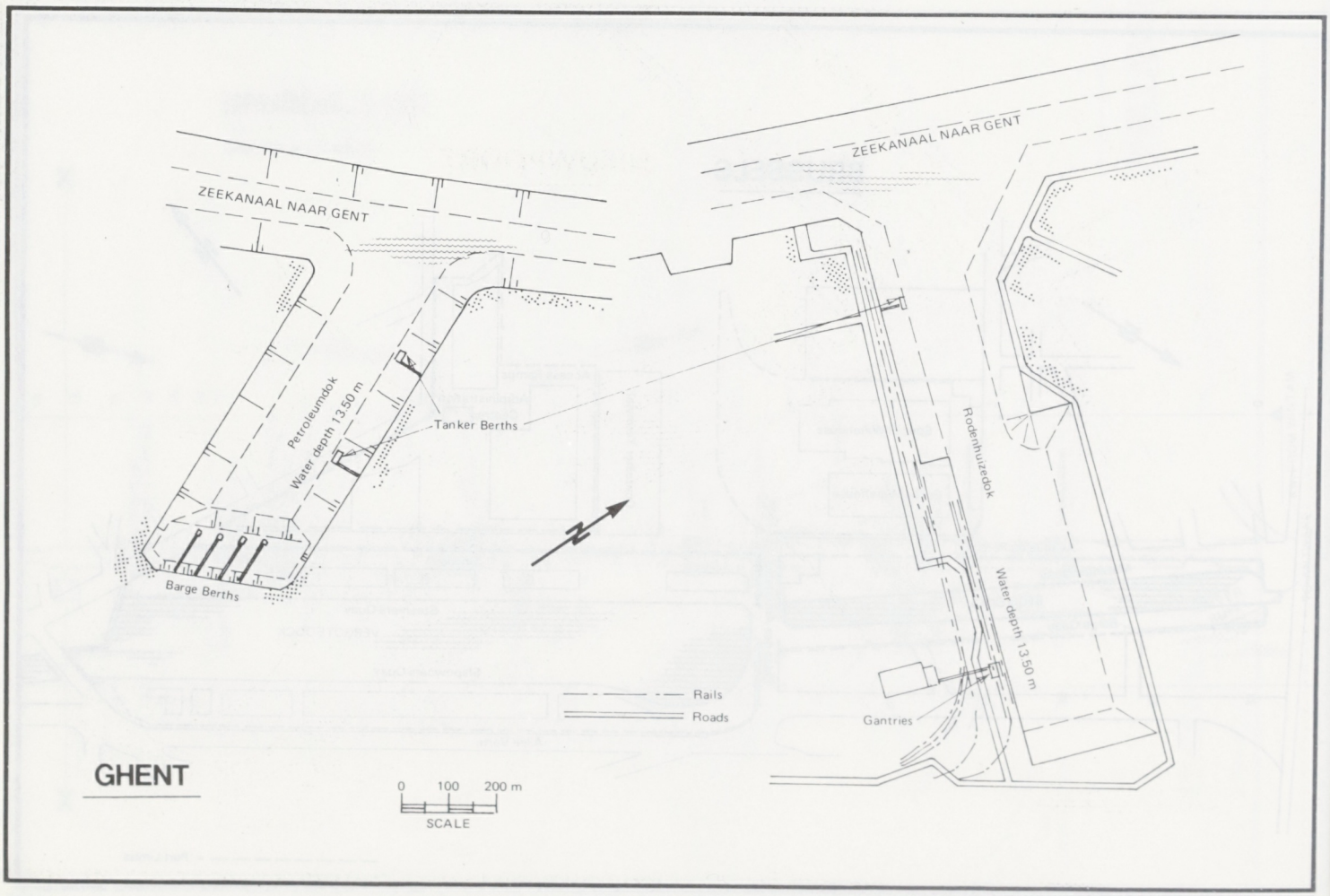

BRUSSELS (2)
CHARLEROI CANAL
Lifting Road Bridge of Humbeek
Lock of Zemst
Lock No. 1 Principal Lock
Railway and Road Bridge of Kapelle op den Bos
Lifting Road Bridge
Private Harbour
Lifting Road Bridge
Turning Railway Bridge
Access Lock
Lifting Road Bridge
Weighing Road Bridge
Railway Bridge
Turning Basin
RIVER RUPEL
TO ANTWERP
KM FROM WINTAM

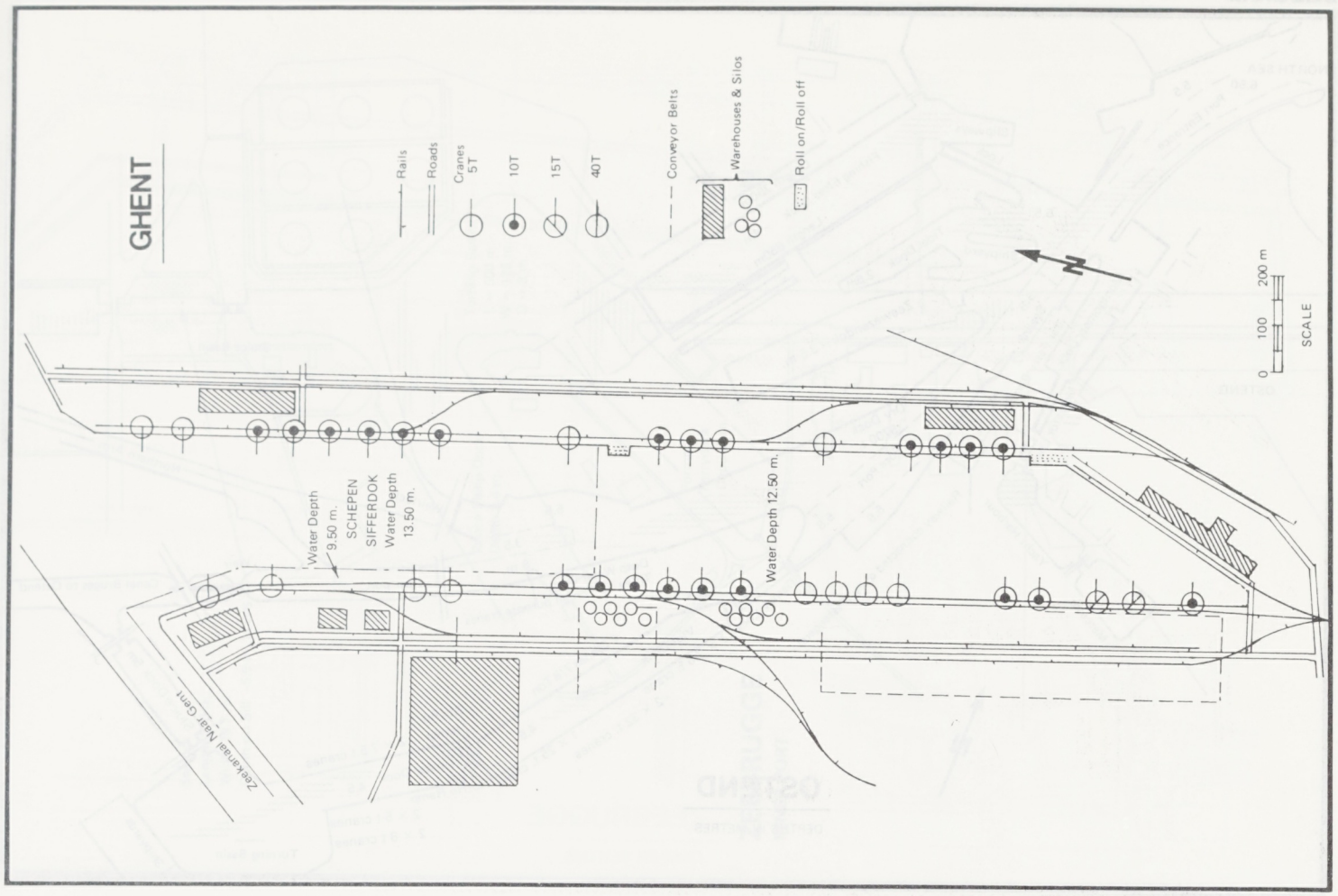

BRUSSELS
BRUSSELS (1)
CHARLEROI CANAL
Bridge of Bd Leopold II
Fixed Bridge of Sainctelette Place
Beco Dock
KM FROM BRUSSELS
Road Bridge of Pl. Des Armateurs
Railway Bridge
Head Office
Public Warehouse of Brussels
Turning Basin
Branch Establishment II of Public Warehouse with T.I.R. Warehouses
Vergote Dock
Road Bridge Square J De Trooz
Fixed Railway Bridge
Road Bridge Van Praet
Shed Warehouse
Outer Harbour Left Bank
Outer Harbour Right Bank
Turning Basin
Silos of Brussels
Lifting Road Bridge of Buda
Turning Basin
Lifting Road Bridge
Lifting Road Bridge of Grimbercen
See Brussels Port Plan
See Brussels Outer Harbour Plan

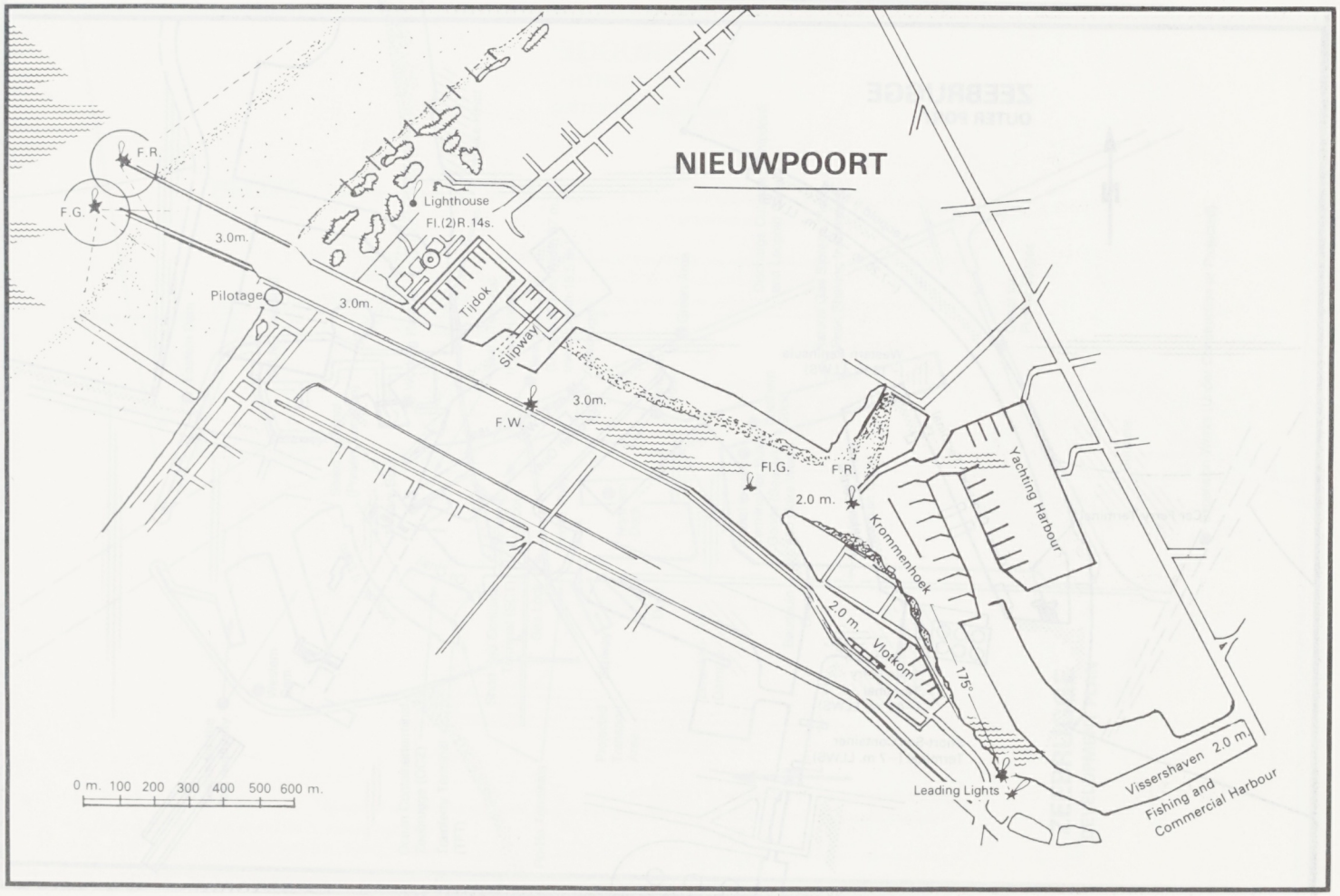

BRUSSELS
OUTER HARBOUR
Van moer
Esso
Camion Interim
Desant
Elf
la Nordique
Van Hoorebeke & Sons
Seca
Seca
Seca
Tacoli
Bremaeker
De
Seca
Heembeek Quay
Maritime Canal
TO BRUSSELS
Turning Basin
Mobil Oil Belge
TO RIVER RUPEL
Maritime Canal
Meyers & Gerth
Leon Monnoyer Quay
Shed & Warehouse
Smet & Sons
Smet & Sons
Snauwaert
C.C.B.
Cogefer
Cogefer
Soc ex
Meyers L et gerth
Meyers & Gerth
Vaubel
Snauwaert
dministration Building

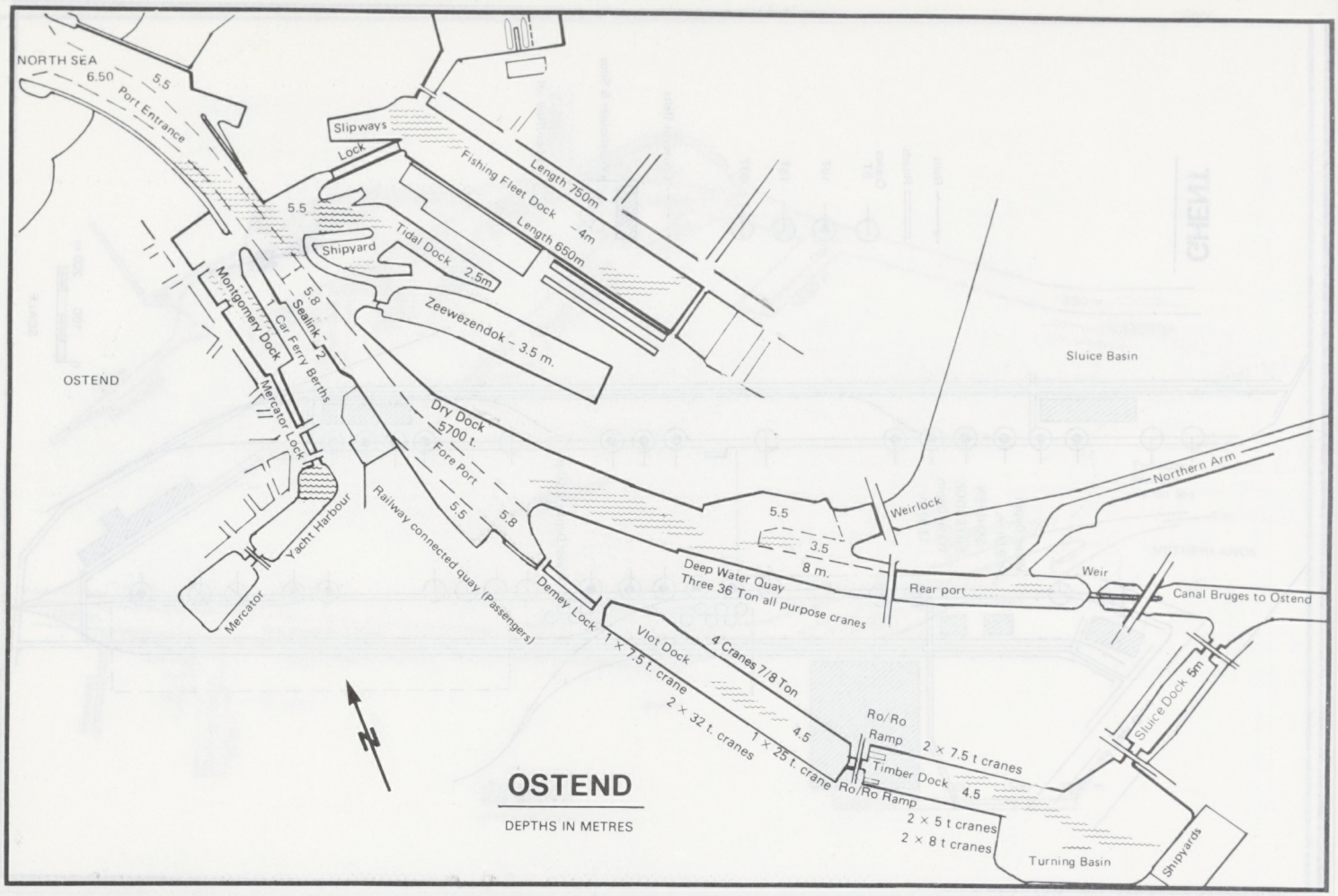

BRUSSELS
Special Warehouse
Public Warehouse
Container Terminal
Access Ramps
Administration Centre
Avenue du Port
Materials Quay
BECO DOCK
Barge Quay
Place des Armateurs
Sheds
G
H
I
Steamers Quay
VERGOTE DOCK
Shipowners Quay
Allee Verte
= Port Limits

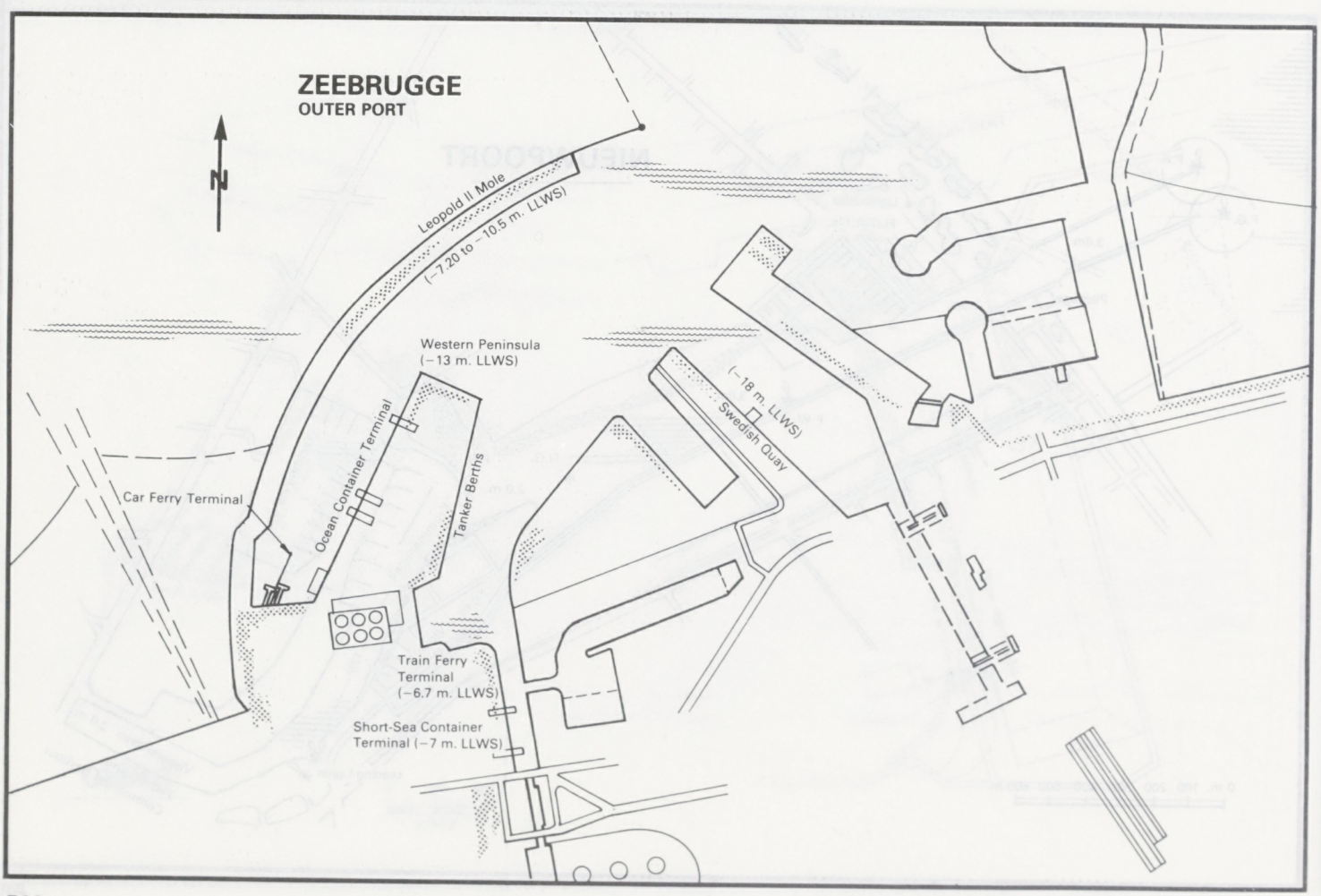

Ringvaart
7.0 m
Voorhaven
13.50 m
13.50 m
13.50 m.
Groot Dok
Zuid Dok
Midden Dok
Noord Dok
13.50 m
Petroleum Dok
13.50 m
13.50 m
12.50 m
Schepen-Sifferdok
6.0 m
Handelsdok
Terneuzen
Western
Schelt Sea
NETHERLANDS
13.50 m
Zeekanaal Naar Gent
Moervaart
Rodenhuizedok
13.50 m
Zelzate
GHENT
0 500 1000 1500 2000 m

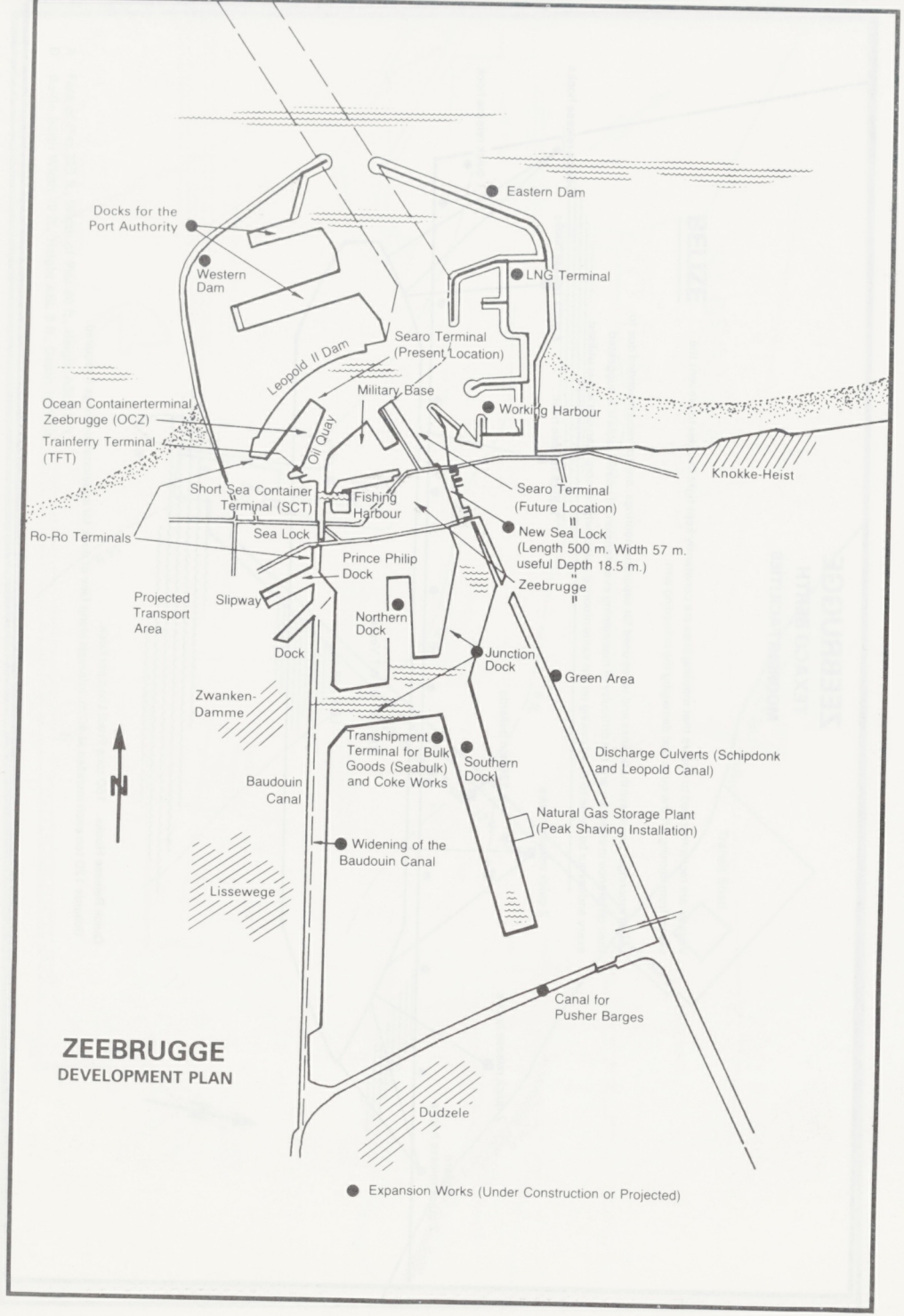

ZEEKANAAL NAAR GENT
ZEEKANAAL NAAR GENT
Petroleumdok
Water depth 13.50 m
Tanker Berths
Barge Berths
Rodenhuizedok
Water depth 13.50 m
Gantries
Rails
Roads
GHENT
0 100 200 m
SCALE

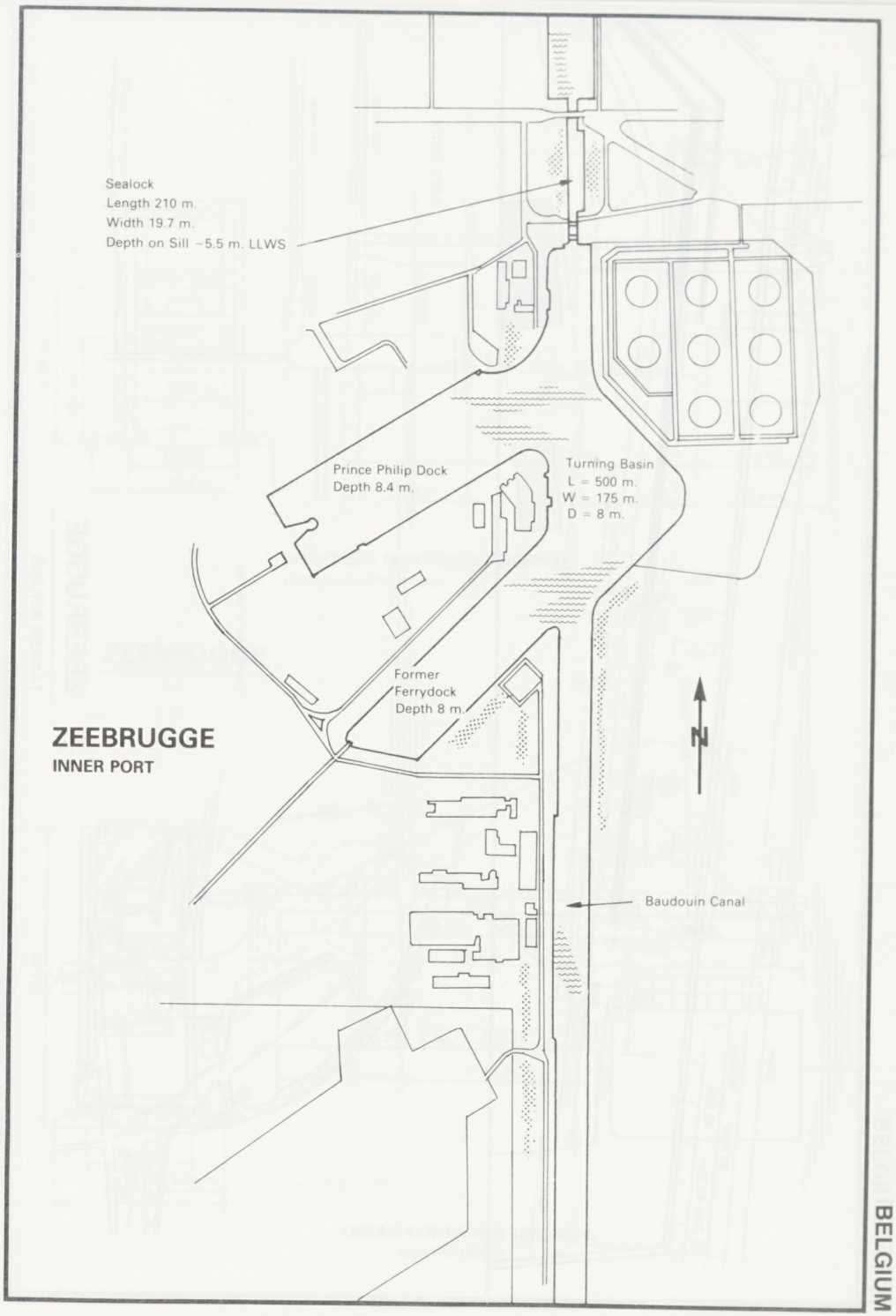

GHENT
Rails
Roads
Cranes
5T
10T
15T
40T
Conveyor Belts
Warehouses & Silos
Roll on/Roll off
N
0
100
200 m
SCALE
Water Depth 9.50 m.
SCHEPEN SIFFERDOK
Water Depth 13.50 m.
Water Depth 12.50 m.
Zeekanaal Naar Gent

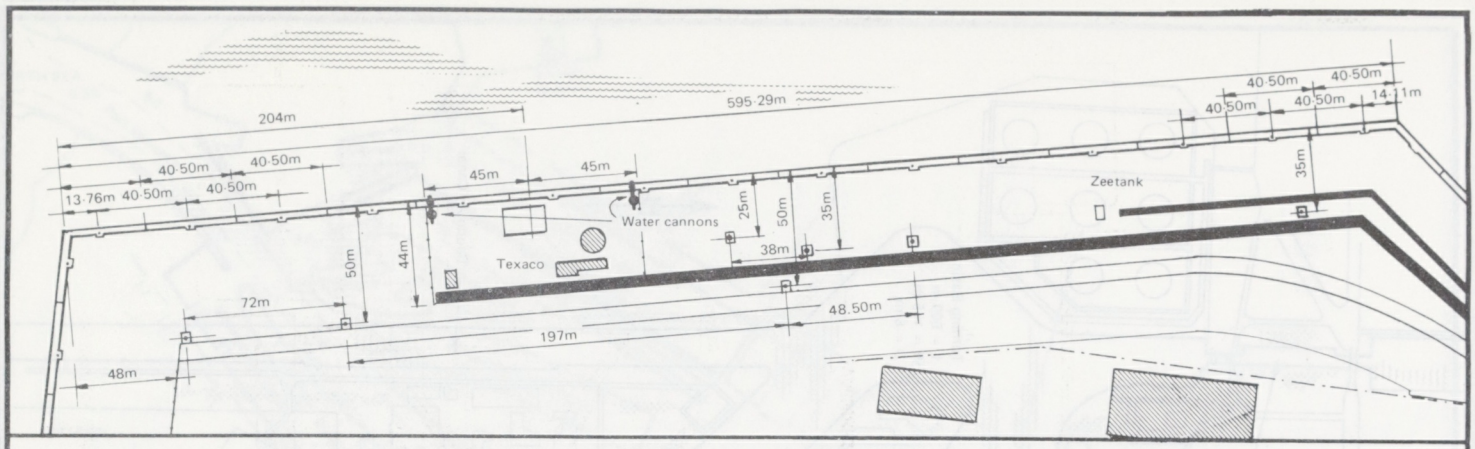

NIEUWPOORT
F.R.
F.G.
3.0m.
Pilotage
Lighthouse
Fl.(2)R.14s.
Tijdok
Slipway
3.0m.
F.W.
3.0m.
Fl.G.
F.R.
2.0 m.
Krommenhoek
Yachting Harbour
2.0 m.
Vlotkom
175°
Leading Lights
Vissershaven 2.0 m.
Fishing and Commercial Harbour
0 m. 100 200 300 400 500 600 m.

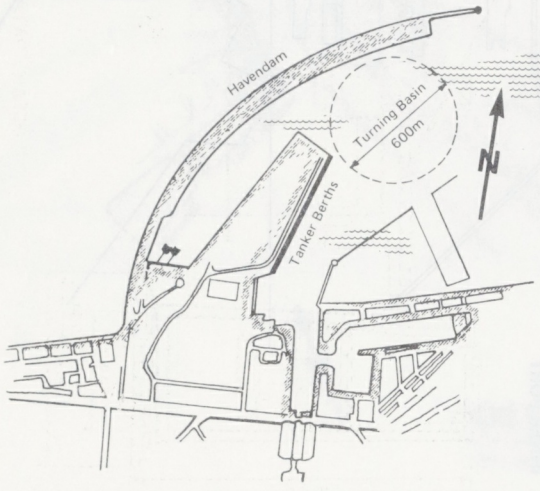

NORTH SEA
6.50
5.5
Port Entrance
Slipways
Lock
Fishing Fleet Dock – 4m
Length 750m
Length 660m
5.5
Shipyard
Tidal Dock 2.5m
5.8
Sealink
2 Car Ferry Berths
Montgomery Dock
Zeewezendok – 3.5 m.
Sluice Basin
OSTEND
Mercator Lock
Dry Dock 5700 t.
Fore Port
5.5
5.8
Northern Arm
Weirlock
5.5
3.5
8 m.
Deep Water Quay
Three 36 Ton all purpose cranes
Rear port
Weir
Canal Bruges to Ostend
Yacht Harbour
Railway connected quay (Passengers)
Mercator
Demey Lock
Vlot Dock
4 Cranes 7/8 Ton
1 × 7.5 t. crane
2 × 32 t. cranes
1 × 25 t. crane
4.5
Ro/Ro Ramp
2 × 7.5 t cranes
Sluice Dock 5m
Timber Dock 4.5
Ro/Ro Ramp
2 × 5 t cranes
2 × 8 t cranes
Turning Basin
Shipyards
OSTEND
DEPTHS IN METRES

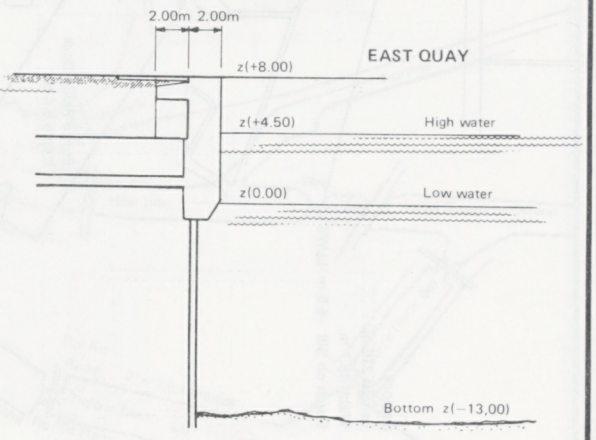

ZEEBRUGGE
OUTER PORT
Leopold II Mole
(–7.20 to –10.5 m. LLWS)
Western Peninsula
(–13 m. LLWS)
(–18 m. LLWS)
Swedish Quay
Ocean Container Terminal
Tanker Berths
Car Ferry Terminal
Train Ferry
Terminal
(–6.7 m. LLWS)
Short-Sea Container
Terminal (–7 m. LLWS)


Docks for the Port Authority
Western Dam
Eastern Dam
LNG Terminal
Leopold II Dam
Searo Terminal (Present Location)
Military Base
Working Harbour
Ocean Containerterminal Zeebrugge (OCZ)
Trainferry Terminal (TFT)
Oil Quay
Knokke-Heist
Short Sea Container Terminal (SCT)
Fishing Harbour
Searo Terminal (Future Location)
Ro-Ro Terminals
Sea Lock
New Sea Lock (Length 500 m. Width 57 m. useful Depth 18.5 m.)
Zeebrugge
Prince Philip Dock
Projected Transport Area
Slipway
Northern Dock
Dock
Junction Dock
Green Area
Zwanken-Damme
Transhipment Terminal for Bulk Goods (Seabulk) and Coke Works
Southern Dock
Discharge Culverts (Schipdonk and Leopold Canal)
Baudouin Canal
Natural Gas Storage Plant (Peak Shaving Installation)
Widening of the Baudouin Canal
Lissewege
Canal for Pusher Barges
Dudzele
N
ZEEBRUGGE
DEVELOPMENT PLAN
Expansion Works (Under Construction or Projected)


Sealock
Length 210 m.
Width 19.7 m.
Depth on Sill −5.5 m. LLWS
Prince Philip Dock
Depth 8.4 m.
Turning Basin
L = 500 m.
W = 175 m.
D = 8 m.
Former Ferrydock
Depth 8 m.
N
ZEEBRUGGE
INNER PORT
Baudouin Canal







Elevations in metres

ZEEBRUGGE

TANKER BERTHS

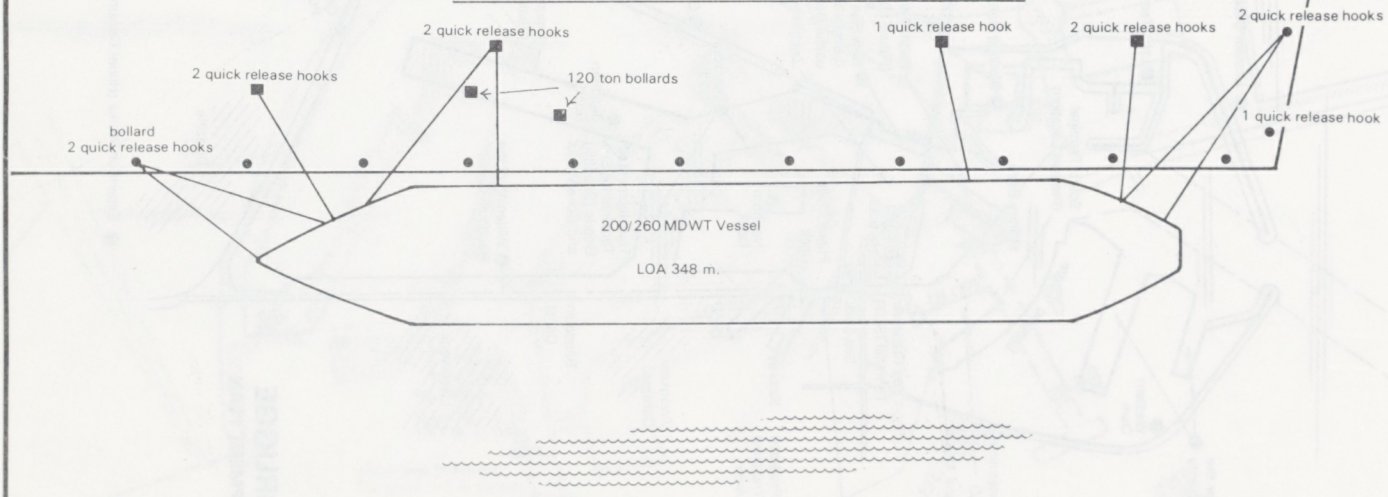
ZEEBRUGGE

TEXACO BERTH

MOORING FACILITIES

Vessels are recommended to ensure that mooring lines are constantly kept tight in order to prevent the vessel from coming off the quay and damaging the unloading arm.

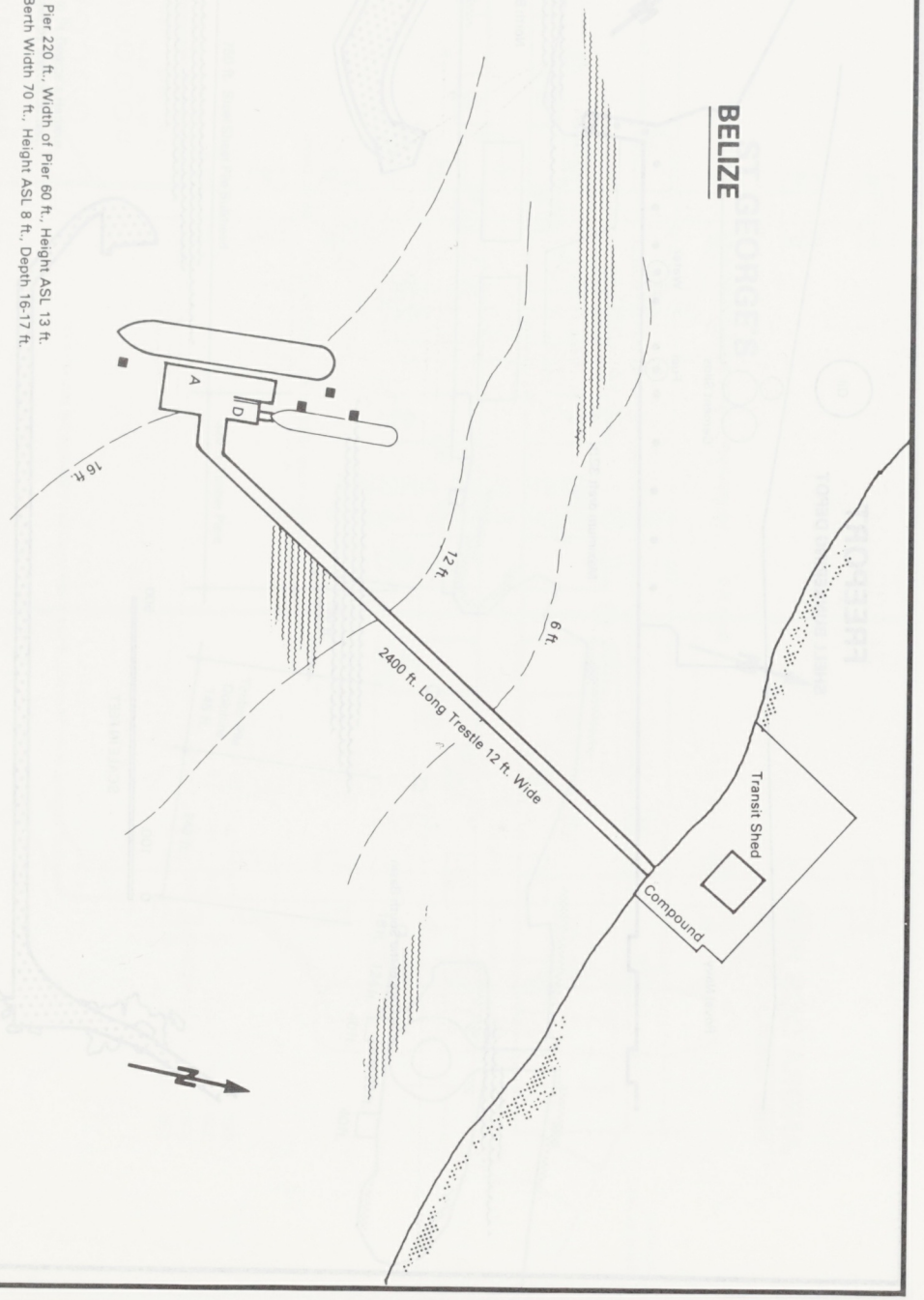
Mixed moorings, that is synthetic lines and wires used for separate moorings, are not recommended due to their difference in elasticity and the difficulty of maintaining even tension. If unavoidable it is suggested every endeavour be made to avoid mixing on the same mooring points where more than one line is utilised.

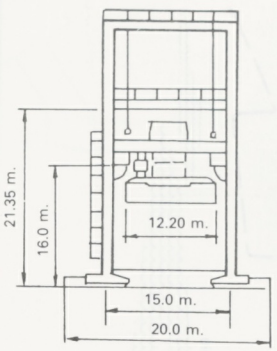


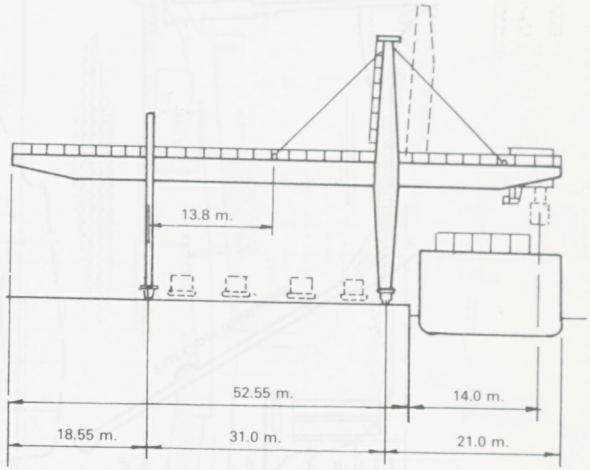
Quick Release Hooks. 150 tons Proof Load per hook.
Bollards 120 ton each installed at 40 m. intervals along face of dock for additional moorings if required.

BELIZE

A Face of Pier 220 ft., Width of Pier 60 ft., Height ASL 13 ft.
D Ro-Ro Berth Width 70 ft., Height ASL 8 ft., Depth 16-17 ft.

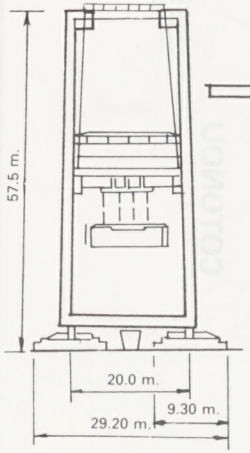


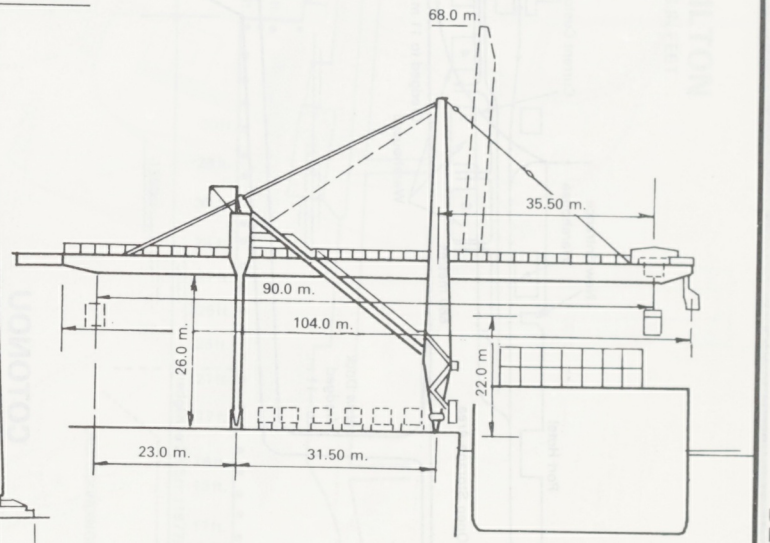




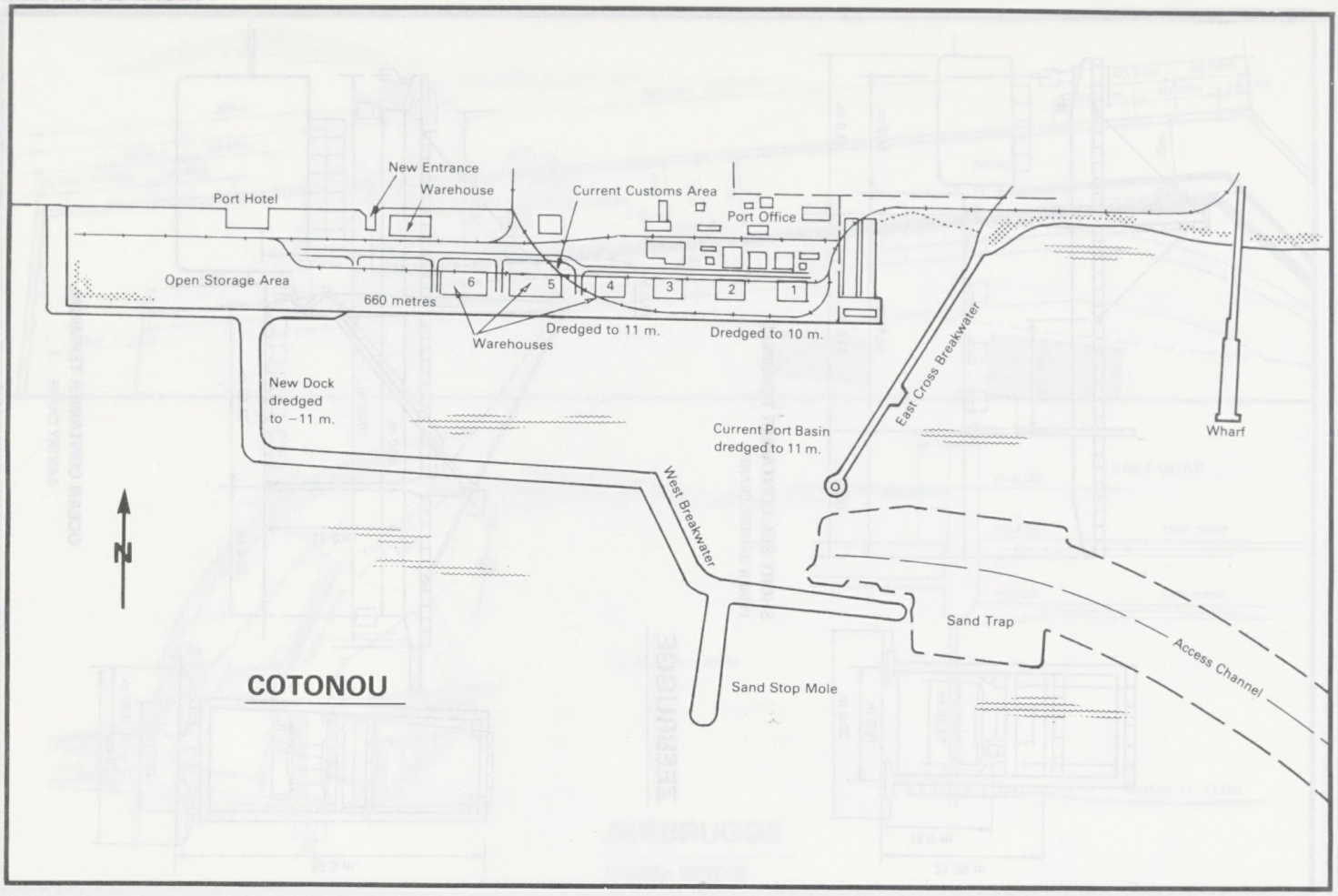
SHORT SEA CONTAINER TERMINAL
PEINER GANTRY CRANE

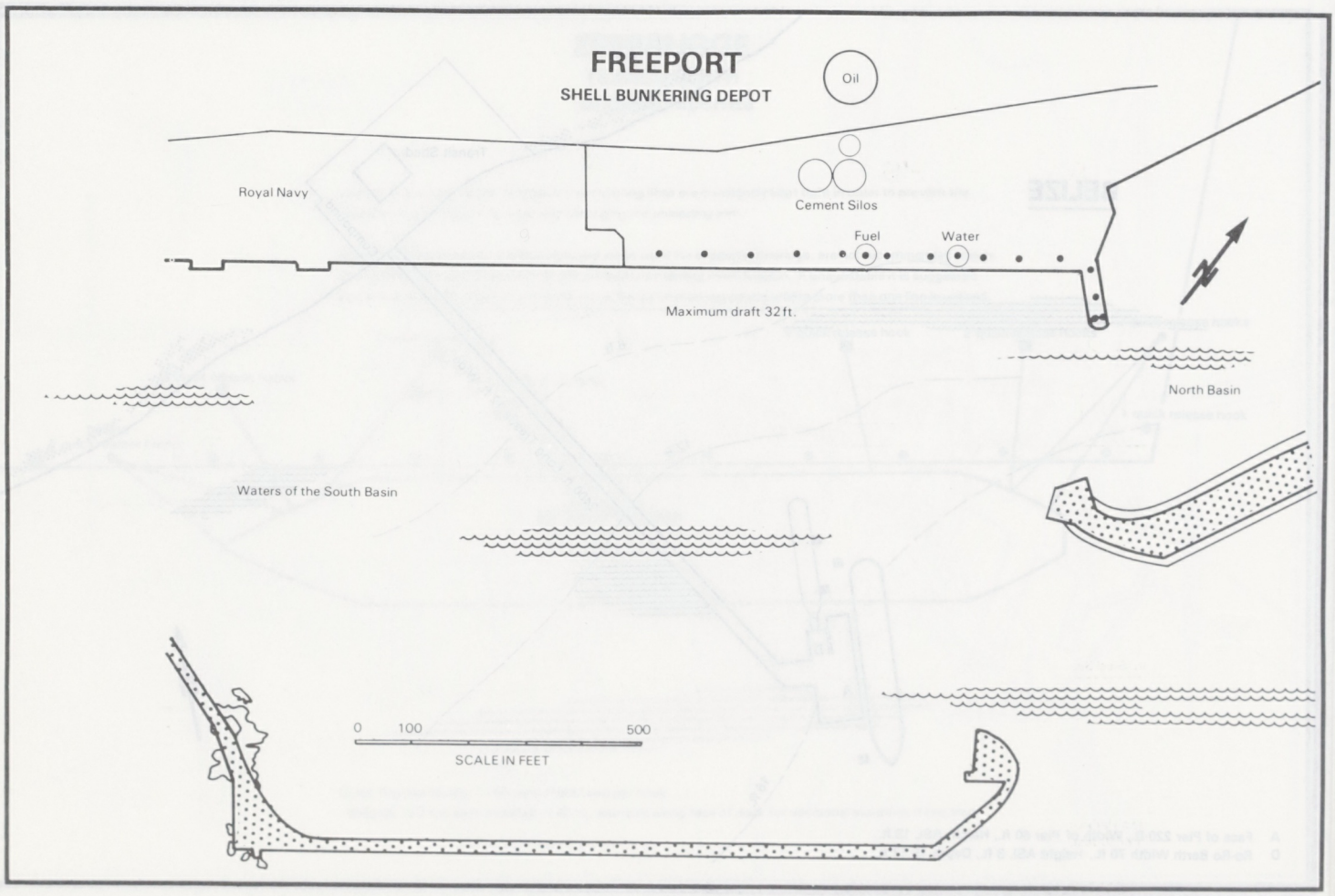
ZEEBRUGGE





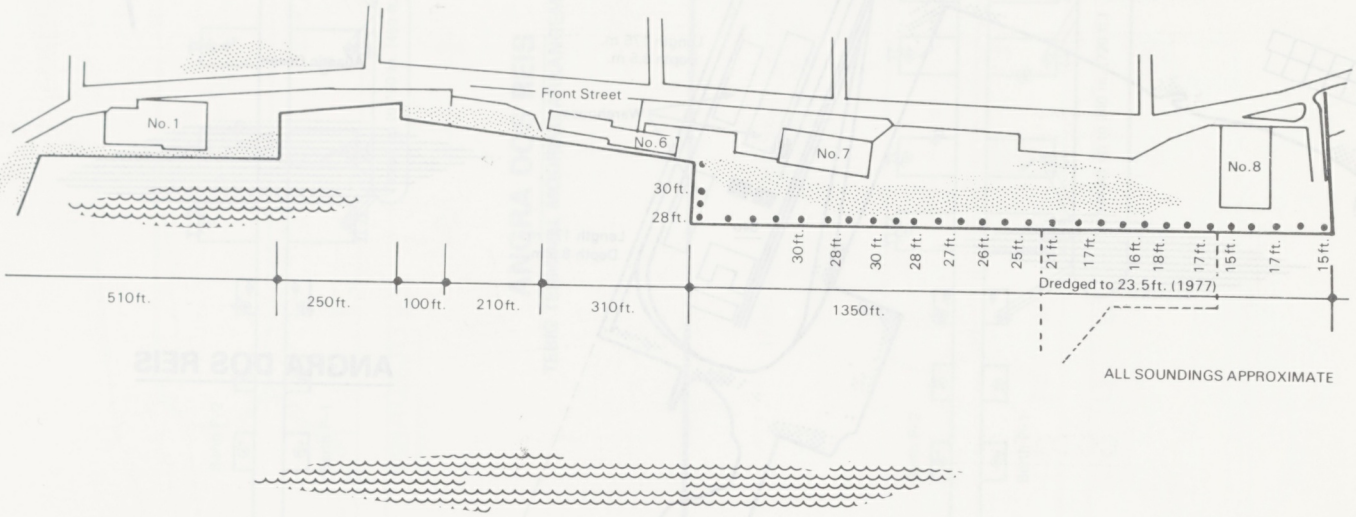
OCEAN CONTAINER TERMINAL
GANTRY CRANE


New Entrance
Warehouse
Port Hotel
Current Customs Area
Port Office
Open Storage Area
660 metres
6
5
4
3
2
1
Warehouses
Dredged to 11 m.
Dredged to 10 m.
New Dock
dredged
to −11 m.
Current Port Basin
dredged to 11 m.
East Cross Breakwater
Wharf
West Breakwater
N
Sand Trap
Access Channel
COTONOU
Sand Stop Mole


FREEPORT
SHELL BUNKERING DEPOT
Oil
Royal Navy
Cement Silos
Fuel
Water
Maximum draft 32 ft.
North Basin
Waters of the South Basin
0
100
500
SCALE IN FEET

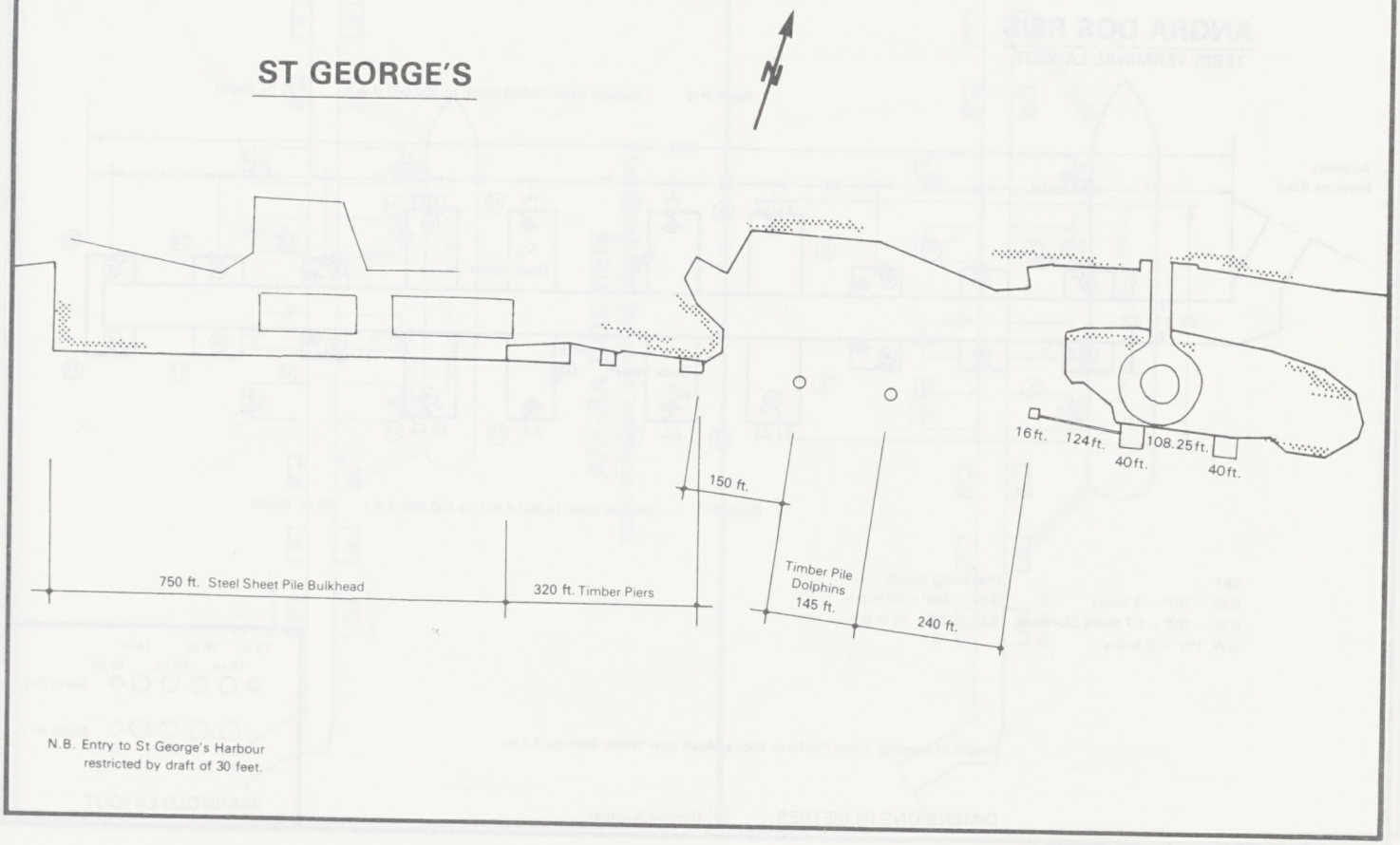
HAMILTON

DEPTHS IN FEET

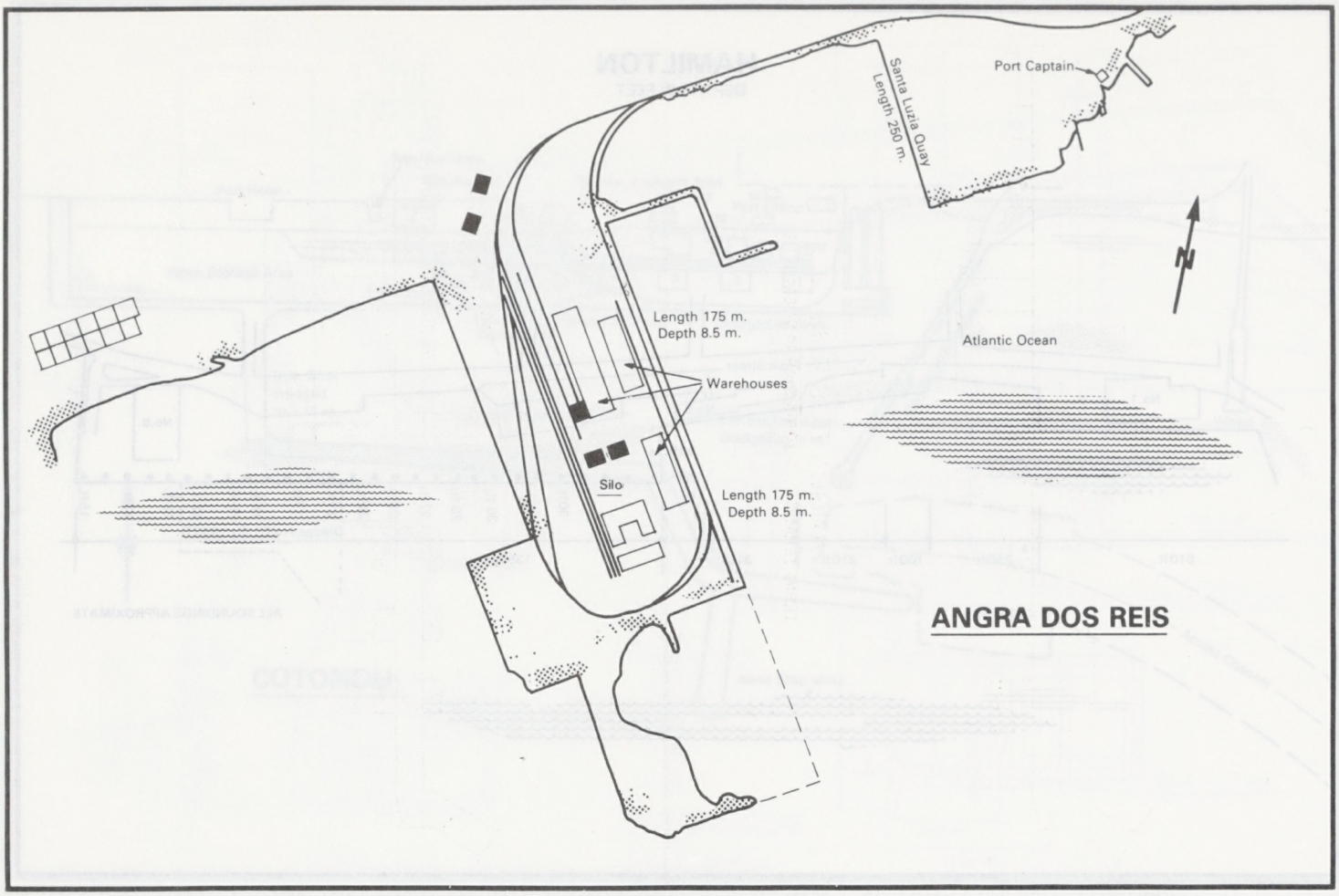


ALL SOUNDINGS APPROXIMATE

ST GEORGE'S

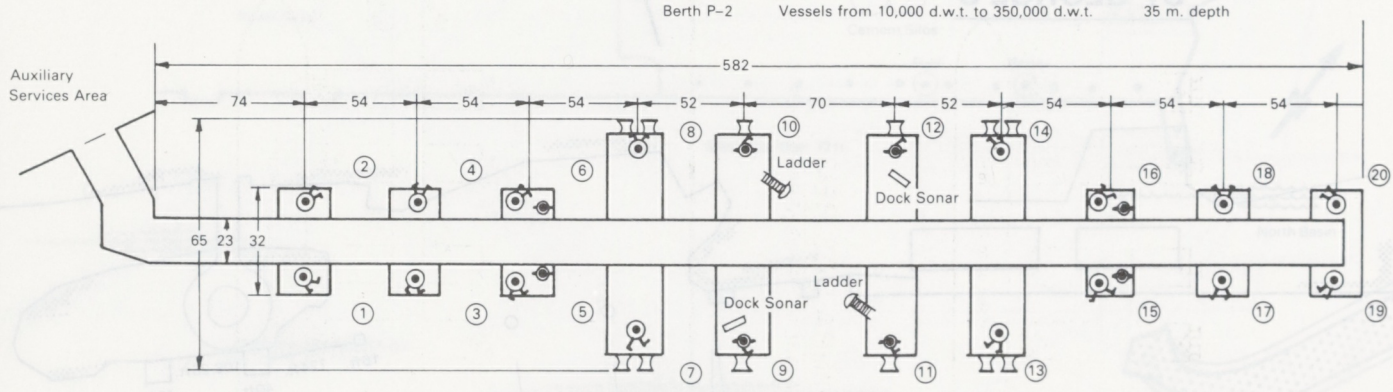


N.B. Entry to St George's Harbour restricted by draft of 30 feet.



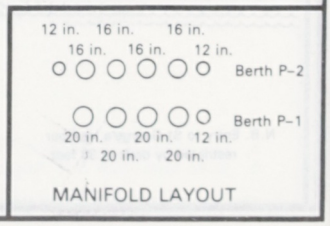
ANGRA DOS REIS

ANGRA DOS REIS
TEBIG TERMINAL LAYOUT



SET
S.W. – 107° – .8 knots
S.W. – 103° – 1.7 knots (Springs)
S.W. 119° – .7 knots

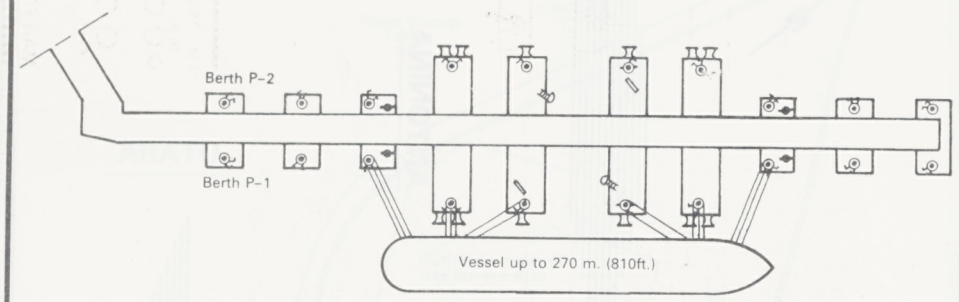
Prevailing Winds
S.W. – 240° – 20 m.p.h.
S.E. – 120° – 15 m.p.h.



MANIFOLD LAYOUT

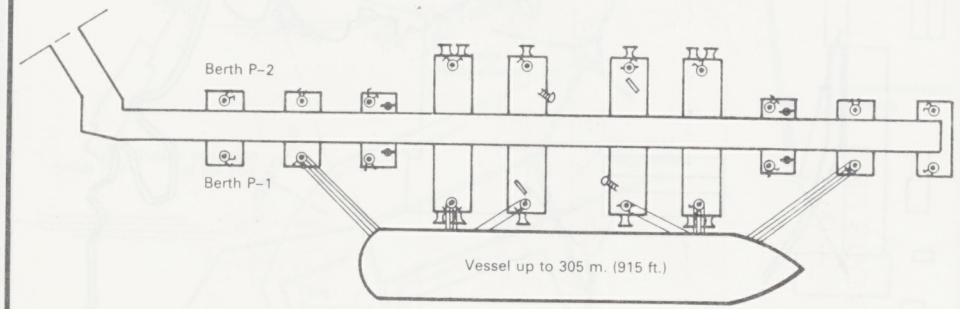
Height of Loading Arms Platform above Mean Low Water Springs 7.2 m.

DIMENSIONS IN METRES (9) Dolphin Number

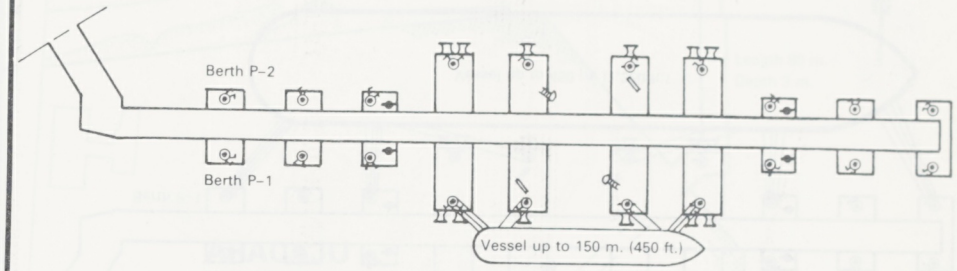


ANGRA DOS REIS

TEBIG TERMINAL MOORING ARRANGEMENTS

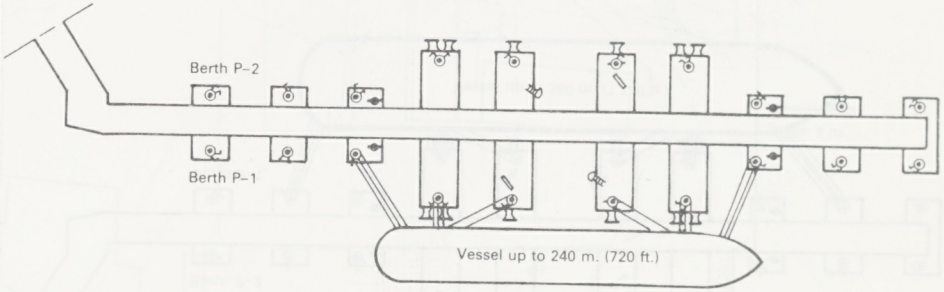


N.B. MOORINGS ARE IDENTICAL AT BERTHS P–1 & P–2

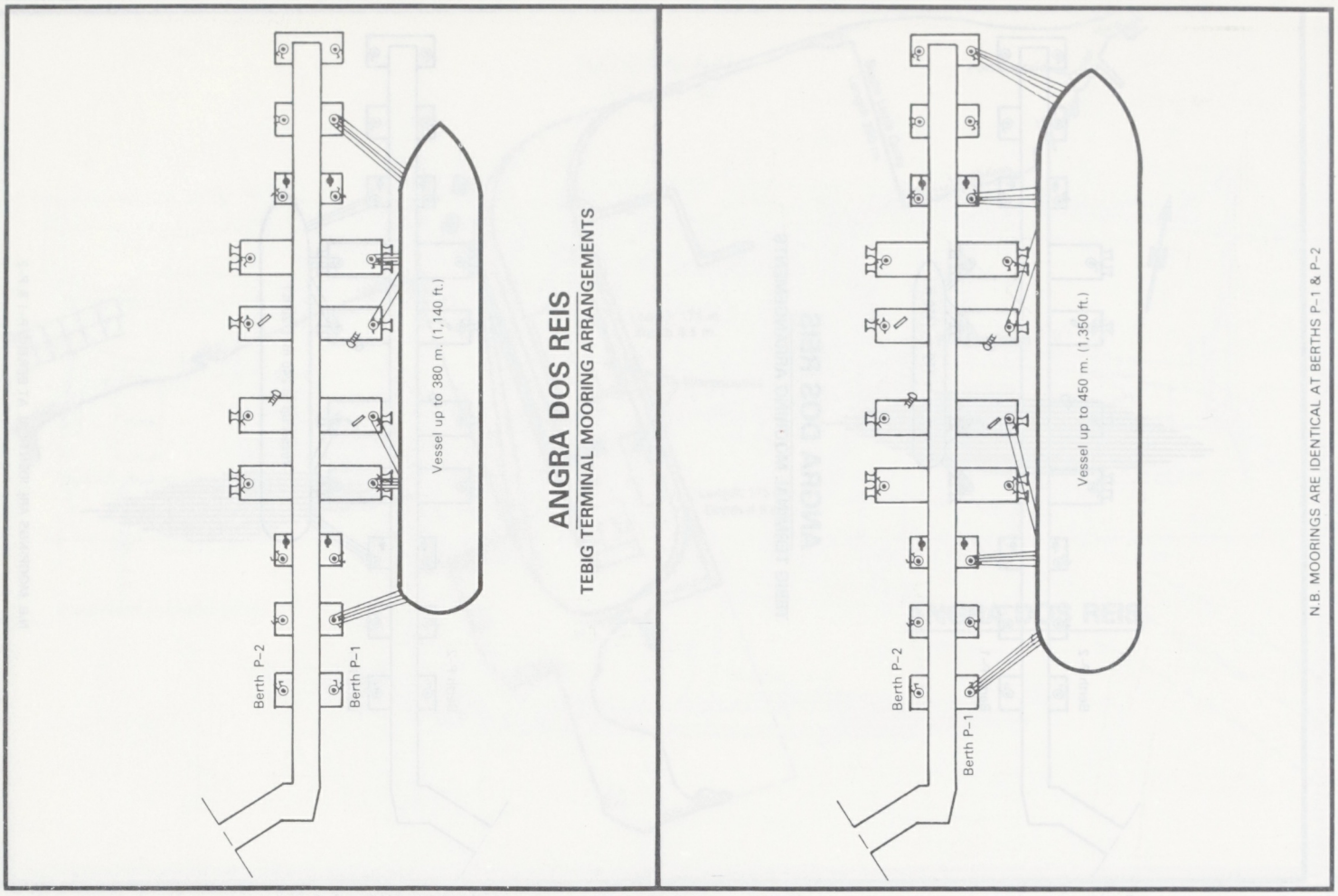


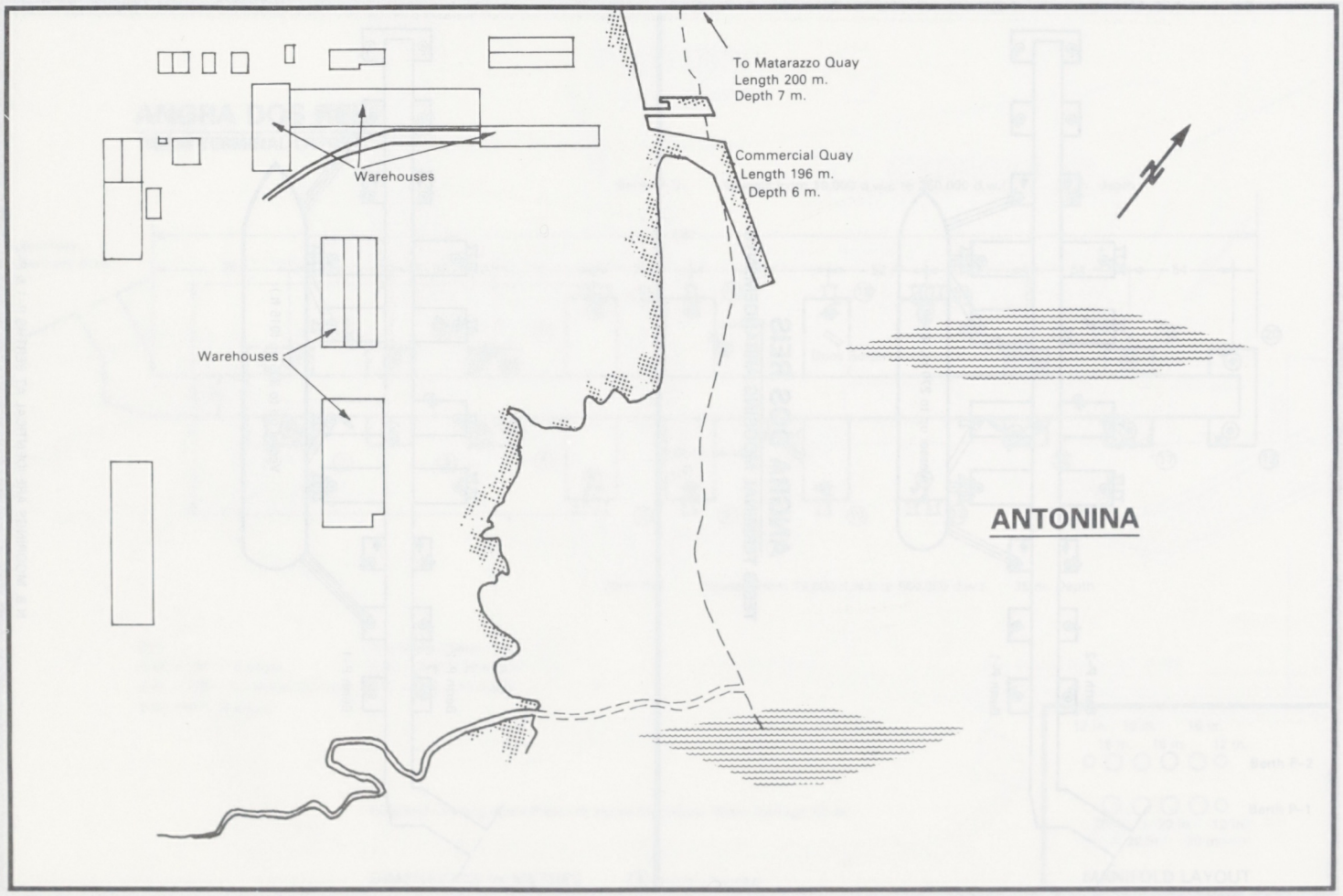
ANGRA DOS REIS

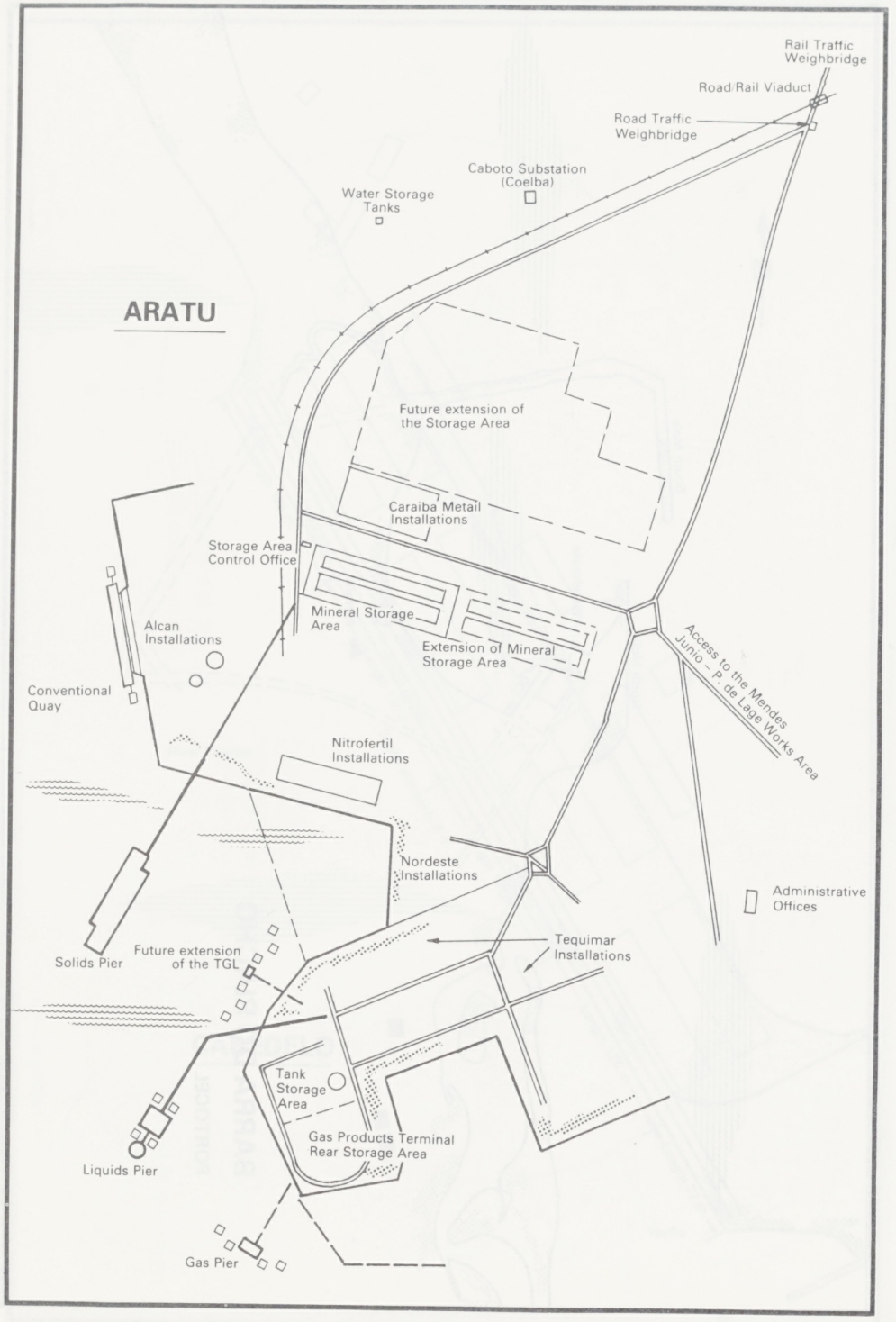
TEBIG TERMINAL MOORING ARRANGEMENTS

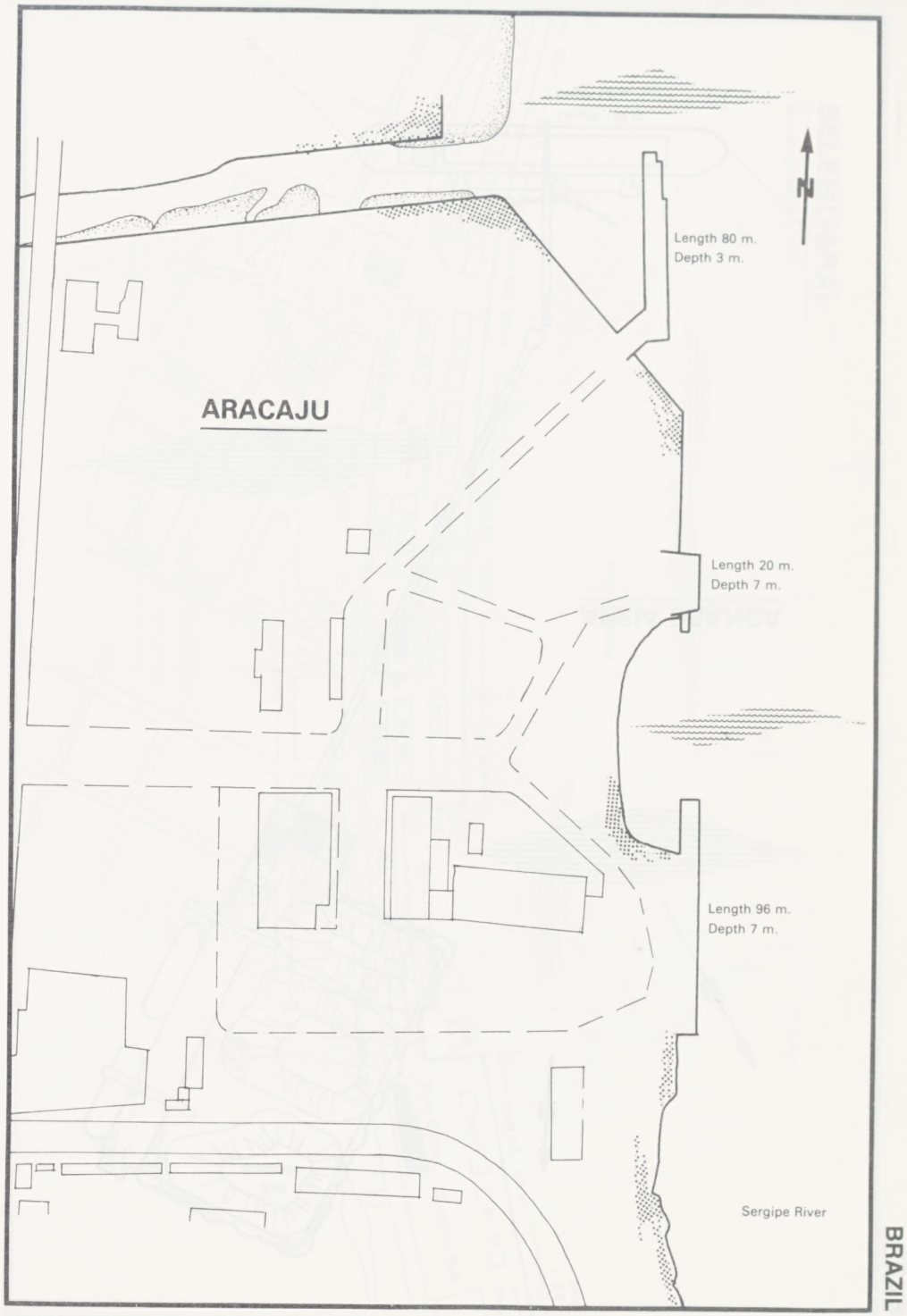


N.B. MOORINGS ARE IDENTICAL AT BERTHS P–1 & P–2

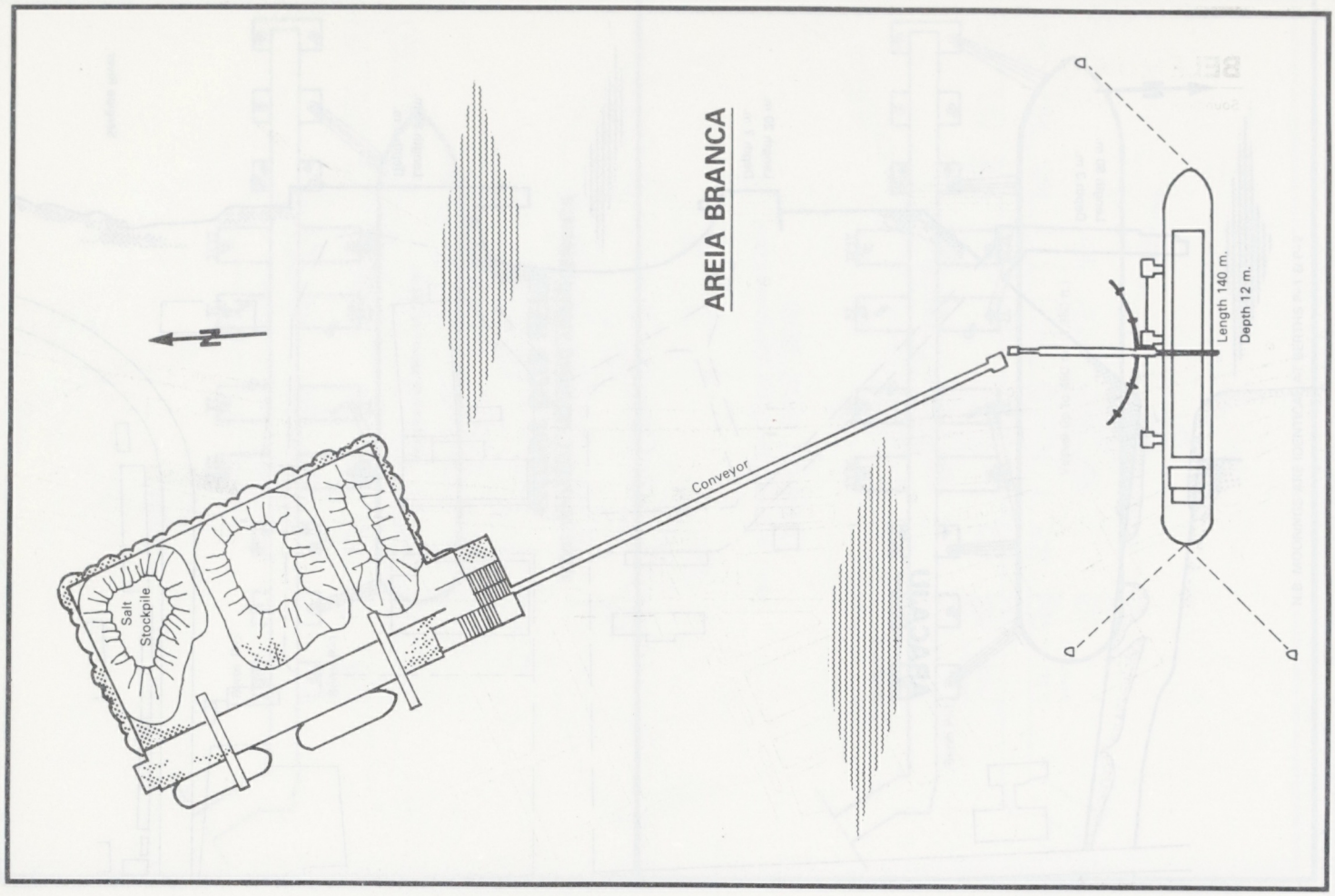

ANGRA DOS REIS
TEBIG TERMINAL MOORING ARRANGEMENTS
Vessel up to 380 m. (1,140 ft.)
Berth P–2
Berth P–1
Vessel up to 450 m. (1,350 ft.)
Berth P–2
Berth P–1
N.B. MOORINGS ARE IDENTICAL AT BERTHS P–1 & P–2

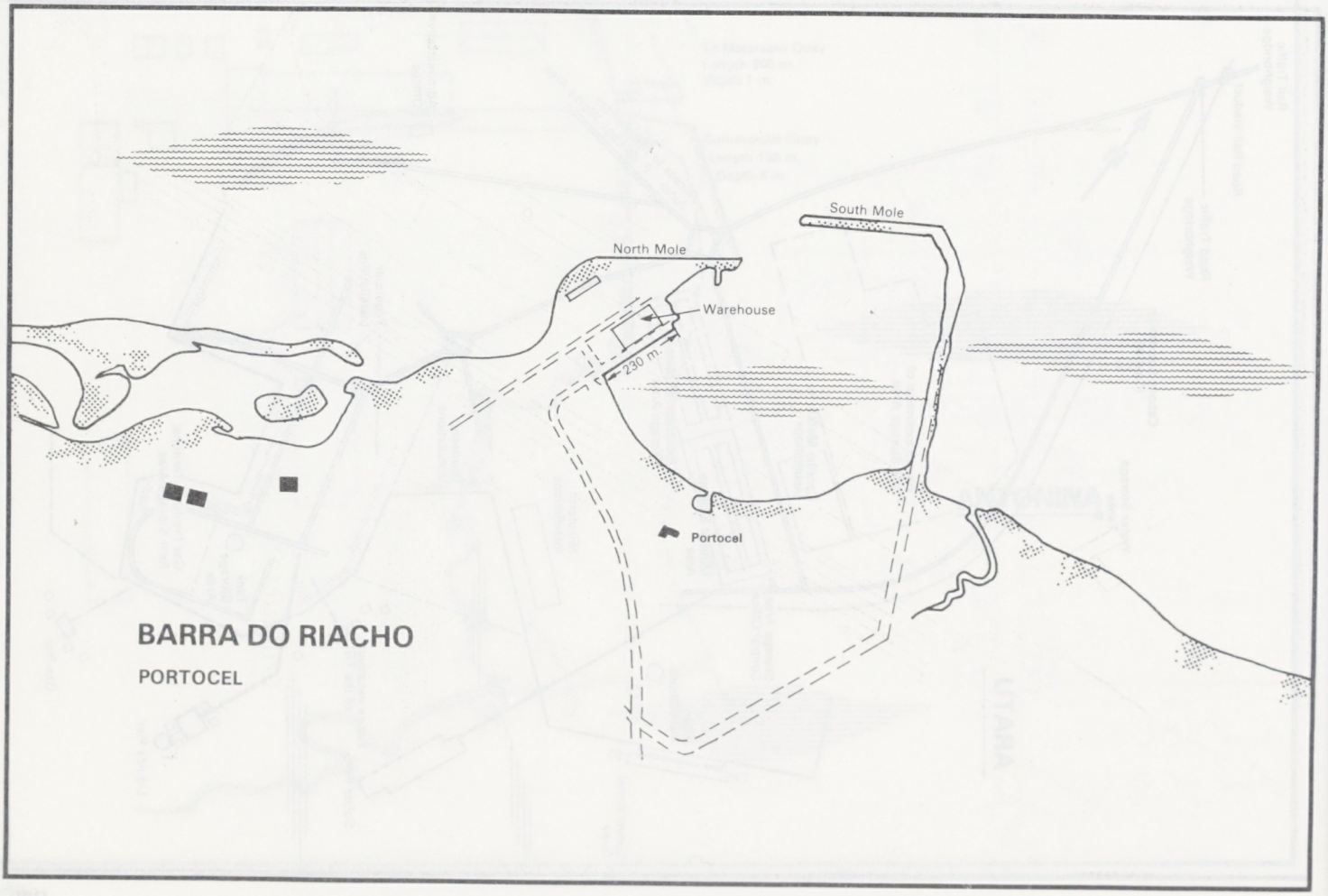

To Matarazzo Quay
Length 200 m.
Depth 7 m.
Commercial Quay
Length 196 m.
Depth 6 m.
Warehouses
Warehouses
ANTONINA


ARATU
Rail Traffic Weighbridge
Road/Rail Viaduct
Road Traffic Weighbridge
Caboto Substation (Coelba)
Water Storage Tanks
Future extension of the Storage Area
Caraiba Metail Installations
Storage Area Control Office
Mineral Storage Area
Extension of Mineral Storage Area
Alcan Installations
Conventional Quay
Nitrofertil Installations
Access to the Mendes Junio – P. de Lage Works Area
Nordeste Installations
Administrative Offices
Solids Pier
Future extension of the TGL
Tequimar Installations
Tank Storage Area
Gas Products Terminal Rear Storage Area
Liquids Pier
Gas Pier


ARACAJU
N
Length 80 m.
Depth 3 m.
Length 20 m.
Depth 7 m.
Length 96 m.
Depth 7 m.
Sergipe River

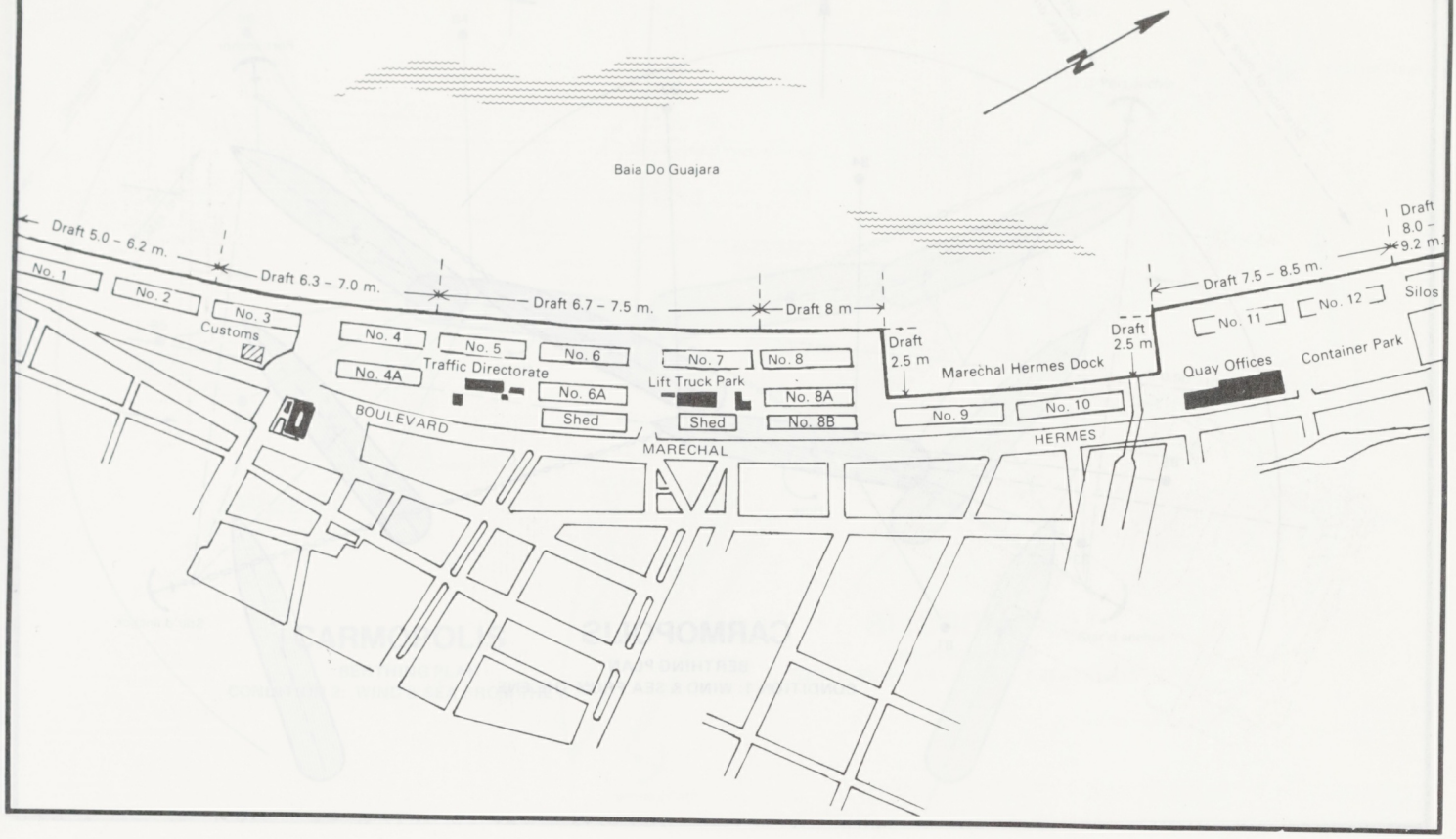
BRAZIL

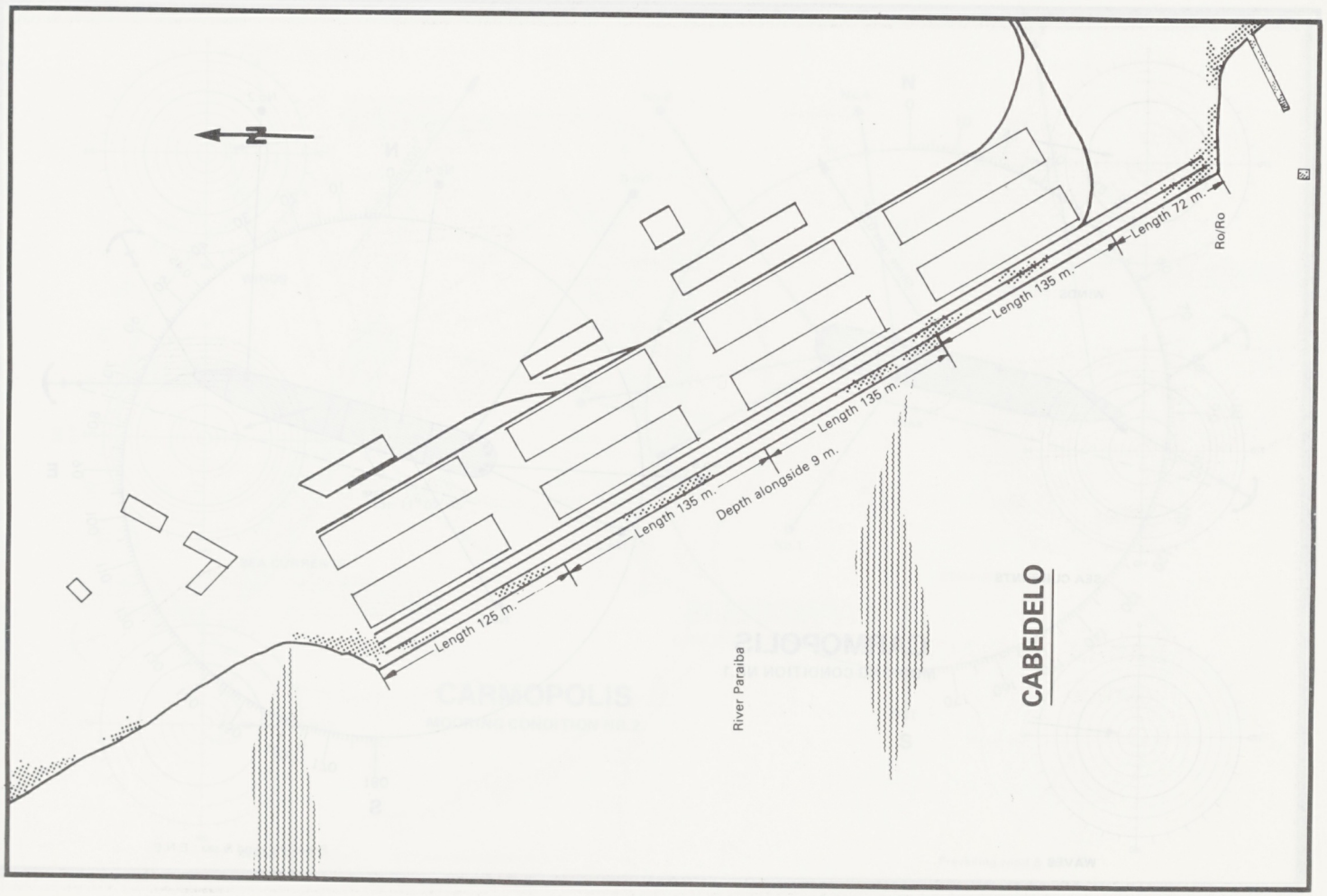

AREIA BRANCA
N
Salt Stockpile
Conveyor
Length 140 m.
Depth 12 m.

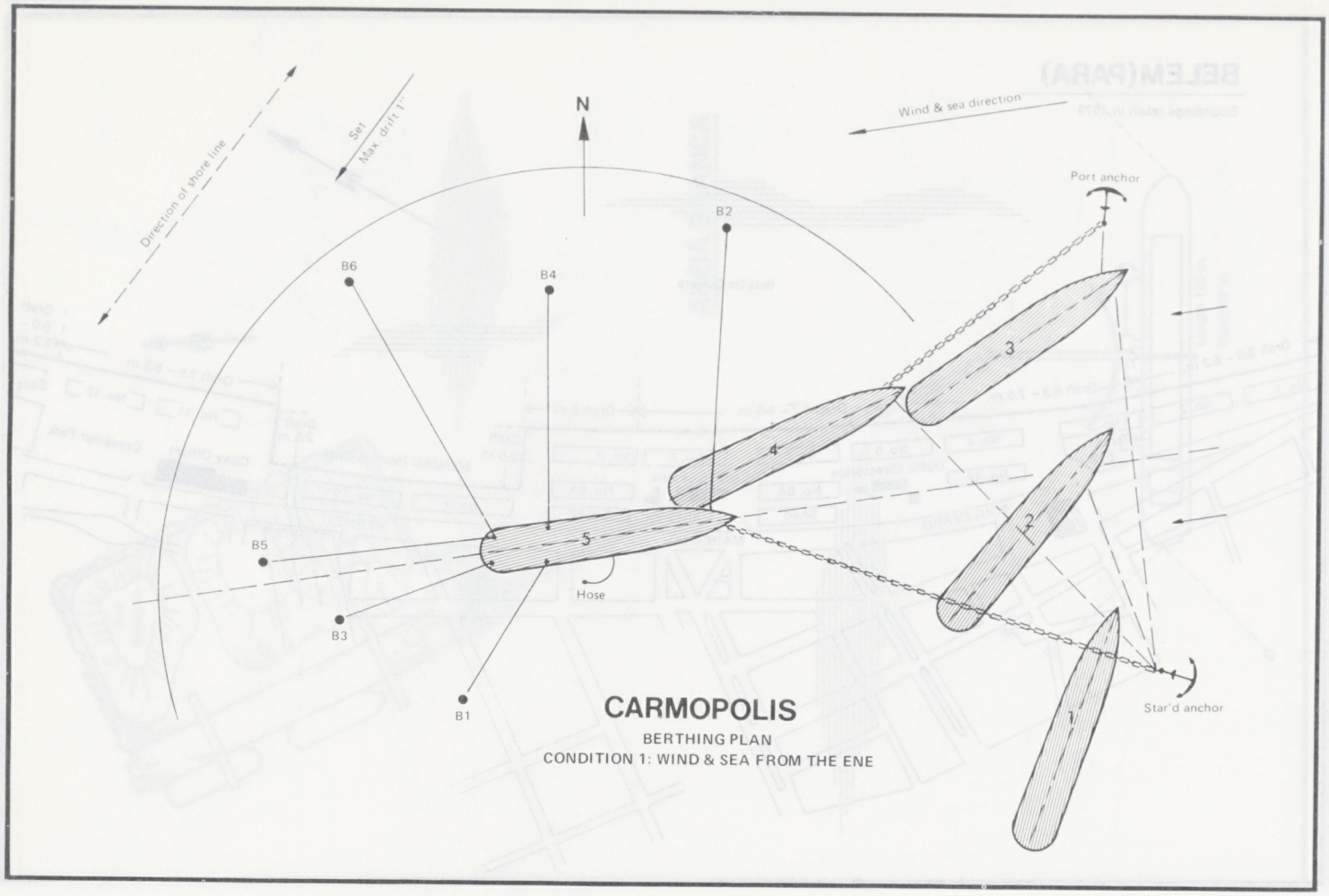

South Mole
North Mole
Warehouse
230 m.
Portocel
BARRA DO RIACHO
PORTOCEL

BELEM(PARA)

Soundings taken in 1979



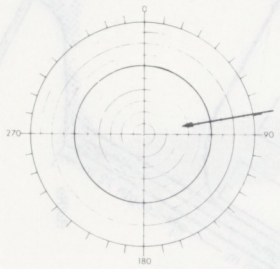


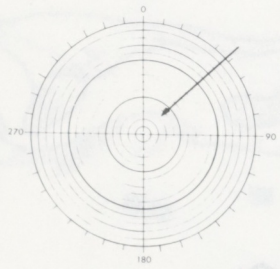


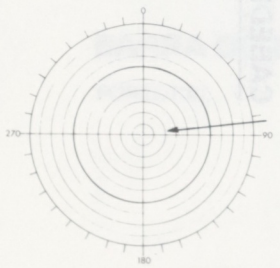
CARMOPOLIS

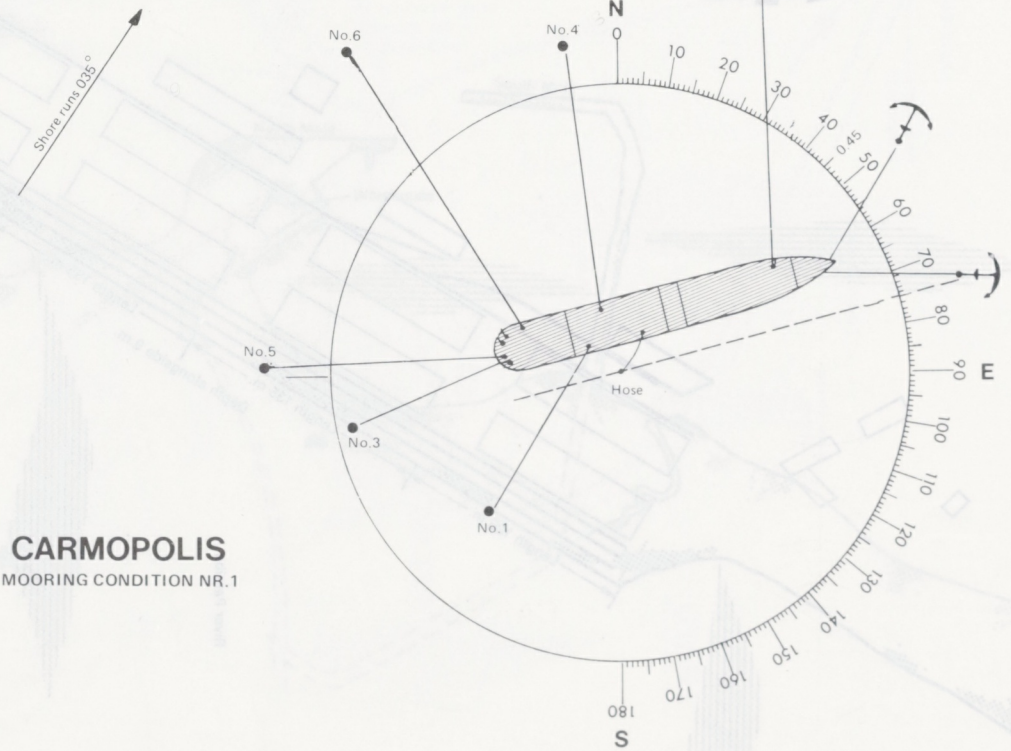
BERTHING PLAN

CONDITION 1: WIND & SEA FROM THE ENE



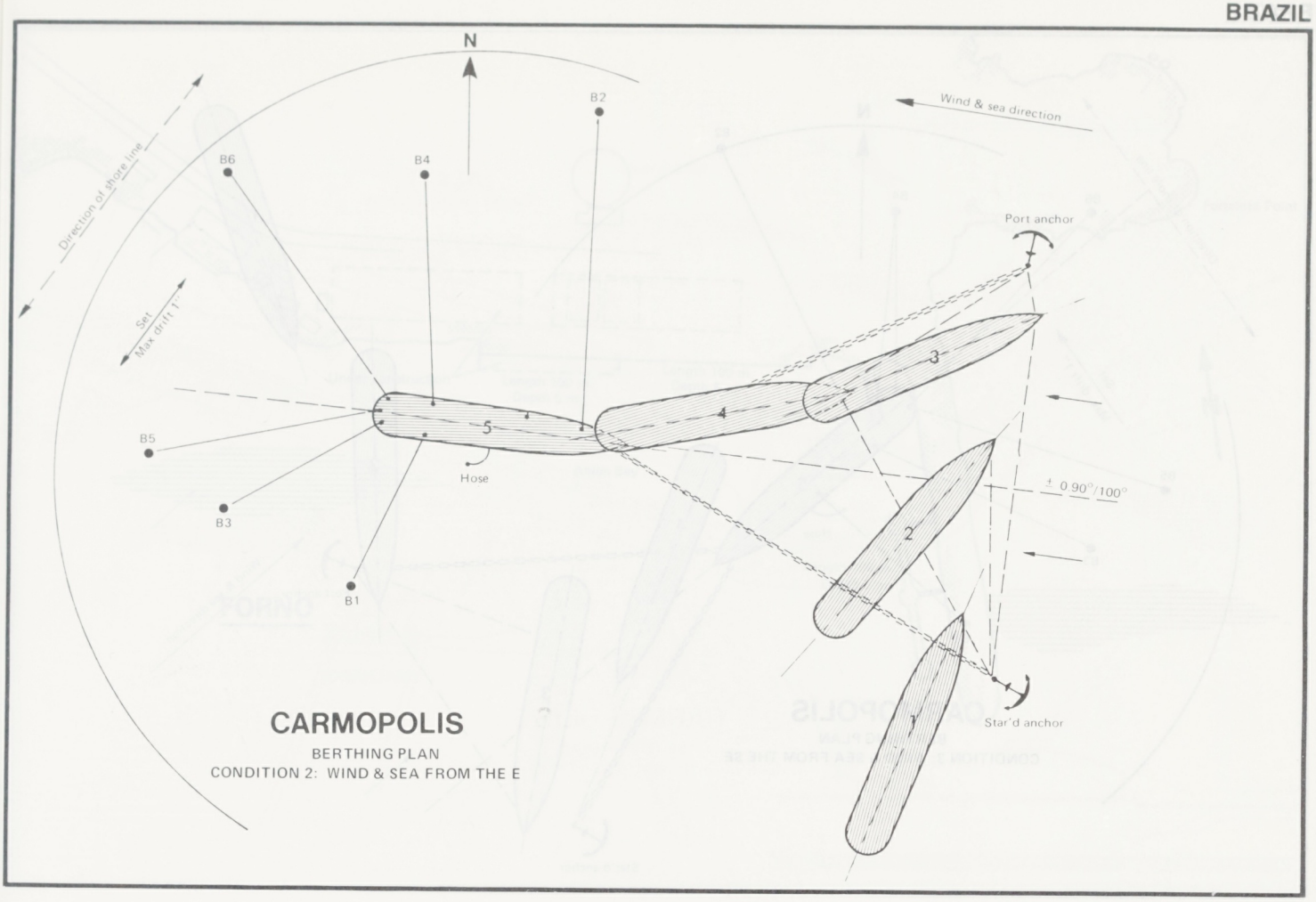






CARMOPOLIS

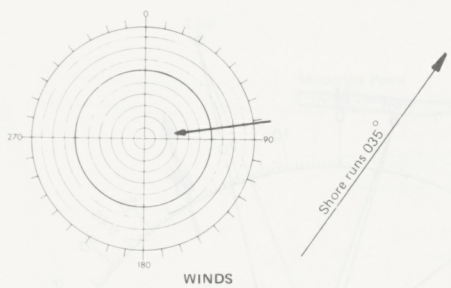
MOORING CONDITION NR.1

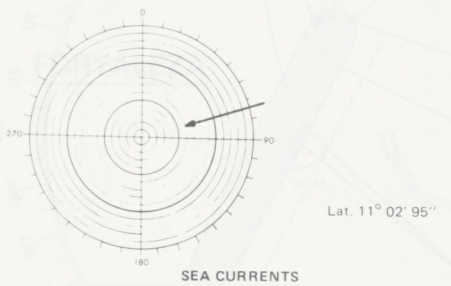


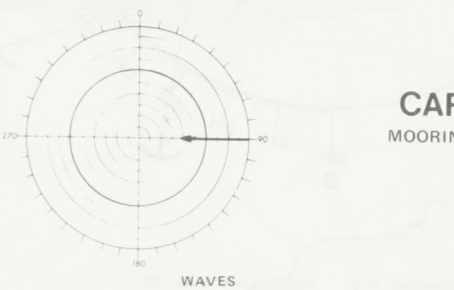
CARMOPOLIS

BERTHING PLAN

CONDITION 2: WIND & SEA FROM THE E

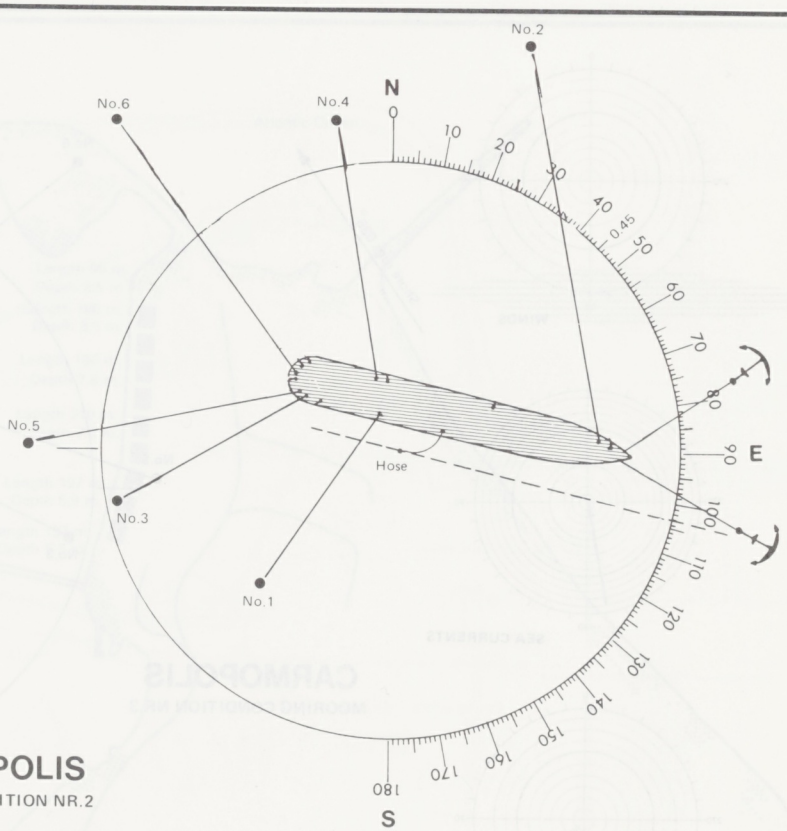






Shore runs 035°

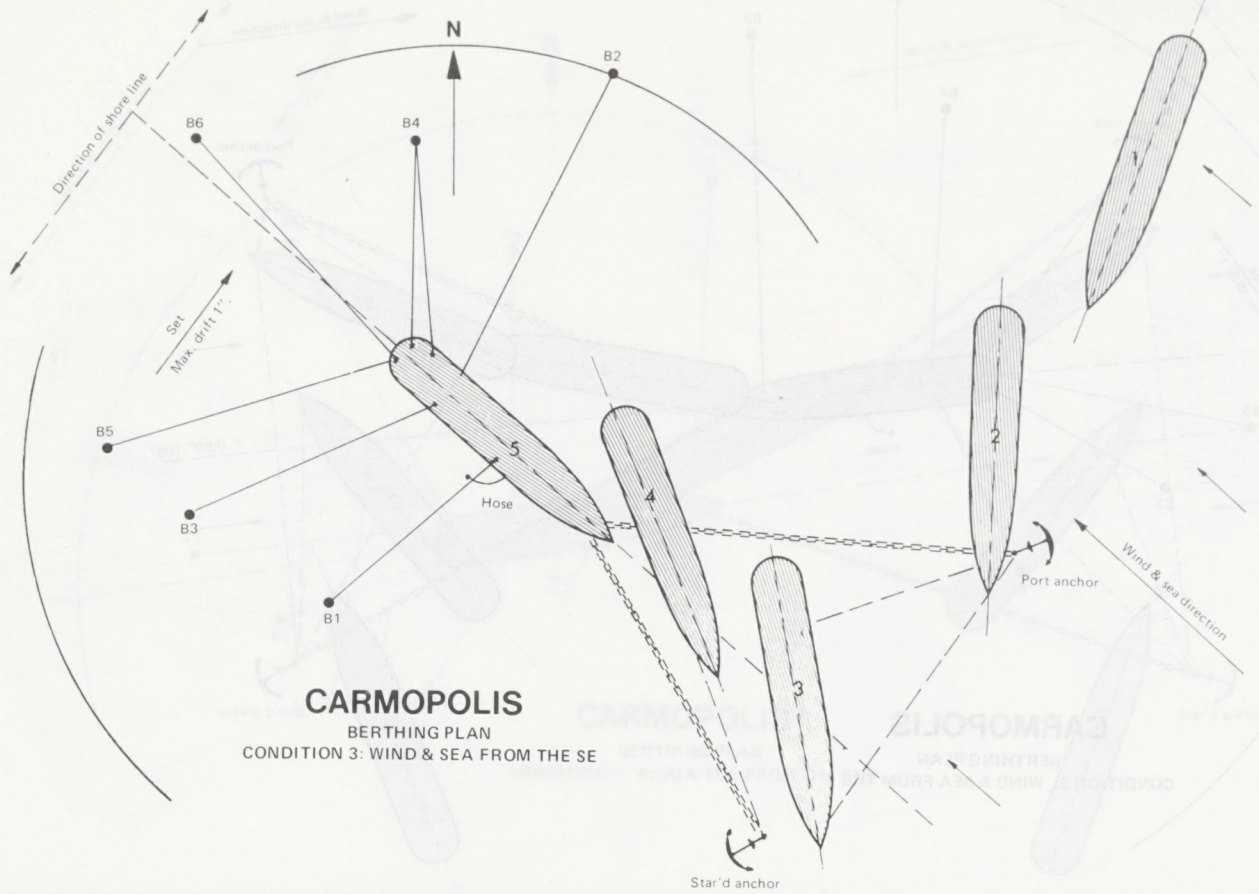
Lat. 11° 02' 95''



CARMOPOLIS

MOORING CONDITION NR.2

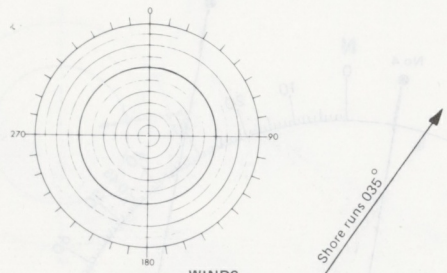
Prevailing wind & sea : E

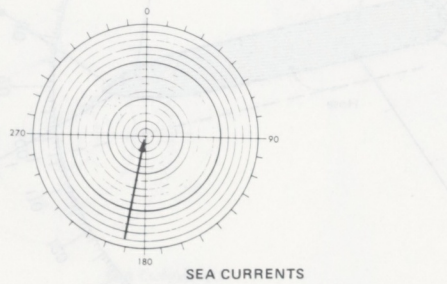


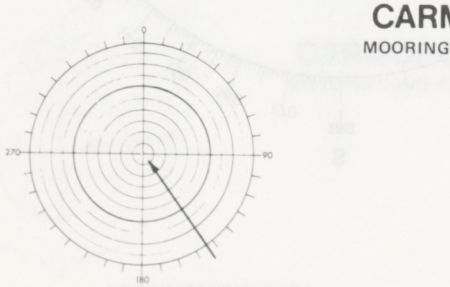
CARMOPOLIS

BERTHING PLAN

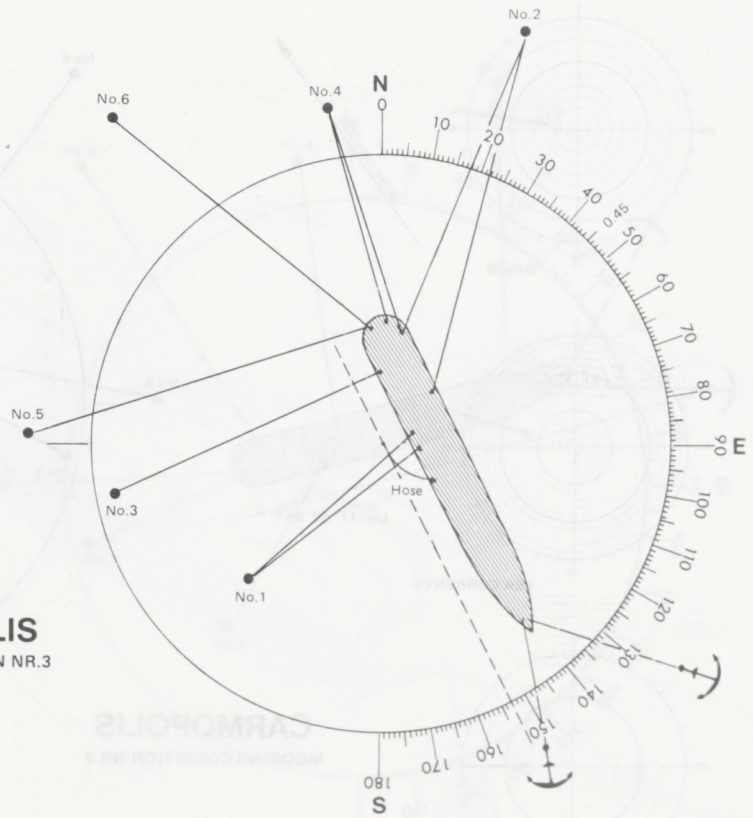
CONDITION 3: WIND & SEA FROM THE SE







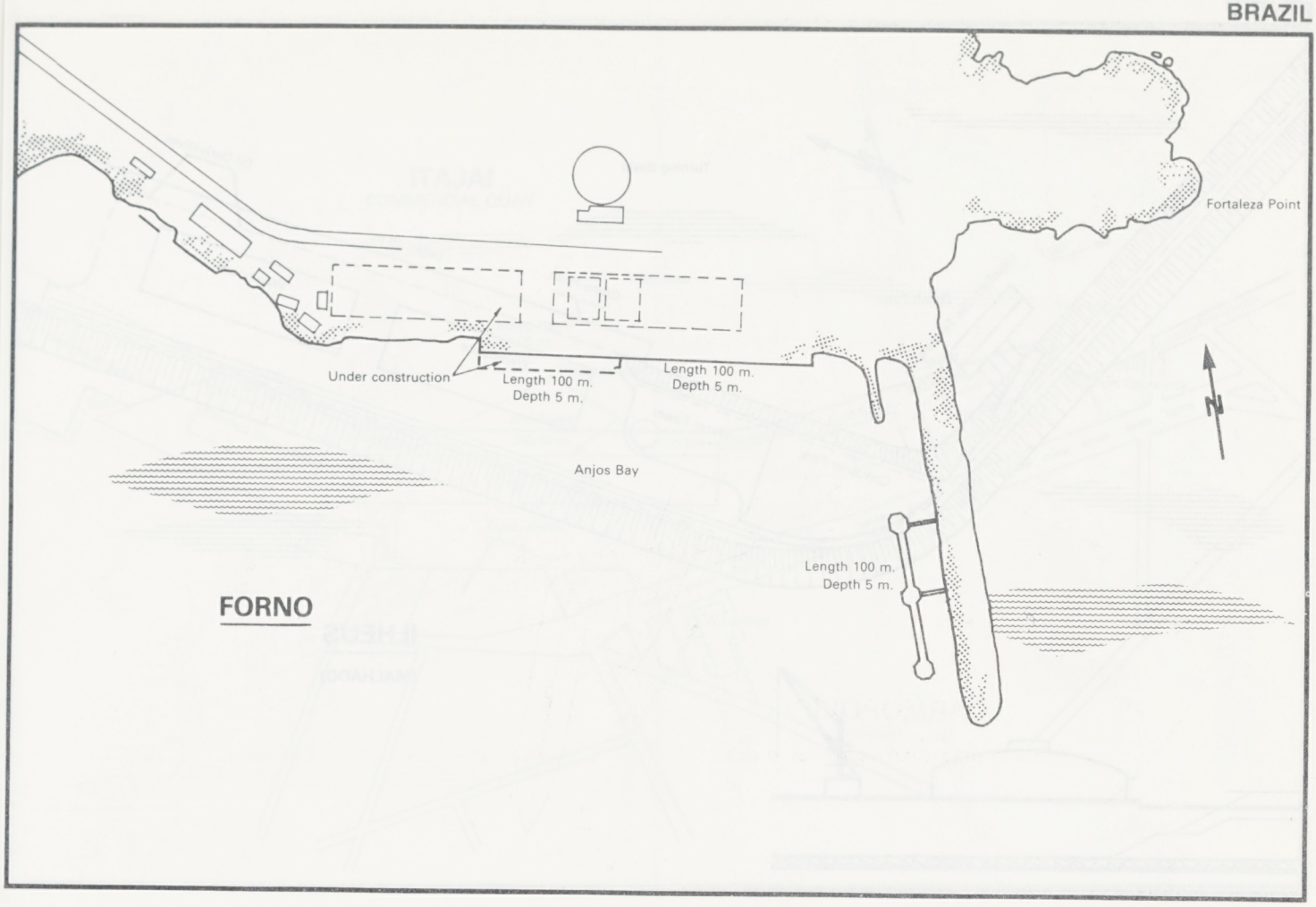
Shore runs 035°

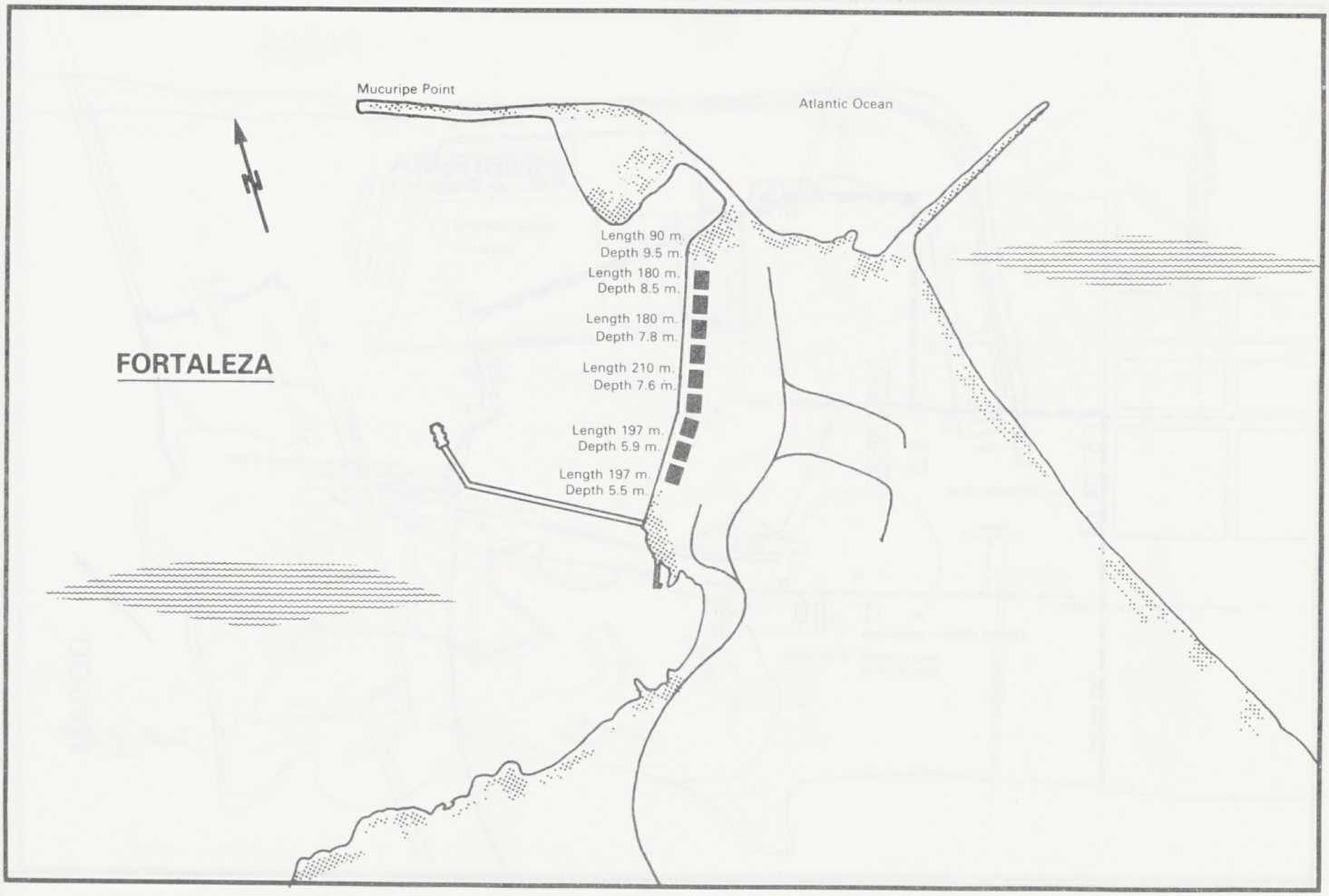


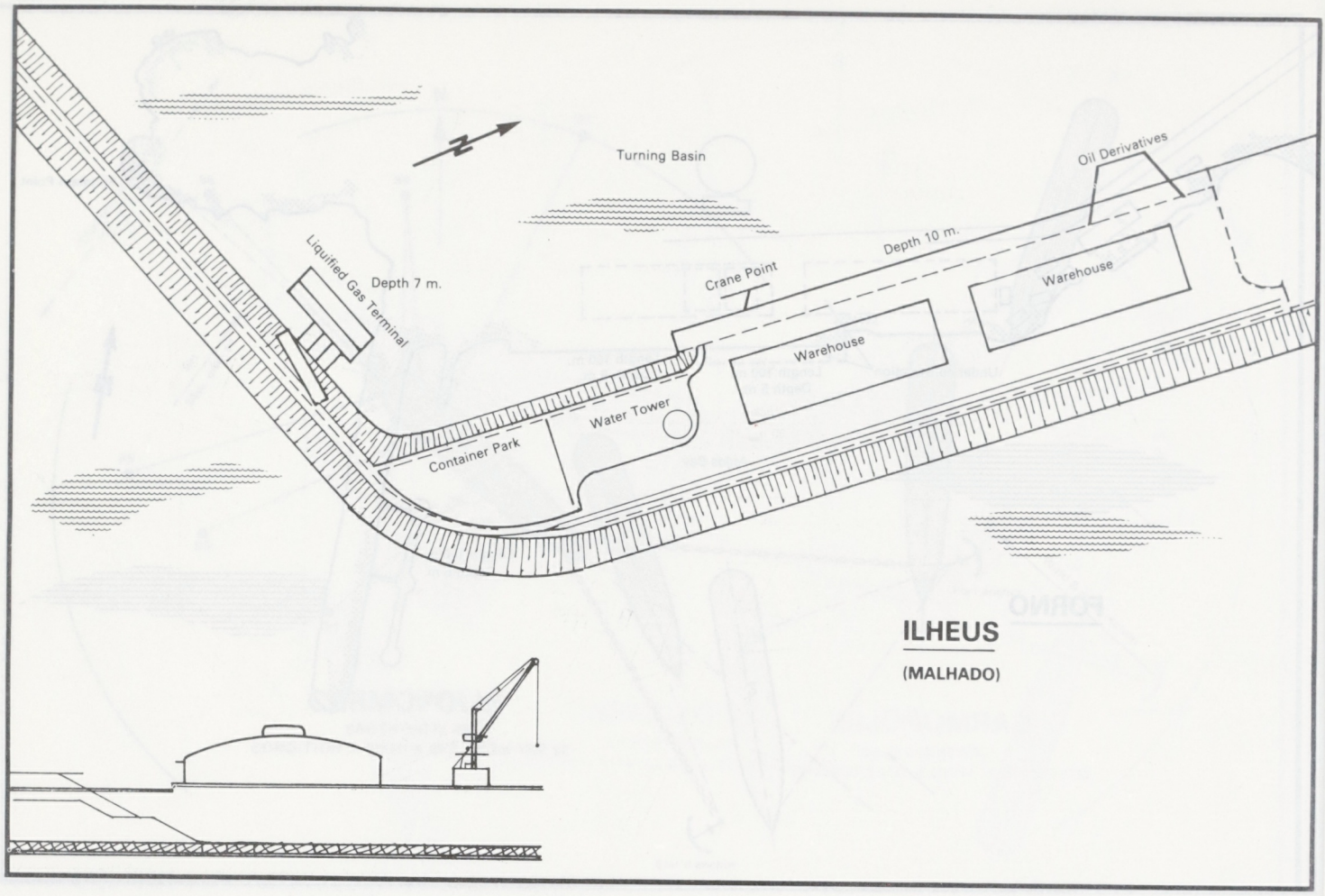
CARMOPOLIS

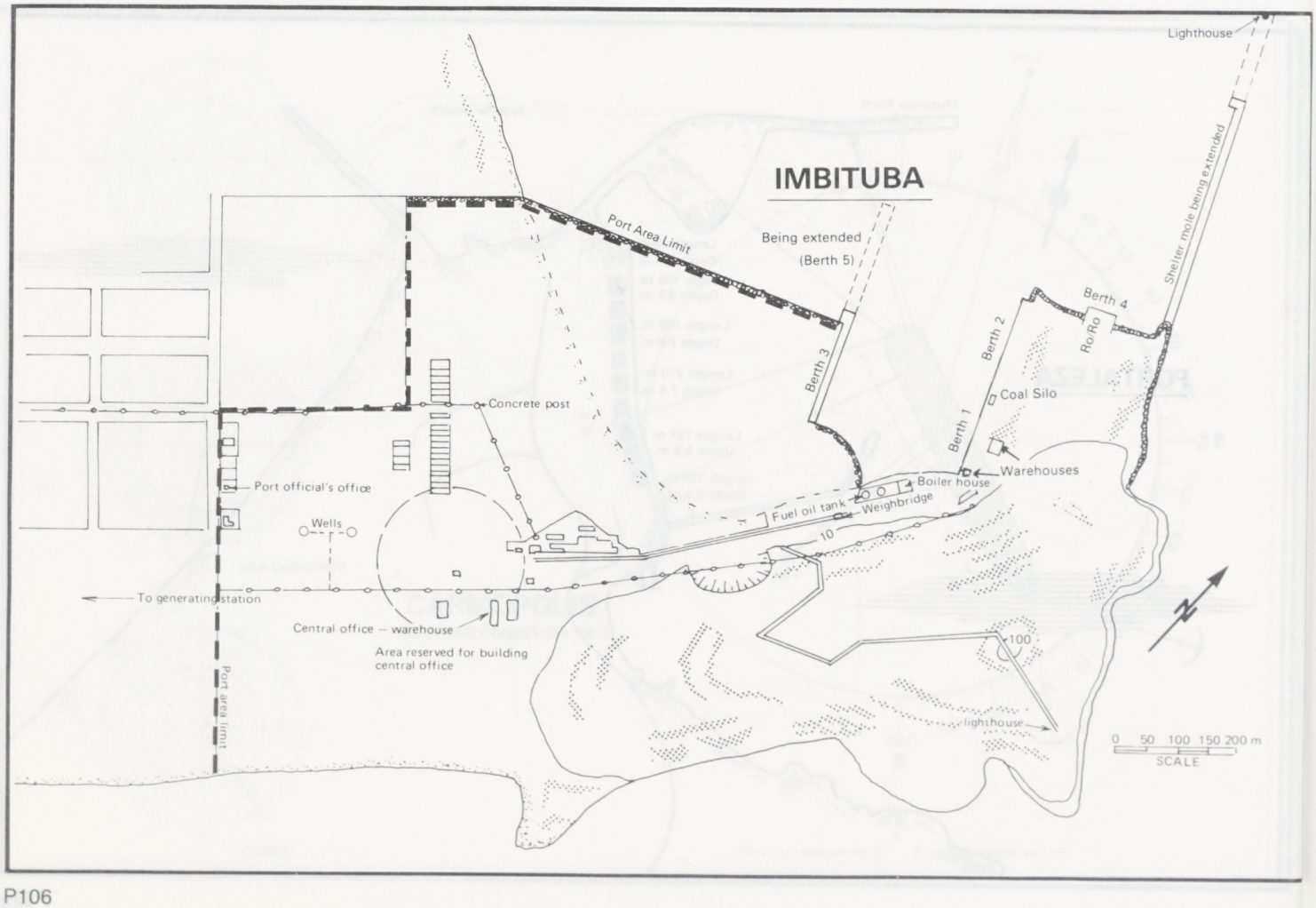
MOORING CONDITION NR.3

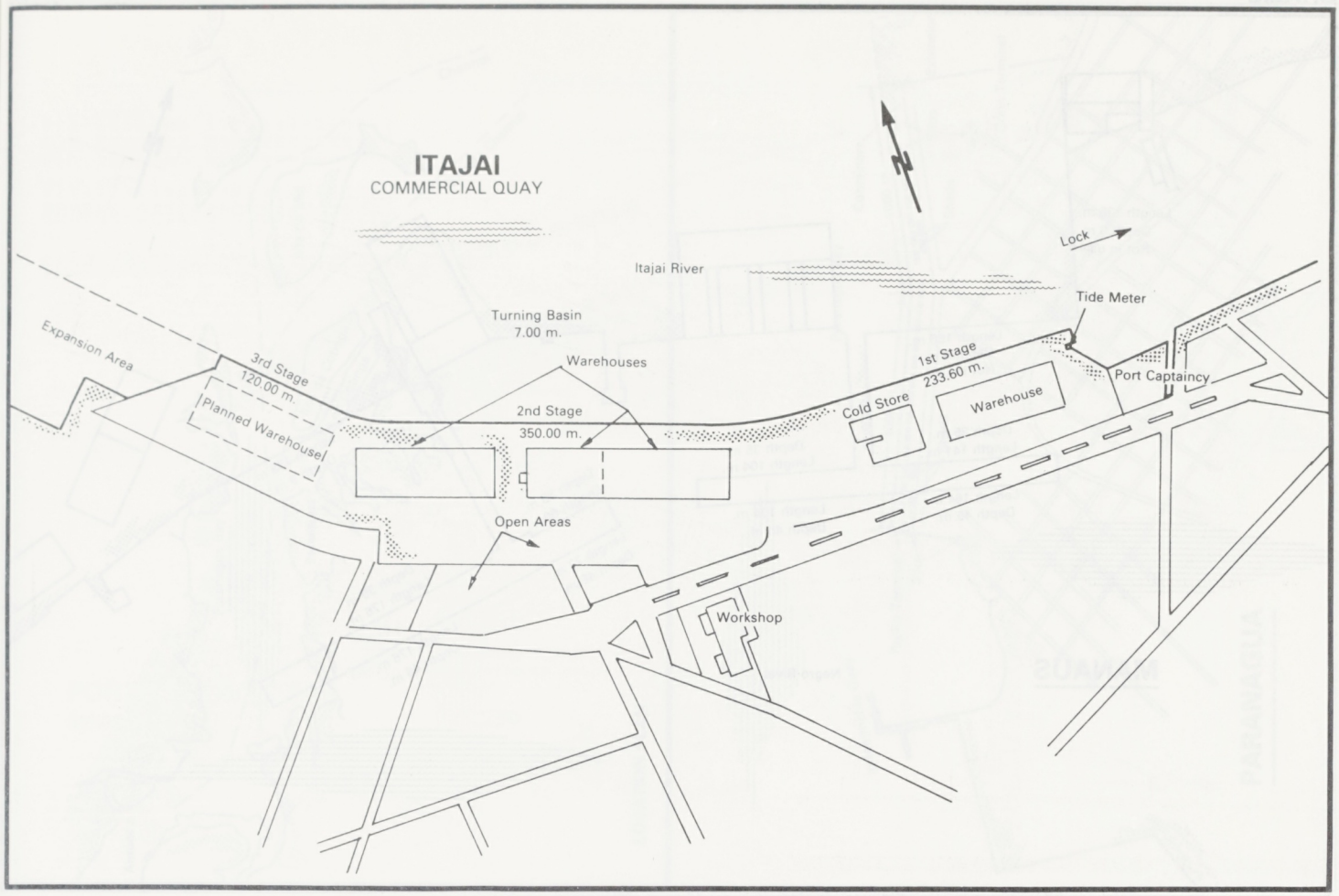
Mooring condition Nr.3. Prevailing wind & sea : SE

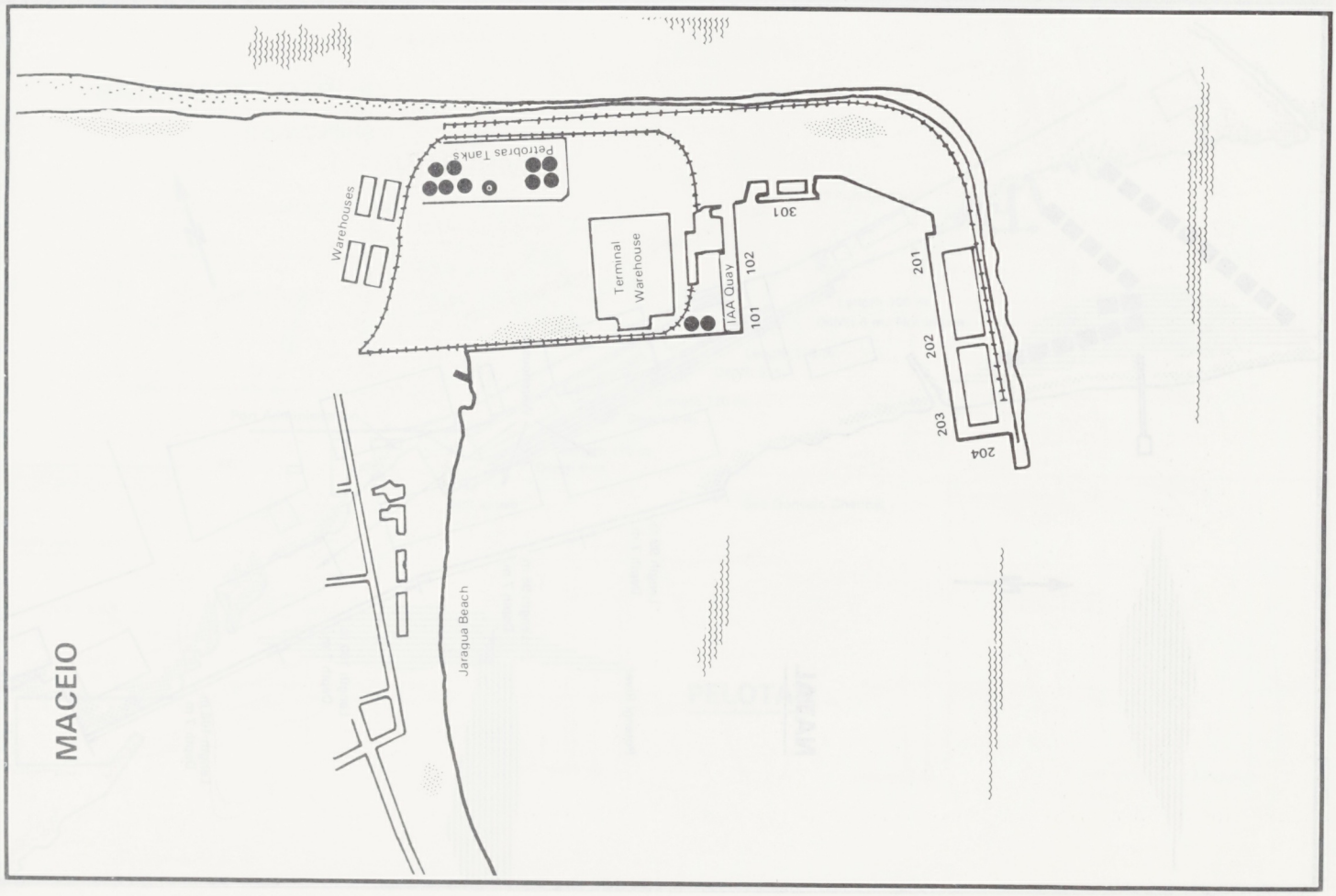

Fortaleza Point
Under construction
Length 100 m.
Depth 5 m.
Length 100 m.
Depth 5 m.
Anjos Bay
Length 100 m.
Depth 5 m.
FORNO

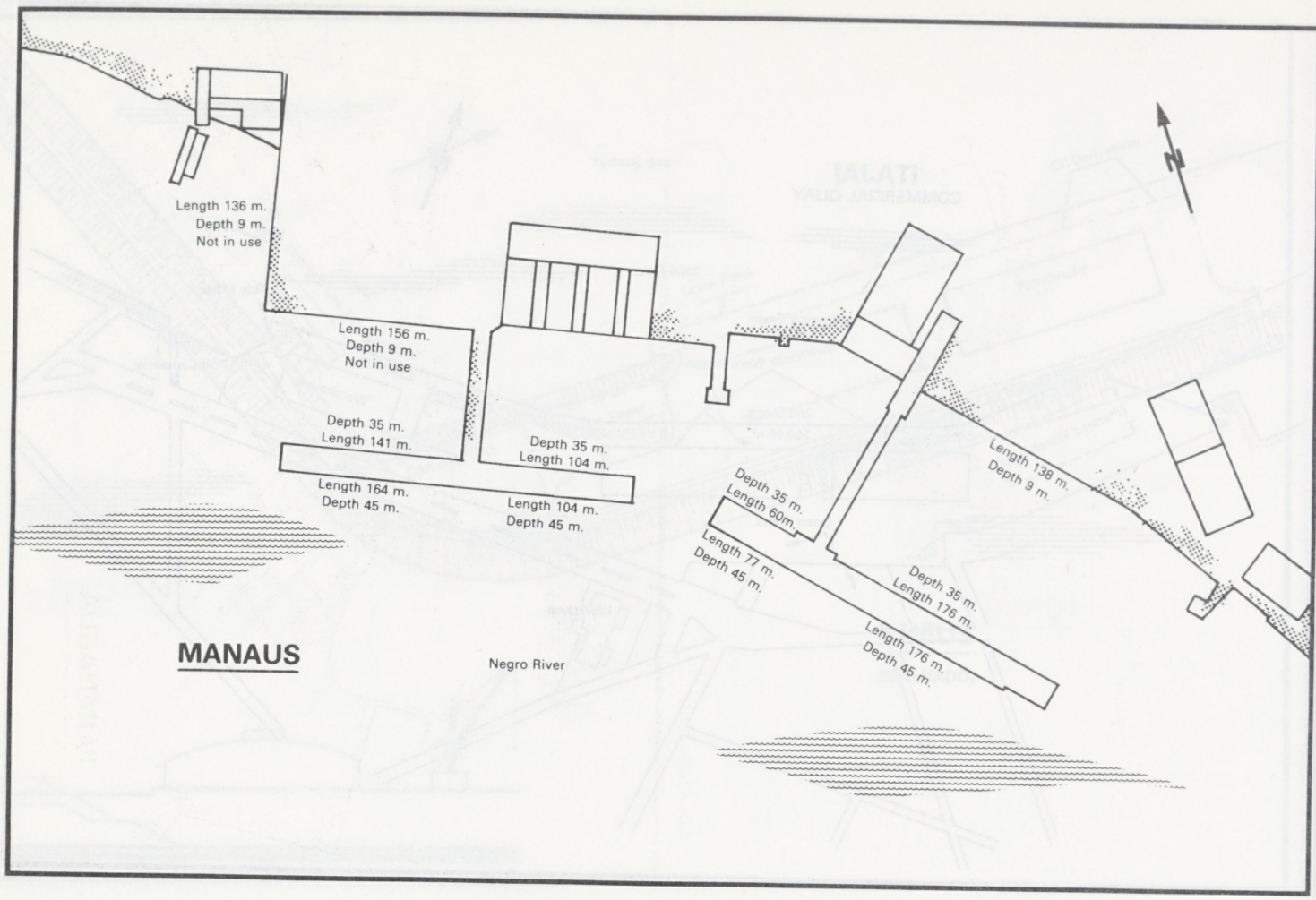

Mucuripe Point
Atlantic Ocean
Length 90 m.
Depth 9.5 m.
Length 180 m.
Depth 8.5 m.
Length 180 m.
Depth 7.8 m.
Length 210 m.
Depth 7.6 m.
Length 197 m.
Depth 5.9 m.
Length 197 m.
Depth 5.5 m.
FORTALEZA

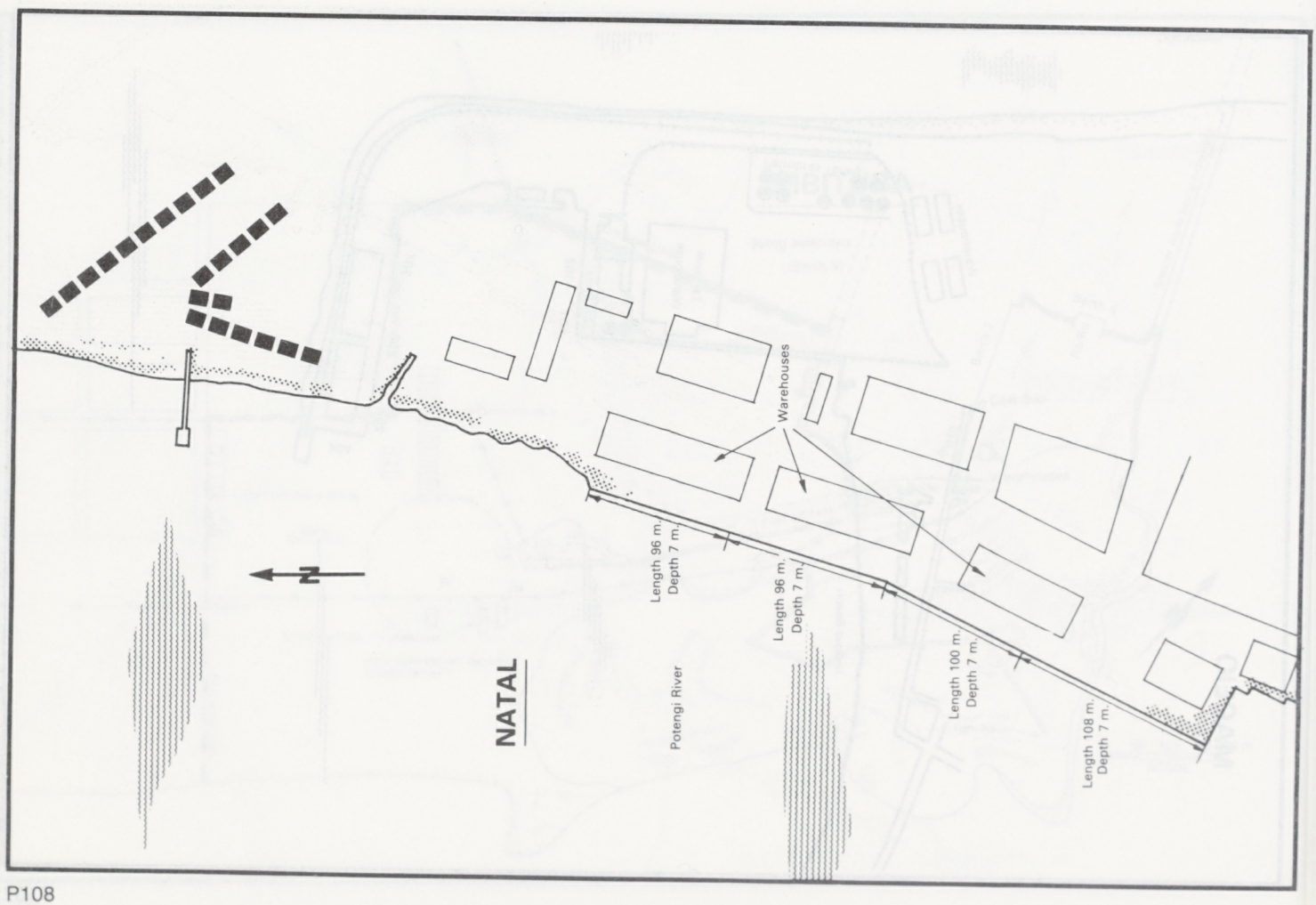

Turning Basin
Oil Derivatives
Liquified Gas Terminal
Depth 7 m.
Crane Point
Depth 10 m.
Warehouse
Warehouse
Water Tower
Container Park
ILHEUS
(MALHADO)

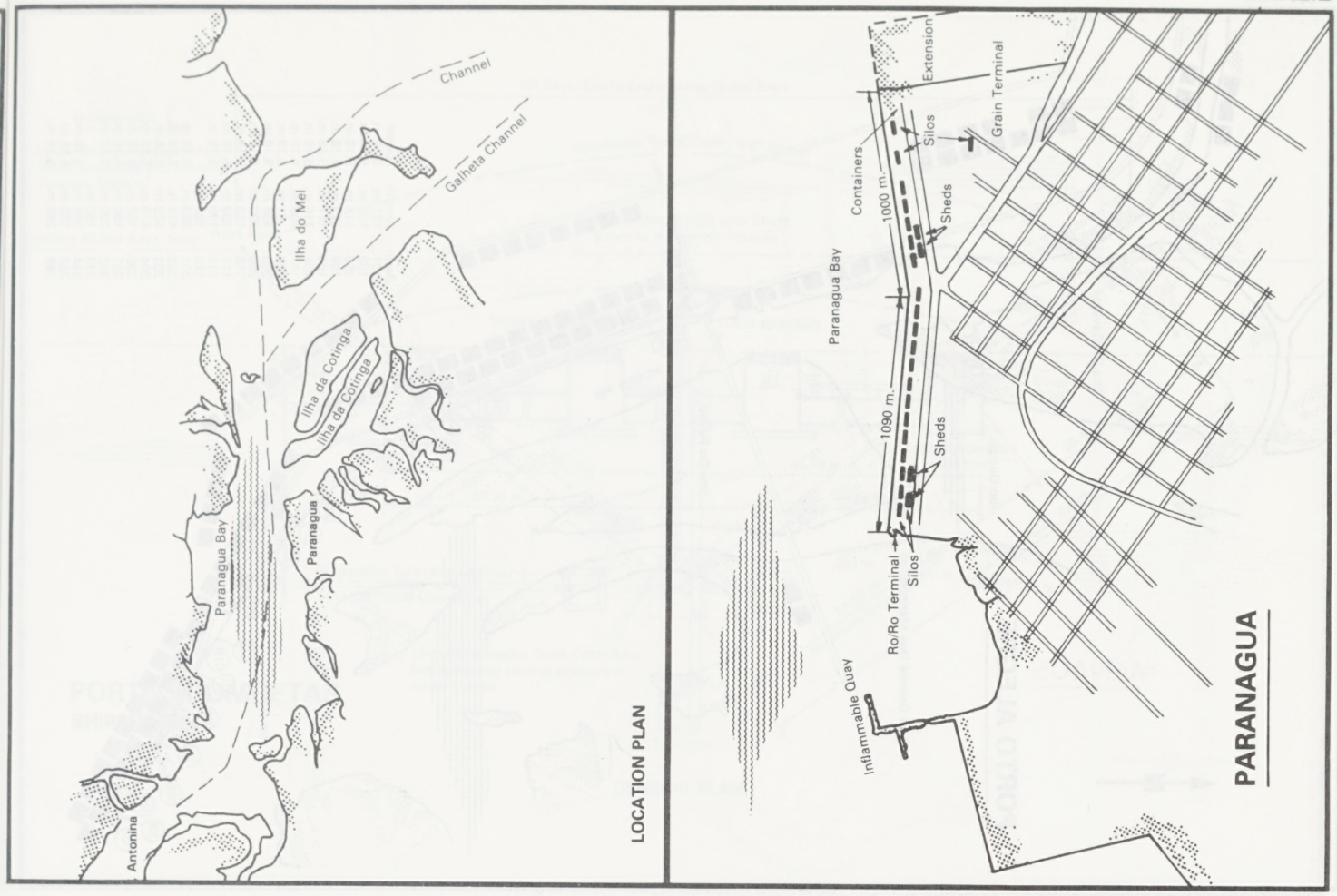

IMBITUBA
Lighthouse
Port Area Limit
Being extended
(Berth 5)
Shelter mole being extended
Berth 4
Ro Ro
Berth 2
Berth 3
Berth 1
Coal Silo
Warehouses
Boiler house
Weighbridge
Fuel oil tank
Concrete post
Port official's office
Wells
To generating station
Central office – warehouse
Area reserved for building central office
Port area limit
10
100
Lighthouse
0 50 100 150 200 m
SCALE

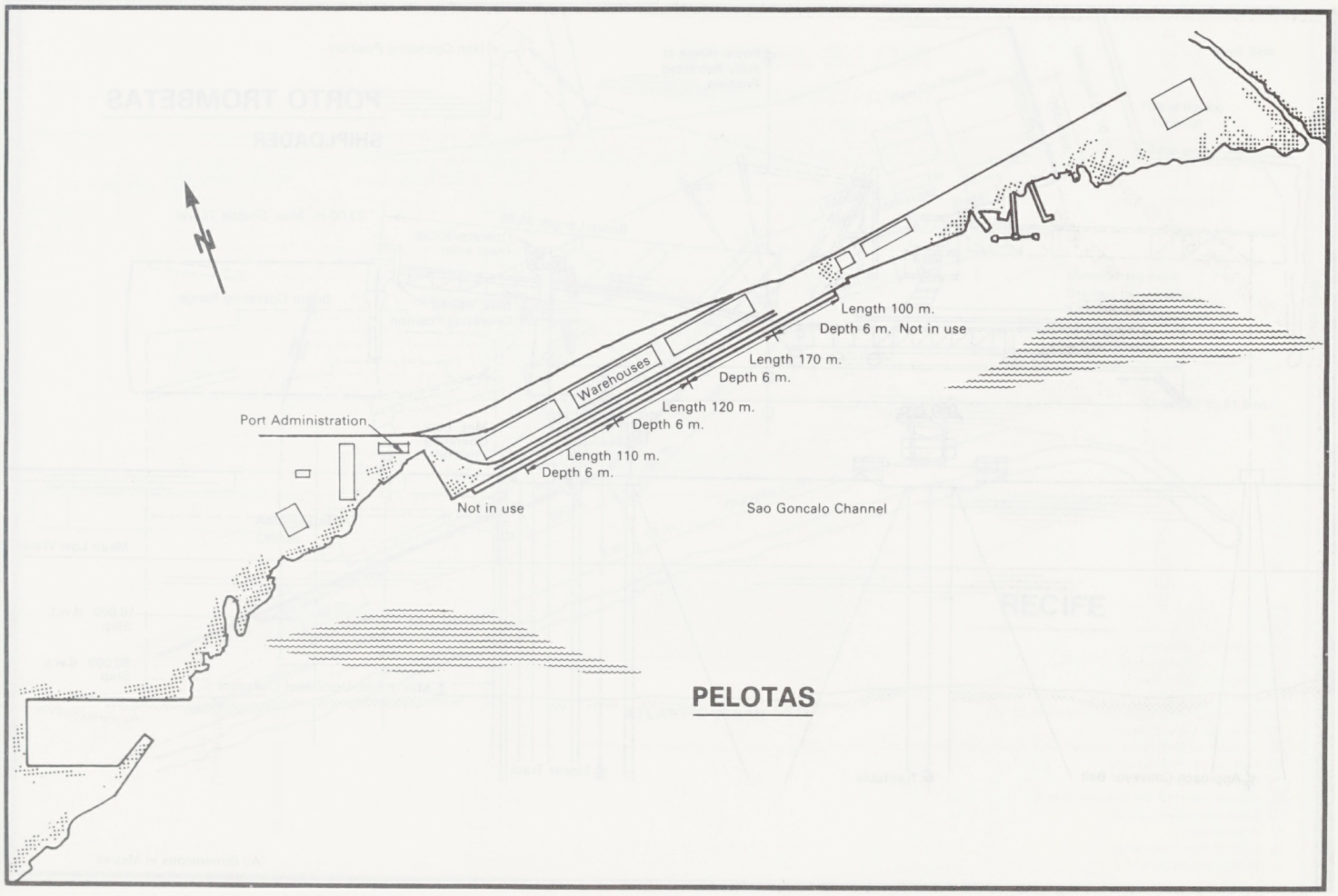

ITAJAI
COMMERCIAL QUAY
N
Lock
Itajai River
Tide Meter
Turning Basin
7.00 m.
Expansion Area
3rd Stage
120.00 m.
Planned Warehouse
Warehouses
2nd Stage
350.00 m.
1st Stage
233.60 m.
Cold Store
Warehouse
Port Captaincy
Open Areas
Workshop

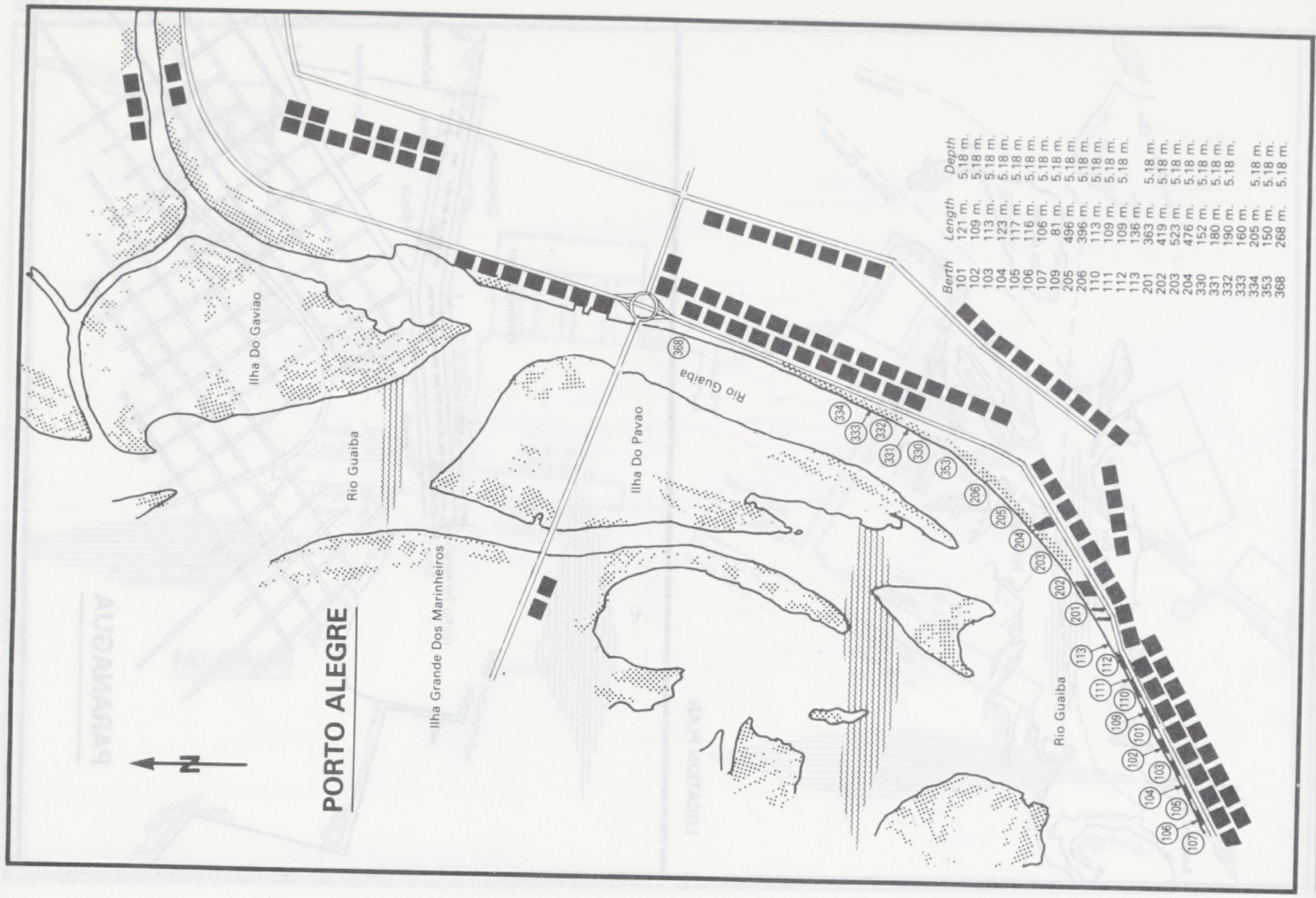

MACEIO
Petrobras Tanks
Warehouses
Terminal Warehouse
TAA Quay
301
102
101
201
202
203
204
Jaraqua Beach

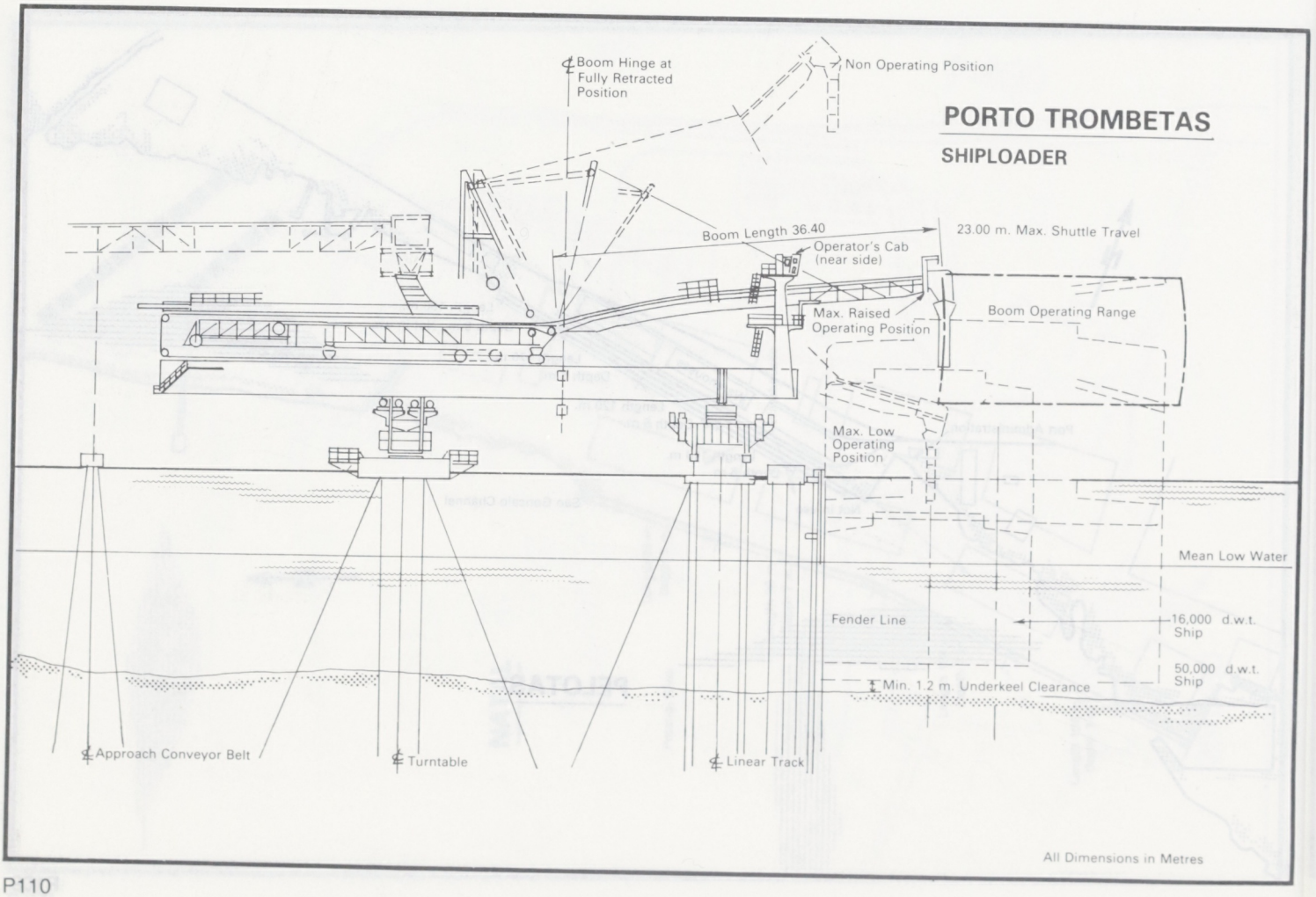

Length 136 m.
Depth 9 m.
Not in use
Length 156 m.
Depth 9 m.
Not in use
Depth 35 m.
Length 141 m.
Length 164 m.
Depth 45 m.
Depth 35 m.
Length 104 m.
Length 104 m.
Depth 45 m.
Depth 35 m.
Length 60m.
Length 77 m.
Depth 45 m.
Length 138 m.
Depth 9 m.
Depth 35 m.
Length 176 m.
Length 176 m.
Depth 45 m.
MANAUS
Negro River
N

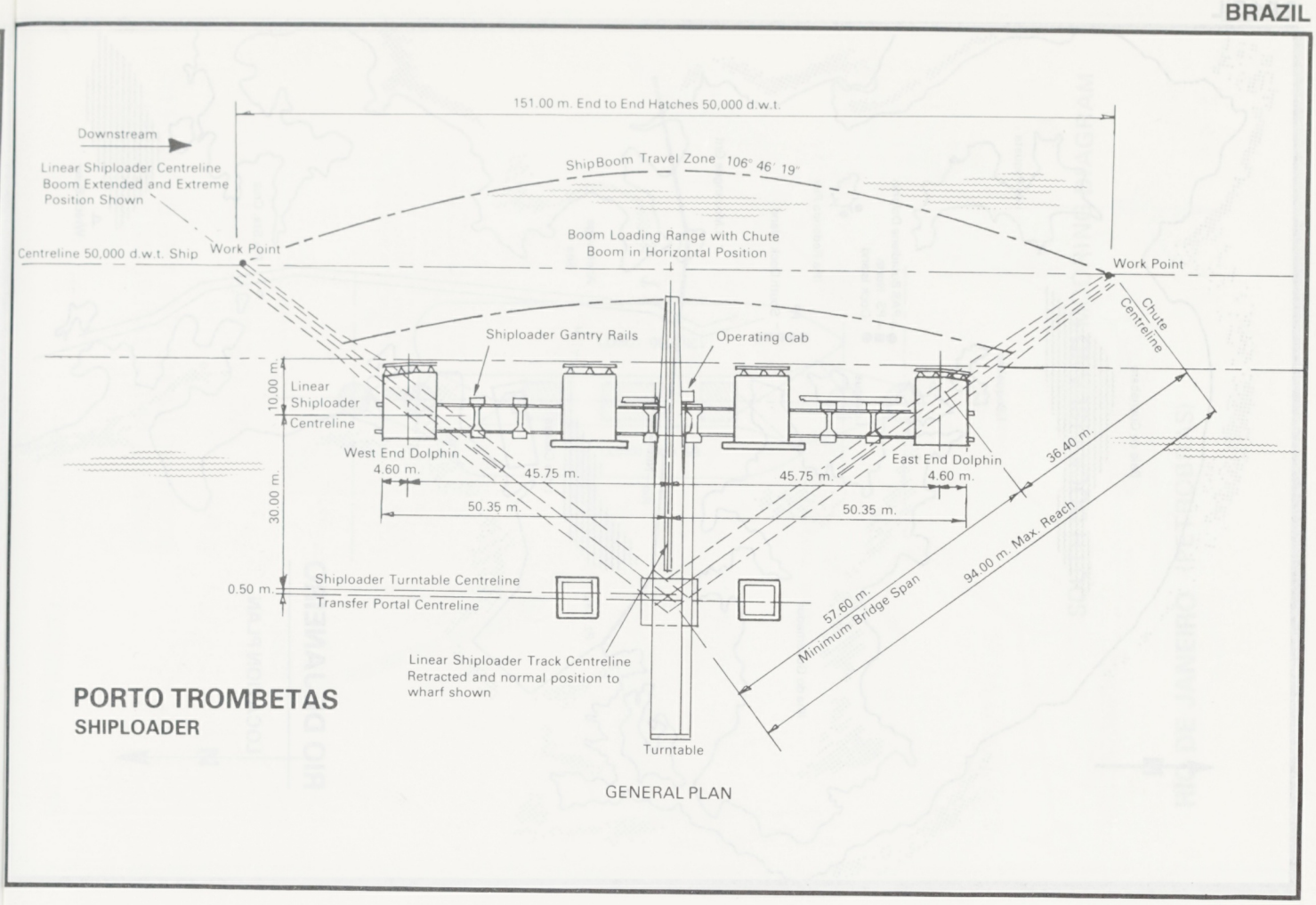

Warehouses
Length 96 m.
Depth 7 m.
Length 96 m.
Depth 7 m.
Length 100 m.
Depth 7 m.
Length 108 m.
Depth 7 m.
NATAL
Potengi River
N


Channel
Galheta Channel
Ilha do Mel
Ilha da Cotinga
Ilha da Cotinga
Paranagua Bay
Paranagua
Antonina
LOCATION PLAN
Paranagua Bay
Containers
1000 m.
Silos
Sheds
Extension
Grain Terminal
1090 m.
Sheds
Silos
Ro/Ro Terminal
Inflammable Quay
PARANAGUA


Length 100 m.
Depth 6 m. Not in use
Length 170 m.
Depth 6 m.
Warehouses
Length 120 m.
Depth 6 m.
Port Administration
Length 110 m.
Depth 6 m.
Not in use
Sao Goncalo Channel
PELOTAS

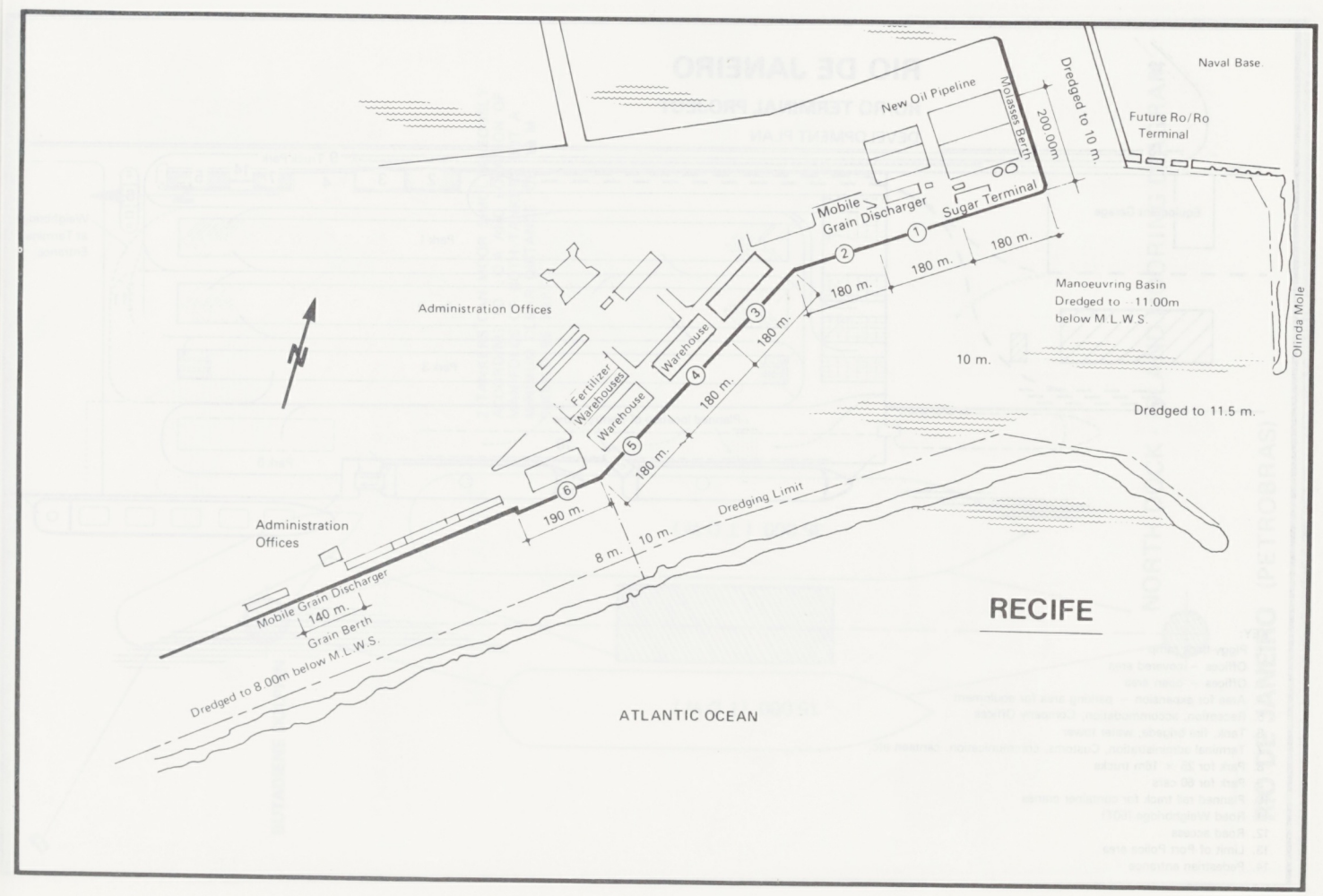

PORTO ALEGRE
Ilha Do Gaviao
Rio Guaiba
Ilha Grande Dos Marinheiros
Ilha Do Pavao
Rio Guaiba
Rio Guaiba
N
Berth Length Depth
101 121 m. 5.18 m.
102 109 m. 5.18 m.
103 113 m. 5.18 m.
104 123 m. 5.18 m.
105 117 m. 5.18 m.
106 116 m. 5.18 m.
107 106 m. 5.18 m.
109 81 m. 5.18 m.
205 496 m. 5.18 m.
206 396 m. 5.18 m.
110 113 m. 5.18 m.
111 109 m. 5.18 m.
112 109 m. 5.18 m.
113 136 m. 5.18 m.
201 363 m. 5.18 m.
202 419 m. 5.18 m.
203 523 m. 5.18 m.
204 476 m. 5.18 m.
330 152 m. 5.18 m.
331 180 m. 5.18 m.
332 190 m. 5.18 m.
333 160 m.
334 205 m. 5.18 m.
353 150 m. 5.18 m.
368 268 m. 5.18 m.


PORTO TROMBETAS
SHIPLOADER
Boom Hinge at Fully Retracted Position
Non Operating Position
Boom Length 36.40
23.00 m. Max. Shuttle Travel
Operator's Cab (near side)
Max. Raised Operating Position
Boom Operating Range
Max. Low Operating Position
Mean Low Water
Fender Line
16,000 d.w.t. Ship
50,000 d.w.t. Ship
Min. 1.2 m. Underkeel Clearance
Approach Conveyor Belt
Turntable
Linear Track
All Dimensions in Metres

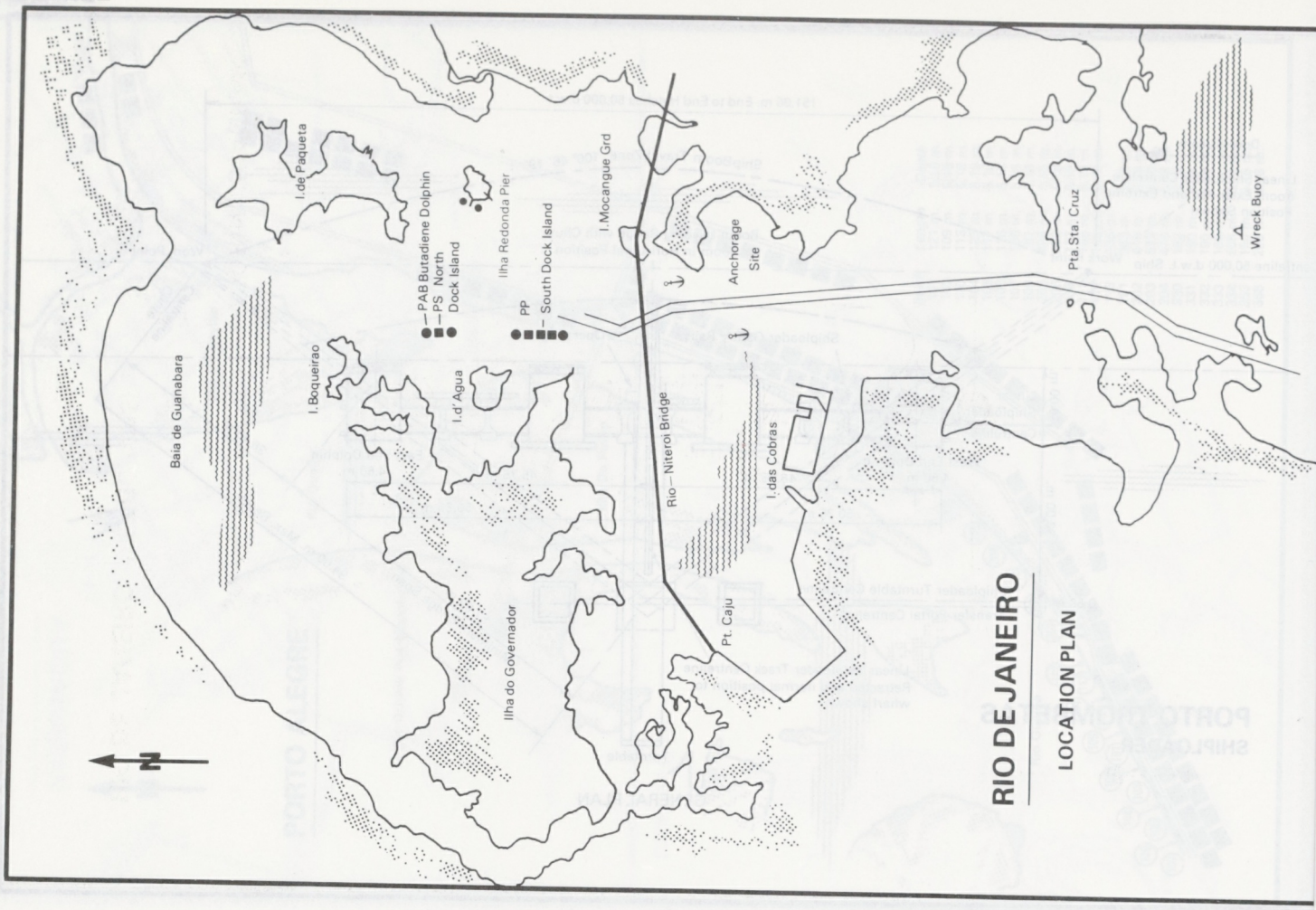


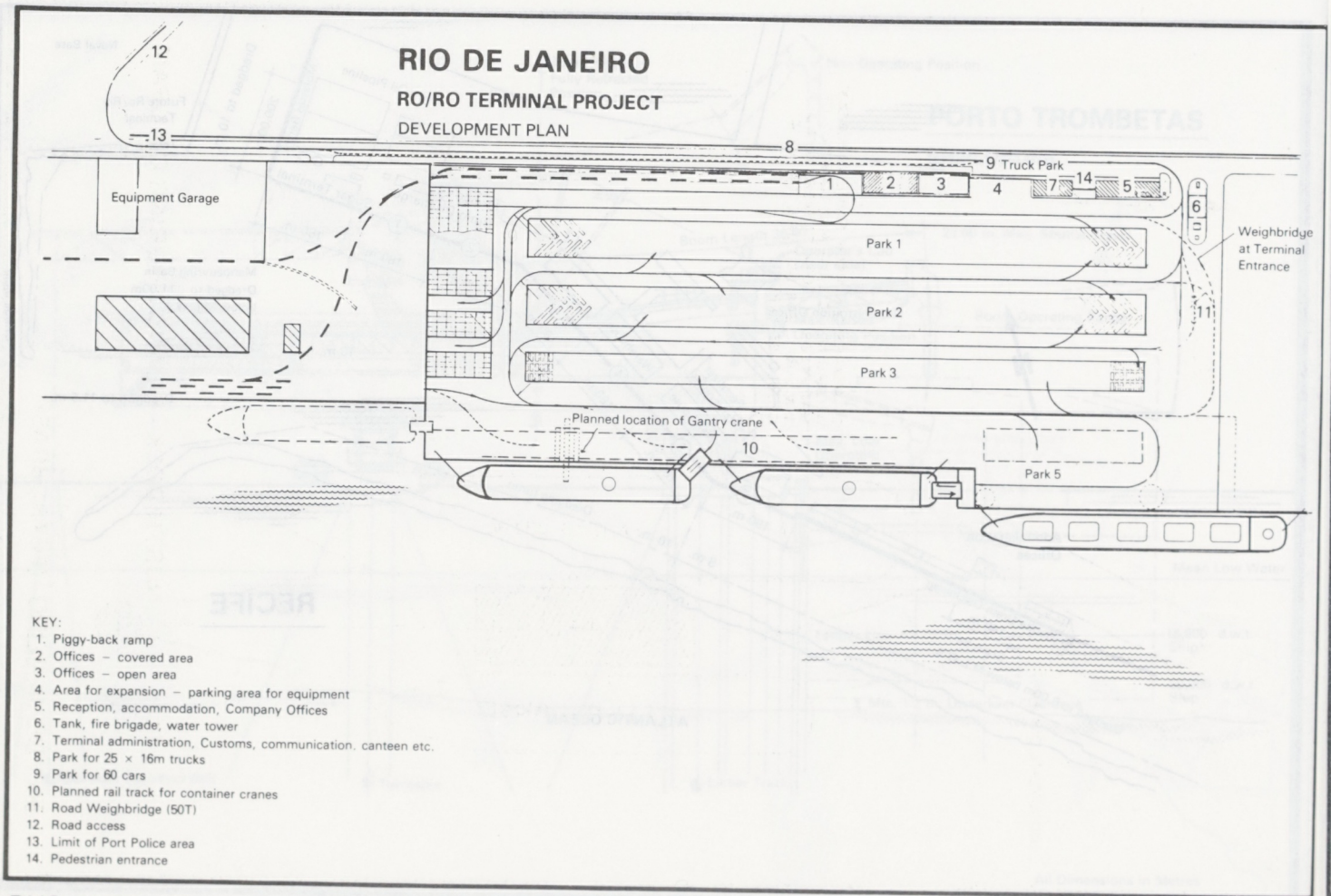
PORTO TROMBETAS
SHIPLOADER

GENERAL PLAN



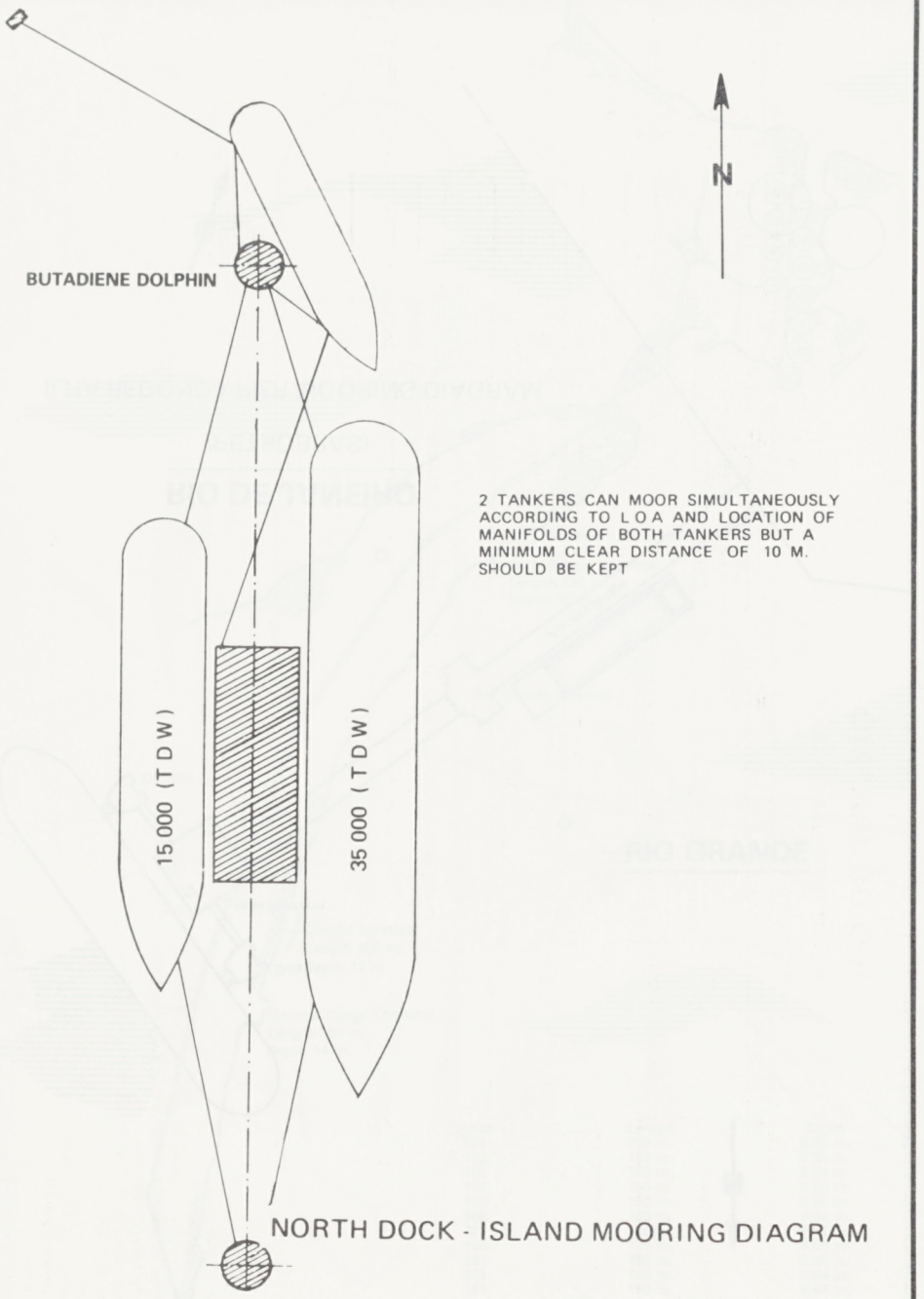
RECIFE





KEY:

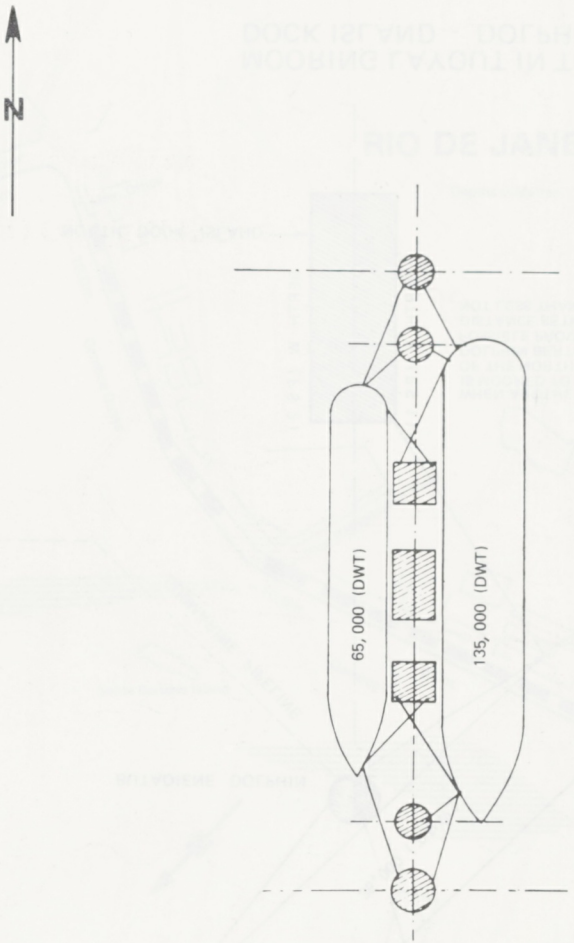
1. Piggy-back ramp
2. Offices – covered area
3. Offices – open area
4. Area for expansion – parking area for equipment
5. Reception, accommodation, Company Offices
6. Tank, fire brigade, water tower
7. Terminal administration, Customs, communication. canteen etc.
8. Park for 25 × 16m trucks
9. Park for 60 cars
10. Planned rail track for container cranes
11. Road Weighbridge (50T)
12. Road access
13. Limit of Port Police area
14. Pedestrian entrance



2 TANKERS CAN MOOR SIMULTANEOUSLY ACCORDING TO L O A AND LOCATION OF MANIFOLDS OF BOTH TANKERS BUT A MINIMUM CLEAR DISTANCE OF 10 M. SHOULD BE KEPT

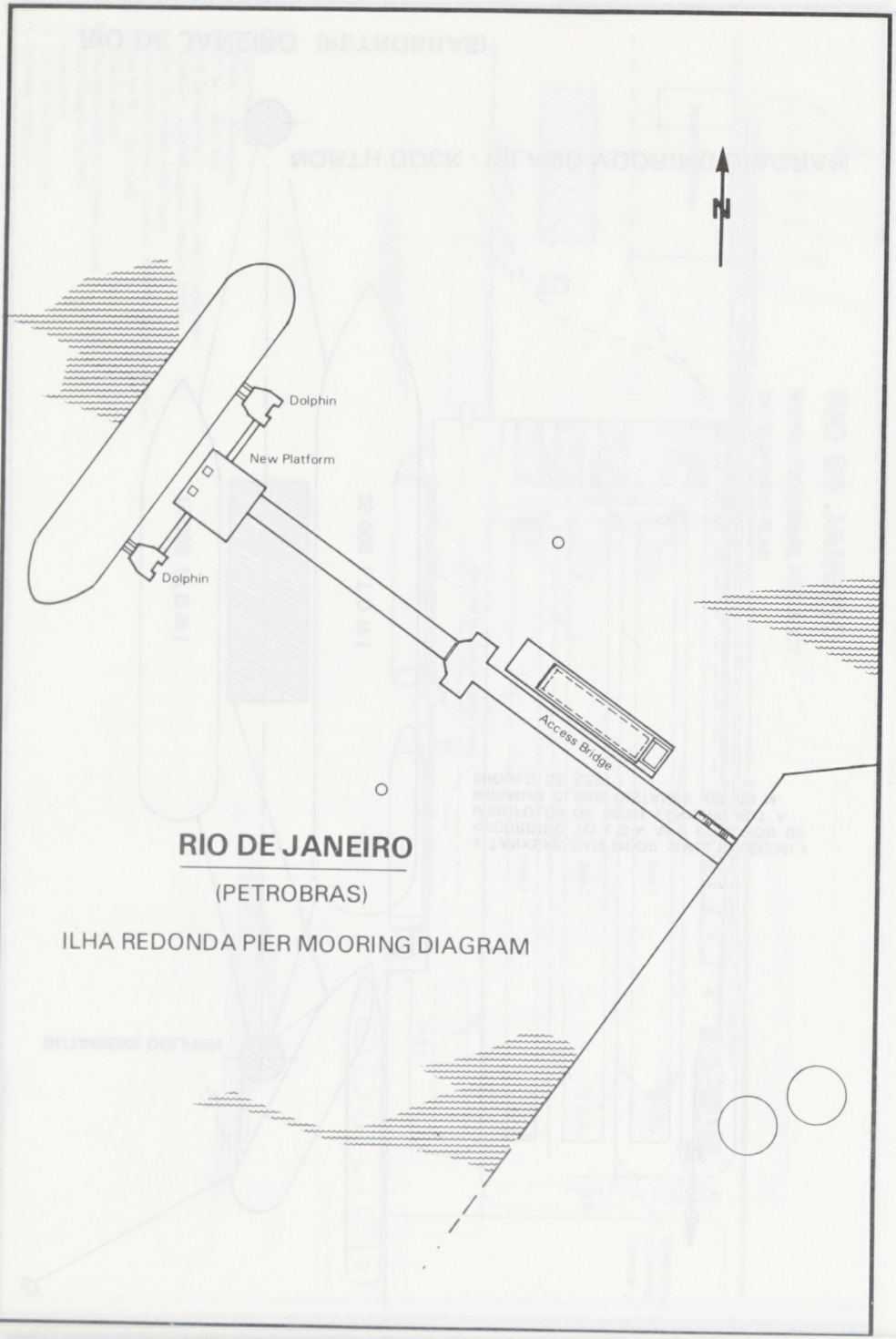
NORTH DOCK - ISLAND MOORING DIAGRAM

RIO DE JANEIRO (PETROBRAS)



SOUTH DOCK - ISLAND MOORING DIAGRAM

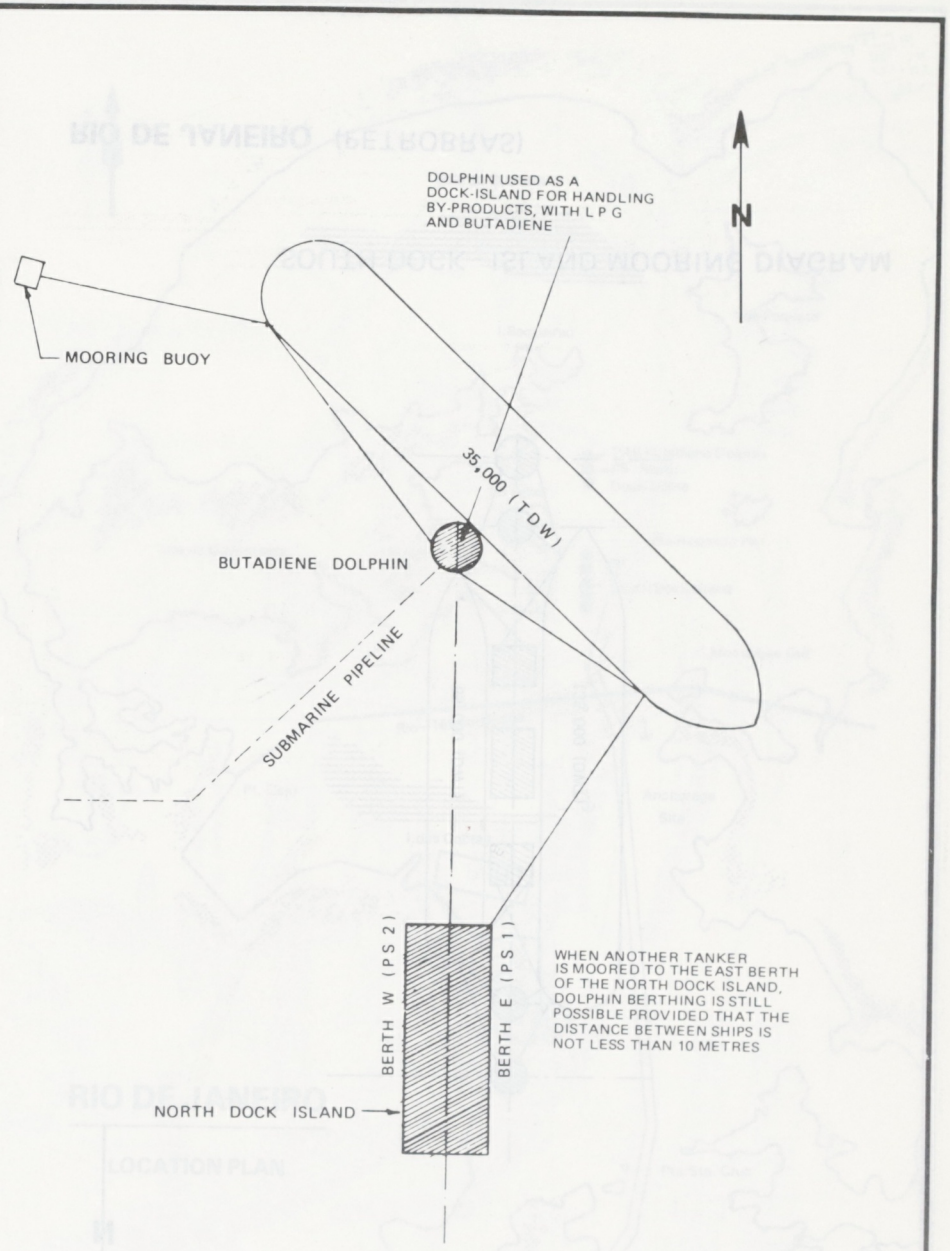
RIO DE JANEIRO (PETROBRAS)



RIO DE JANEIRO

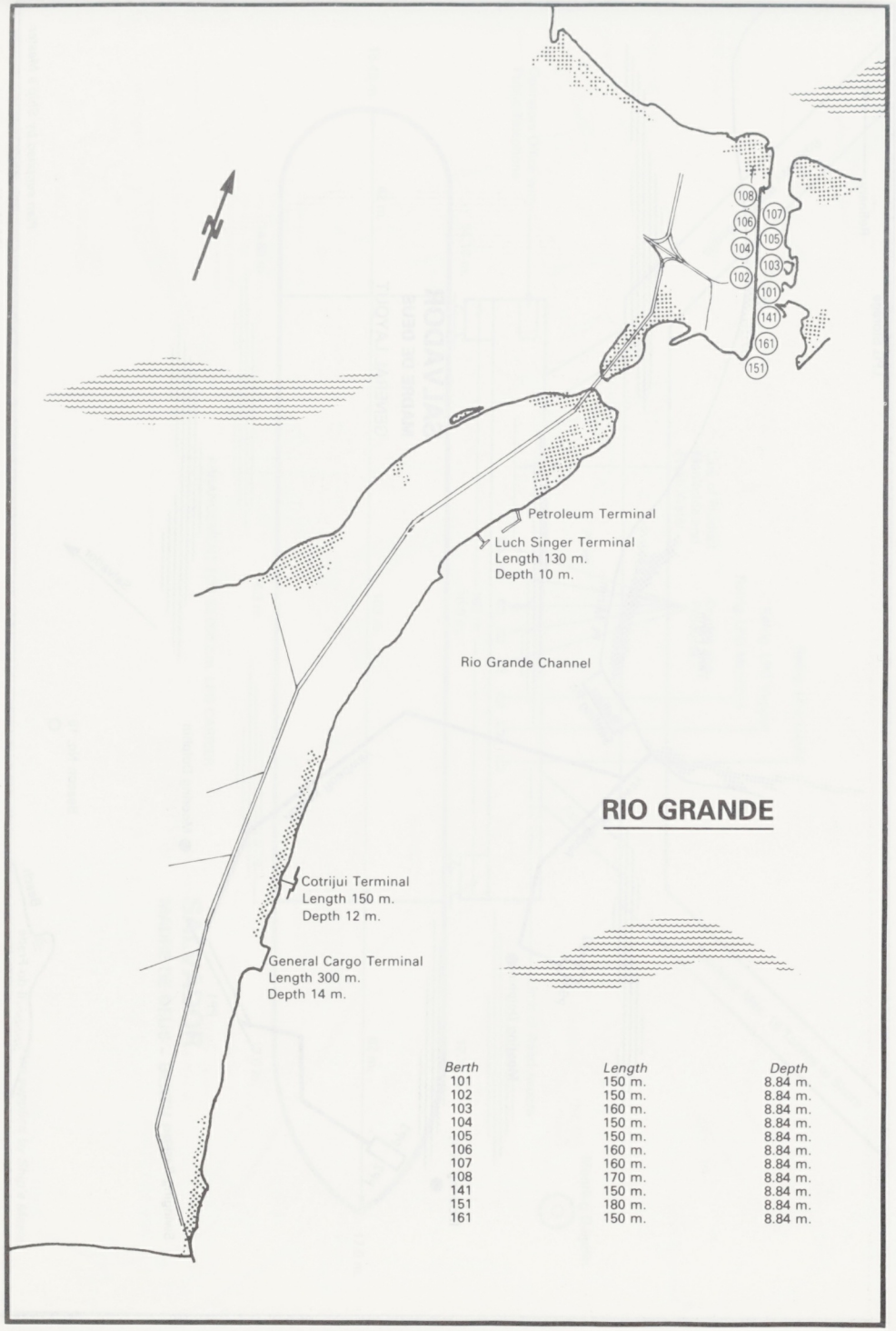
(PETROBRAS)

ILHA REDONDA PIER MOORING DIAGRAM



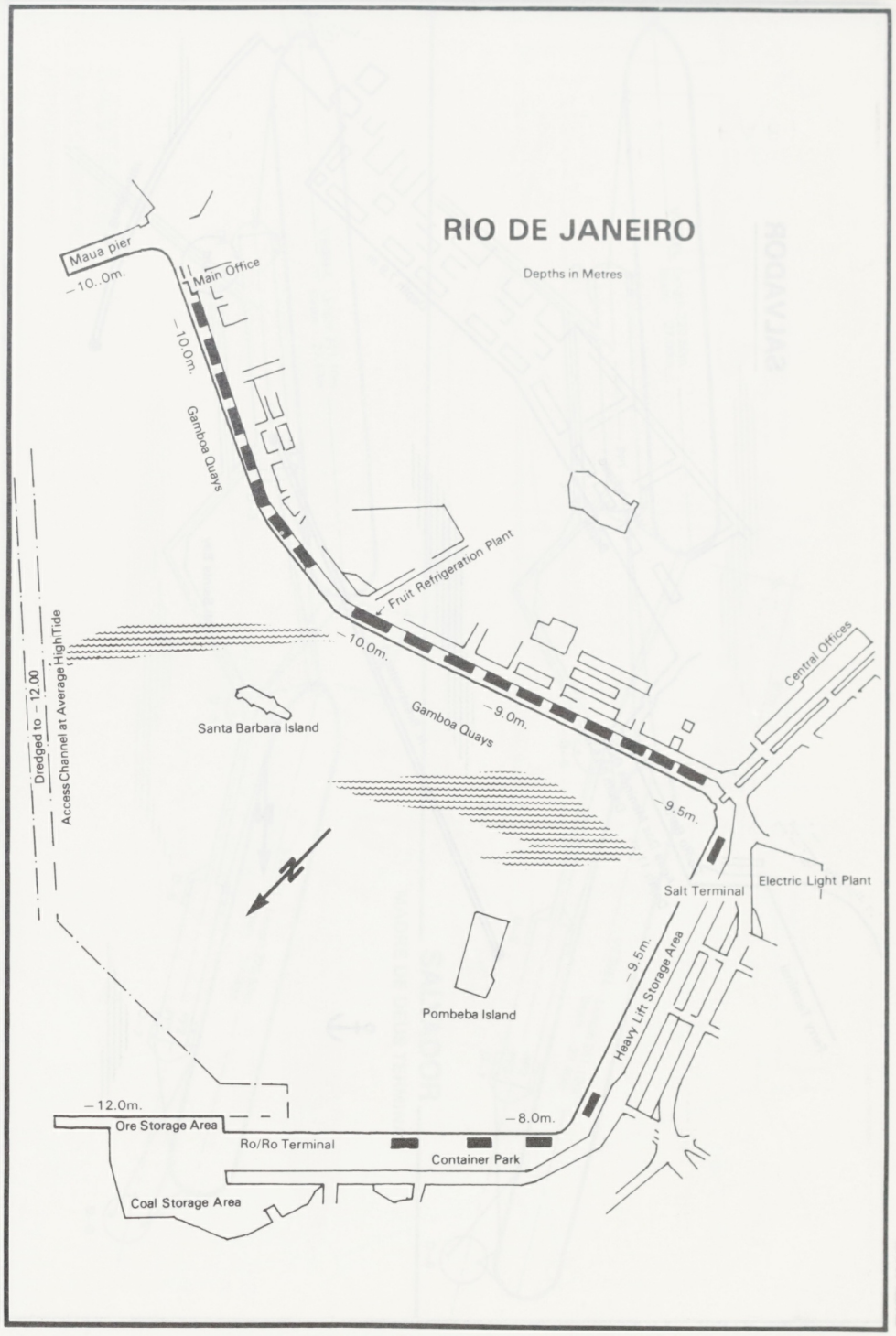
MOORING LAYOUT IN THE BUTADIENE DOCK ISLAND - DOLPHIN - (P A B)

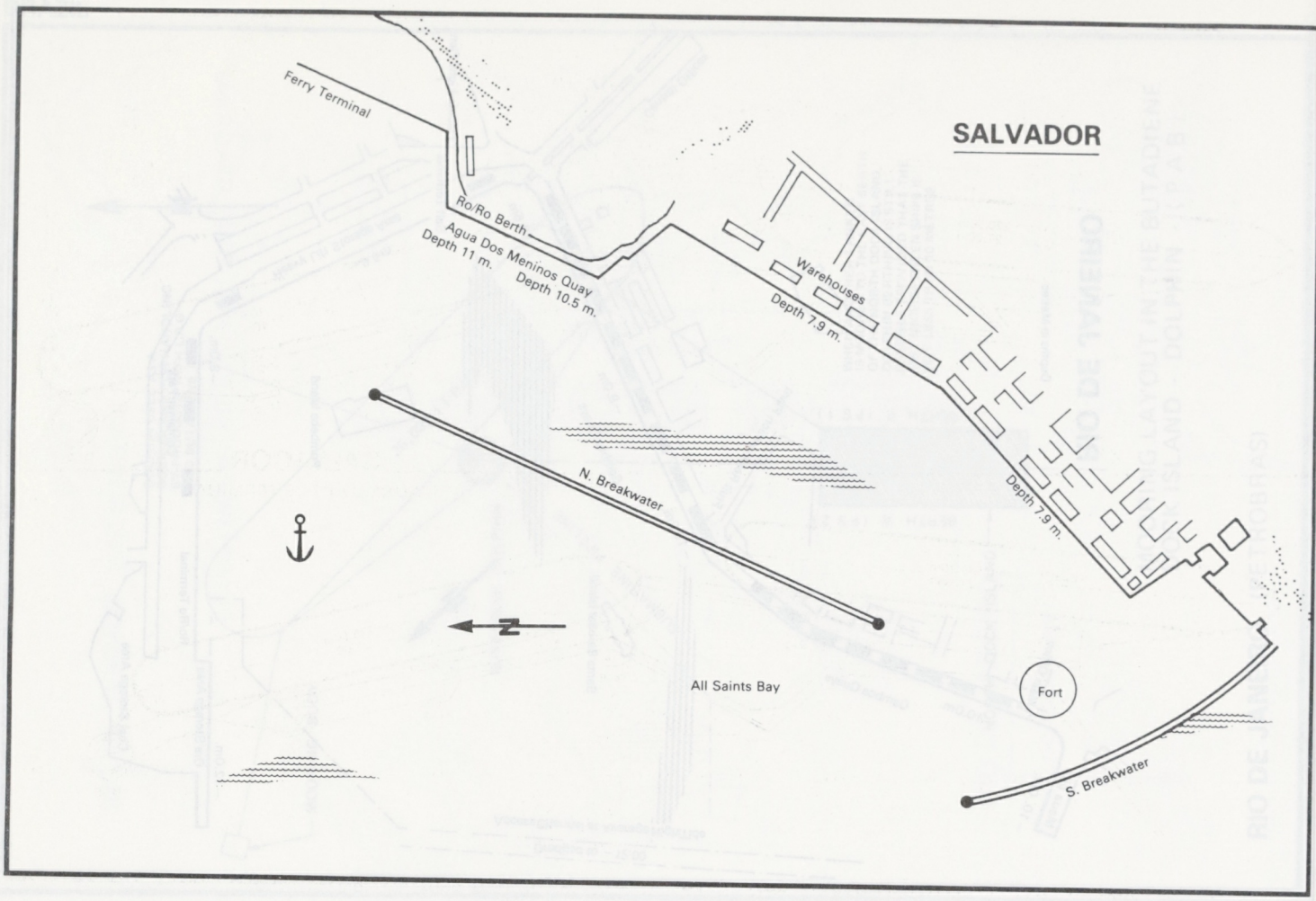
RIO DE JANEIRO (PETROBRAS)

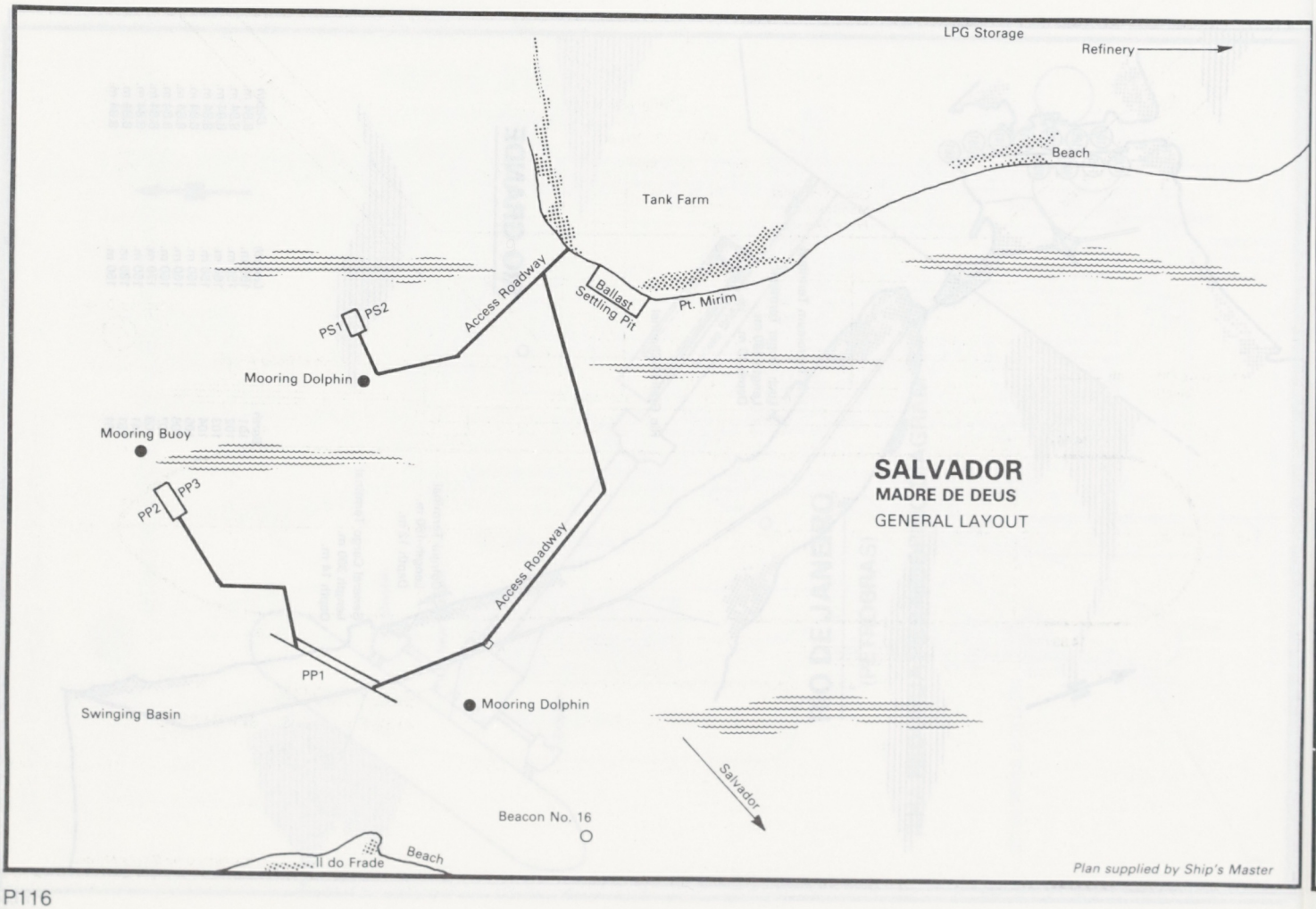


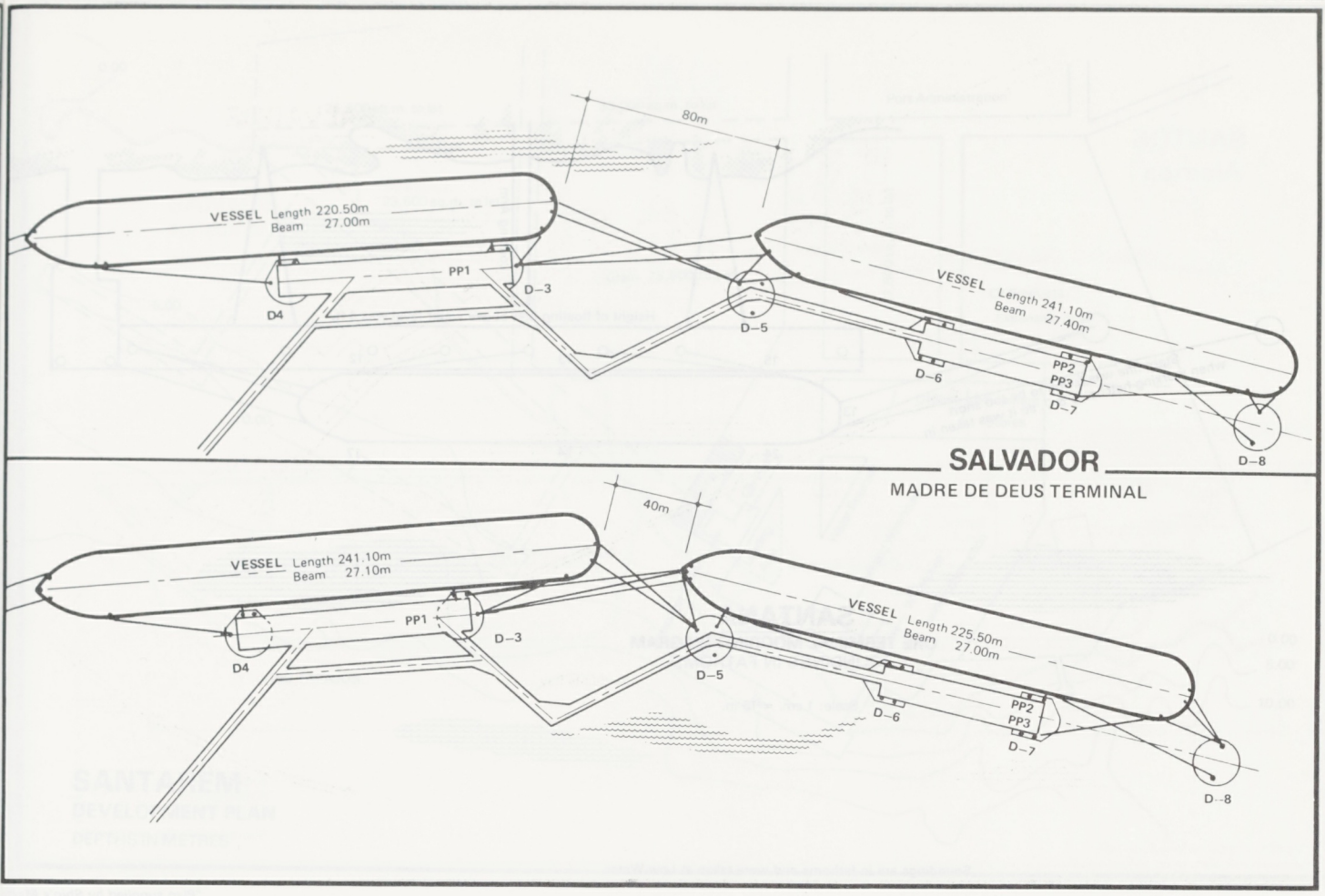
RIO GRANDE

Berth	*Length*	*Depth*
101	150 m.	8.84 m.
102	150 m.	8.84 m.
103	160 m.	8.84 m.
104	150 m.	8.84 m.
105	150 m.	8.84 m.
106	160 m.	8.84 m.
107	160 m.	8.84 m.
108	170 m.	8.84 m.
141	150 m.	8.84 m.
151	180 m.	8.84 m.
161	150 m.	8.84 m.



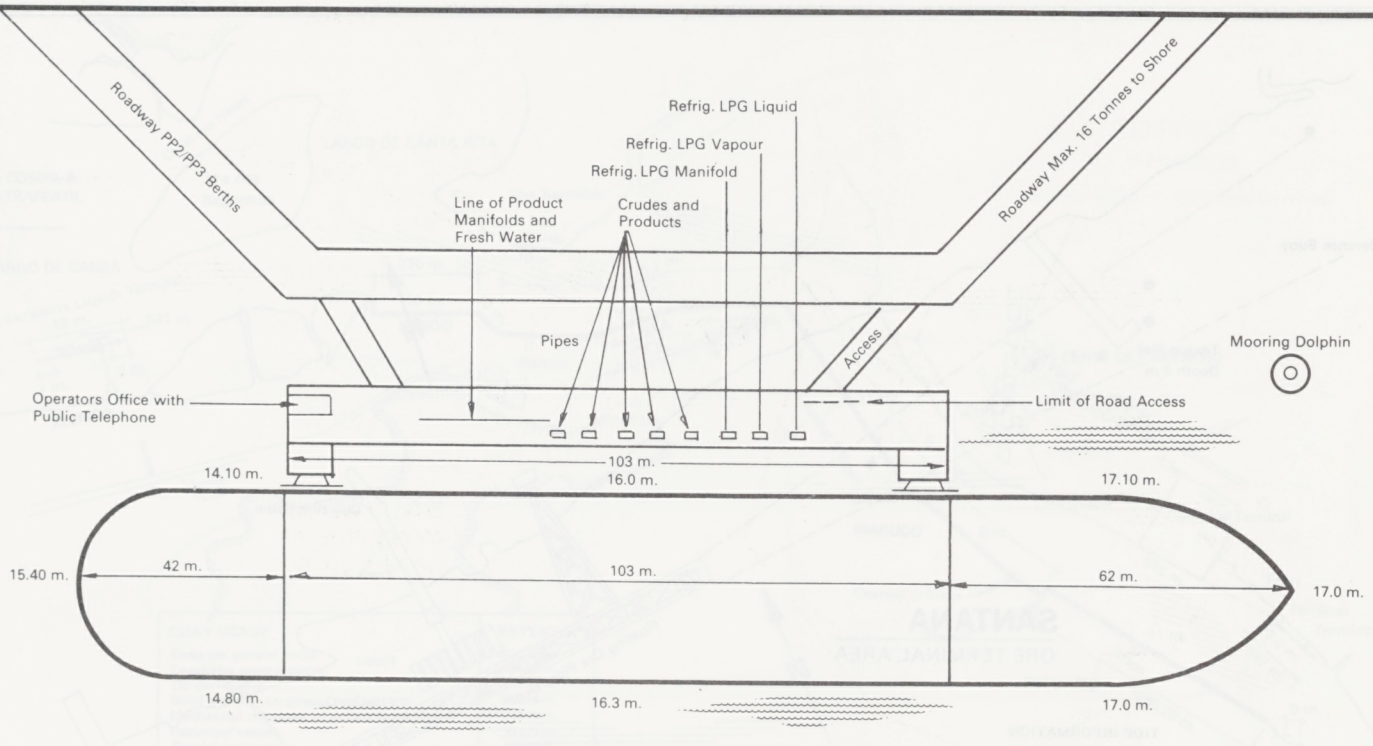

SALVADOR
Ferry Terminal
Ro/Ro Berth
Agua Dos Meninos Quay
Depth 11 m.
Depth 10.5 m.
Warehouses
Depth 7.9 m.
Depth 7.9 m.
N. Breakwater
All Saints Bay
Fort
S. Breakwater


LPG Storage
Refinery
Beach
Tank Farm
Access Roadway
Ballast Settling Pit
Pt. Mirim
PS1
PS2
Mooring Dolphin
Mooring Buoy
PP2
PP3
Access Roadway
PP1
Swinging Basin
Mooring Dolphin
Salvador
Beacon No. 16
Il do Frade
Beach
SALVADOR
MADRE DE DEUS
GENERAL LAYOUT
Plan supplied by Ship's Master



SALVADOR

MADRE DE DEUS TERMINAL

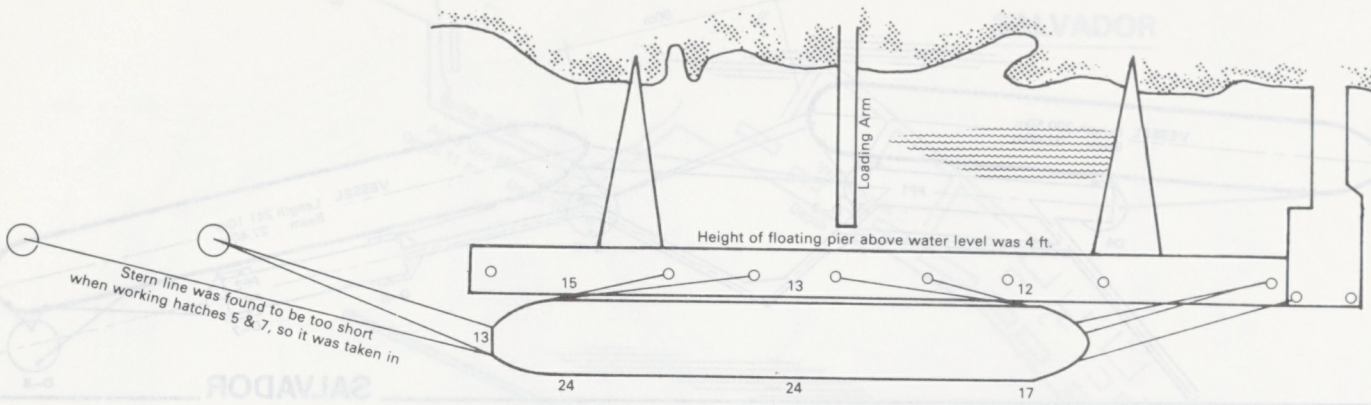


ARRANGEMENT FOR 52,000 c.m. LPG CARRIER

SALVADOR

MADRE DE DEUS – BERTH PP1

Plan supplied by Ship's Master



SANTANA

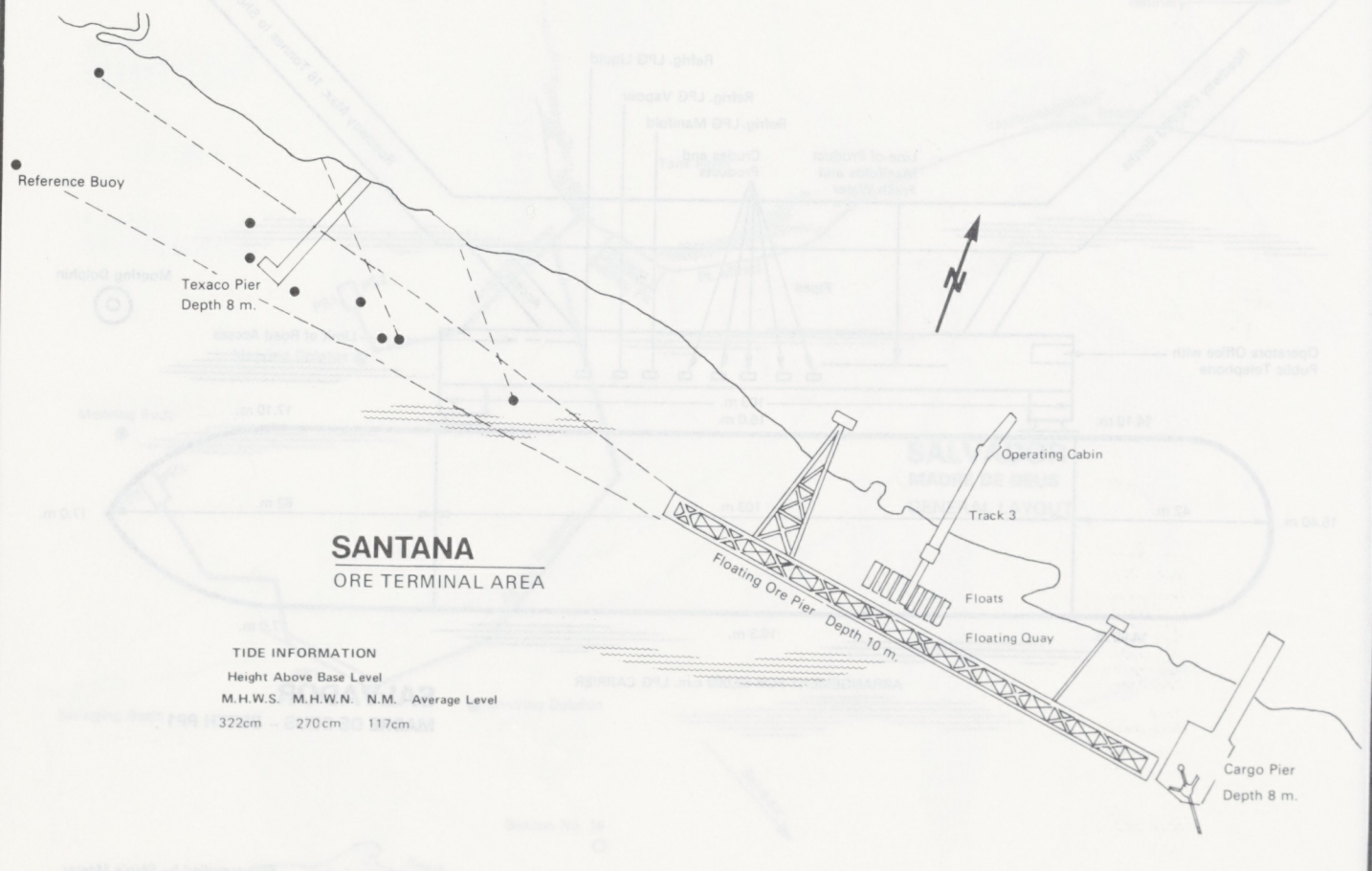
ORE TERMINAL MOORING DIAGRAM

SOUNDINGS IN FATHOMS

Scale: 1 cm. = 15 m.

Soundings are in fathoms and were taken at Low Water

"Plan supplied by Ship's Maste



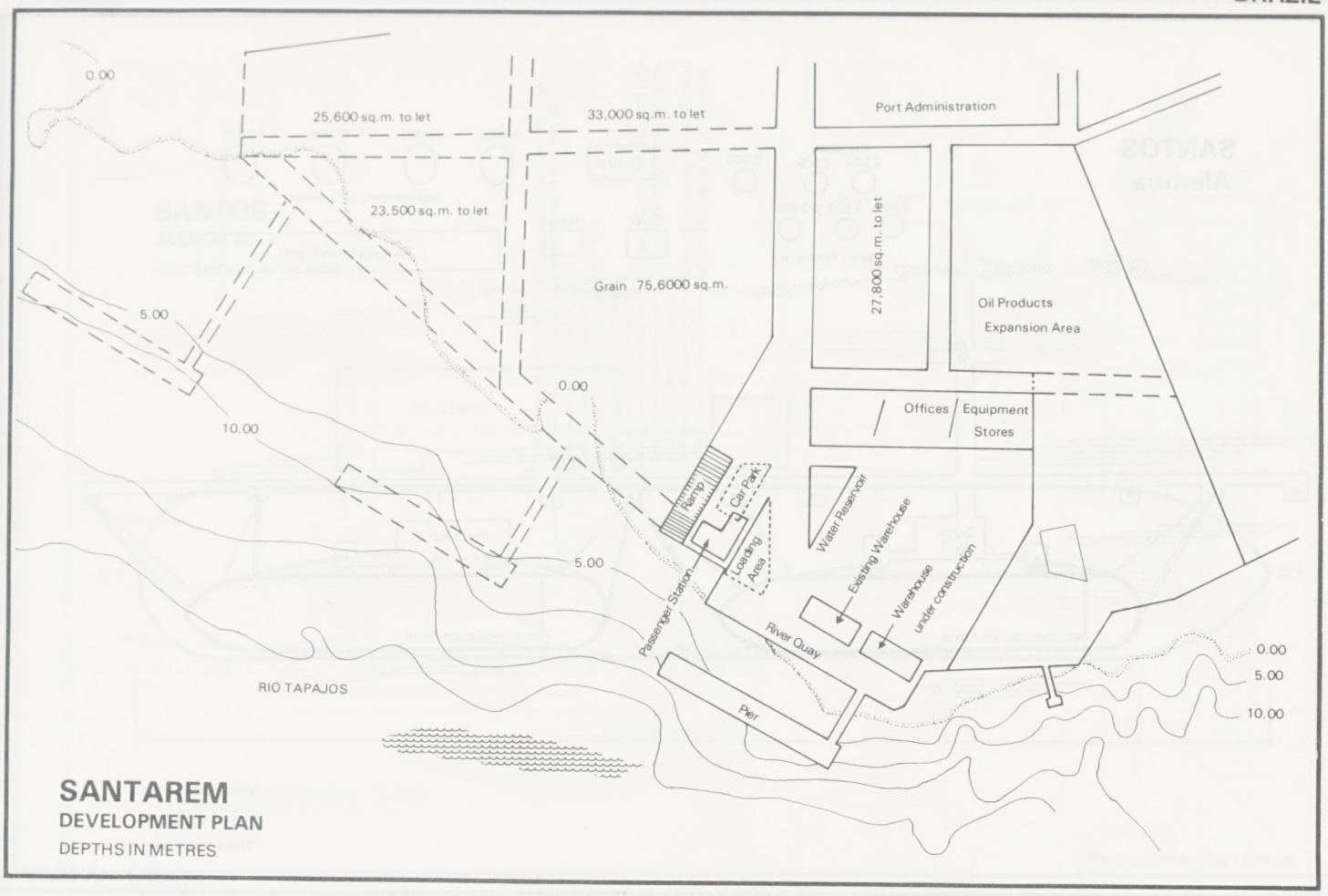
SANTANA

ORE TERMINAL AREA

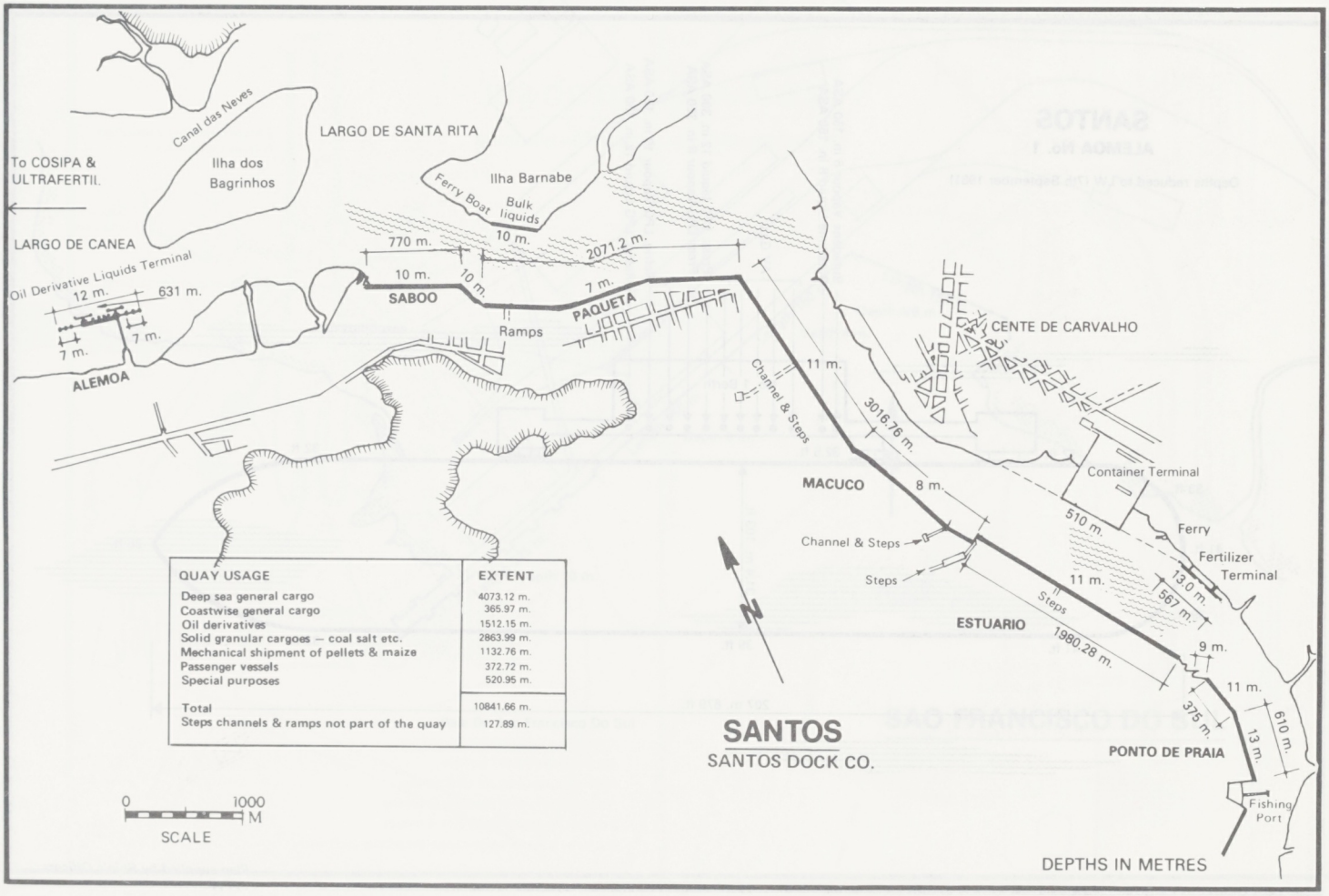
TIDE INFORMATION

Height Above Base Level

M.H.W.S.	M.H.W.N.	N.M.	Average Level
322cm	270cm	117cm	



SANTAREM
DEVELOPMENT PLAN
DEPTHS IN METRES

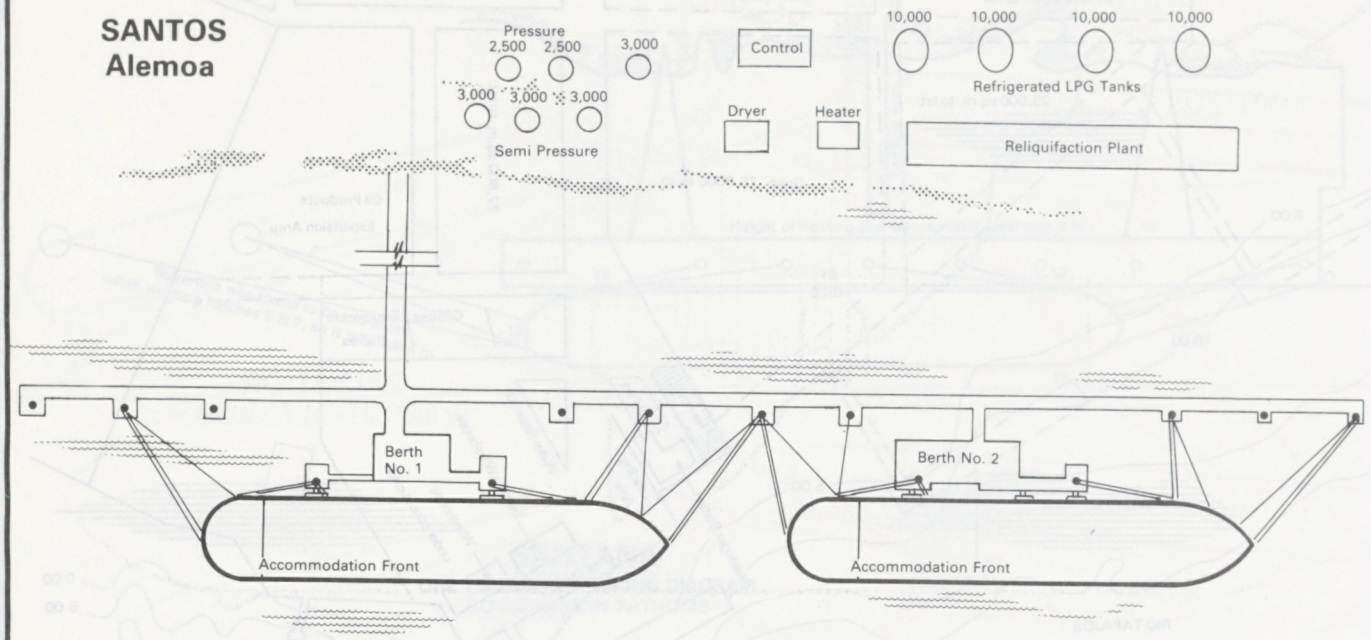


QUAY USAGE	EXTENT
Deep sea general cargo	4073.12 m.
Coastwise general cargo	365.97 m.
Oil derivatives	1512.15 m.
Solid granular cargoes – coal salt etc.	2863.99 m.
Mechanical shipment of pellets & maize	1132.76 m.
Passenger vessels	372.72 m.
Special purposes	520.95 m.
Total	10841.66 m.
Steps channels & ramps not part of the quay	127.89 m.

SANTOS
SANTOS DOCK CO.

DEPTHS IN METRES

SANTOS
Alemoa



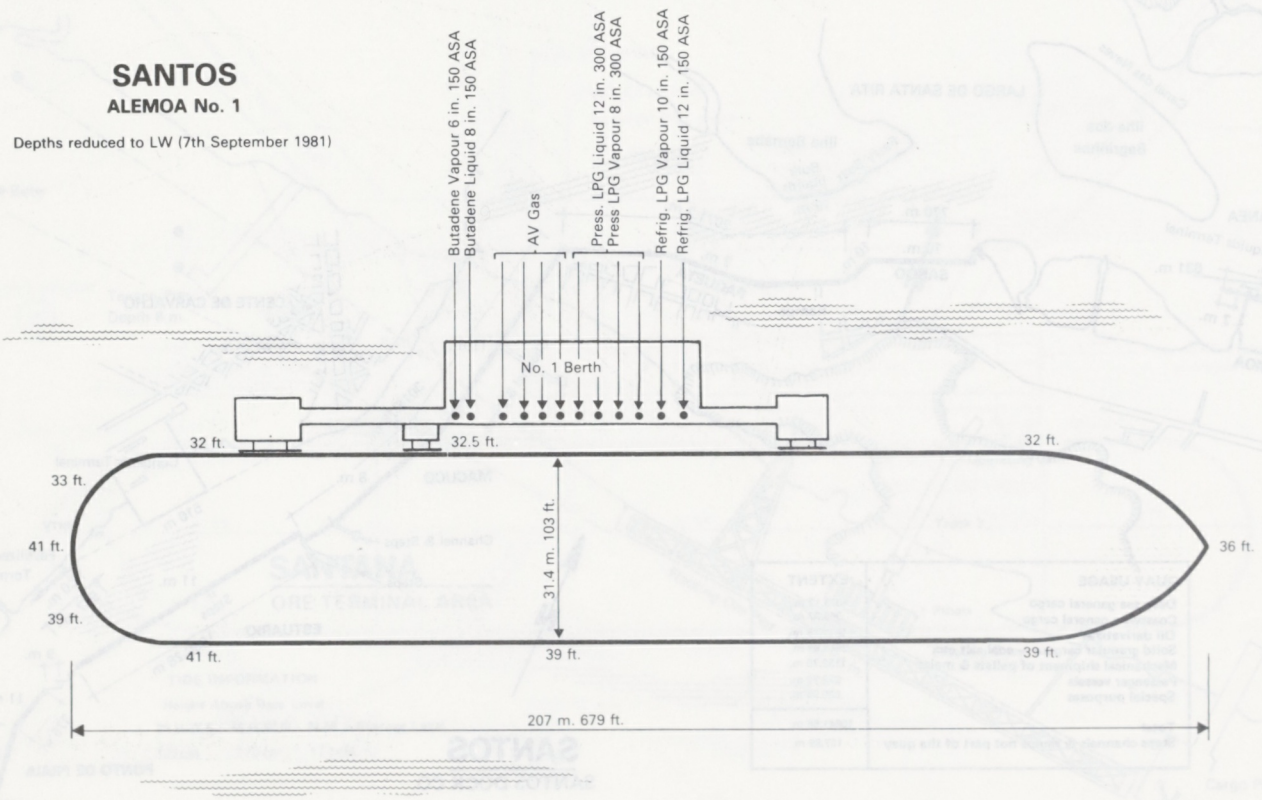
Vessel 38,300 d.w.t.
(52600 cu.m.)
Length 679 ft.

Shore Installation not to scale

Plan supplied by Ship's Officers

SANTOS
ALEMOA No. 1

Depths reduced to LW (7th September 1981)

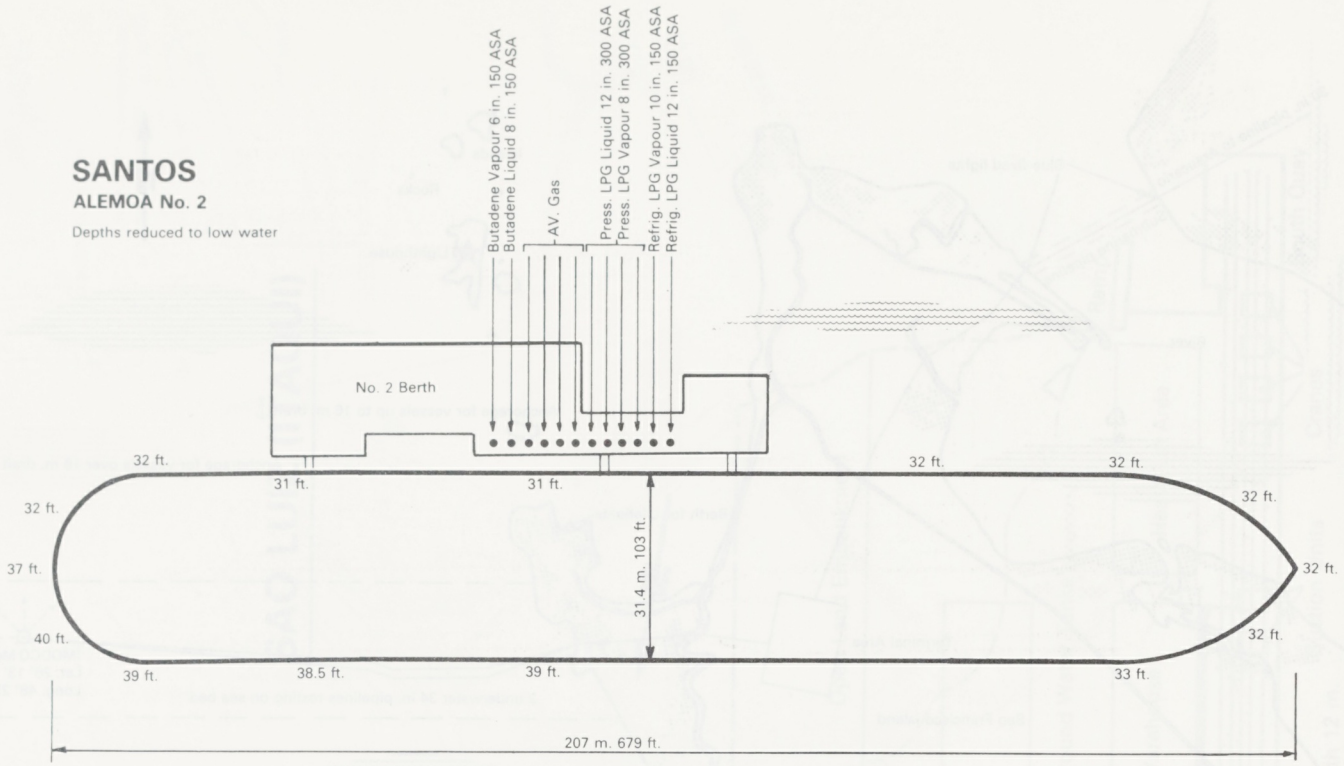


Plan supplied by Ship's Officers

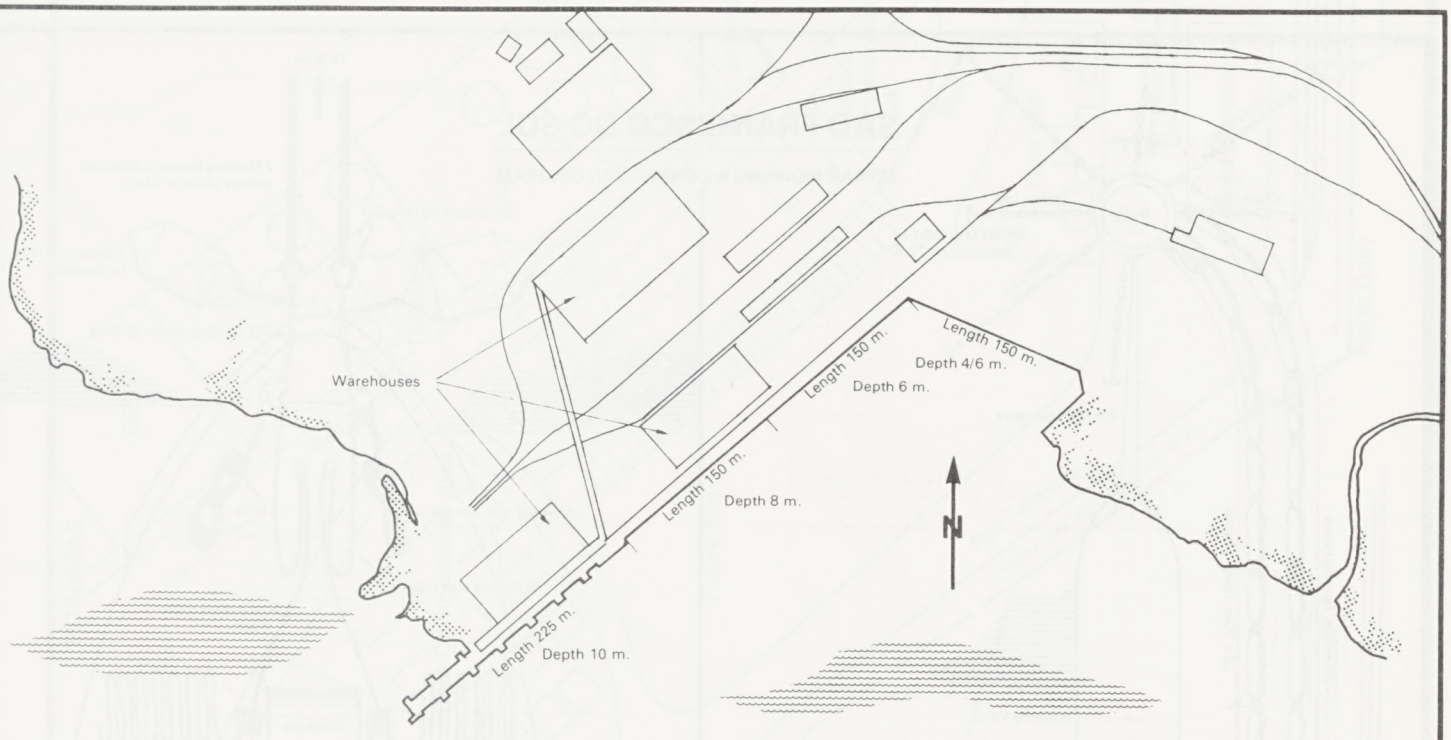
SANTOS

ALEMOA No. 2

Depths reduced to low water

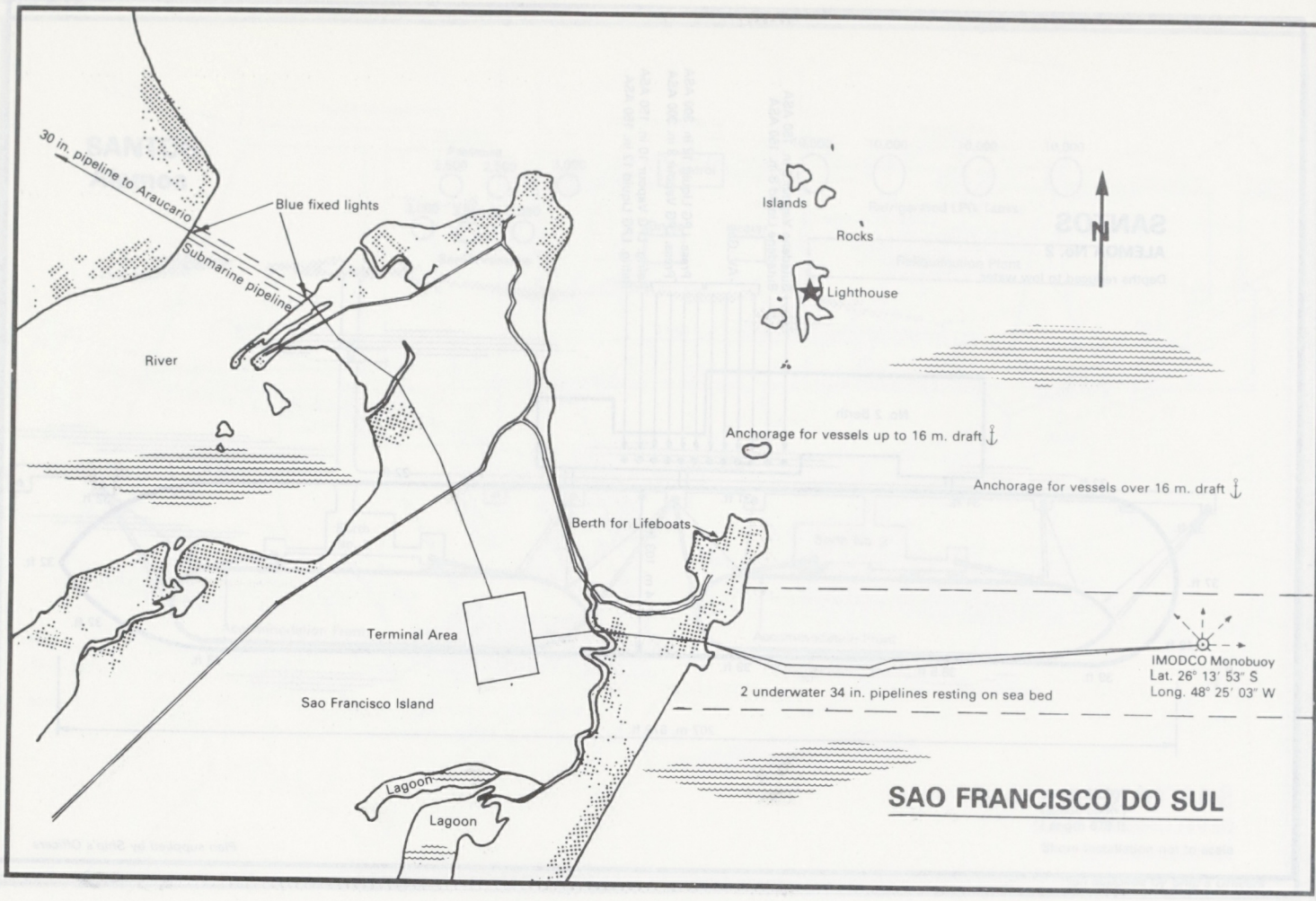


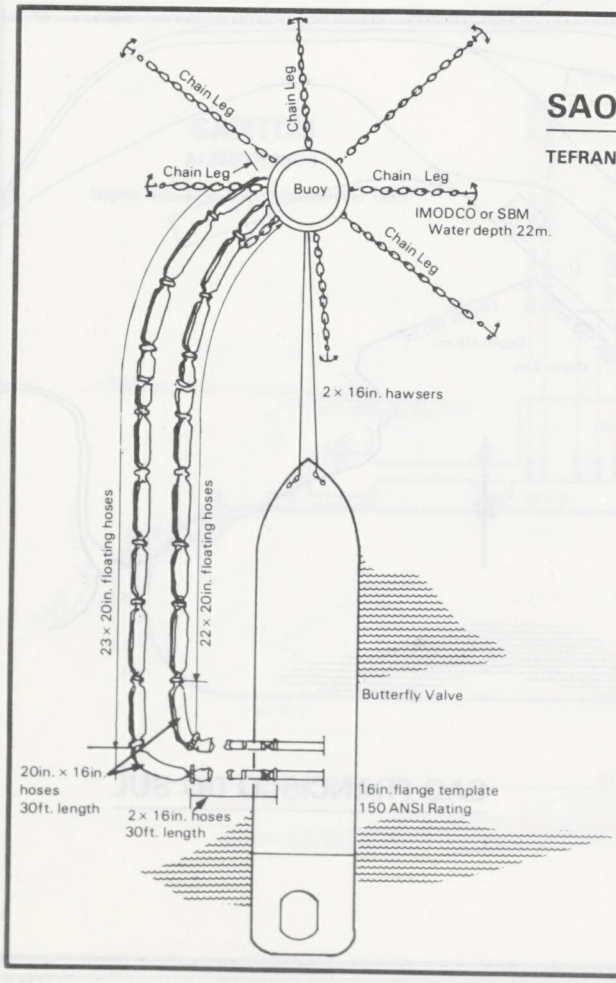
Plan supplied by Ship's Officers



Baia De Sao Francisco Do Sul

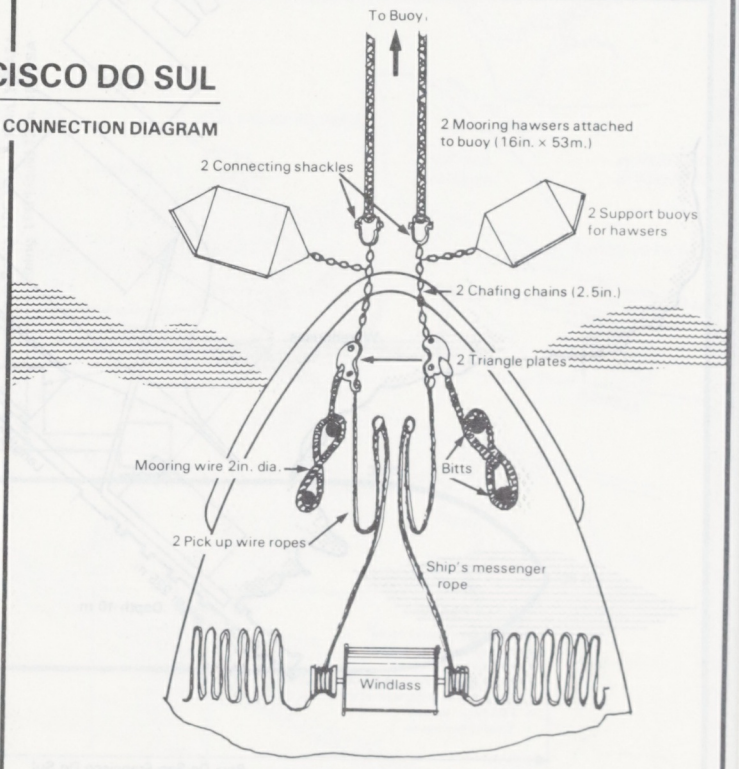
SAO FRANCISCO DO SUL





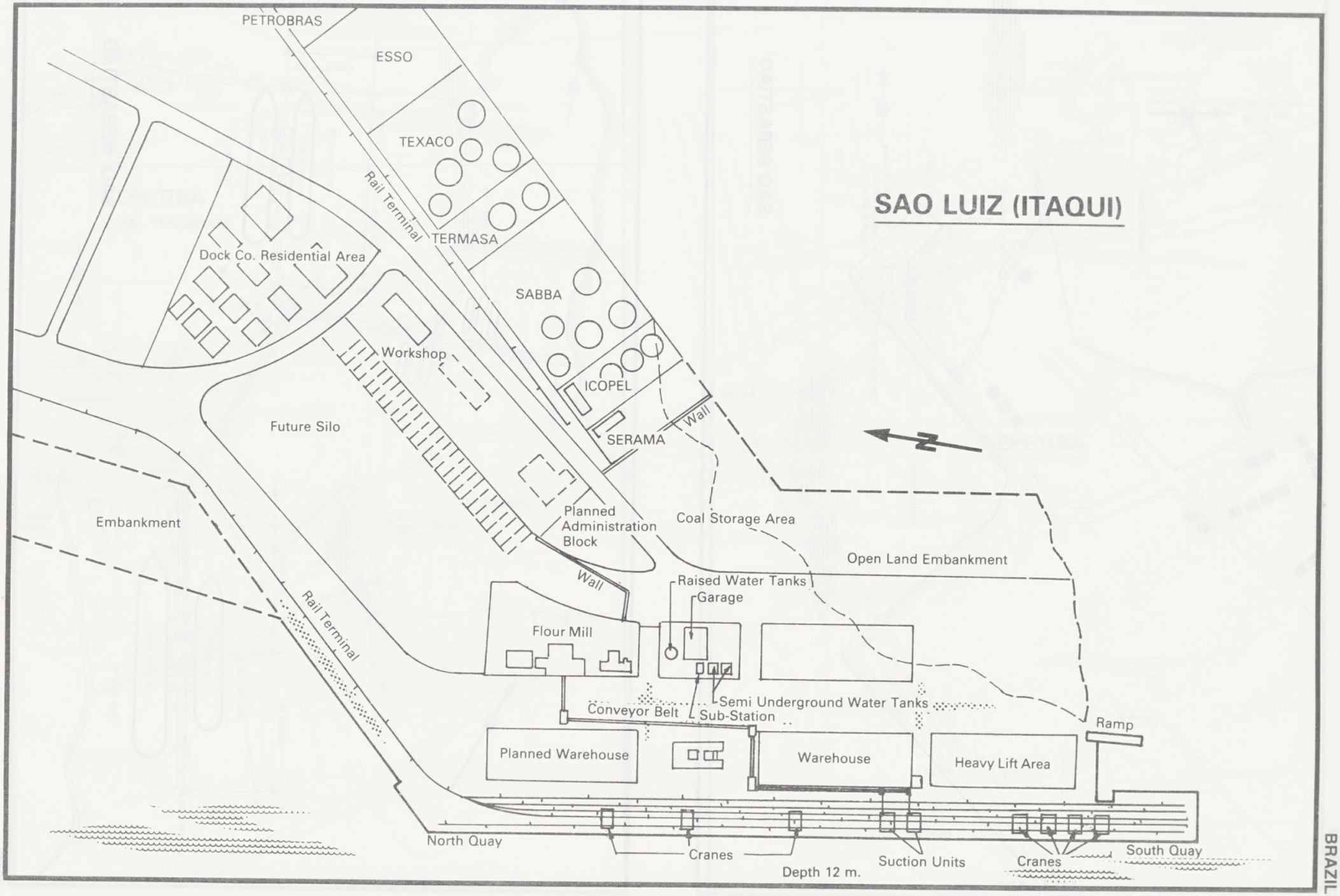
SAO FRANCISCO DO SUL

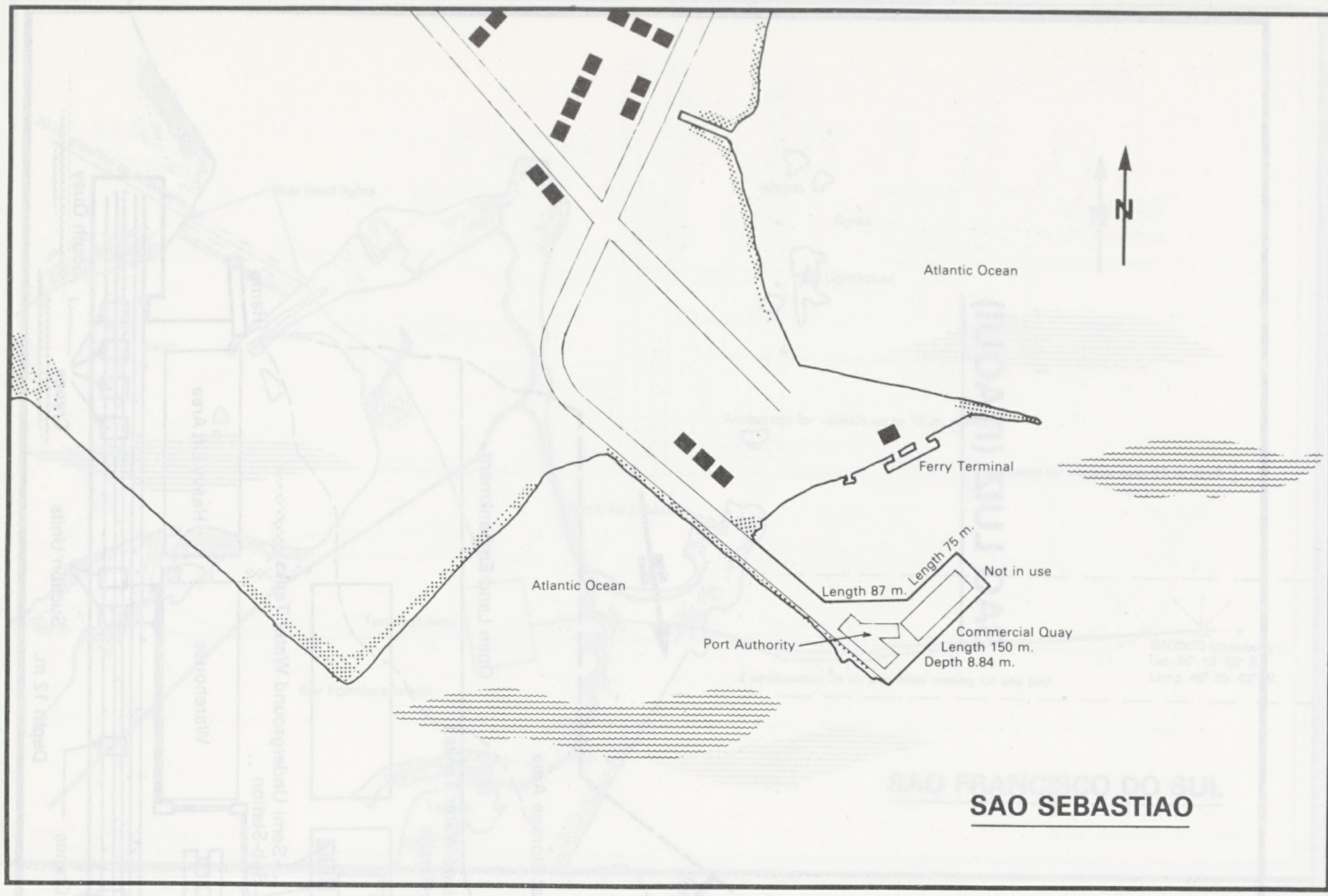
TEFRAN MOORING & CONNECTION DIAGRAM



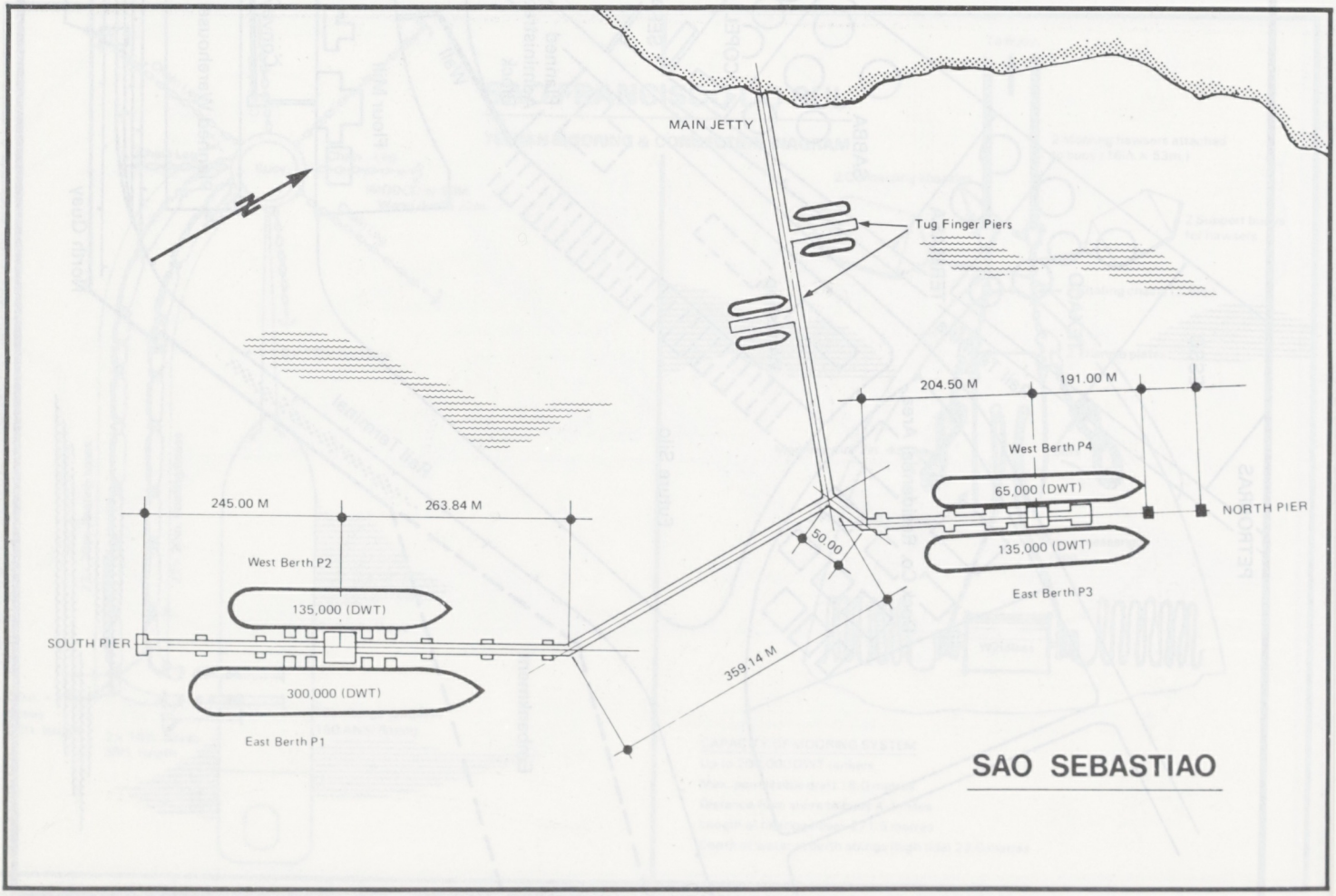
CAPACITY OF MOORING SYSTEM

Up to 200,000 DWT tankers
Max. permissible draft 18.0 metres
Distance from shore to buoy 4.1 miles
Length of floating hoses 271.5 metres
Depth of water at berth strings (high tide) 22.0 metres

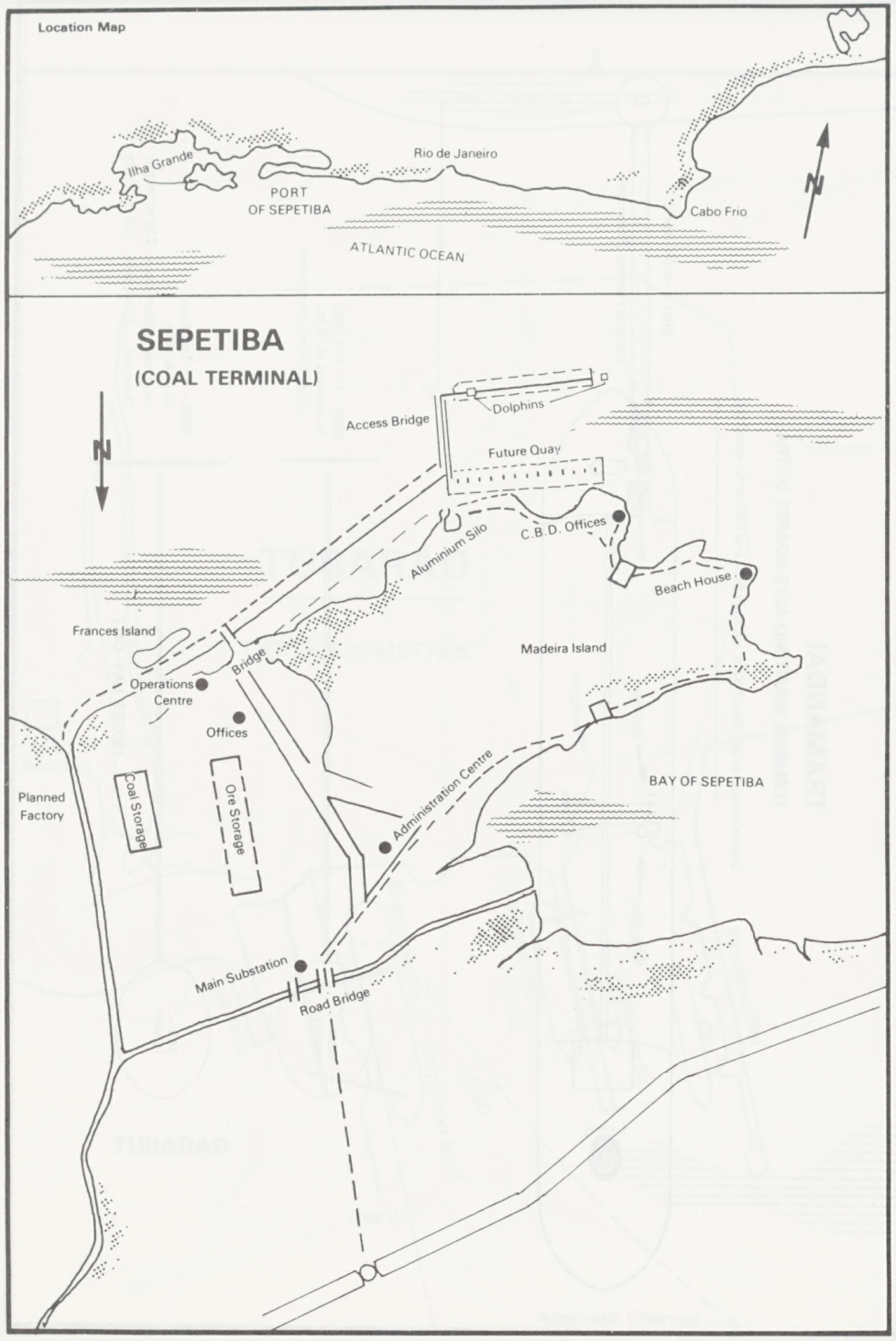

SAO LUIZ (ITAQUI)
PETROBRAS
ESSO
TEXACO
Rail Terminal
TERMASA
Dock Co. Residential Area
SABBA
Workshop
ICOPEL
Future Silo
SERAMA
Wall
N
Embankment
Planned Administration Block
Coal Storage Area
Open Land Embankment
Wall
Raised Water Tanks
Garage
Rail Terminal
Flour Mill
Semi Underground Water Tanks
Conveyor Belt
Sub-Station
Ramp
Planned Warehouse
Warehouse
Heavy Lift Area
North Quay
Cranes
Depth 12 m.
Suction Units
Cranes
South Quay
P123
BRAZIL



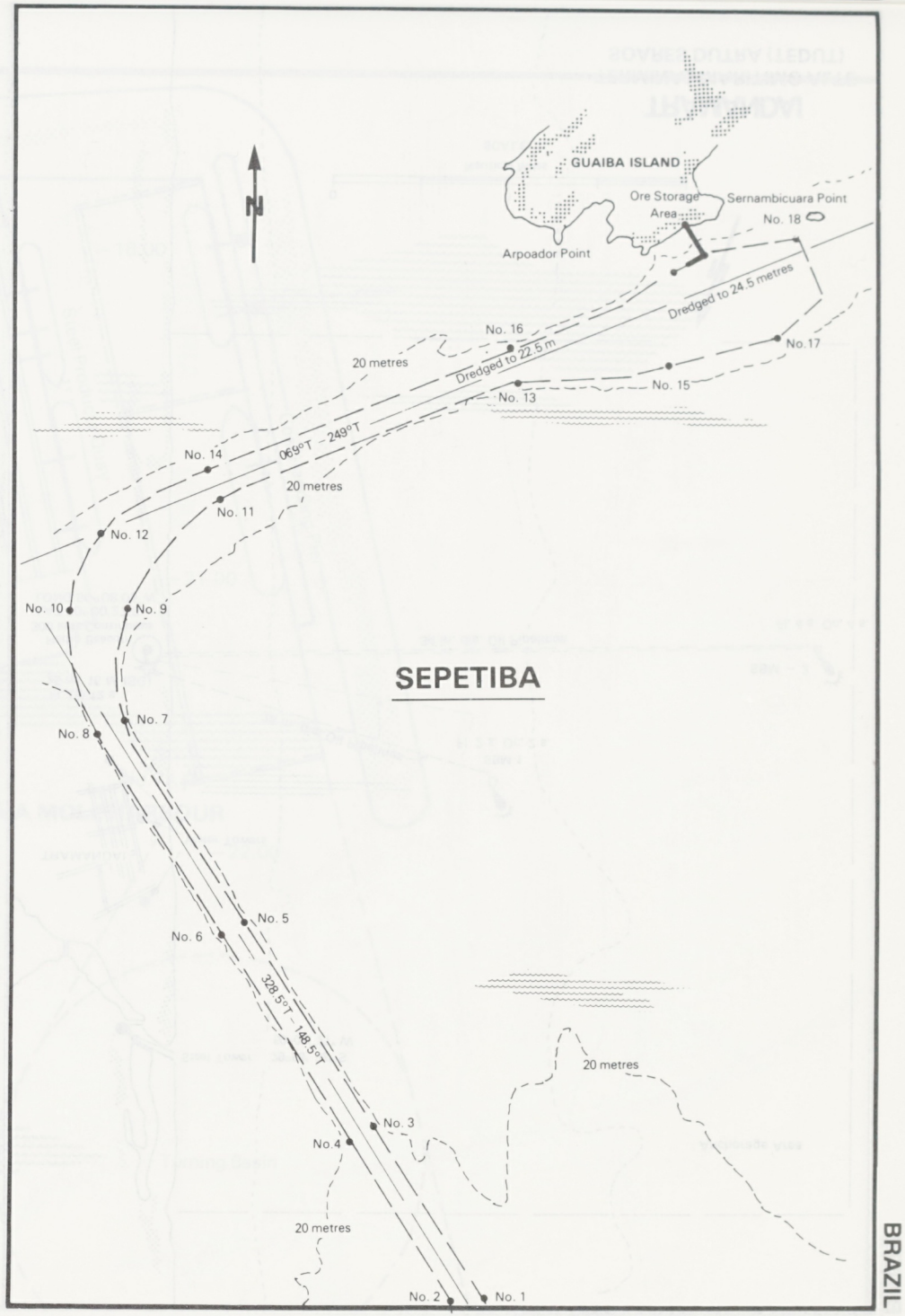
SAO SEBASTIAO



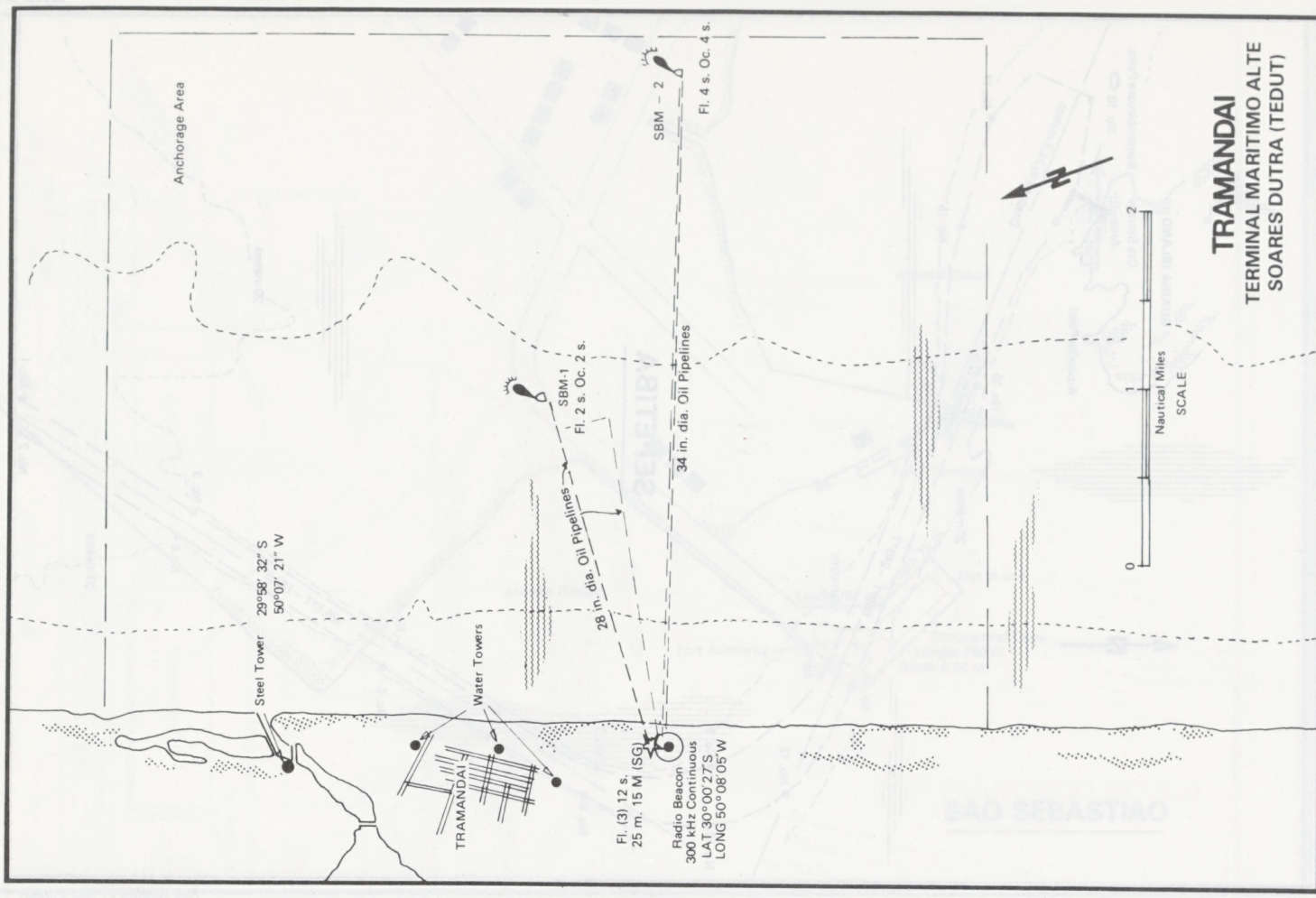
SAO SEBASTIAO

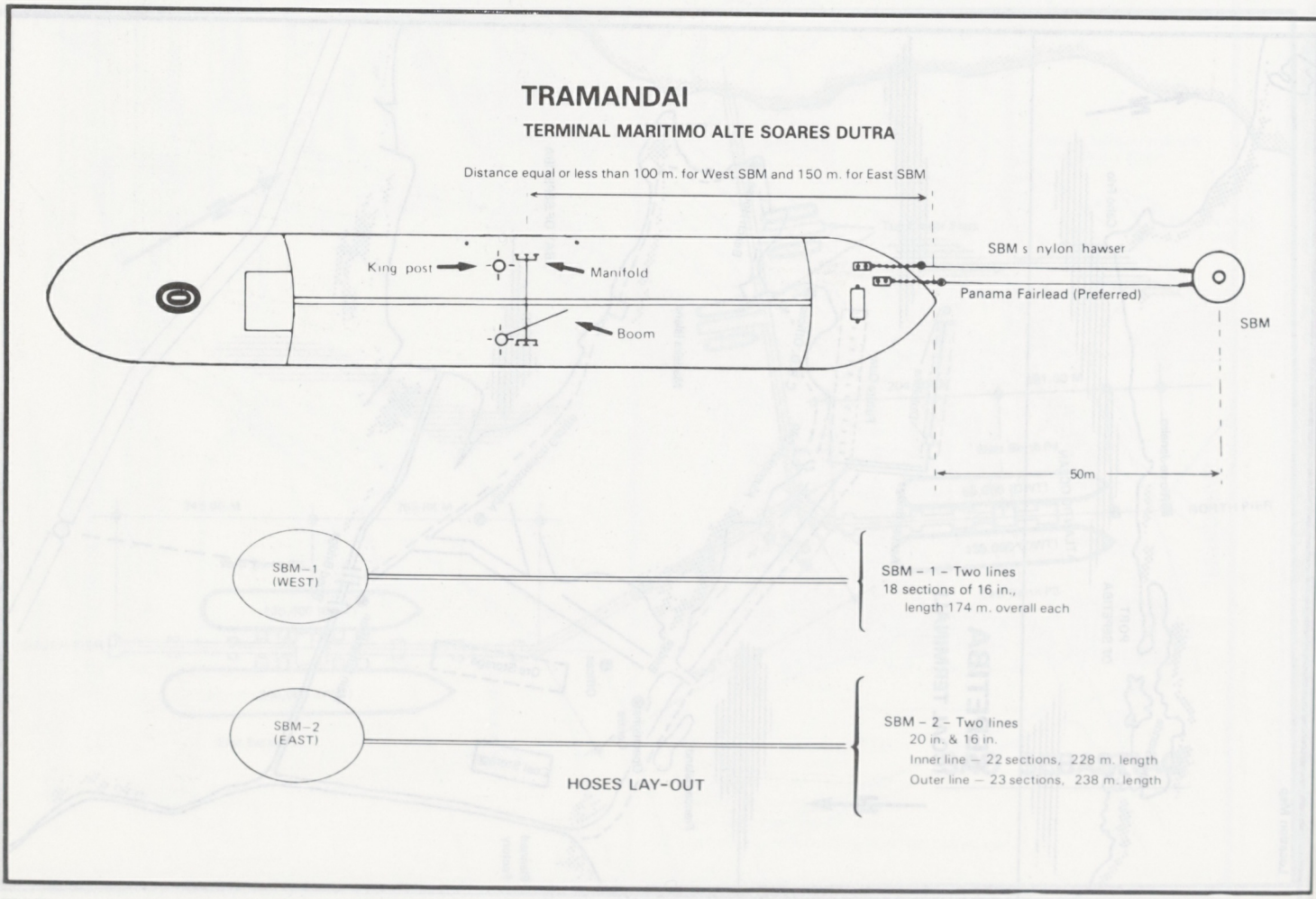


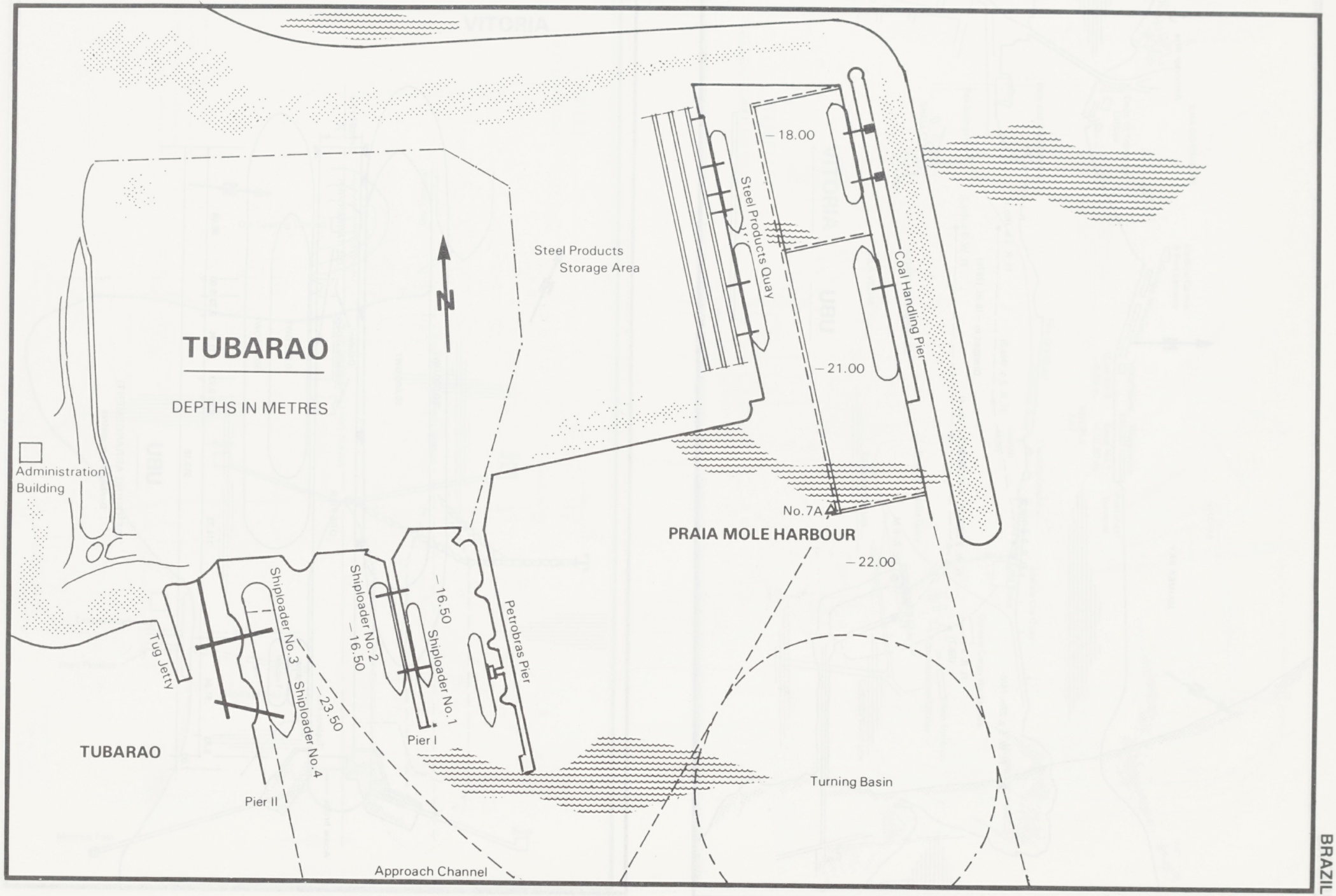
"Plan supplied by Ship's Master"



"Plan supplied by Ship's Master"

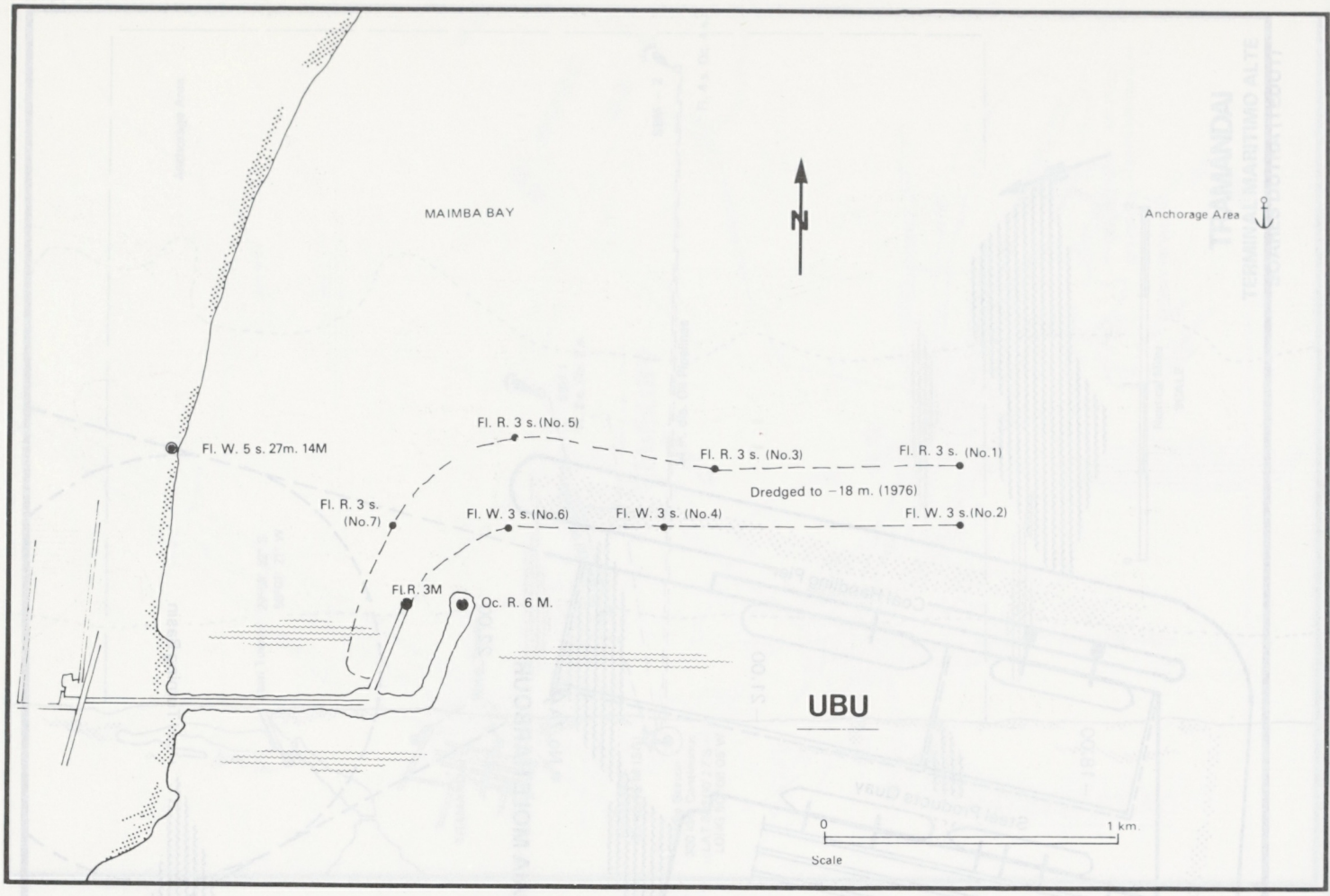

TRAMANDAI
TERMINAL MARITIMO ALTE
SOARES DUTRA (TEDUT)
Anchorage Area
SBM – 2
Fl. 4 s. Oc. 4 s.
SBM-1
Fl. 2 s. Oc. 2 s.
34 in. dia. Oil Pipelines
28 in. dia. Oil Pipelines
29°58' 32" S
50°07' 21" W
Steel Tower
Water Towers
TRAMANDAI
Fl. (3) 12 s.
25 m. 15 M (SG)
Radio Beacon
300 kHz Continuous
LAT 30°00 27S
LONG 50°08 05'W
SCALE
Nautical Miles
0
1
2

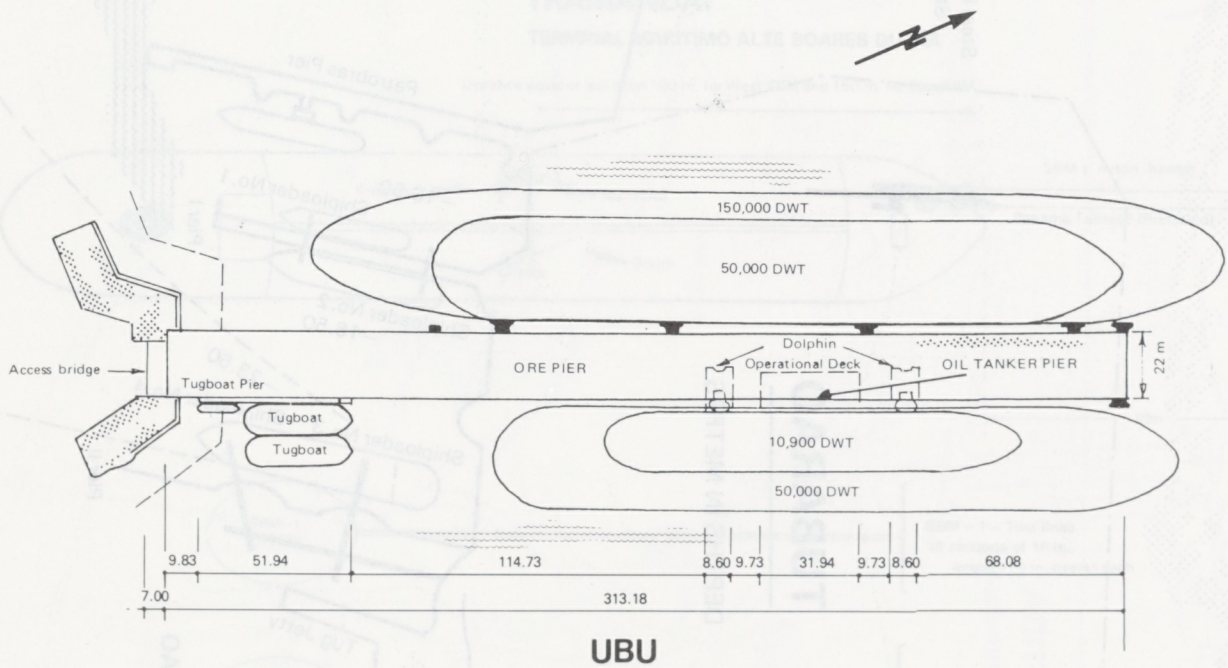

TRAMANDAI
TERMINAL MARITIMO ALTE SOARES DUTRA
Distance equal or less than 100 m. for West SBM and 150 m. for East SBM
King post
Manifold
Boom
SBM s nylon hawser
Panama Fairlead (Preferred)
SBM
50m
SBM–1
(WEST)
SBM – 1 – Two lines
18 sections of 16 in.,
length 174 m. overall each
SBM–2
(EAST)
SBM – 2 – Two lines
20 in. & 16 in.
Inner line – 22 sections, 228 m. length
Outer line – 23 sections, 238 m. length
HOSES LAY-OUT


TUBARAO
DEPTHS IN METRES
N
Steel Products Storage Area
Steel Products Quay
Coal Handling Pier
– 18.00
– 21.00
– 22.00
Administration Building
No. 7A
PRAIA MOLE HARBOUR
Petrobras Pier
Shiploader No. 1
Shiploader No. 2
Shiploader No. 3
Shiploader No. 4
– 16.50
– 16.50
– 23.50
Tug Jetty
Pier I
Pier II
TUBARAO
Turning Basin
Approach Channel

P127

BRAZIL

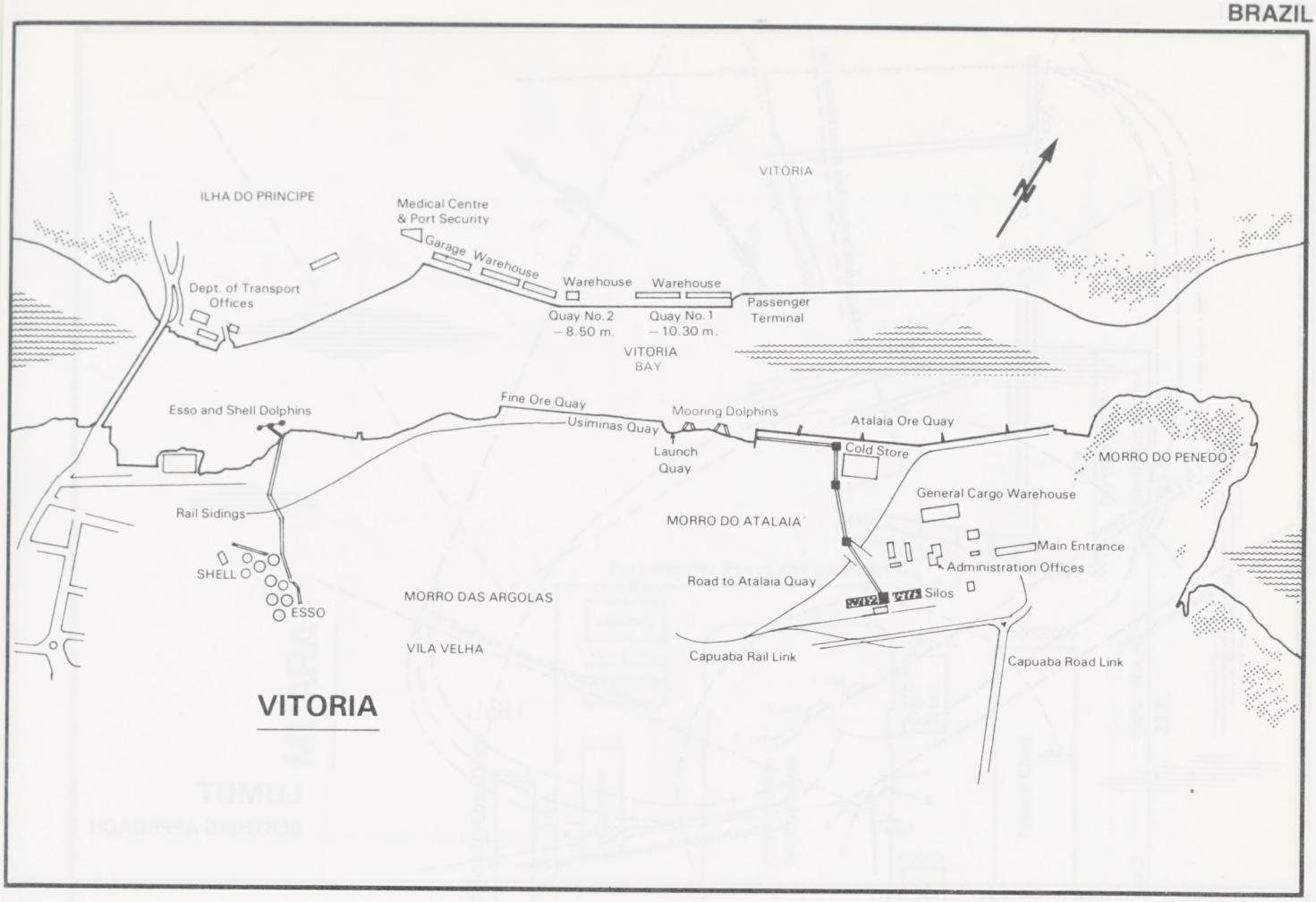


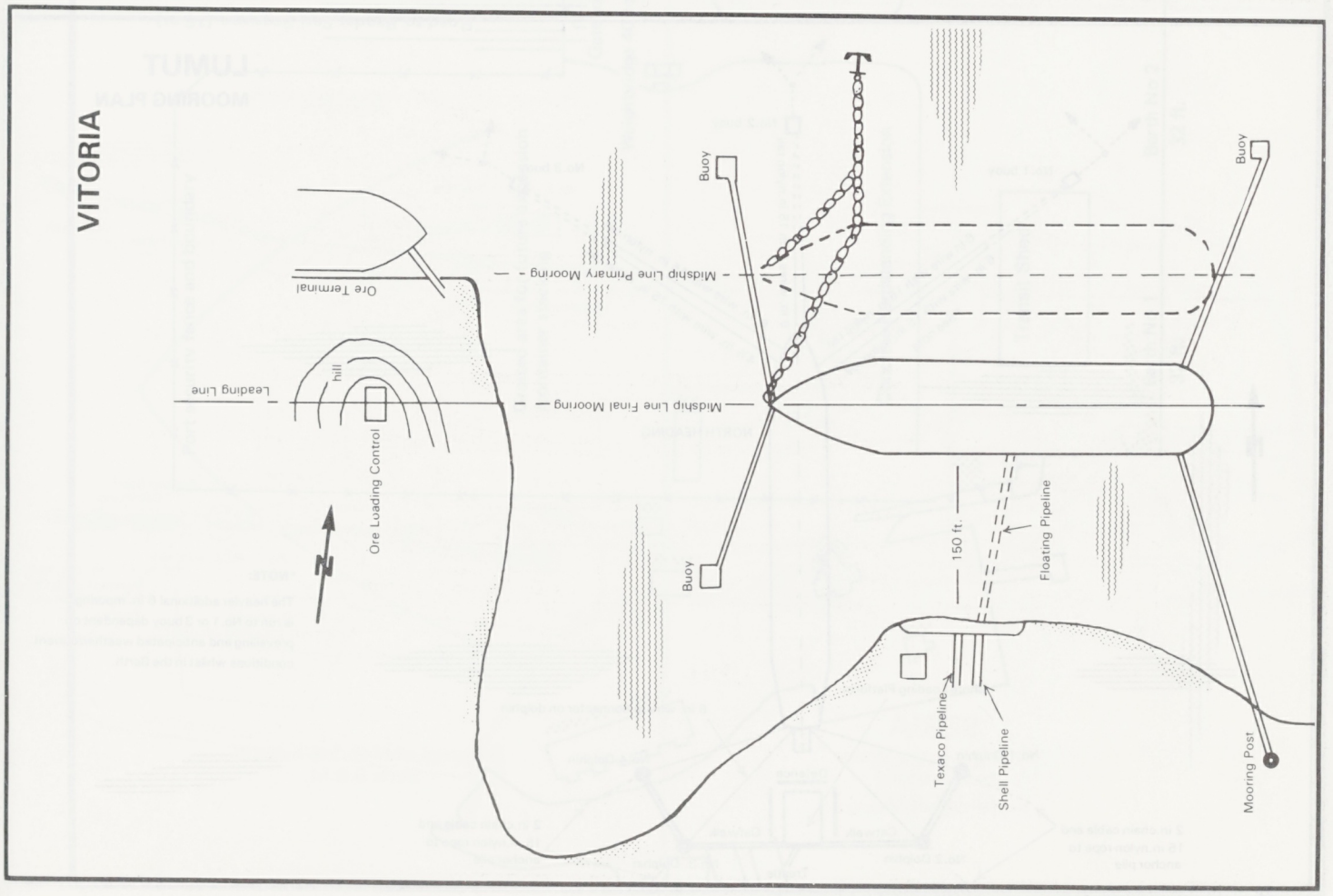


UBU

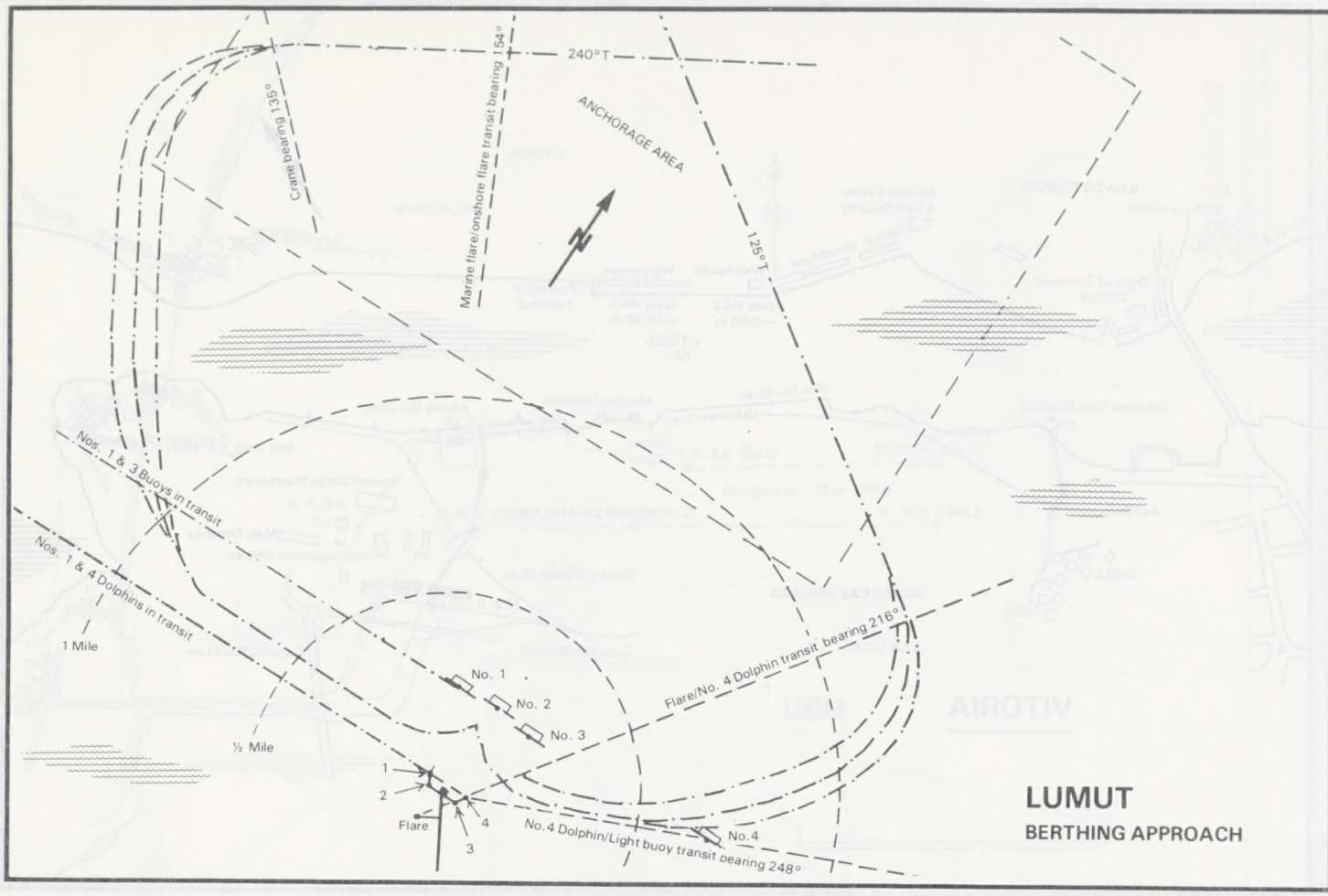
(BERTHING ARRANGEMENT)

Dimensions in metres

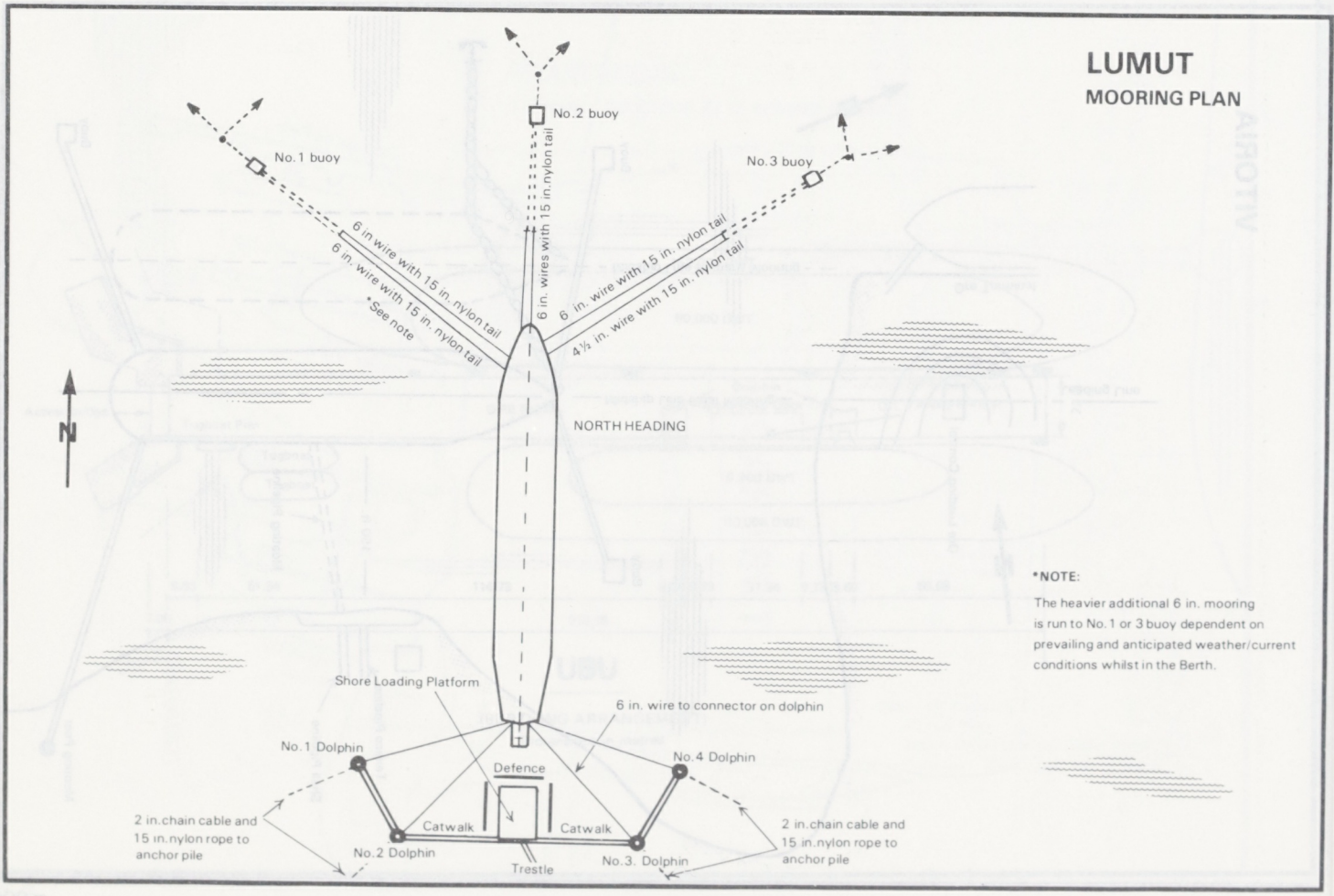




"Plan supplied by Ship's Master"

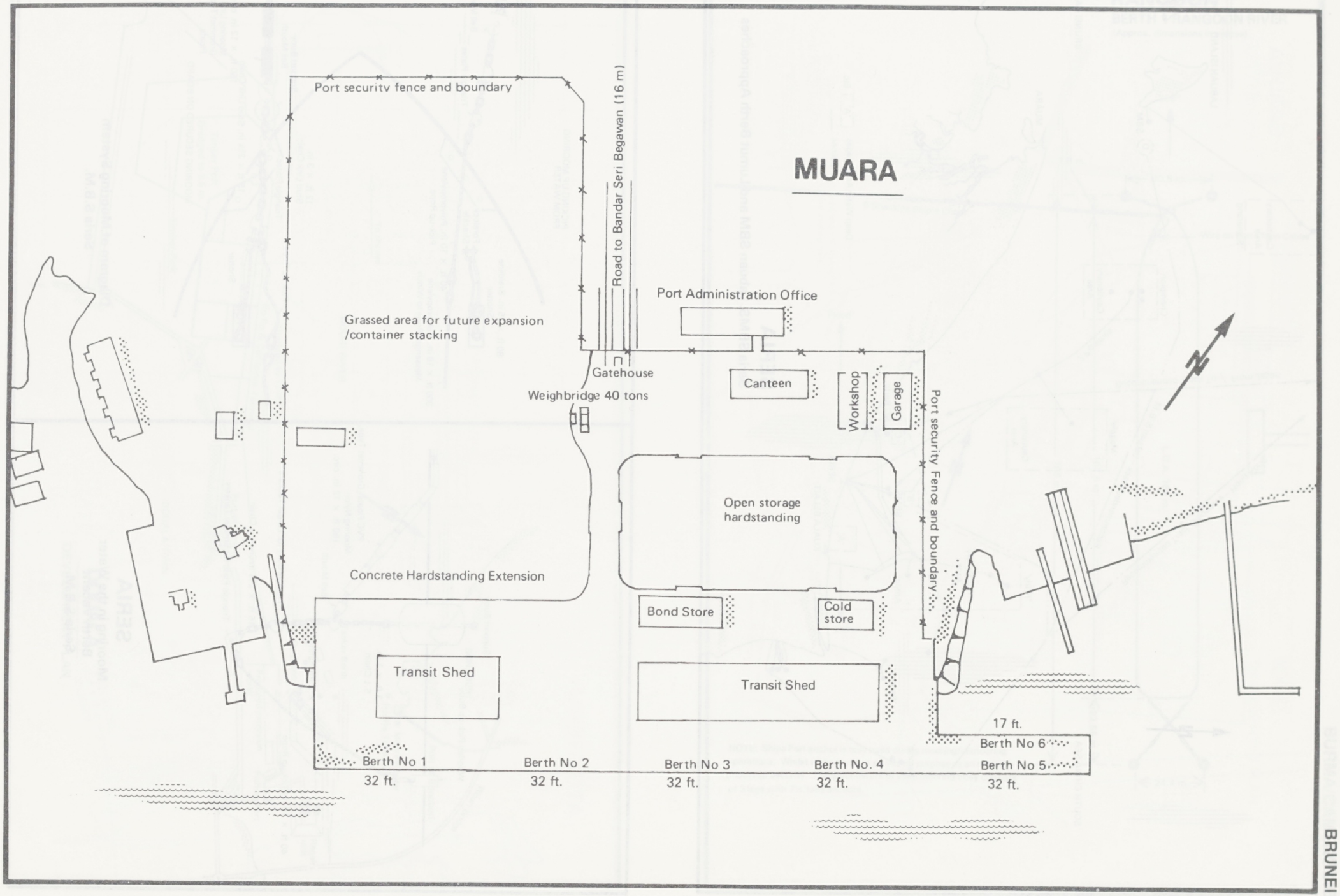


LUMUT
BERTHING APPROACH



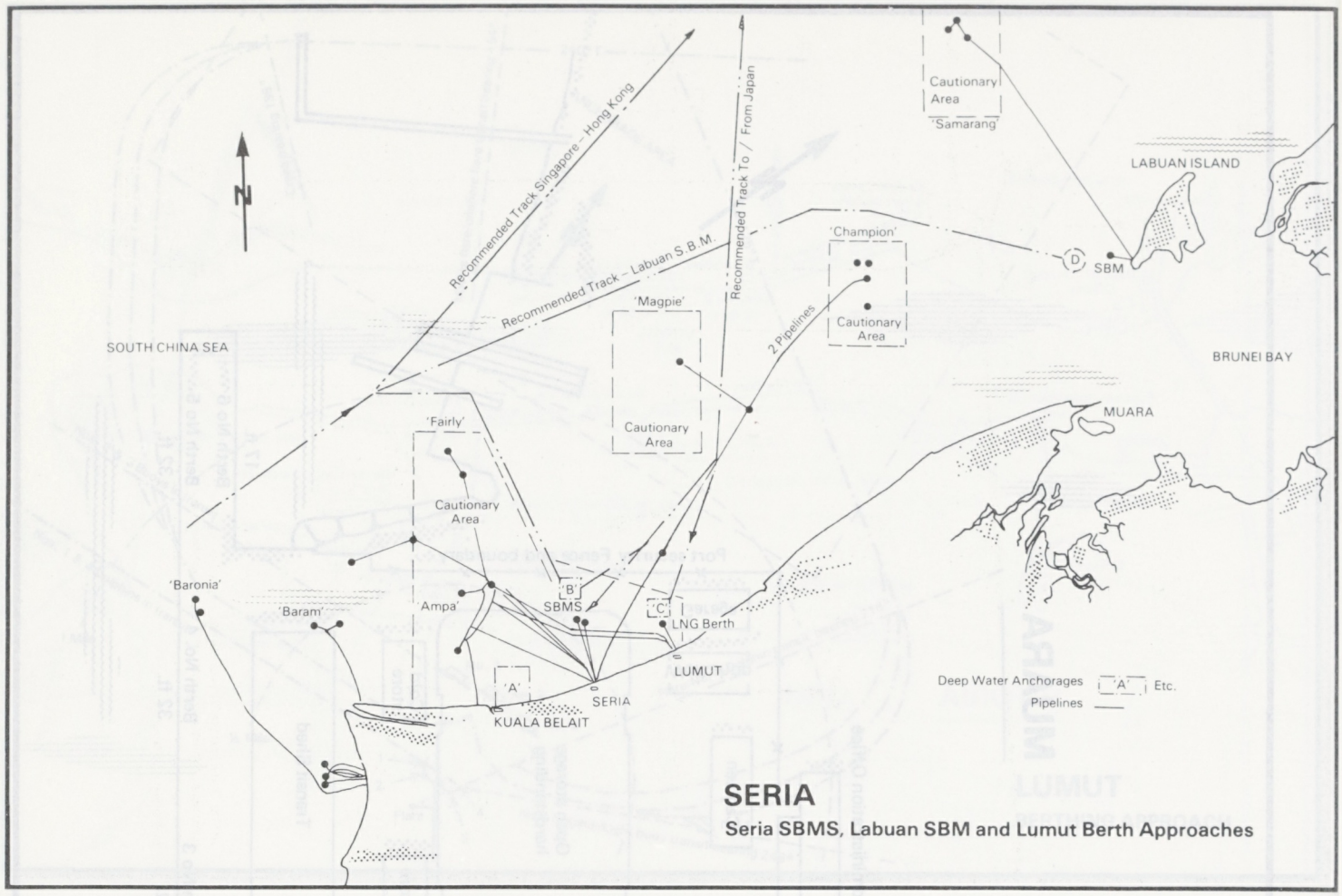
LUMUT
MOORING PLAN

*NOTE:
The heavier additional 6 in. mooring is run to No.1 or 3 buoy dependent on prevailing and anticipated weather/current conditions whilst in the Berth.


MUARA
Port security fence and boundary
Road to Bandar Seri Begawan (16 m)
Port Administration Office
Grassed area for future expansion /container stacking
Gatehouse
Weighbridge 40 tons
Canteen
Workshop
Garage
Port security Fence and boundary
Open storage hardstanding
Concrete Hardstanding Extension
Bond Store
Cold store
Transit Shed
Transit Shed
17 ft.
Berth No 1
32 ft.
Berth No 2
32 ft.
Berth No 3
32 ft.
Berth No. 4
32 ft.
Berth No 6
Berth No 5
32 ft.

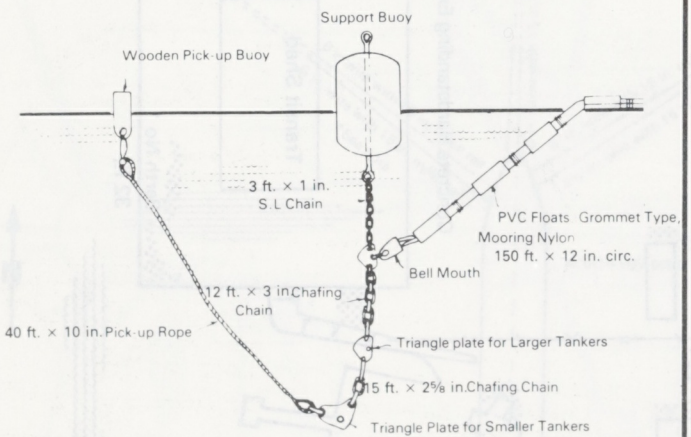
P131

BRUNEI



SERIA

Seria SBMS, Labuan SBM and Lumut Berth Approaches



SERIA

Mooring in the Water
Berth Vacant
Seria S.B.M.

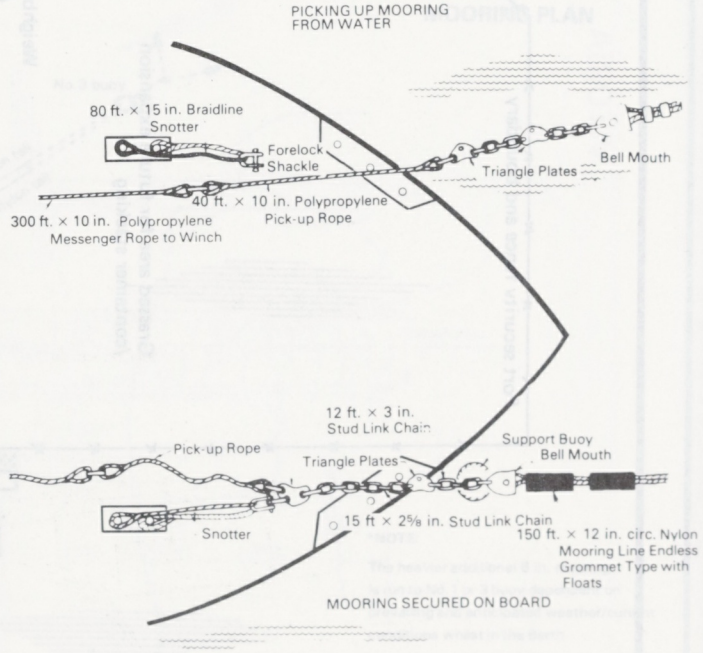
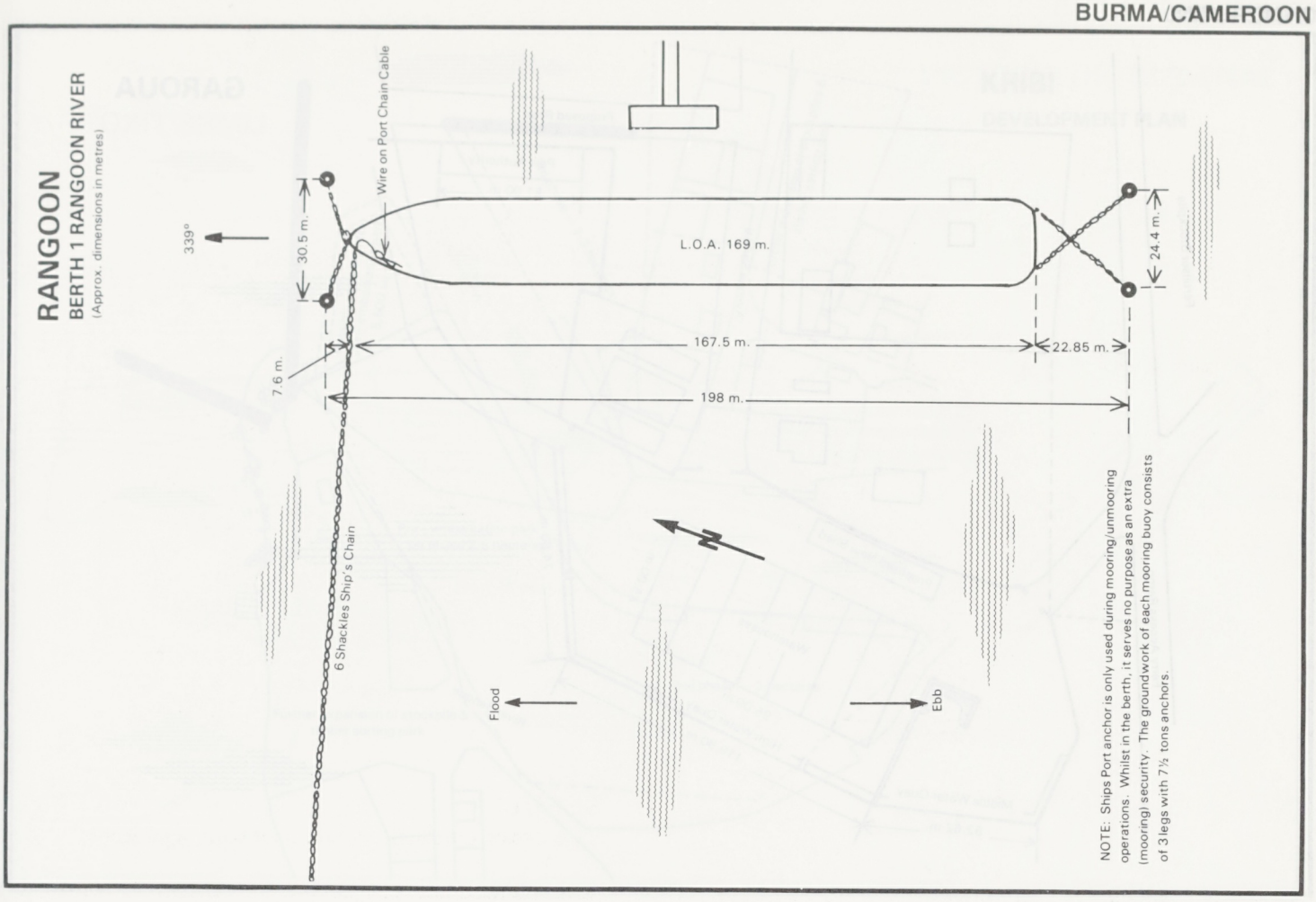
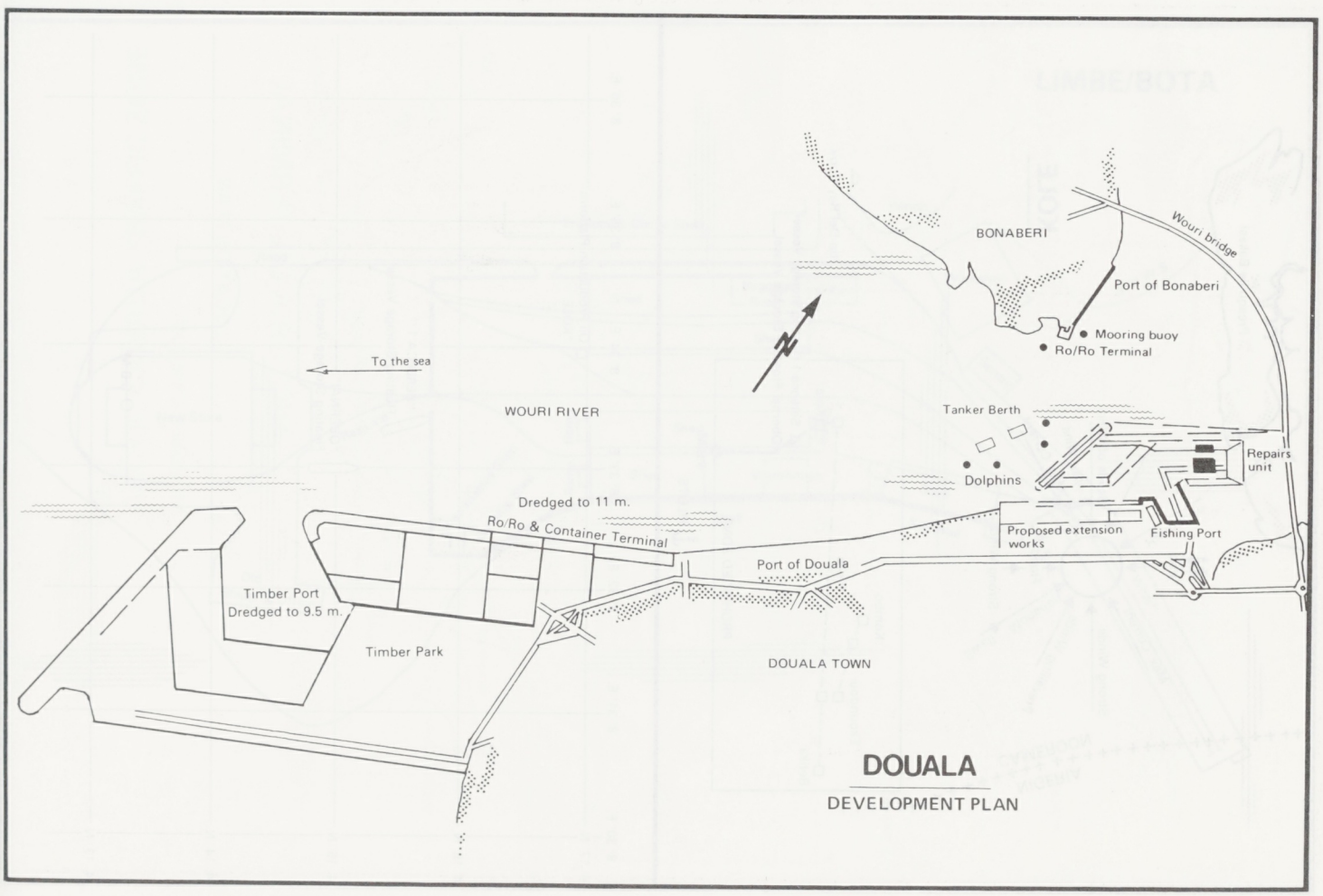
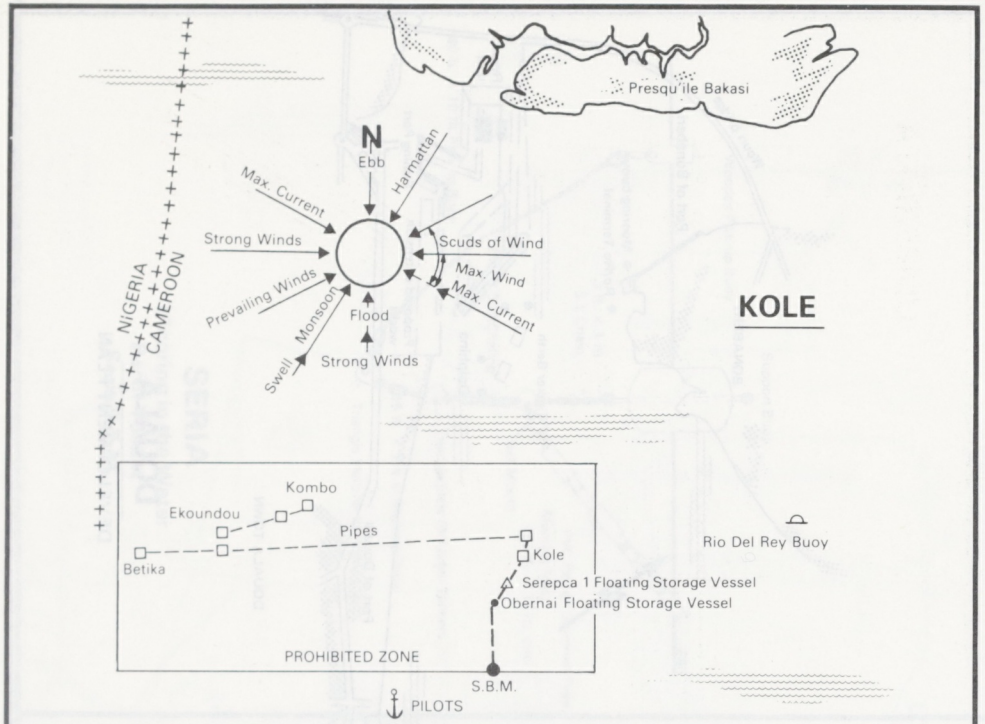
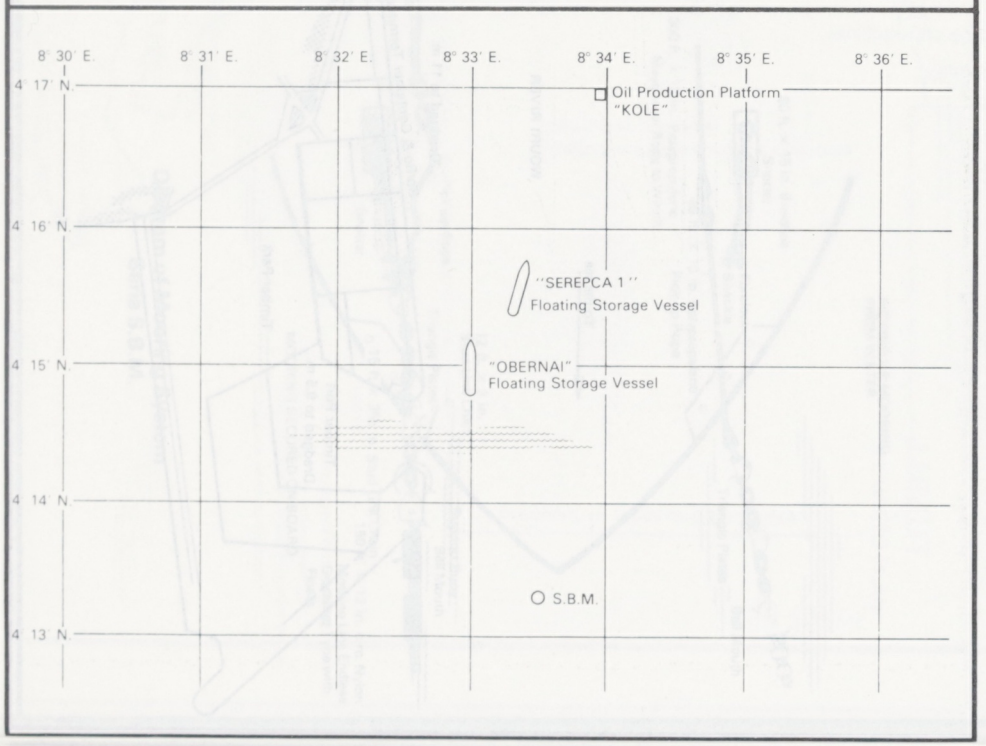


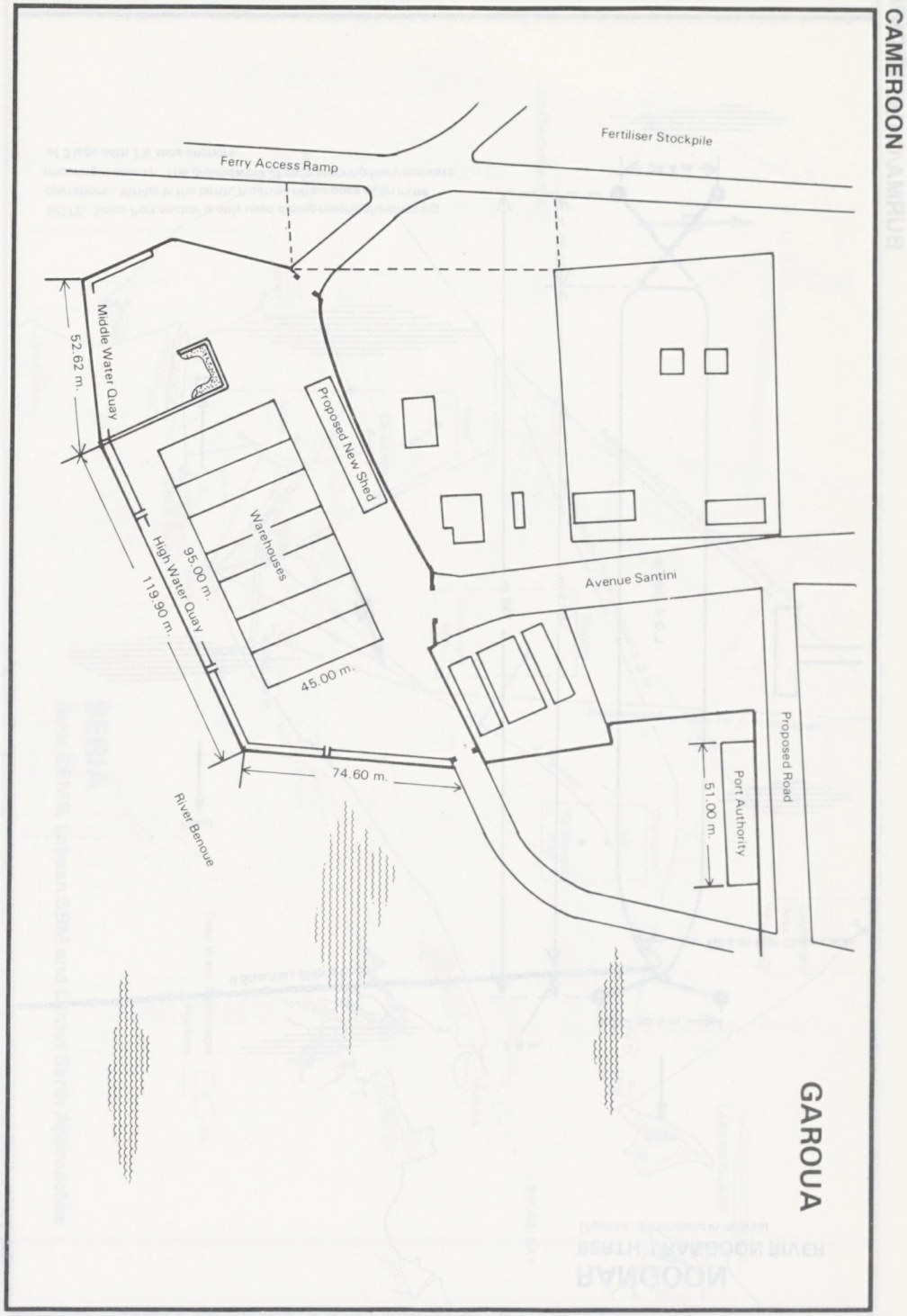
Diagram of Mooring System
Seria S.B.M.


RANGOON
BERTH 1 RANGOON RIVER
(Approx. dimensions in metres)
339°
30.5 m.
Wire on Port Chain Cable
L.O.A. 169 m.
24.4 m.
167.5 m.
22.85 m.
7.6 m.
198 m.
6 Shackles Ship's Chain
Flood
Ebb
NOTE: Ships Port anchor is only used during mooring/unmooring operations. Whilst in the berth, it serves no purpose as an extra (mooring) security. The groundwork of each mooring buoy consists of 3 legs with 7½ tons anchors.


BONABERI
Wouri bridge
Port of Bonaberi
Mooring buoy
Ro/Ro Terminal
To the sea
WOURI RIVER
Tanker Berth
Repairs unit
Dolphins
Dredged to 11 m.
Ro/Ro & Container Terminal
Proposed extension works
Fishing Port
Port of Douala
Timber Port
Dredged to 9.5 m.
Timber Park
DOUALA TOWN
DOUALA
DEVELOPMENT PLAN

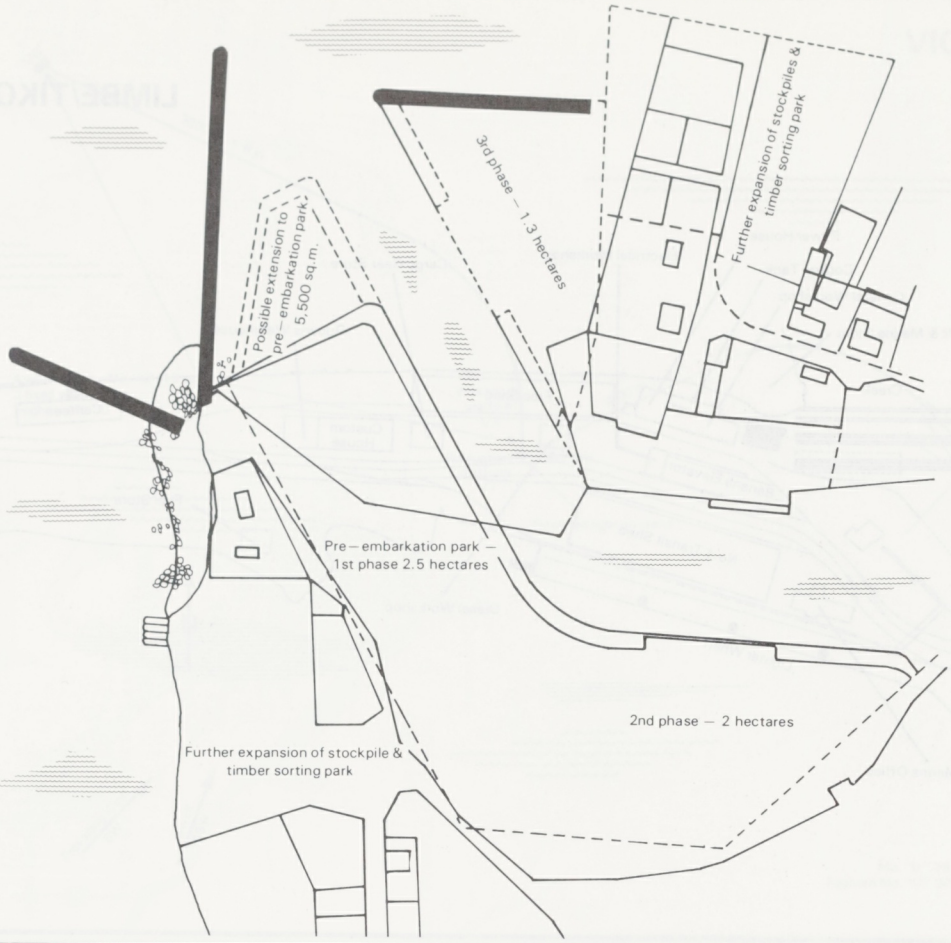

Presqu'ile Bakasi
N
Ebb
Harmattan
Max. Current
Strong Winds
Scuds of Wind
Max. Wind
Max. Current
Prevailing Winds
Monsoon
Flood
Swell
Strong Winds
NIGERIA
CAMEROON
KOLE
Kombo
Ekoundou
Pipes
Kole
Betika
Rio Del Rey Buoy
Serepca 1 Floating Storage Vessel
Obernai Floating Storage Vessel
PROHIBITED ZONE
S.B.M.
PILOTS


8° 30' E.
8° 31' E.
8° 32' E.
8° 33' E.
8° 34' E.
8° 35' E.
8° 36' E.
4° 17' N.
4° 16' N.
4° 15' N.
4° 14' N.
4° 13' N.
Oil Production Platform
"KOLE"
"SEREPCA 1"
Floating Storage Vessel
"OBERNAI"
Floating Storage Vessel
S.B.M.

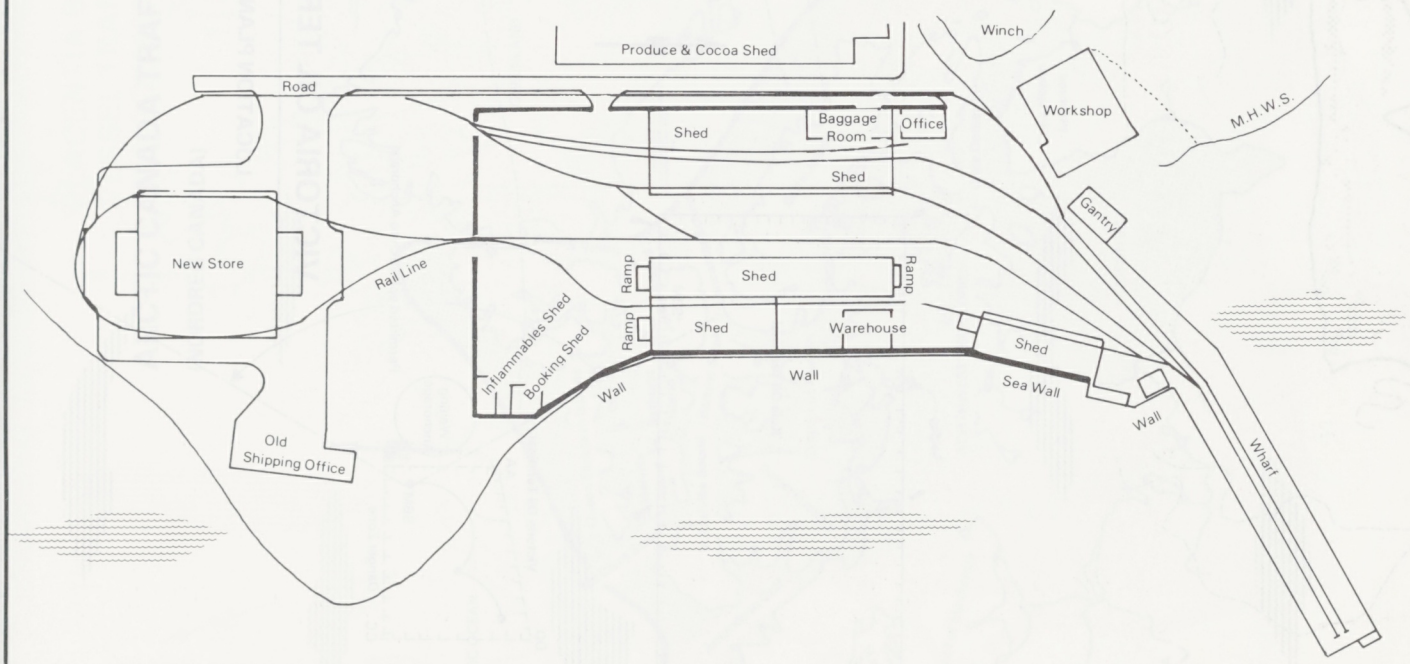

CAMEROON
Fertiliser Stockpile
Ferry Access Ramp
Middle Water Quay
52.62 m.
Proposed New Shed
Warehouses
95.00 m.
High Water Quay
119.90 m.
45.00 m.
Avenue Santini
Proposed Road
Port Authority
51.00 m.
74.60 m.
River Benoue
GAROUA

KRIBI

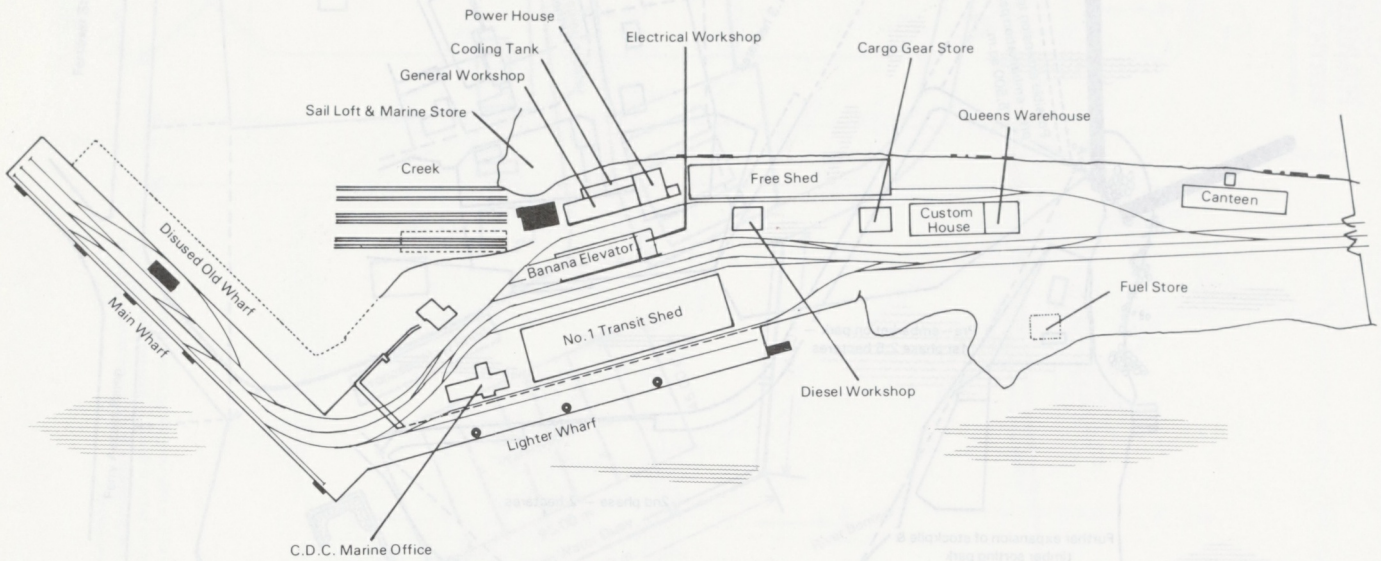
DEVELOPMENT PLAN



LIMBE/BOTA

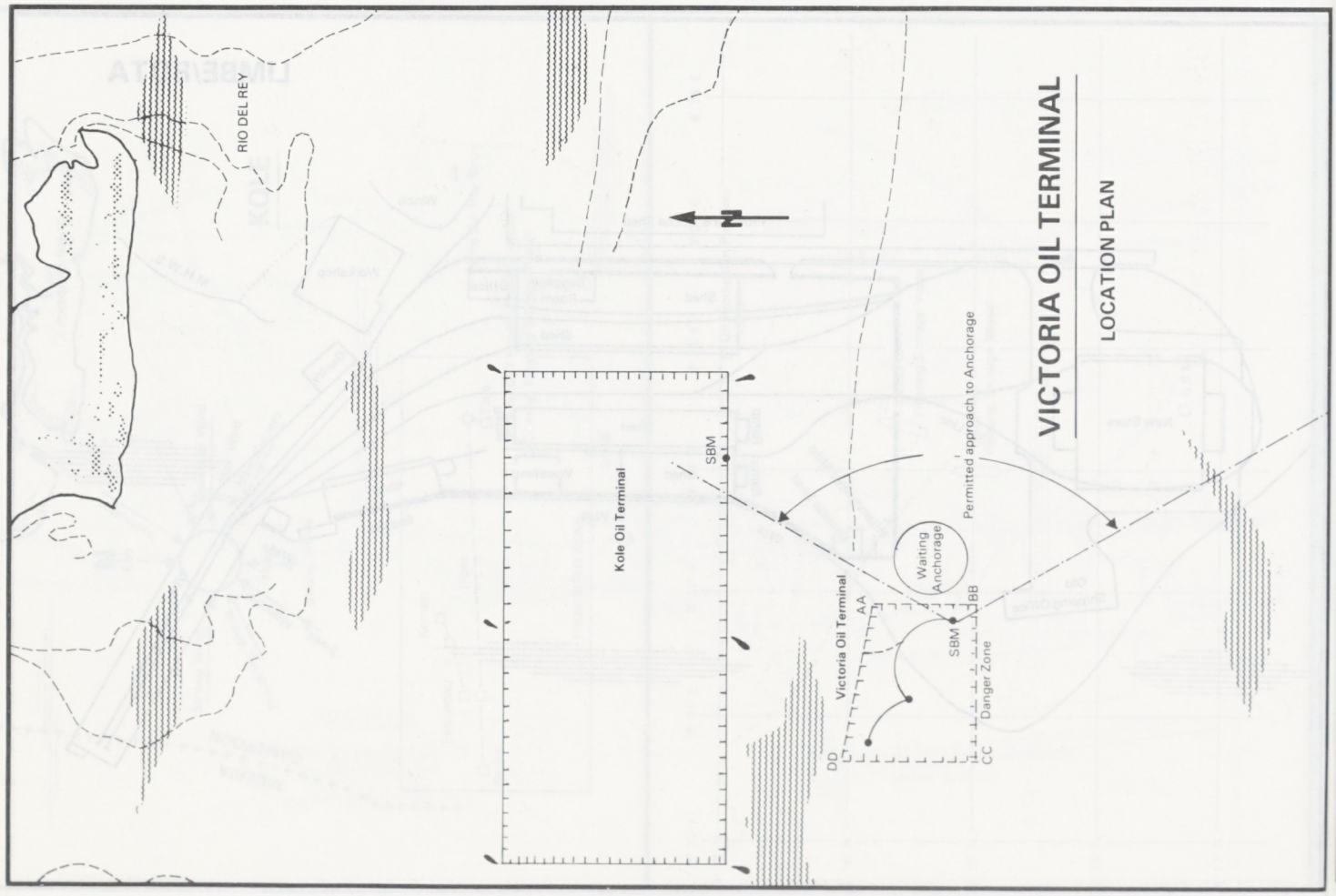


LIMBE/TIKO



VICTORIA OIL TERMINAL

LOCATION PLAN

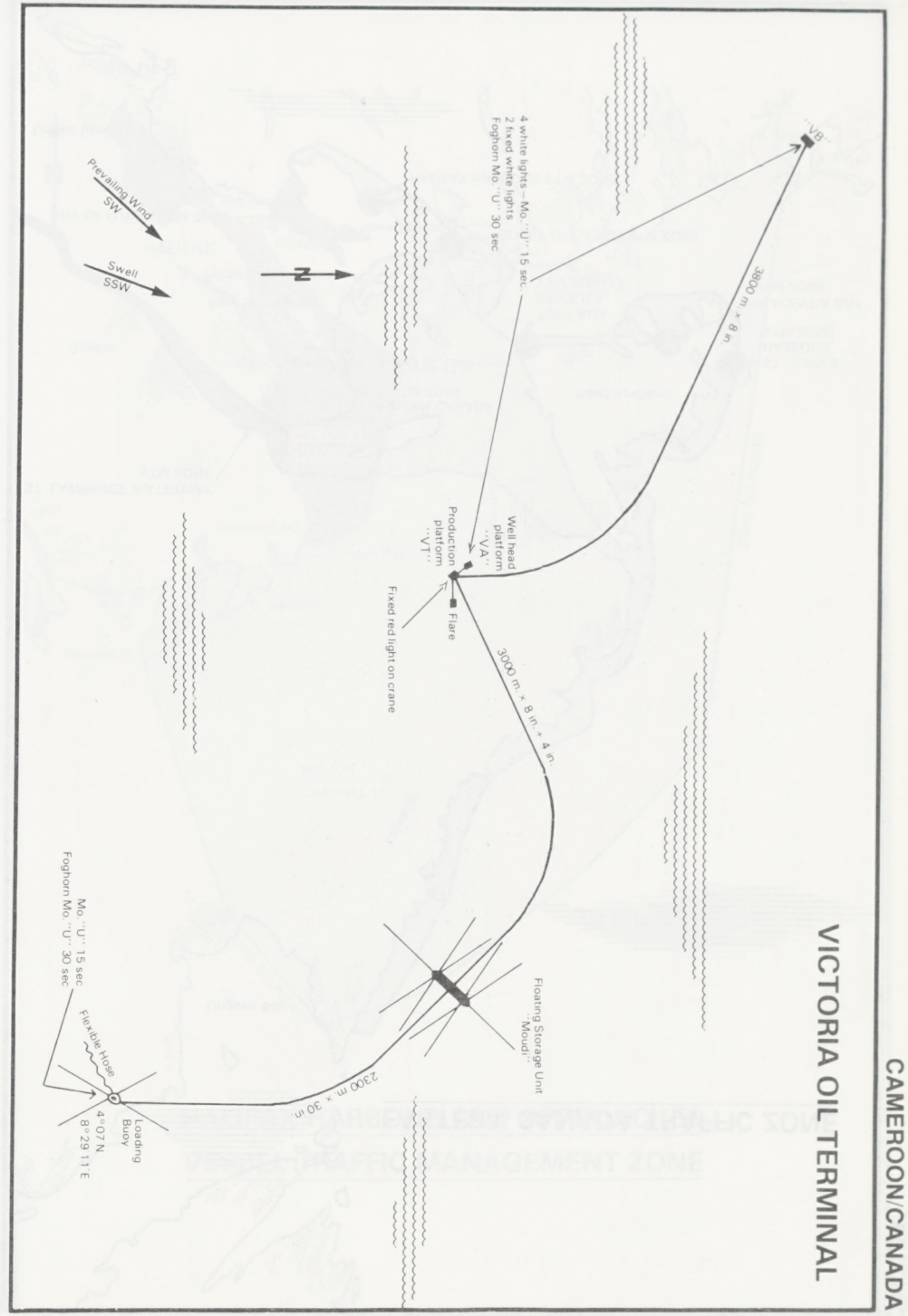


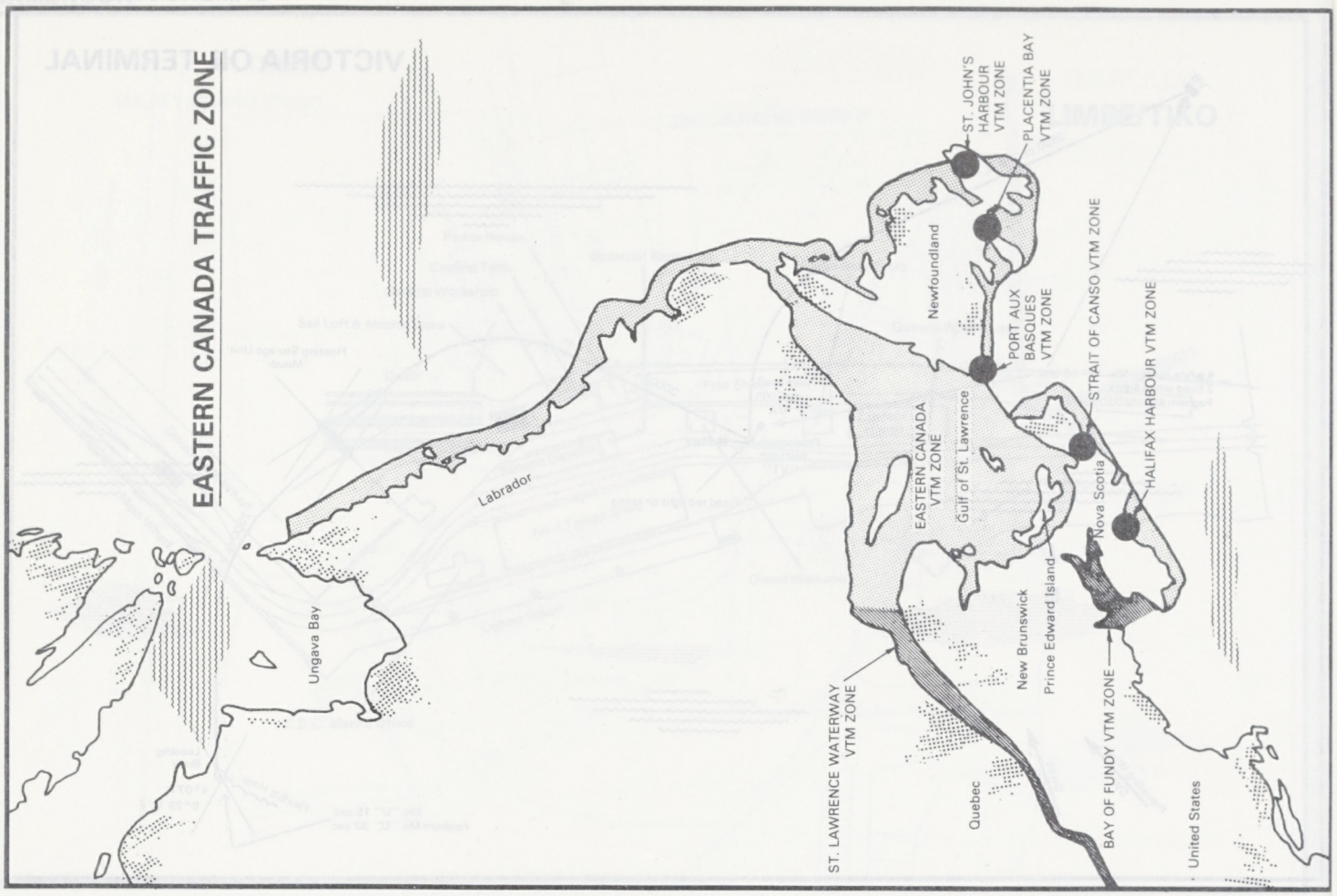
ARCTIC CANADA TRAFFIC ZONE

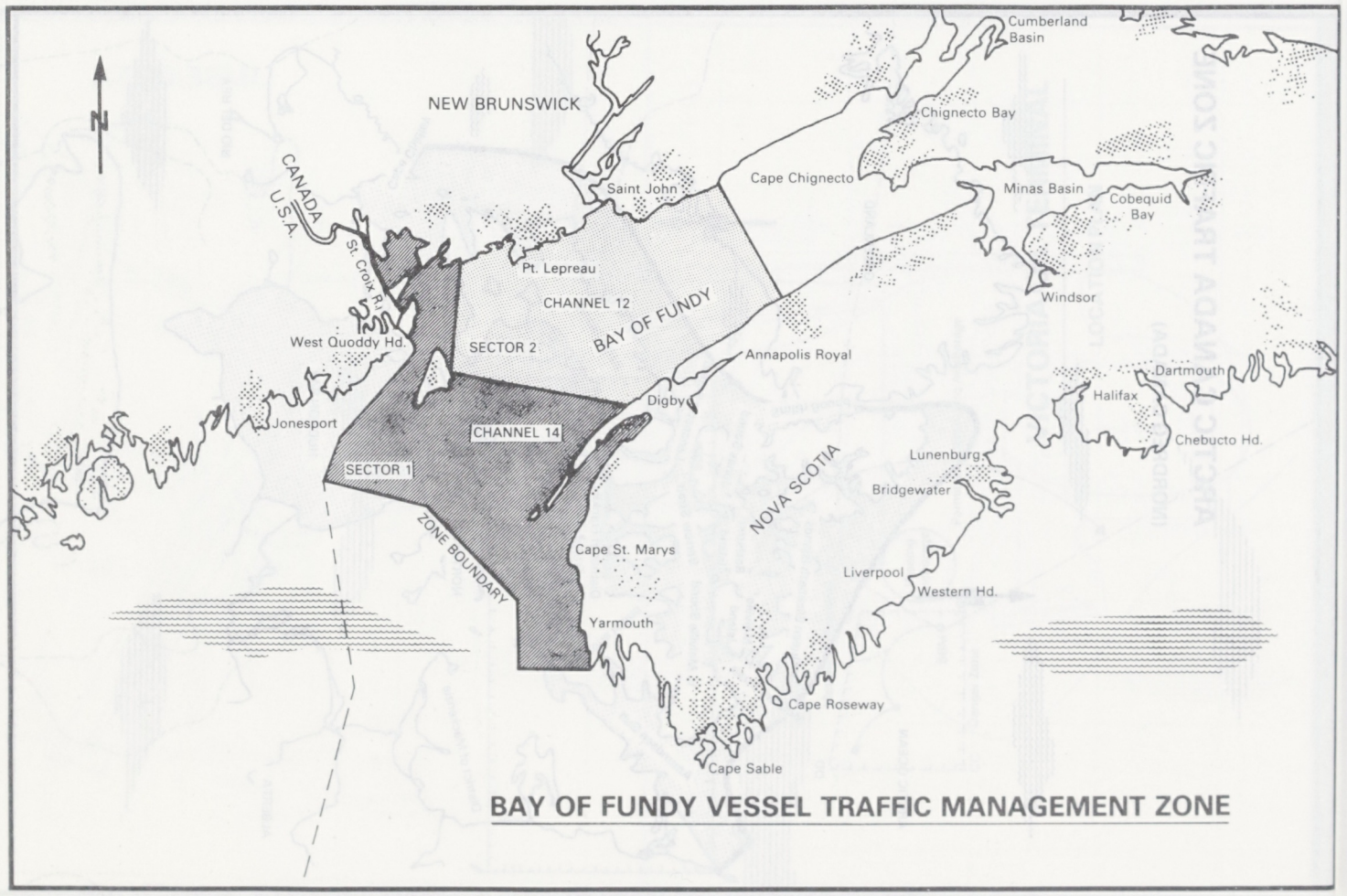
(NORDREG CANADA)

CAMEROON/CANADA

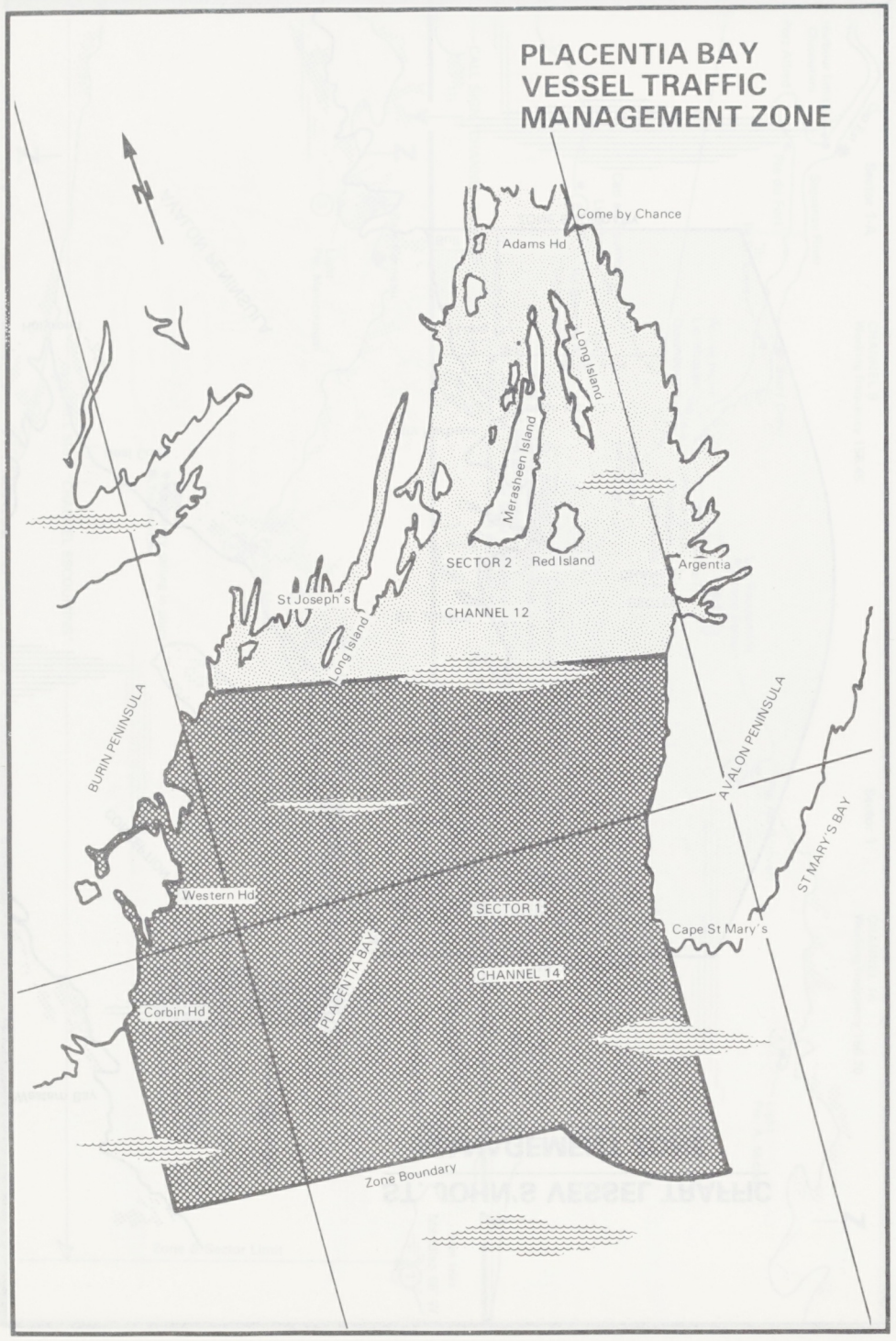
VICTORIA OIL TERMINAL

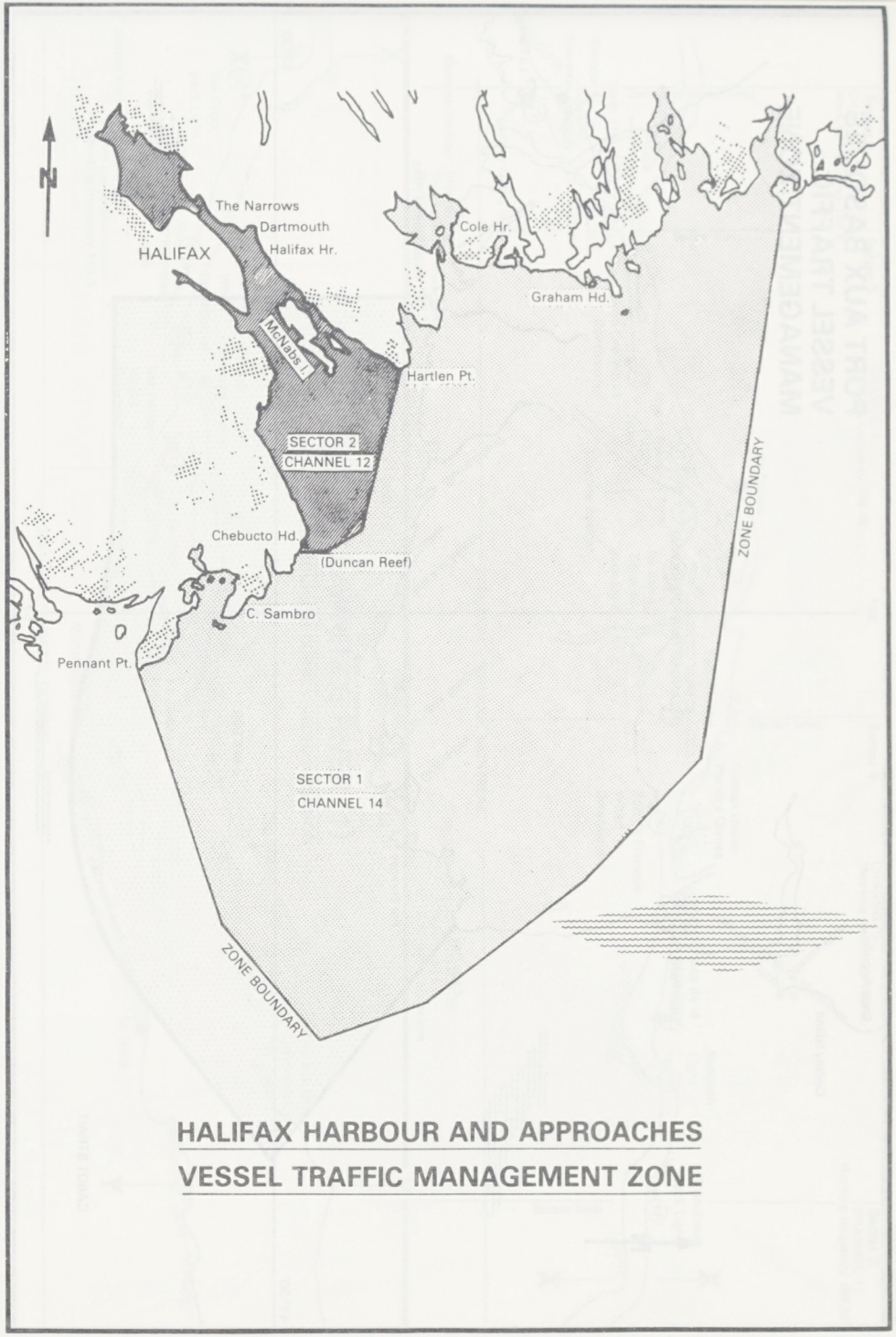






BAY OF FUNDY VESSEL TRAFFIC MANAGEMENT ZONE

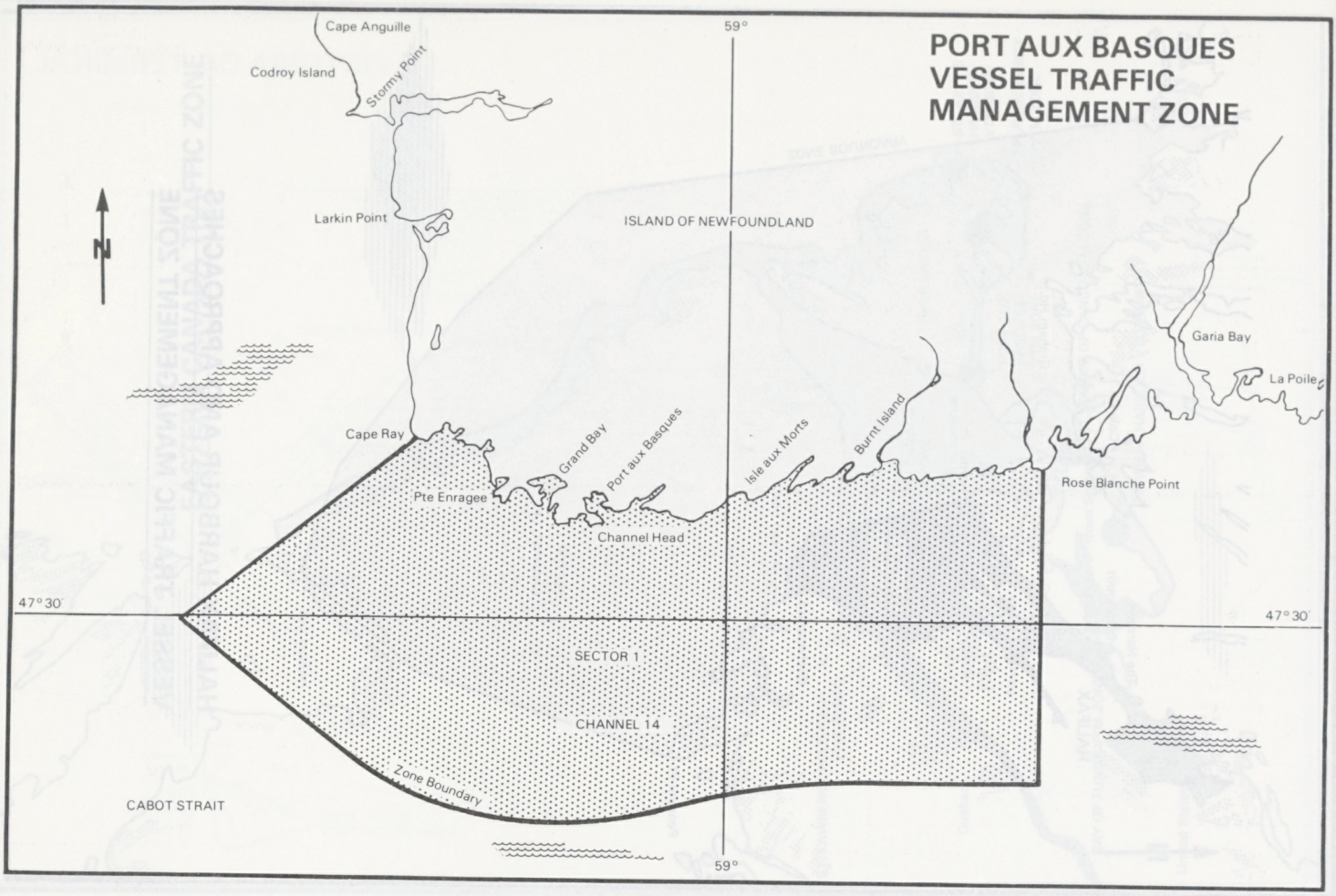


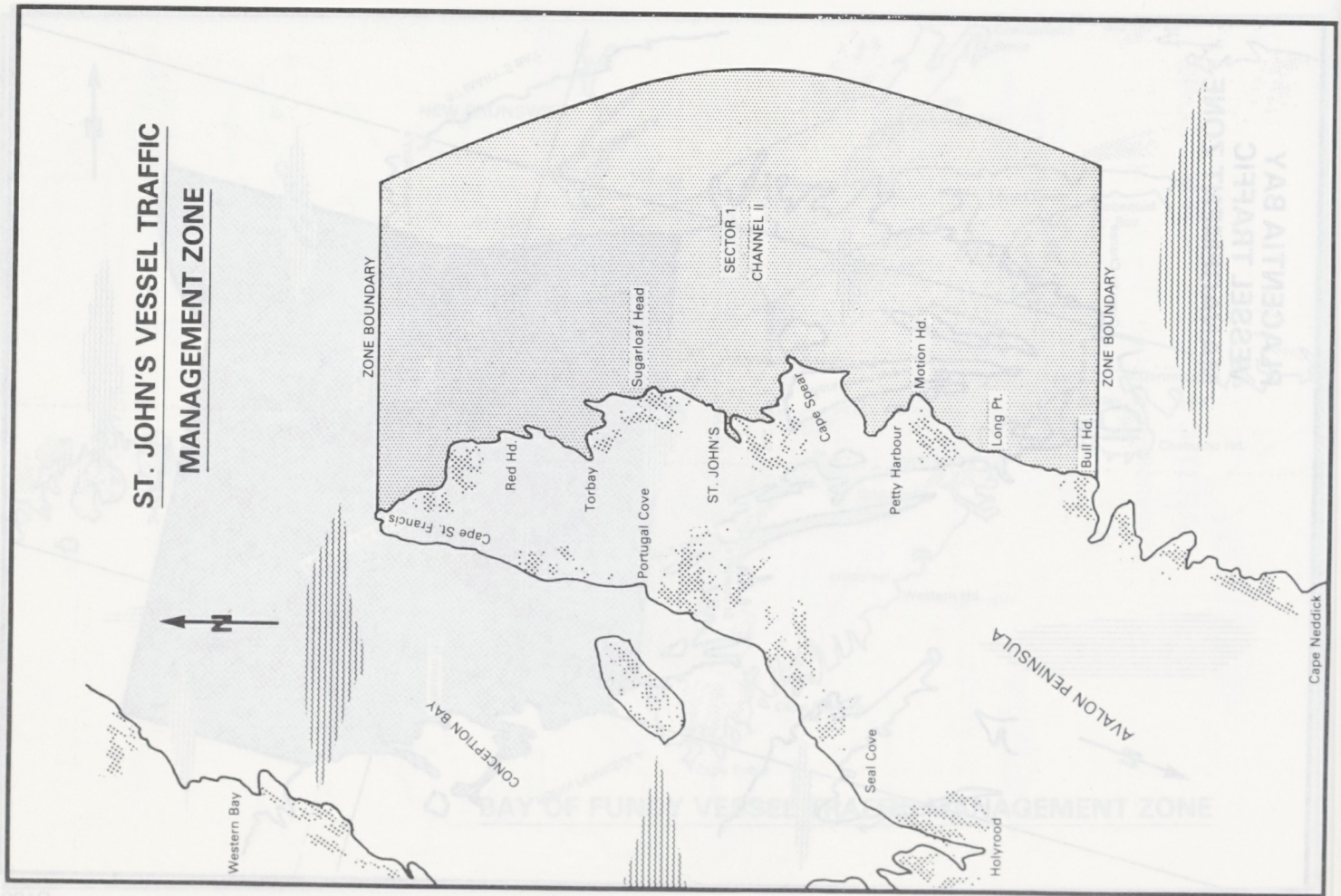


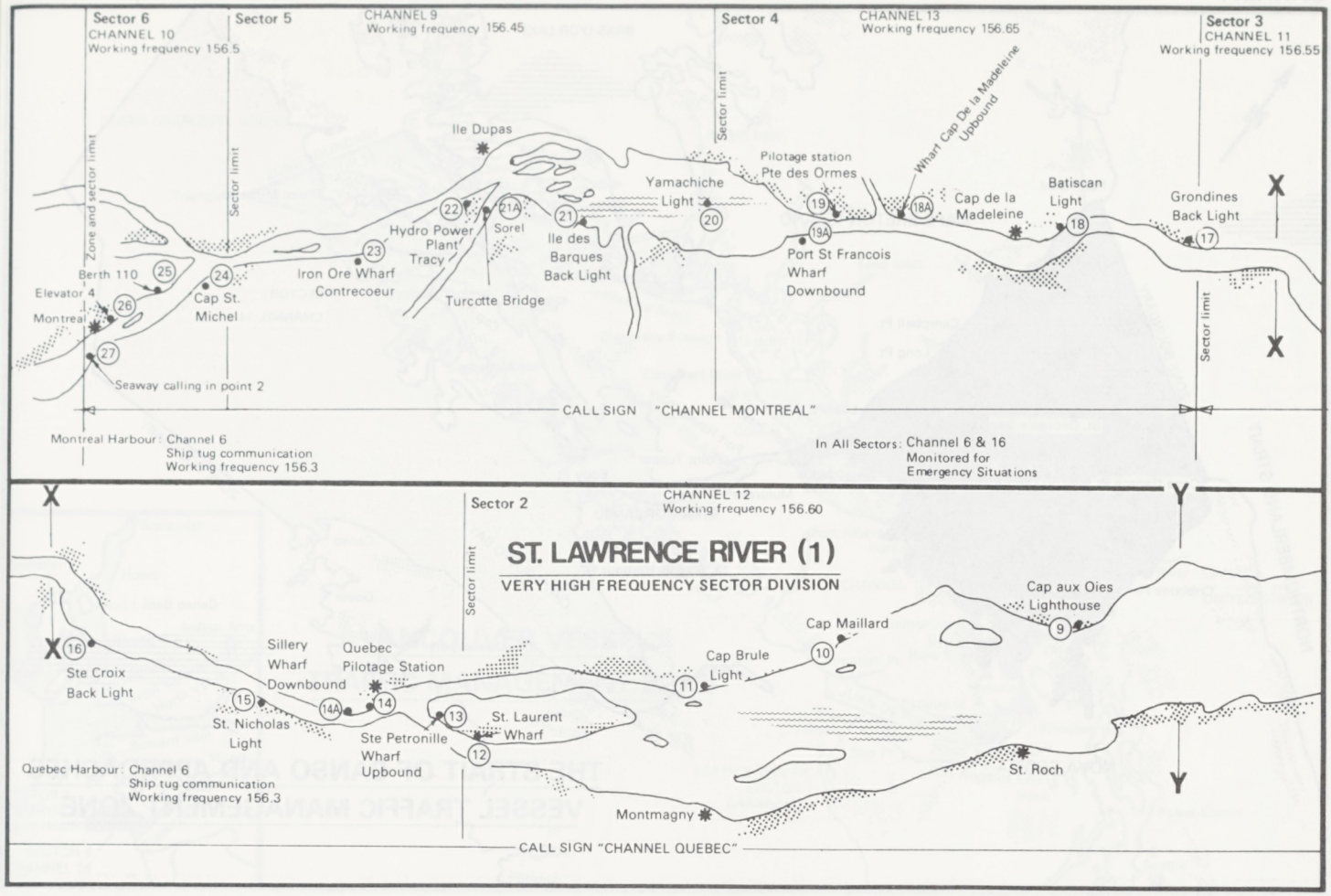
HALIFAX HARBOUR AND APPROACHES
VESSEL TRAFFIC MANAGEMENT ZONE

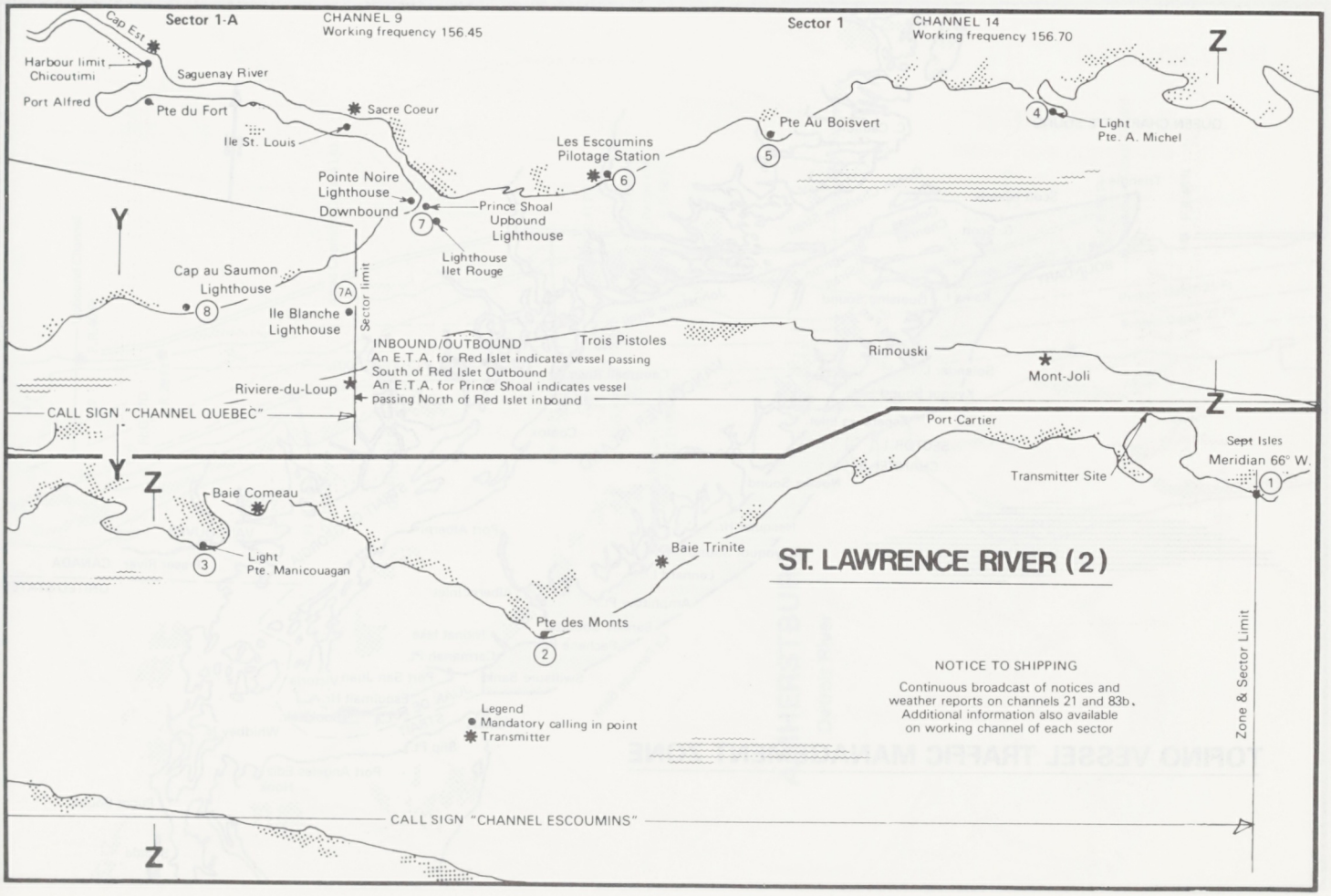
CANADA

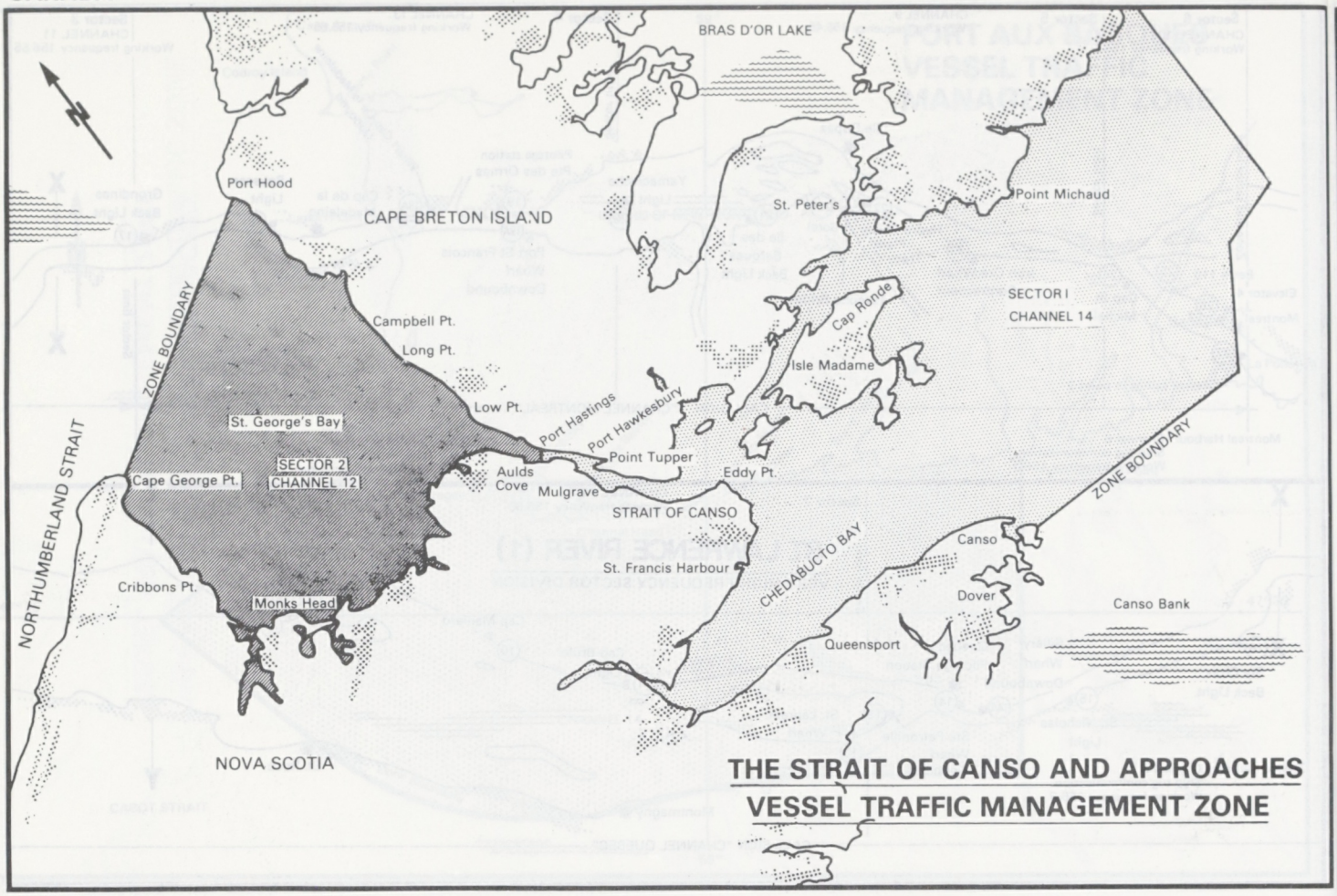
P139

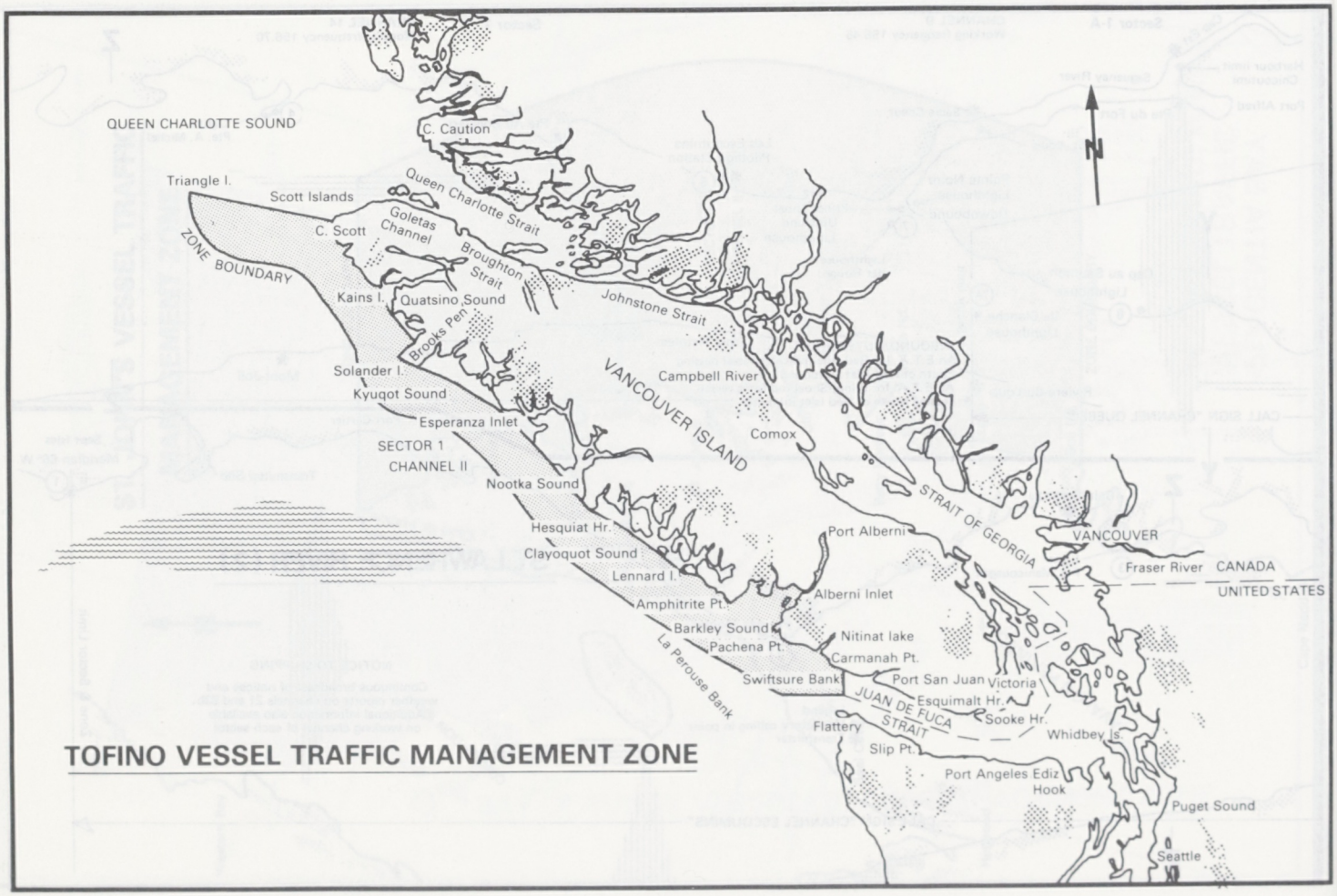

PORT AUX BASQUES
VESSEL TRAFFIC
MANAGEMENT ZONE
Cape Anguille
Codroy Island
Stormy Point
Larkin Point
59°
ISLAND OF NEWFOUNDLAND
N
Garia Bay
La Poile
Cape Ray
Grand Bay
Port aux Basques
Isle aux Morts
Burnt Island
Rose Blanche Point
Pte Enragee
Channel Head
47°30'
47°30'
SECTOR 1
CHANNEL 14
Zone Boundary
CABOT STRAIT
59°


ST. JOHN'S VESSEL TRAFFIC
MANAGEMENT ZONE
ZONE BOUNDARY
SECTOR 1
CHANNEL 11
Sugarloaf Head
Red Hd.
Torbay
Portugal Cove
Cape St. Francis
ST. JOHN'S
Cape Spear
Motion Hd.
Petty Harbour
Long Pt.
Bull Hd.
ZONE BOUNDARY
N
CONCEPTION BAY
Western Bay
Seal Cove
Holyrood
AVALON PENINSULA
Cape Neddick

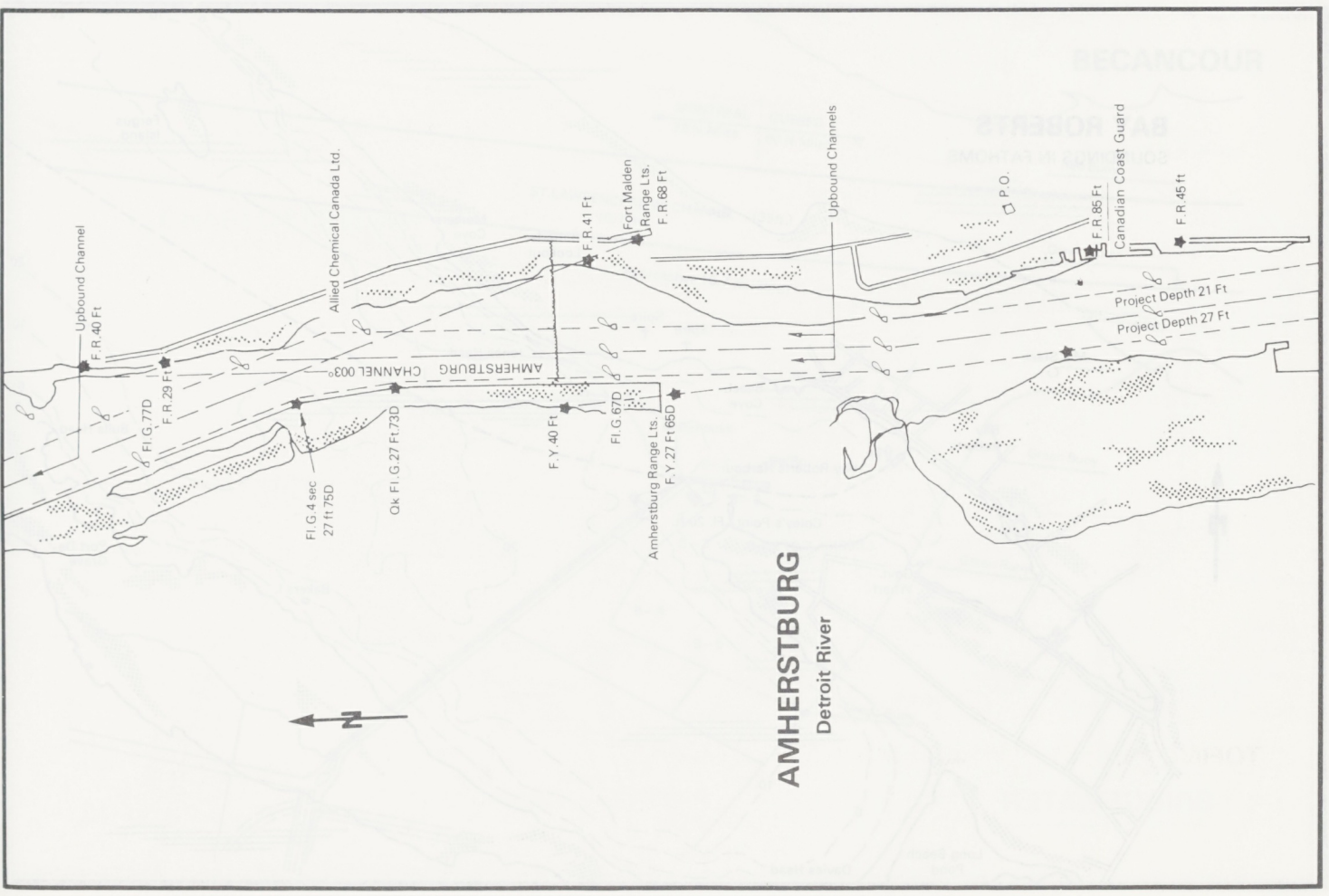

Sector 6
CHANNEL 10
Working frequency 156.5
Sector 5
CHANNEL 9
Working frequency 156.45
Sector 4
CHANNEL 13
Working frequency 156.65
Sector 3
CHANNEL 11
Working frequency 156.55
Zone and sector limit
Sector limit
Sector limit
Sector limit
Ile Dupas
Pilotage station
Pte des Ormes
Wharf Cap De la Madeleine
Upbound
Yamachiche
Light
Hydro Power
Plant
Tracy
Sorel
Ile des
Barques
Back Light
Cap de la
Madeleine
Batiscan
Light
Grondines
Back Light
Berth 110
Elevator 4
Montreal
Cap St.
Michel
Iron Ore Wharf
Contrecoeur
Turcotte Bridge
Port St Francois
Wharf
Downbound
Seaway calling in point 2
CALL SIGN "CHANNEL MONTREAL"
Montreal Harbour: Channel 6
Ship tug communication
Working frequency 156.3
In All Sectors: Channel 6 & 16
Monitored for
Emergency Situations
Sector 2
CHANNEL 12
Working frequency 156.60
Sector limit
ST. LAWRENCE RIVER (1)
VERY HIGH FREQUENCY SECTOR DIVISION
Cap aux Oies
Lighthouse
Cap Maillard
Cap Brule
Light
Sillery
Wharf
Downbound
Quebec
Pilotage Station
Ste Croix
Back Light
St. Nicholas
Light
Ste Petronille
Wharf
Upbound
St. Laurent
Wharf
St. Roch
Montmagny
Quebec Harbour: Channel 6
Ship tug communication
Working frequency 156.3
CALL SIGN "CHANNEL QUEBEC"

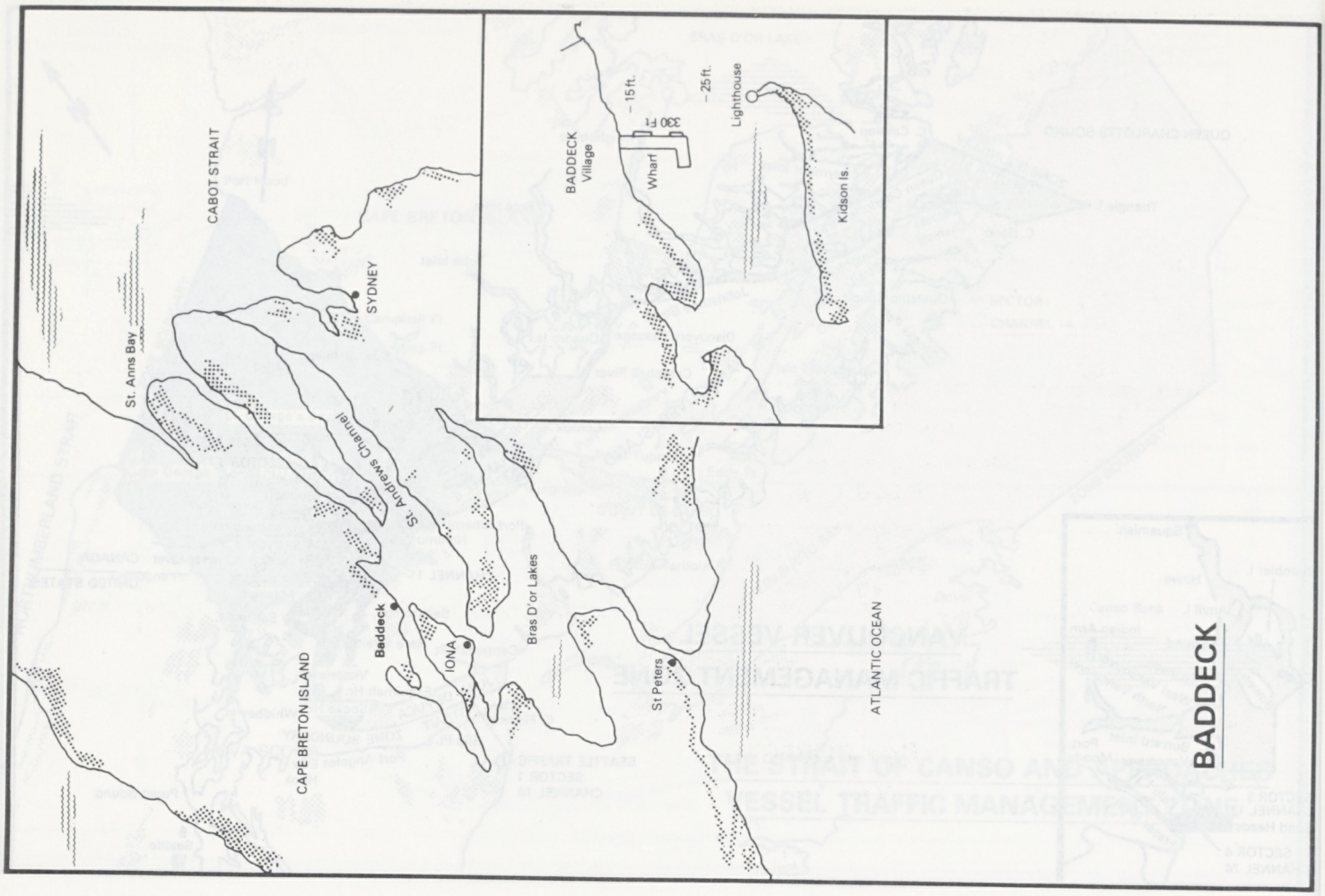

Sector 1-A
CHANNEL 9
Working frequency 156.45
Sector 1
CHANNEL 14
Working frequency 156.70
Cap Est
Harbour limit
Chicoutimi
Saguenay River
Port Alfred
Pte du Fort
Sacre Coeur
Ile St. Louis
Pte Au Boisvert
Les Escoumins
Pilotage Station
Light
Pte. A. Michel
Pointe Noire
Lighthouse
Downbound
Prince Shoal
Upbound
Lighthouse
Lighthouse
Ilet Rouge
Cap au Saumon
Lighthouse
Ile Blanche
Lighthouse
Sector limit
INBOUND/OUTBOUND
An E.T.A. for Red Islet indicates vessel passing
South of Red Islet Outbound
An E.T.A. for Prince Shoal indicates vessel
passing North of Red Islet inbound
Trois Pistoles
Rimouski
Mont-Joli
Riviere-du-Loup
CALL SIGN "CHANNEL QUEBEC"
Port-Cartier
Sept Isles
Meridian 66° W.
Transmitter Site
Baie Comeau
Light
Pte. Manicouagan
Baie Trinite
ST. LAWRENCE RIVER (2)
Pte des Monts
NOTICE TO SHIPPING
Continuous broadcast of notices and
weather reports on channels 21 and 83b.
Additional information also available
on working channel of each sector
Legend
Mandatory calling in point
Transmitter
Zone & Sector Limit
CALL SIGN "CHANNEL ESCOUMINS"

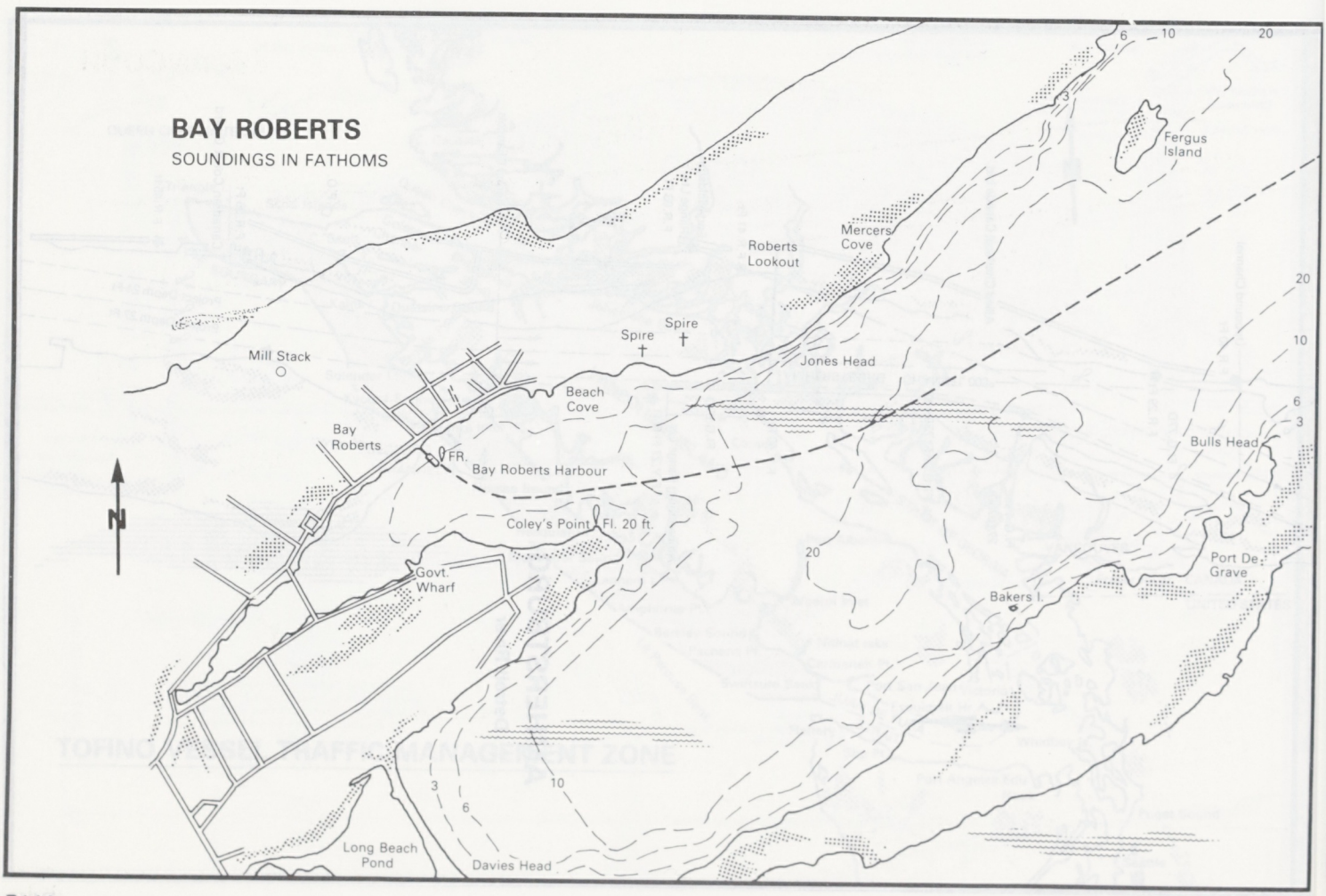

BRAS D'OR LAKE
Port Hood
CAPE BRETON ISLAND
St. Peter's
Point Michaud
SECTOR I
CHANNEL 14
Cap Ronde
Isle Madame
ZONE BOUNDARY
Campbell Pt.
Long Pt.
Low Pt.
St. George's Bay
SECTOR 2
CHANNEL 12
Cape George Pt.
Port Hastings
Port Hawkesbury
Point Tupper
Eddy Pt.
Aulds Cove
Mulgrave
STRAIT OF CANSO
NORTHUMBERLAND STRAIT
Cribbons Pt.
Monks Head
St. Francis Harbour
CHEDABUCTO BAY
Canso
Dover
Canso Bank
Queensport
ZONE BOUNDARY
NOVA SCOTIA
THE STRAIT OF CANSO AND APPROACHES
VESSEL TRAFFIC MANAGEMENT ZONE

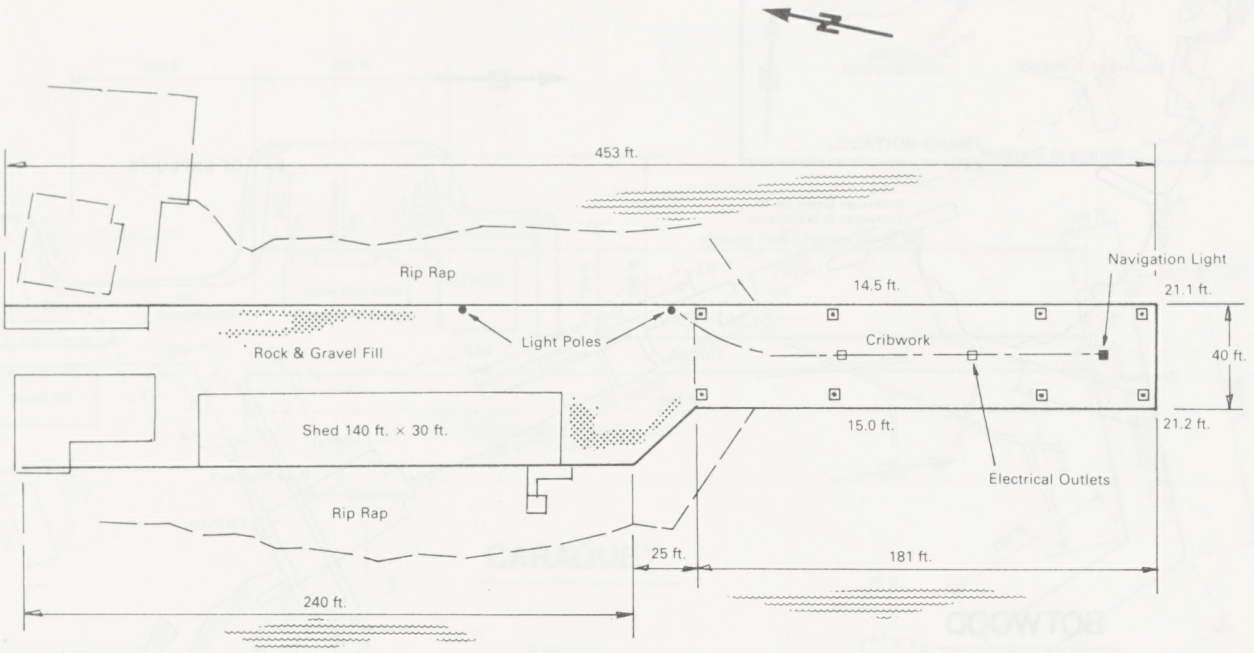

QUEEN CHARLOTTE SOUND
C. Caution
Triangle I.
Scott Islands
Queen Charlotte Strait
Goletas Channel
C. Scott
ZONE BOUNDARY
Broughton Strait
Kains I.
Quatsino Sound
Johnstone Strait
Brooks Pen
Solander I.
Kyuquot Sound
Esperanza Inlet
SECTOR 1
CHANNEL II
VANCOUVER ISLAND
Campbell River
Comox
Nootka Sound
Hesquiat Hr.
Clayoquot Sound
Lennard I.
Amphitrite Pt.
Barkley Sound
Pachena Pt.
La Perouse Bank
Swiftsure Bank
STRAIT OF GEORGIA
Port Alberni
Alberni Inlet
Nitinat lake
Carmanah Pt.
Port San Juan
Victoria
Esquimalt Hr.
JUAN DE FUCA STRAIT
Sooke Hr.
Flattery
Whidbey Is.
Slip Pt.
Port Angeles
Ediz Hook
Puget Sound
Seattle
VANCOUVER
Fraser River
CANADA
UNITED STATES
TOFINO VESSEL TRAFFIC MANAGEMENT ZONE

VANCOUVER VESSEL TRAFFIC MANAGEMENT ZONE




BADDECK
Village
Wharf
330 Ft
15 ft.
25 ft.
Lighthouse
Kidson Is.
CABOT STRAIT
SYDNEY
St. Anns Bay
St. Andrews Channel
Baddeck
IONA
Bras D'or Lakes
St Peters
CAPE BRETON ISLAND
ATLANTIC OCEAN
BADDECK

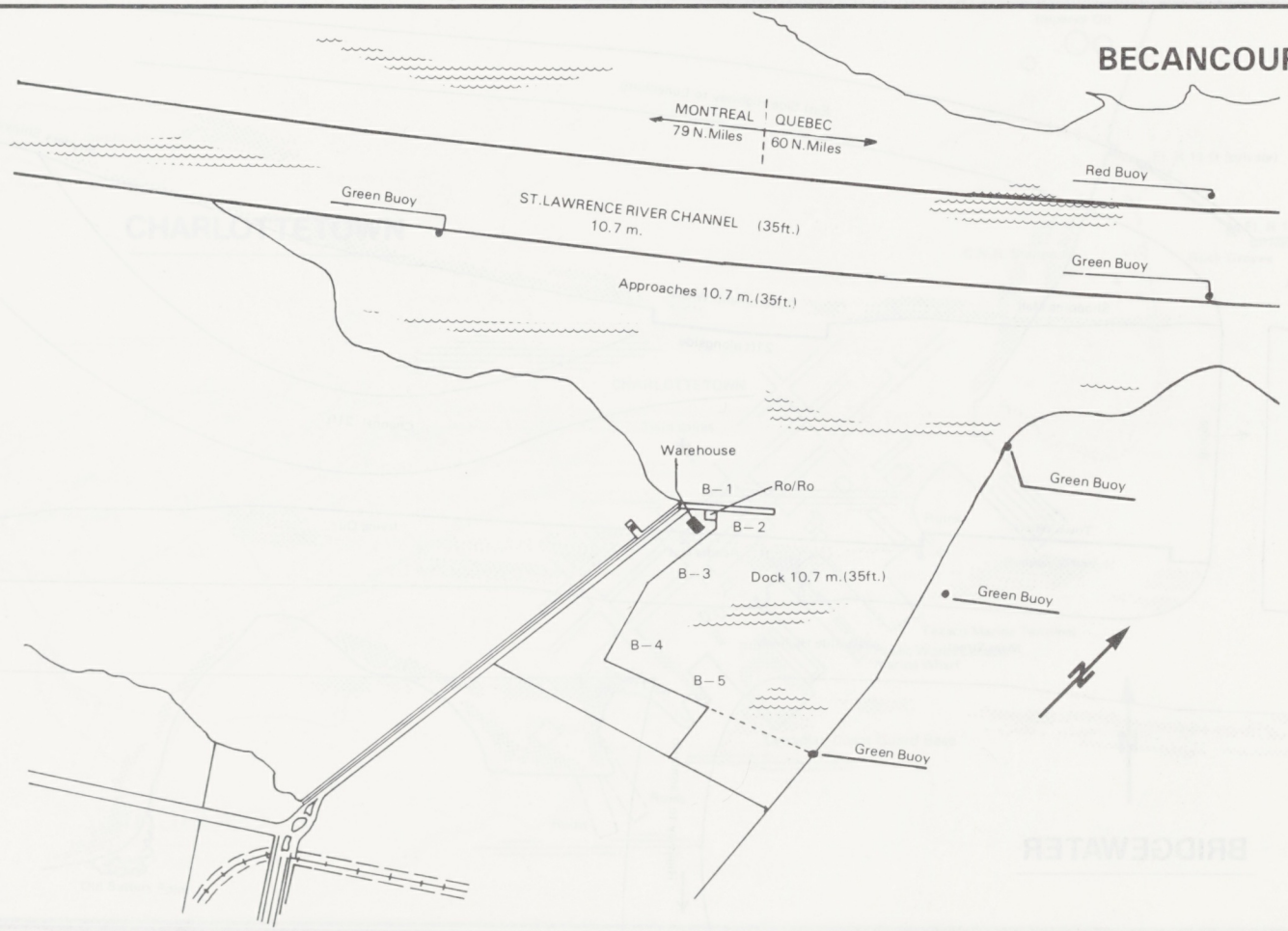

BAY ROBERTS
SOUNDINGS IN FATHOMS
Fergus Island
Mercers Cove
Roberts Lookout
Spire
Spire
Jones Head
Mill Stack
Beach Cove
Bay Roberts
FR.
Bay Roberts Harbour
Bulls Head
Coley's Point Fl. 20 ft.
Govt. Wharf
Port De Grave
Bakers I.
Long Beach Pond
Davies Head
N
6
10
20
3
6
10
20
3
6
10
20

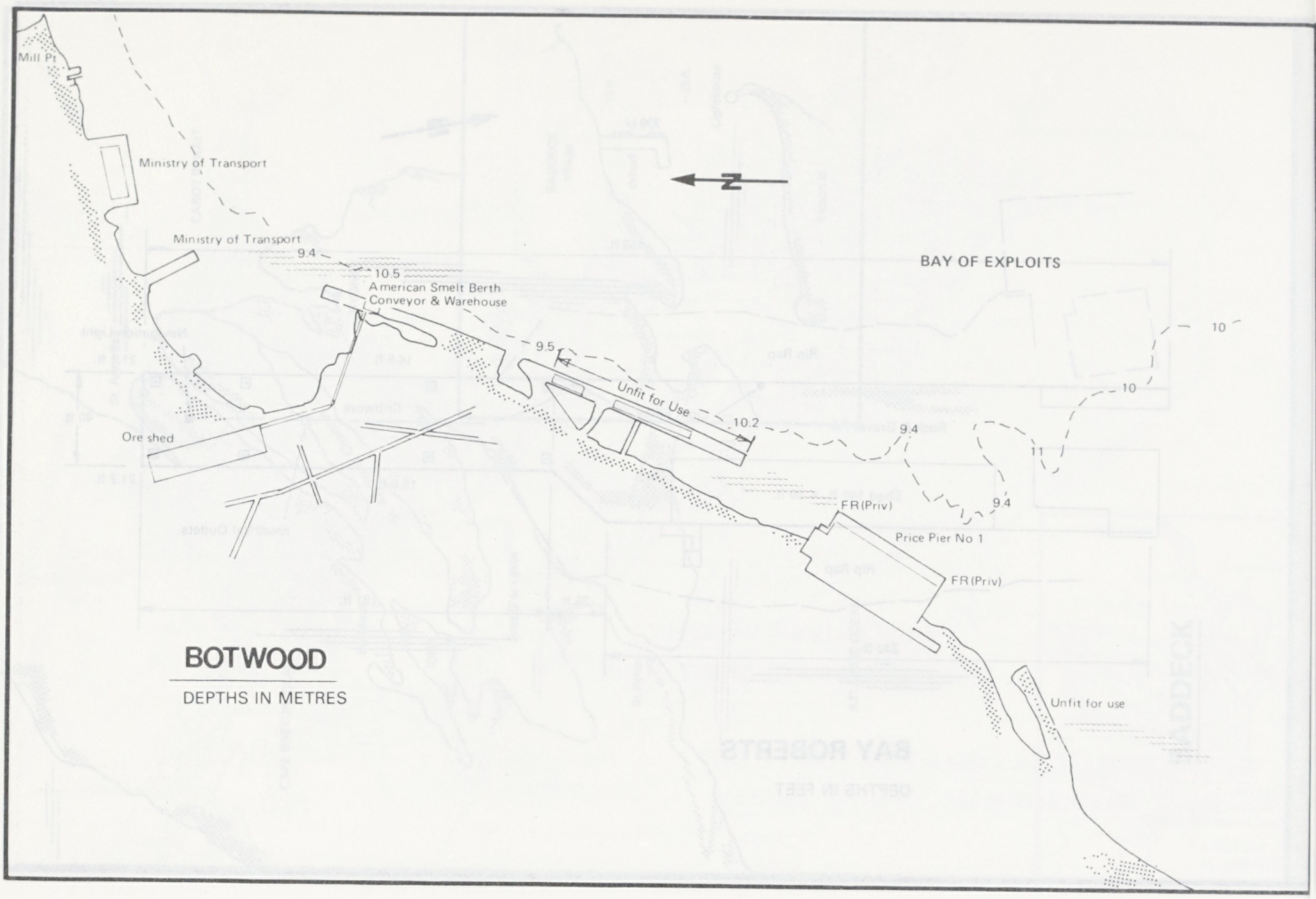


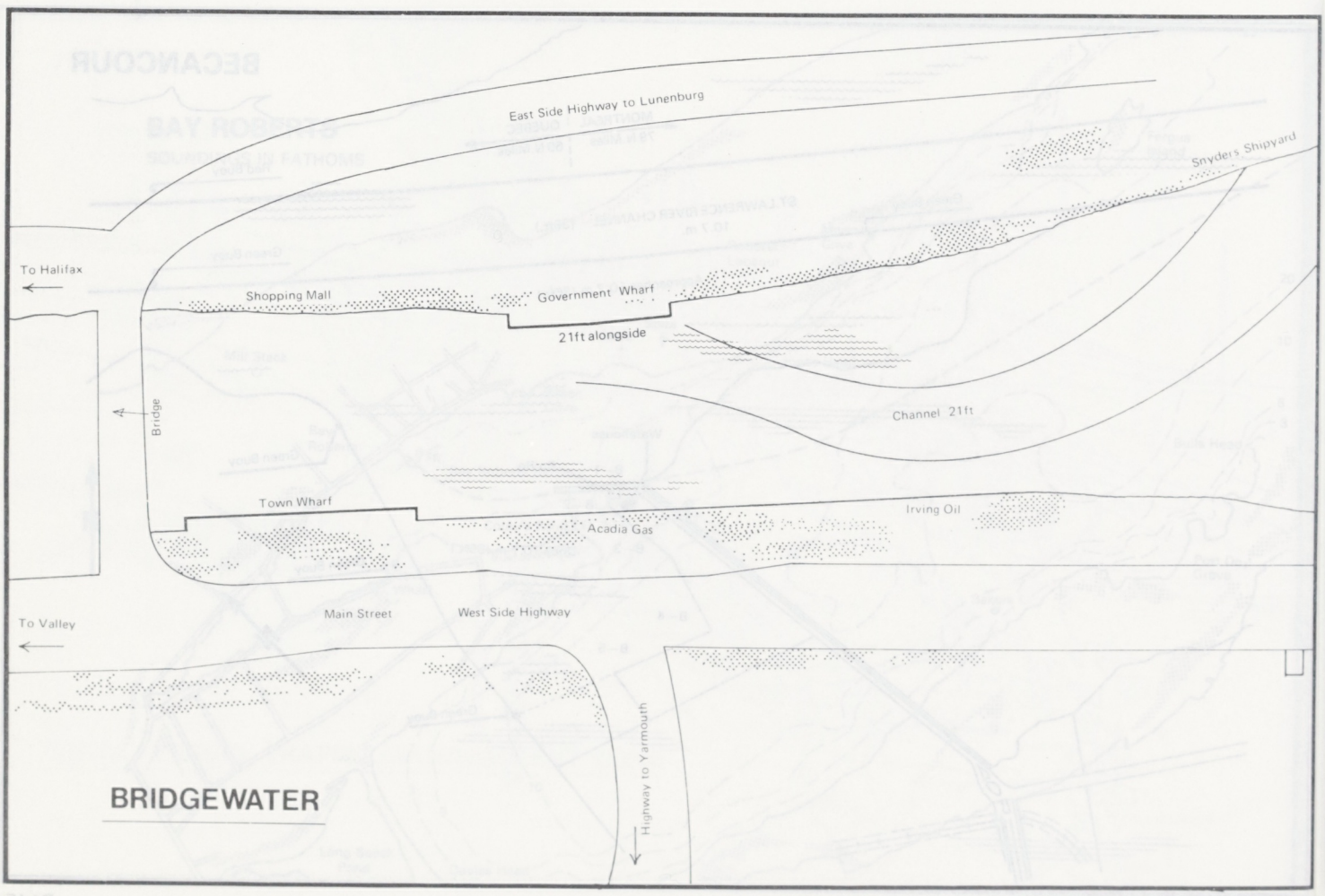
BAY ROBERTS

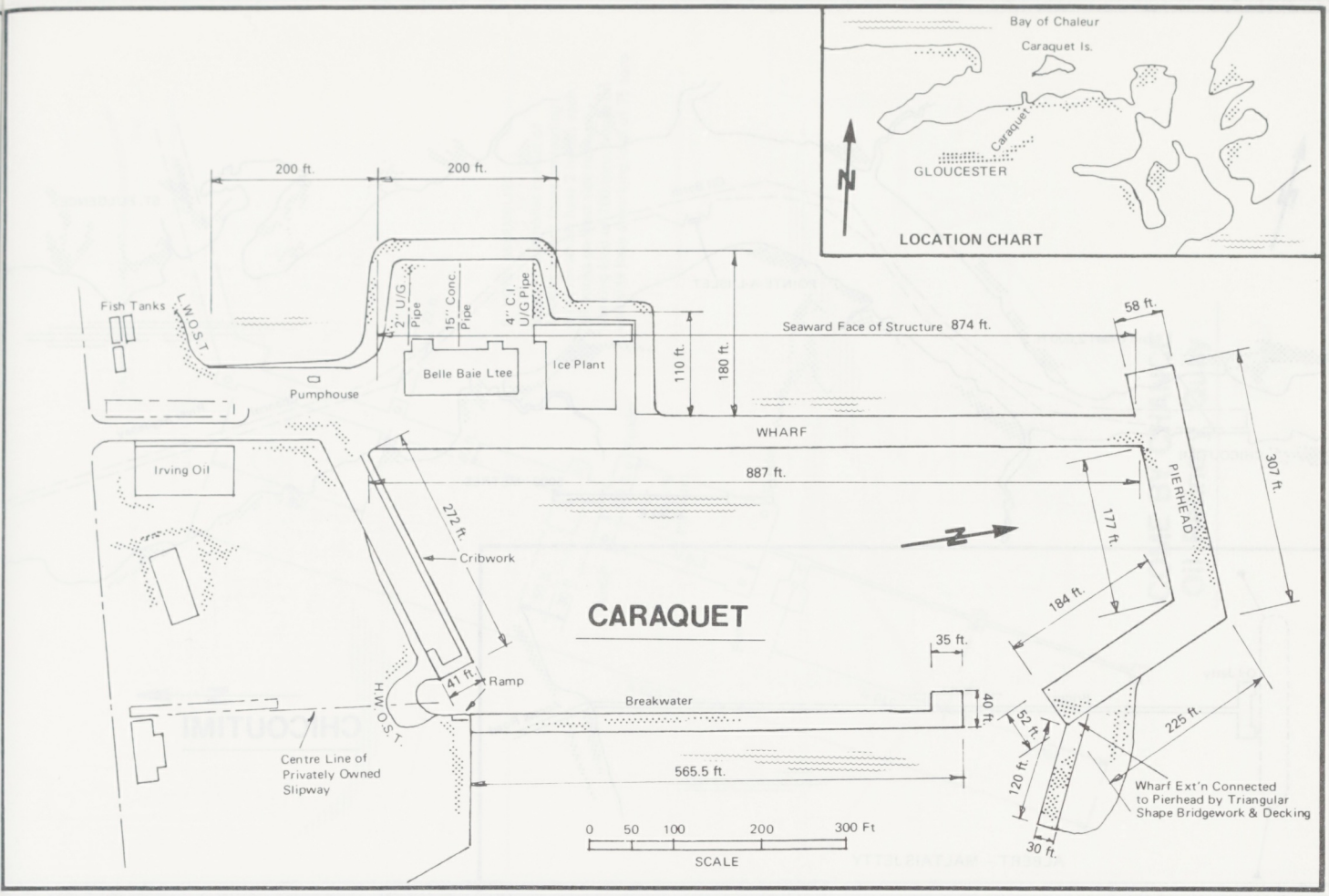
DEPTHS IN FEET

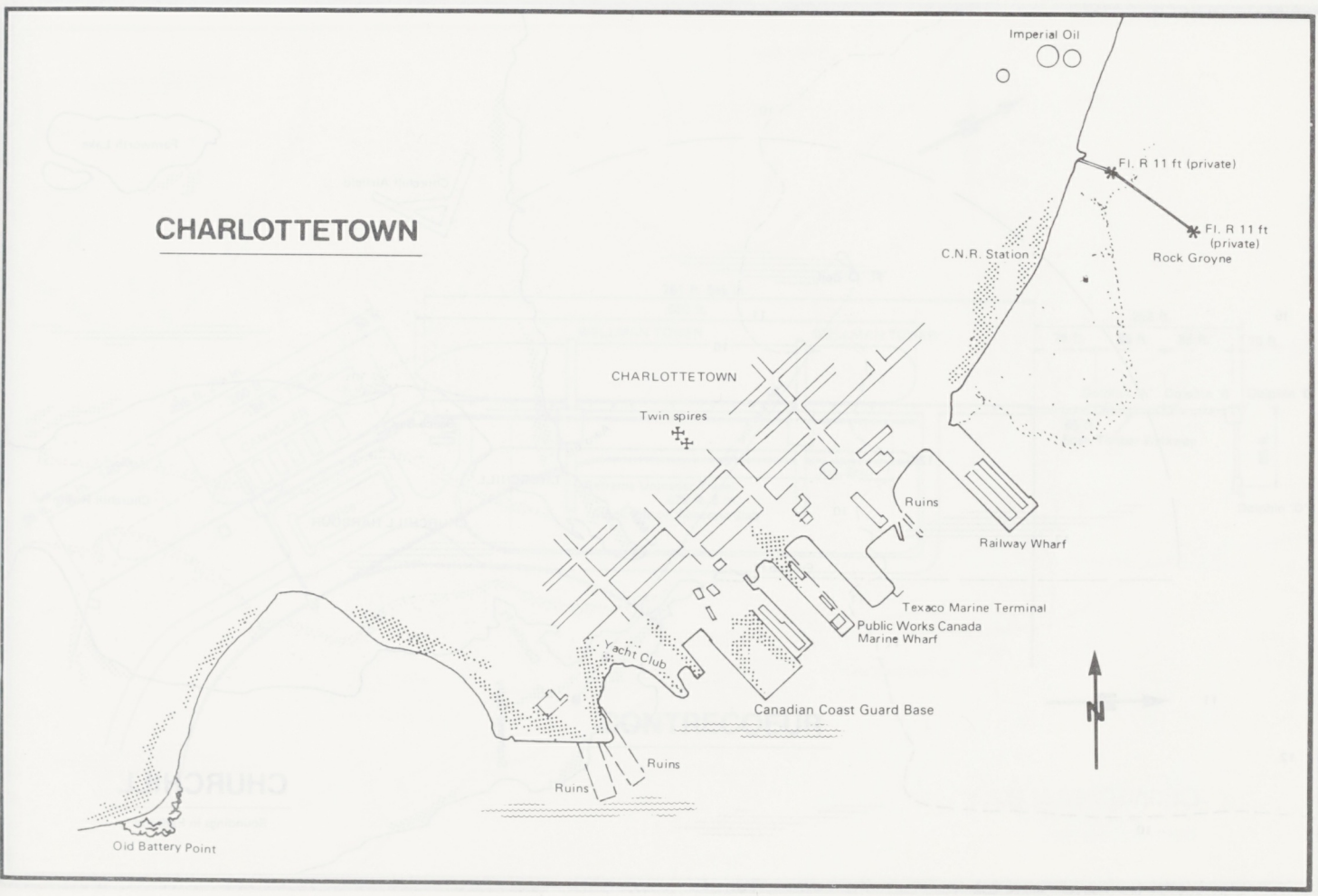
BECANCOUR

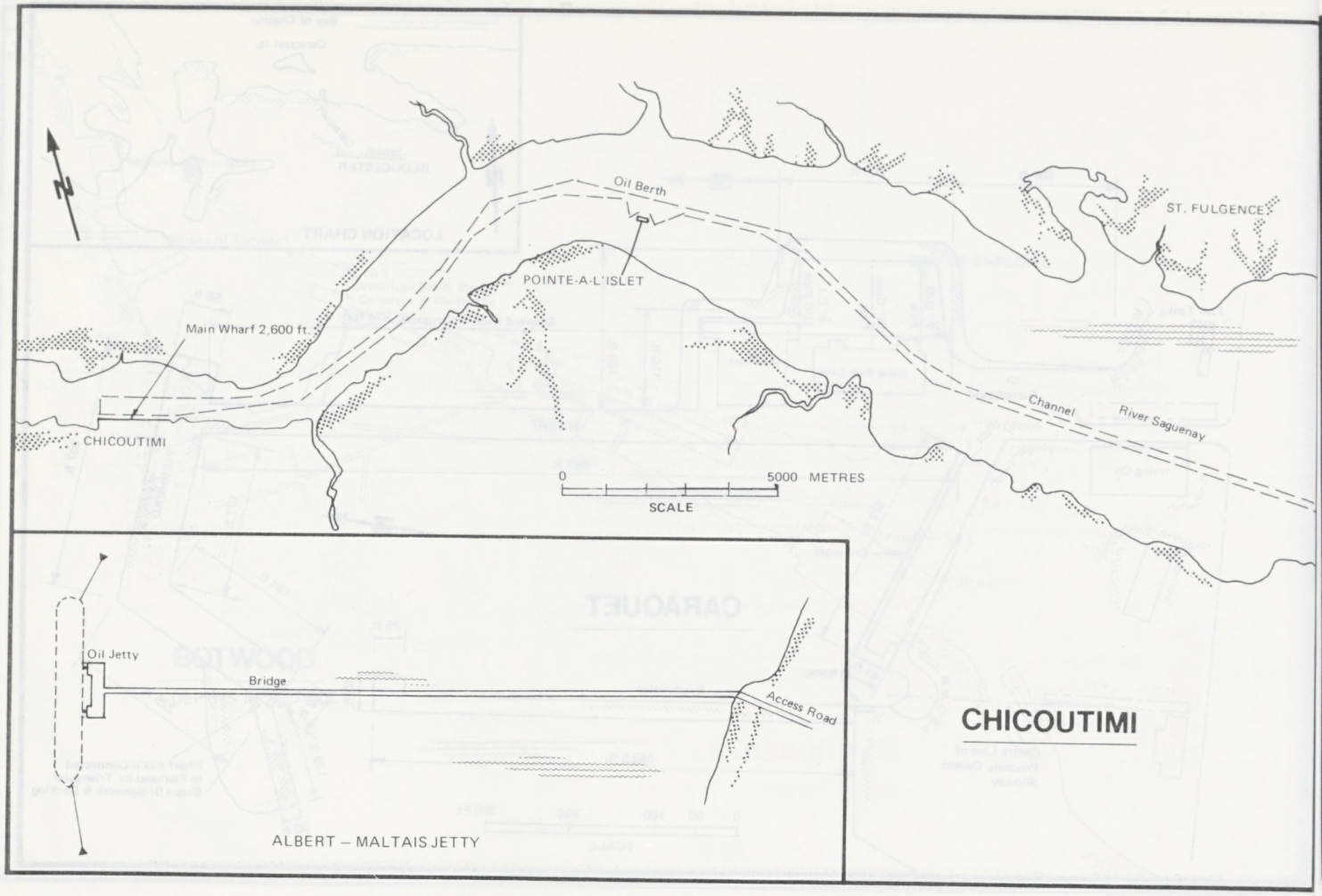


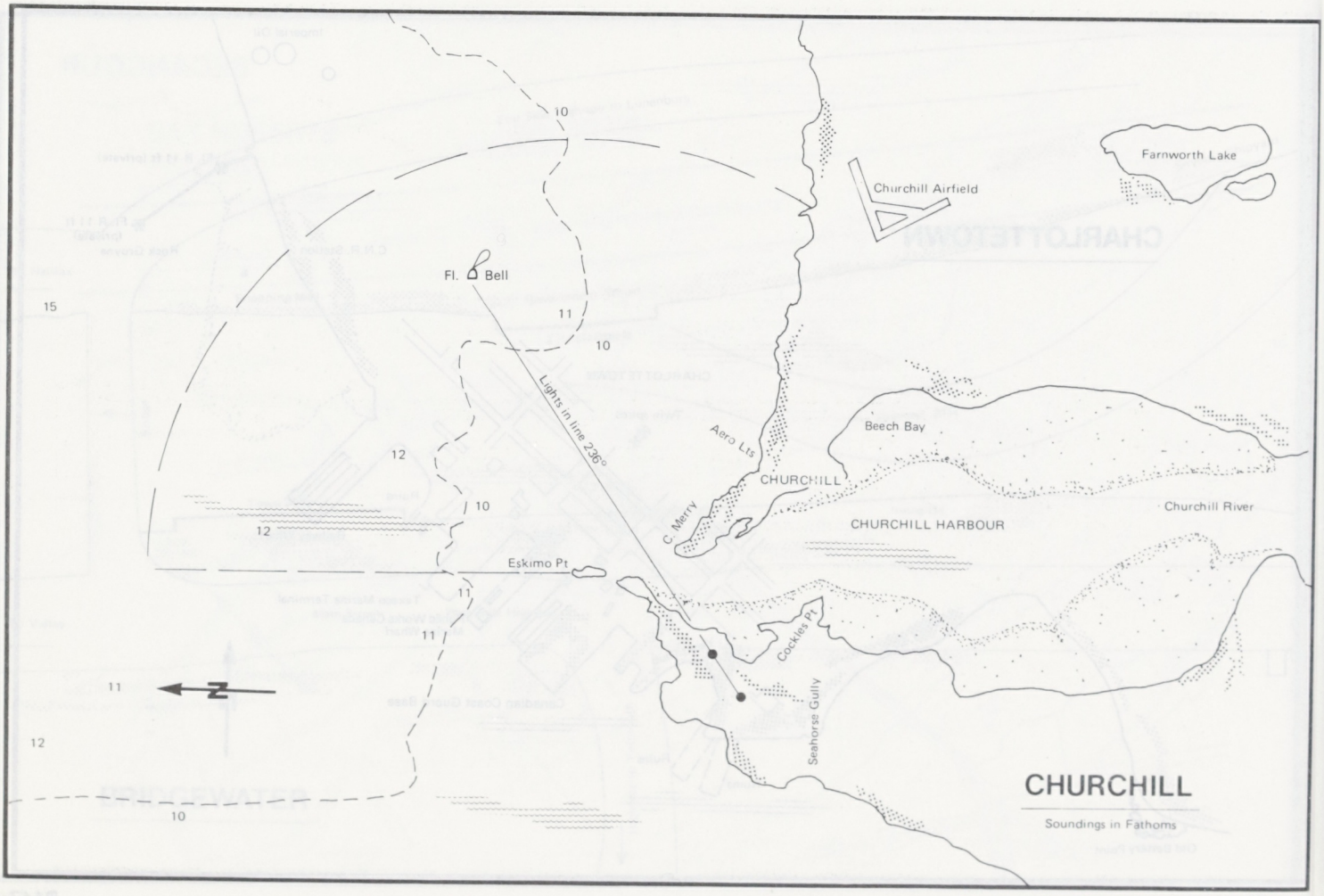

Mill Pt
Ministry of Transport
Ministry of Transport
9.4
10.5
American Smelt Berth
Conveyor & Warehouse
BAY OF EXPLOITS
9.5
Unfit for Use
10.2
9.4
11
10
10
Ore shed
FR(Priv)
9.4
Price Pier No 1
FR(Priv)
Unfit for use
BOTWOOD
DEPTHS IN METRES


East Side Highway to Lunenburg
Snyders Shipyard
To Halifax
Shopping Mall
Government Wharf
21ft alongside
Bridge
Channel 21ft
Town Wharf
Irving Oil
Acadia Gas
To Valley
Main Street
West Side Highway
Highway to Yarmouth
BRIDGEWATER

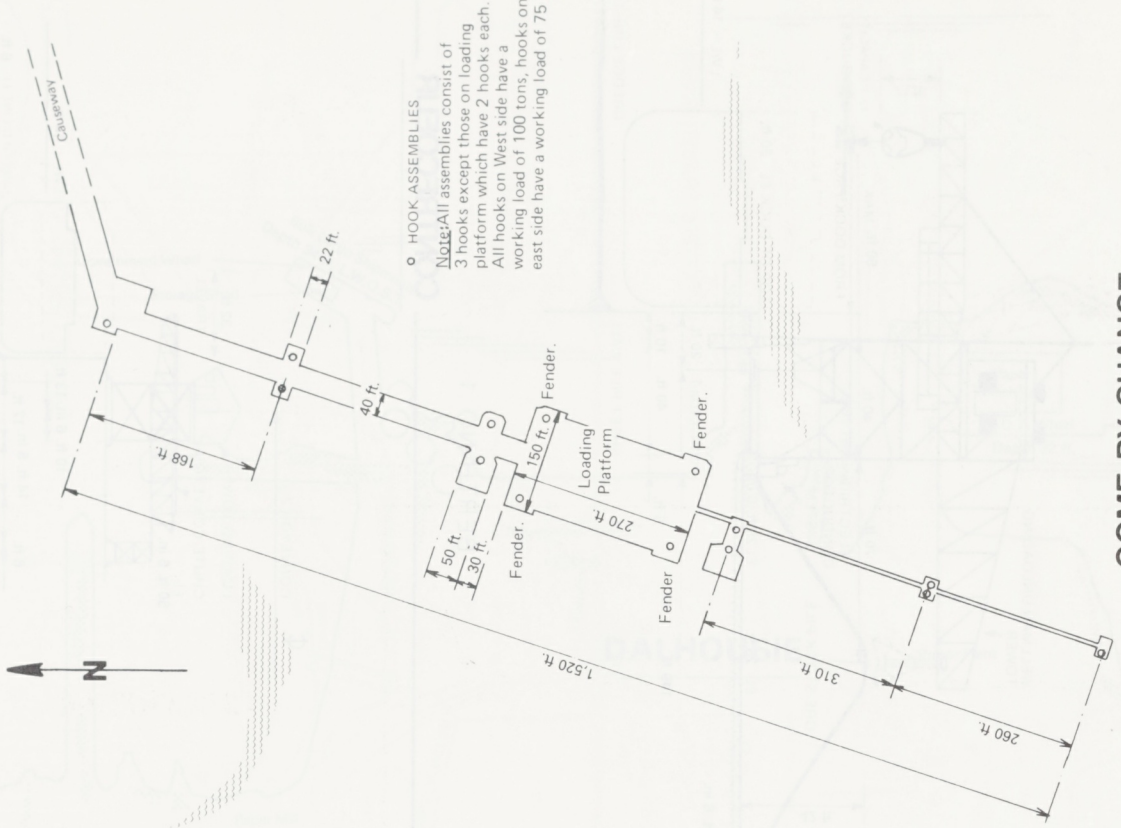

Bay of Chaleur
Caraquet Is.
Caraquet
GLOUCESTER
N
LOCATION CHART
200 ft.
200 ft.
Fish Tanks
L.W.O.S.T.
2" U/G Pipe
15" Conc. Pipe
4" C.I. U/G Pipe
Pumphouse
Belle Baie Ltee
Ice Plant
110 ft.
180 ft.
Seaward Face of Structure 874 ft.
58 ft.
WHARF
Irving Oil
887 ft.
307 ft.
PIERHEAD
177 ft.
272 ft.
Cribwork
CARAQUET
184 ft.
35 ft.
41 ft.
Ramp
H.W.O.S.T.
Breakwater
40 ft.
52 ft.
225 ft.
Centre Line of Privately Owned Slipway
565.5 ft.
120 ft.
Wharf Ext'n Connected to Pierhead by Triangular Shape Bridgework & Decking
30 ft.
0 50 100 200 300 Ft
SCALE


CHARLOTTETOWN
Imperial Oil
Fl. R 11 ft (private)
Fl. R 11 ft (private)
Rock Groyne
C.N.R. Station
CHARLOTTETOWN
Twin spires
Ruins
Railway Wharf
Texaco Marine Terminal
Public Works Canada Marine Wharf
Yacht Club
Canadian Coast Guard Base
N
Ruins
Ruins
Old Battery Point

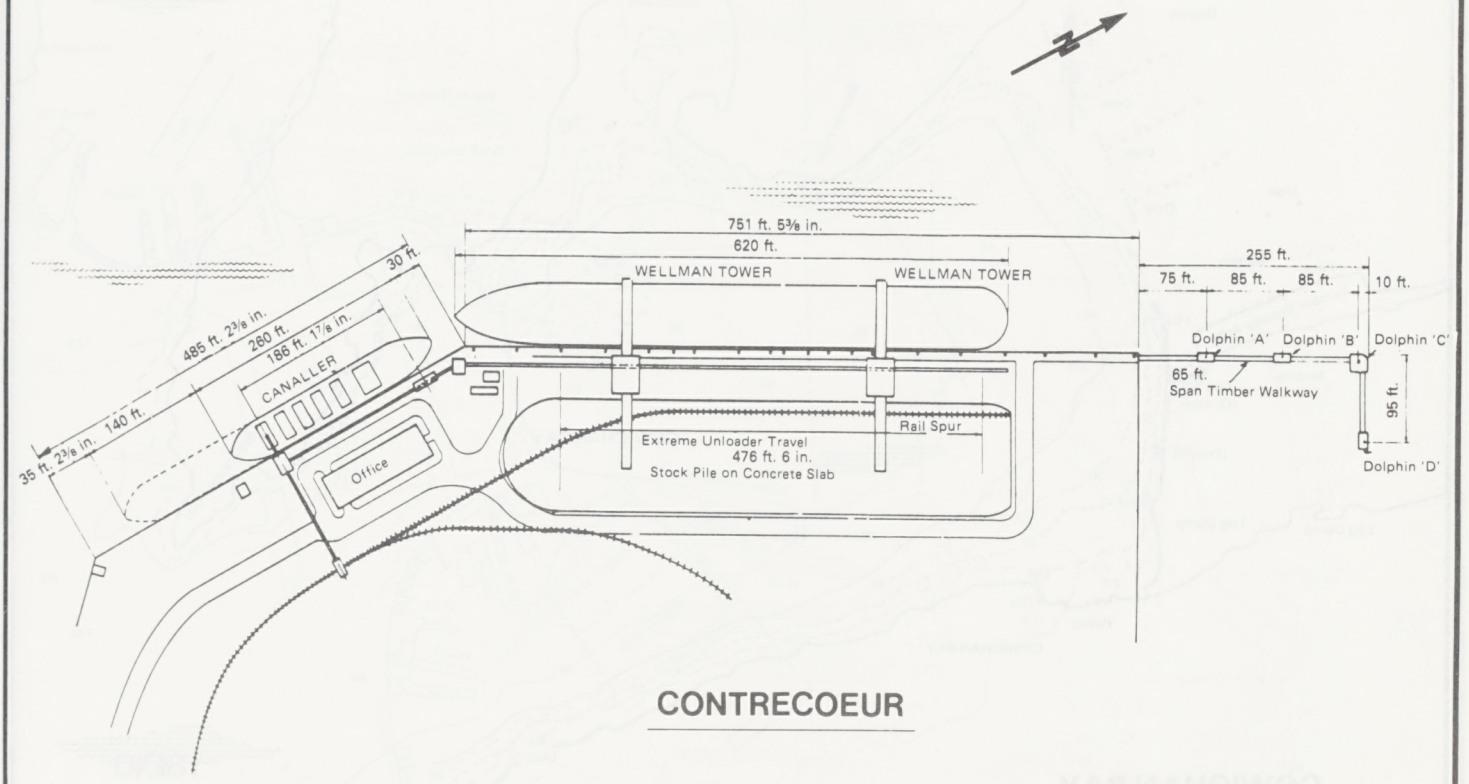

N
Oil Berth
ST. FULGENCE
POINTE-A-L'ISLET
Main Wharf 2,600 ft
CHICOUTIMI
Channel
River Saguenay
0
5000 METRES
SCALE
Oil Jetty
Bridge
Access Road
ALBERT – MALTAIS JETTY
CHICOUTIMI


10
Farnworth Lake
Churchill Airfield
Fl. Bell
15
11
10
Lights in line 236°
Aero Lts
Beech Bay
12
CHURCHILL
C. Merry
CHURCHILL HARBOUR
Churchill River
10
12
Eskimo Pt
11
11
Cockles Pt
N
11
Seahorse Gully
12
10
CHURCHILL
Soundings in Fathoms

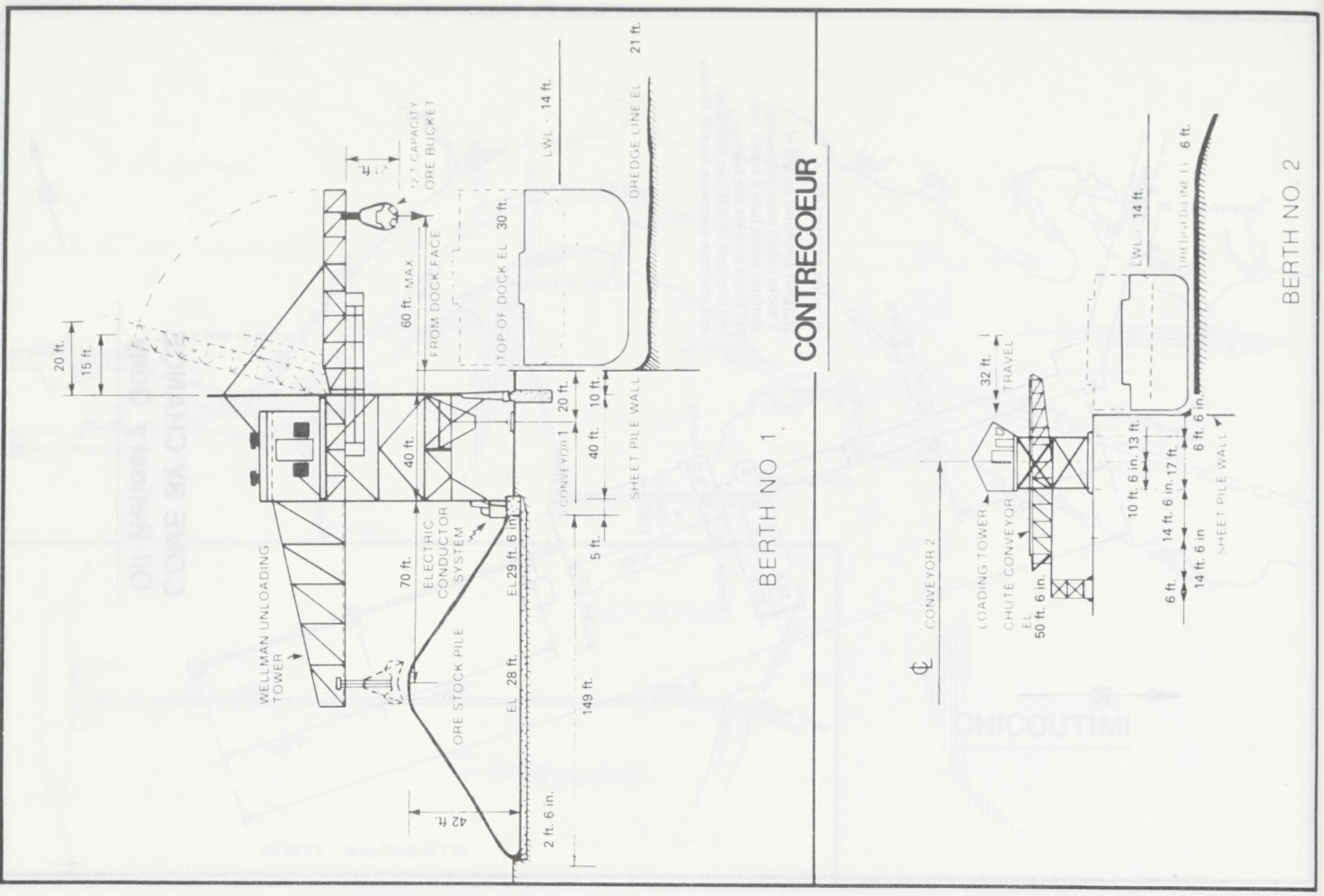
Plan supplied by Ship's Officer.

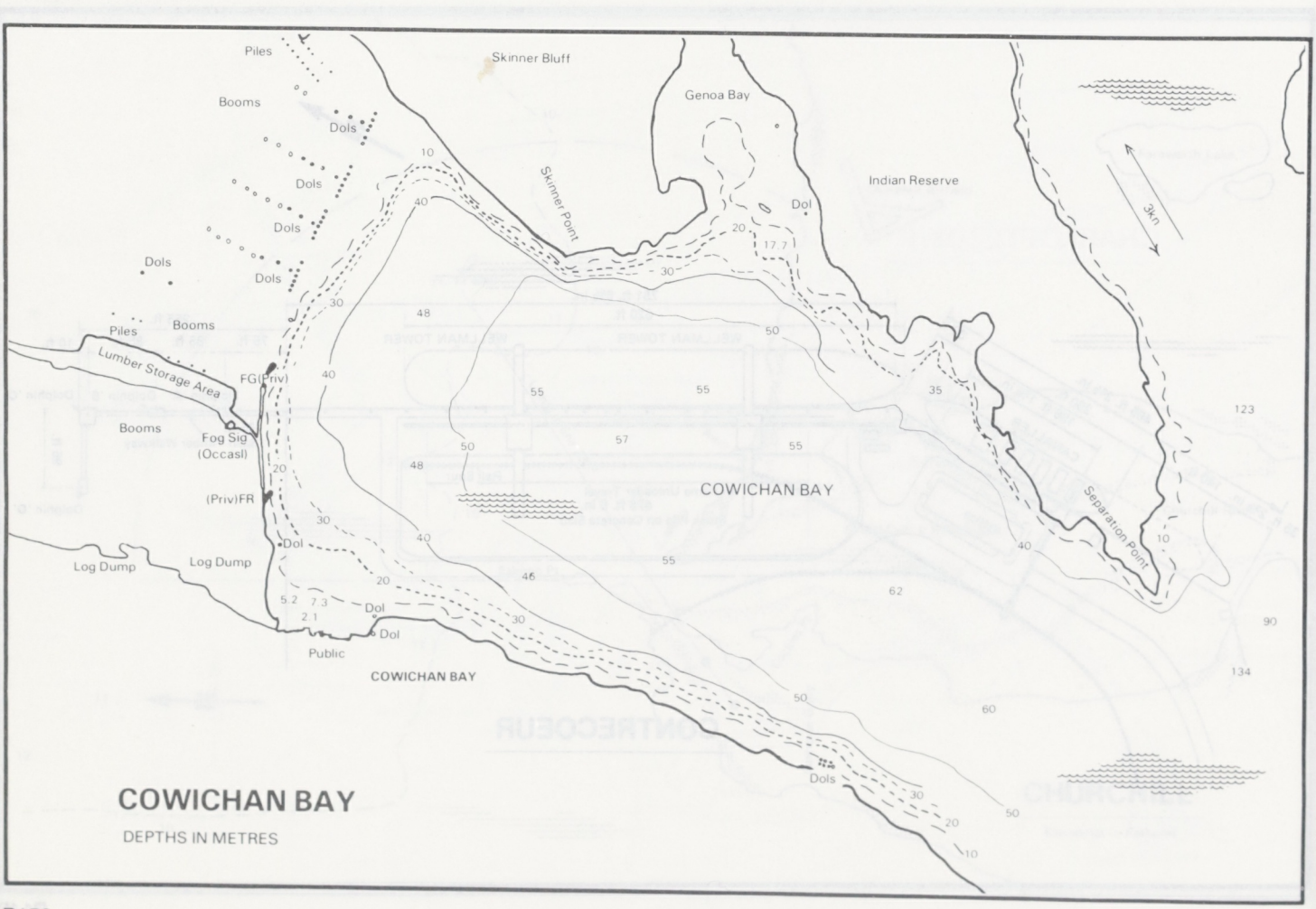


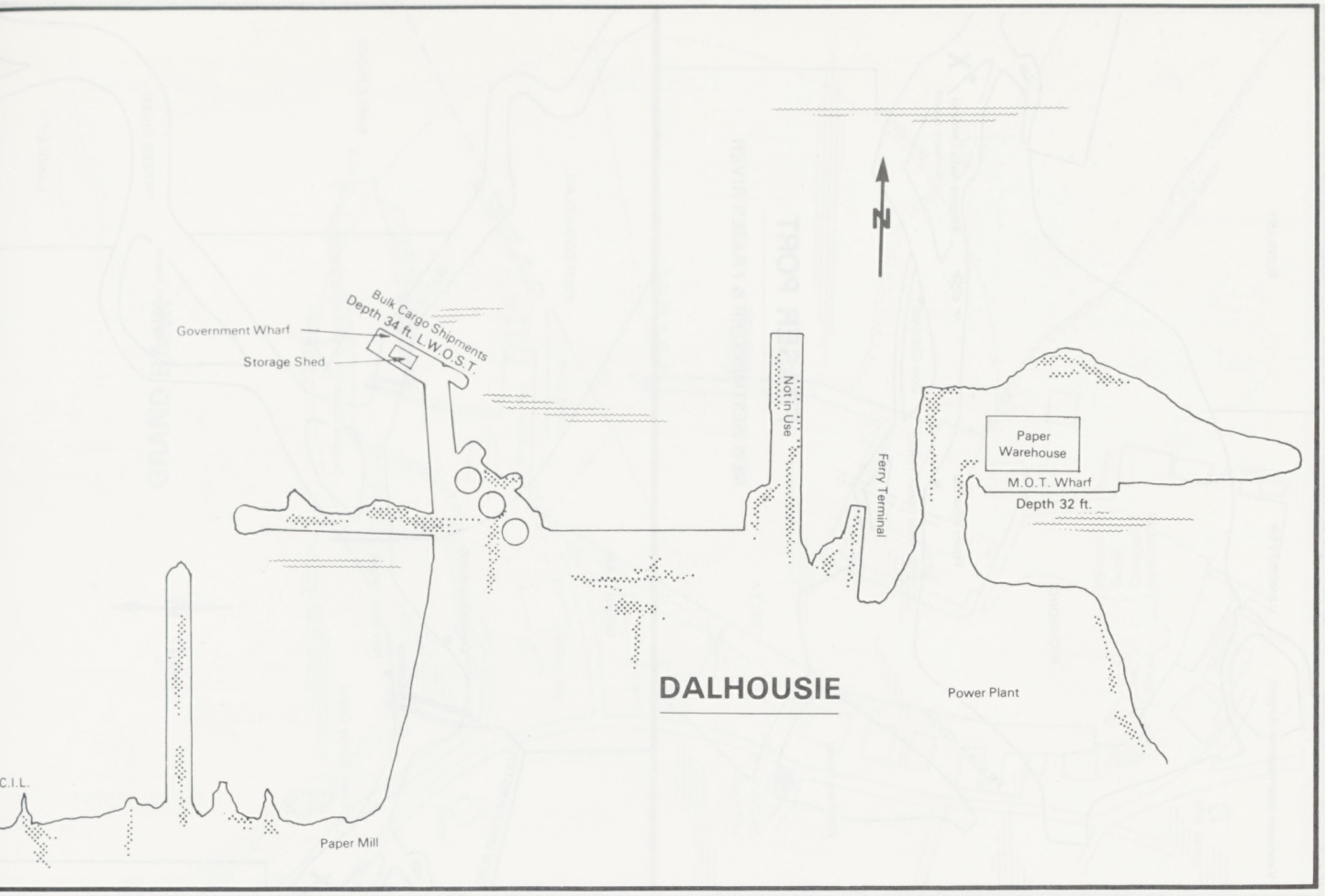
COME BY CHANCE
Oil Refinery Quay

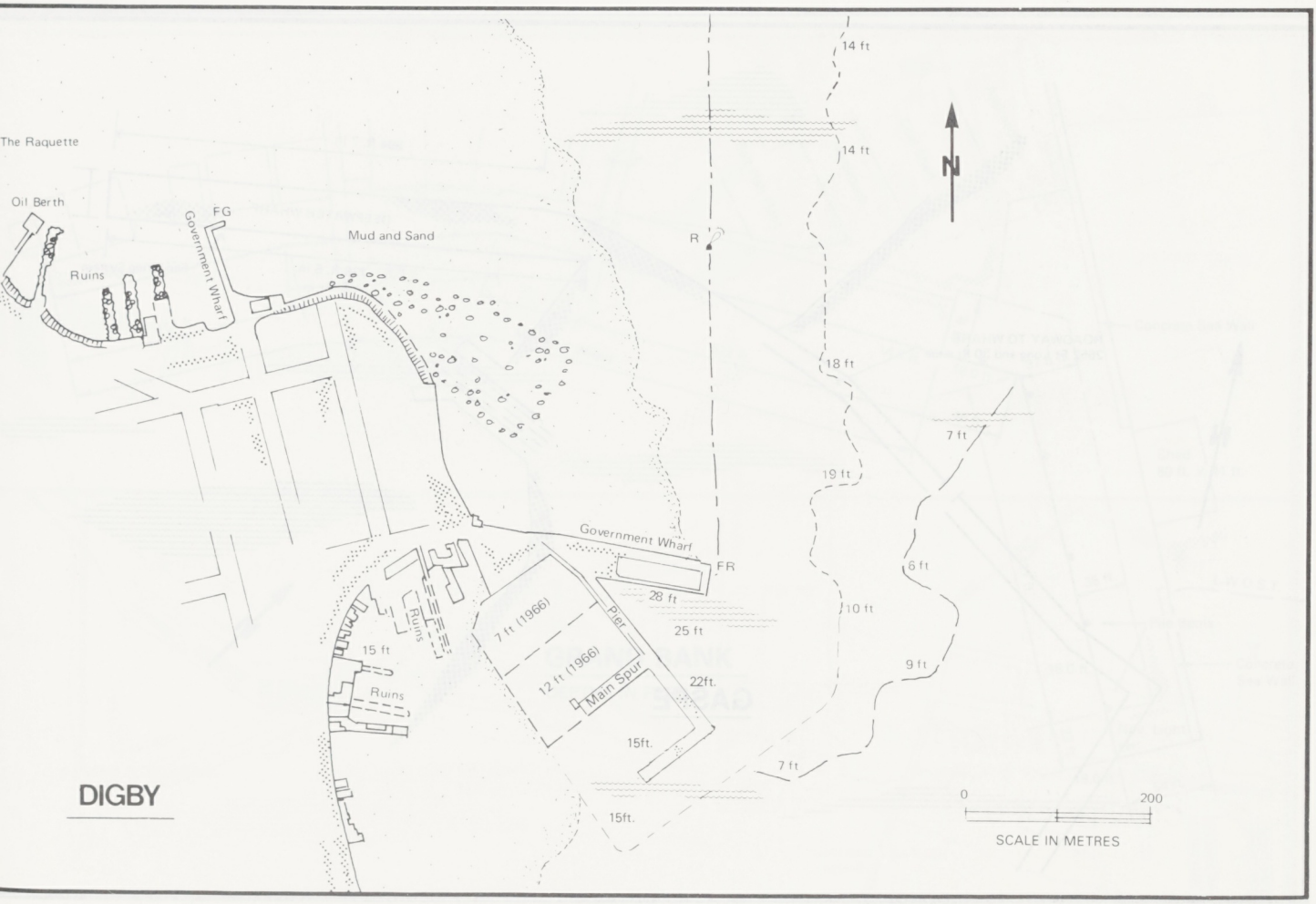


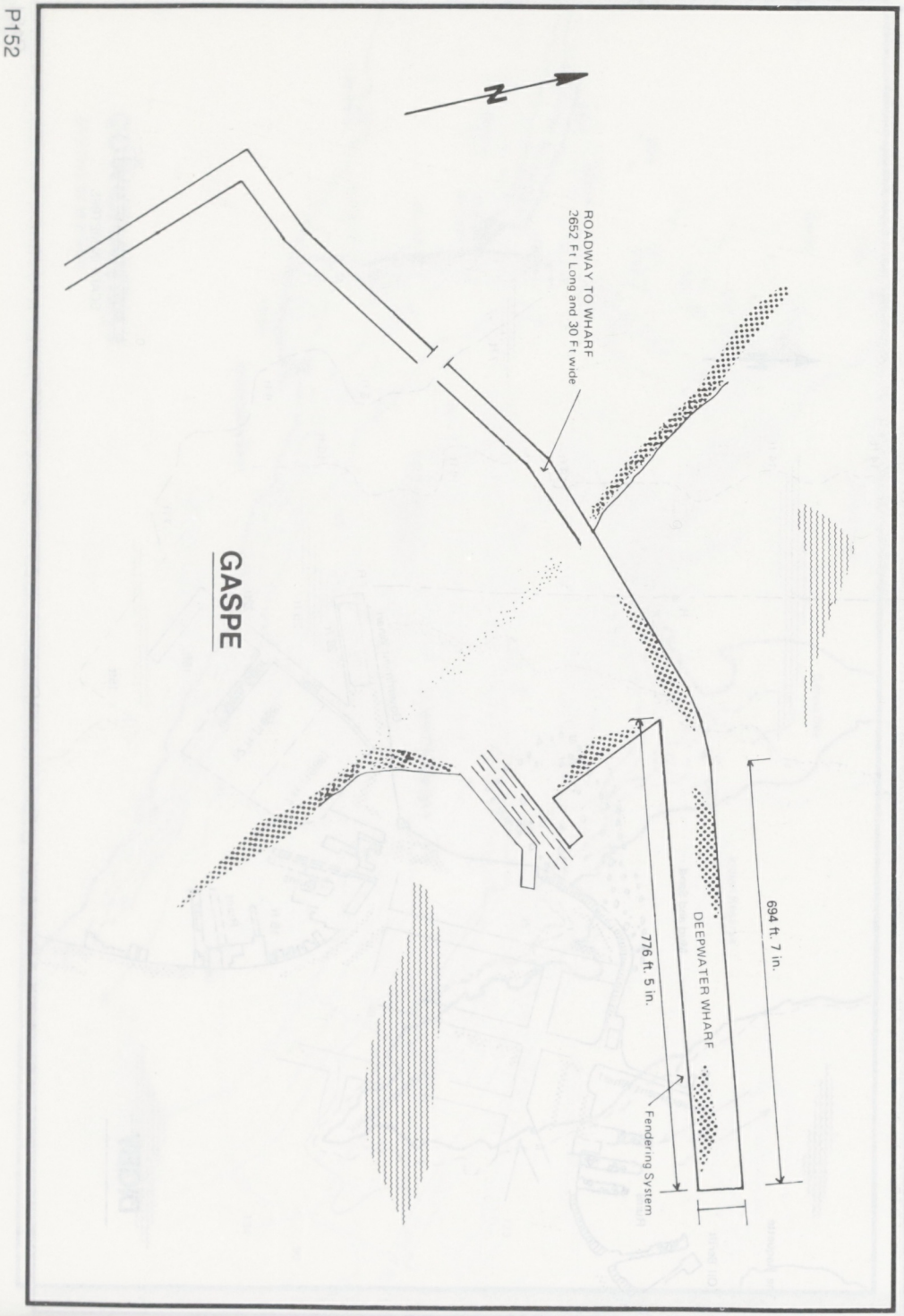
CONTRECOEUR

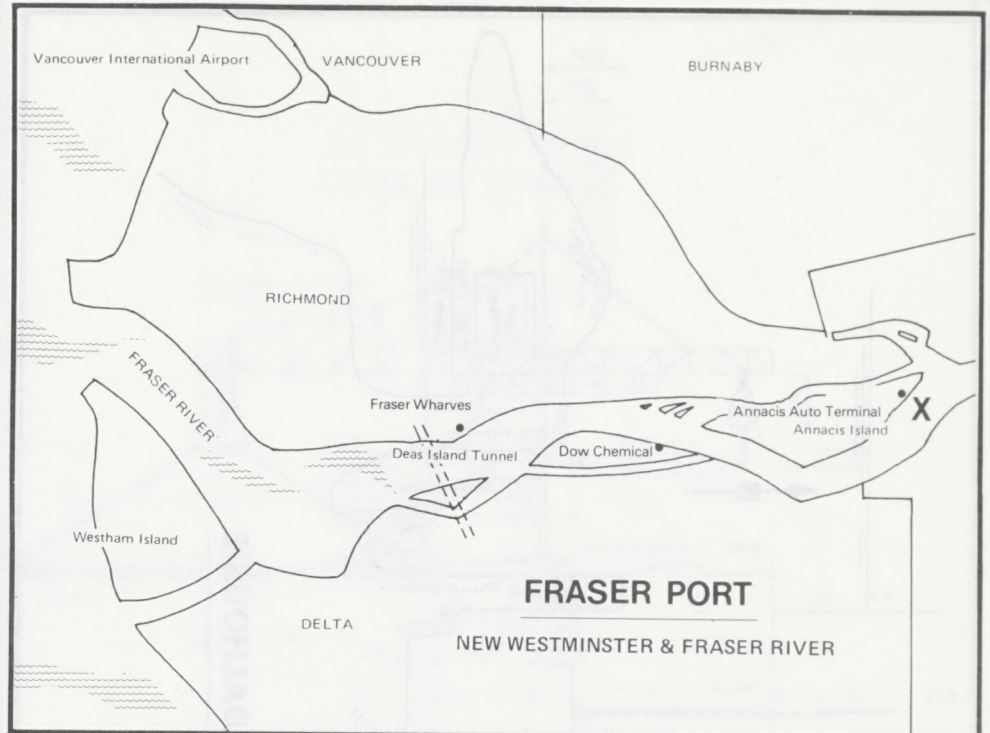

CONTRECOEUR
BERTH NO 1
BERTH NO. 2
WELLMAN UNLOADING TOWER
ELECTRIC CONDUCTOR SYSTEM
ORE STOCK PILE
12 T CAPACITY ORE BUCKET
60 ft. MAX FROM DOCK FACE
TOP OF DOCK EL 30 ft.
LWL - 14 ft.
DREDGE LINE EL 21 ft.
SHEET PILE WALL
CONVEYOR 1
CONVEYOR 2
LOADING TOWER
CHUTE CONVEYOR
TRAVEL
20 ft.
15 ft.
40 ft.
70 ft.
149 ft.
42 ft.
2 ft. 6 in.
5 ft.
10 ft.
20 ft.
32 ft.
50 ft. 6 in.
10 ft. 6 in.
13 ft.
14 ft. 6 in.
17 ft.
6 ft.
14 ft. 6 in
6 ft. 6 in.

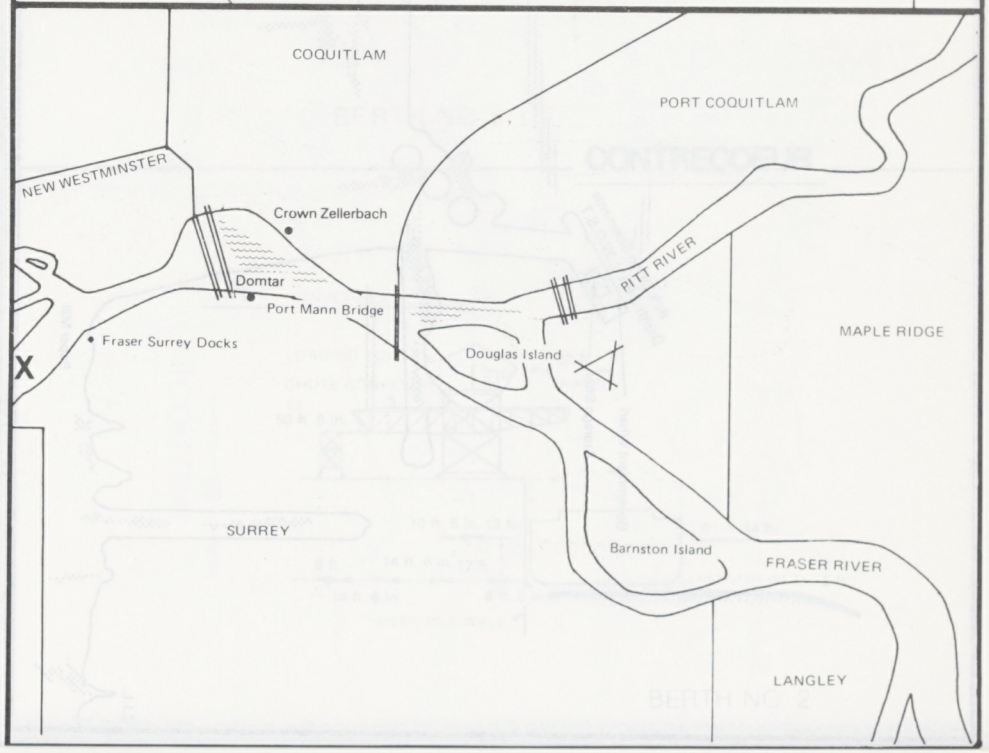

COWICHAN BAY
DEPTHS IN METRES
Skinner Bluff
Genoa Bay
Skinner Point
Indian Reserve
Separation Point
COWICHAN BAY
Piles
Booms
Dols
Lumber Storage Area
FG(Priv)
Fog Sig (Occasl)
(Priv)FR
Log Dump
Public
Dol
3Kn

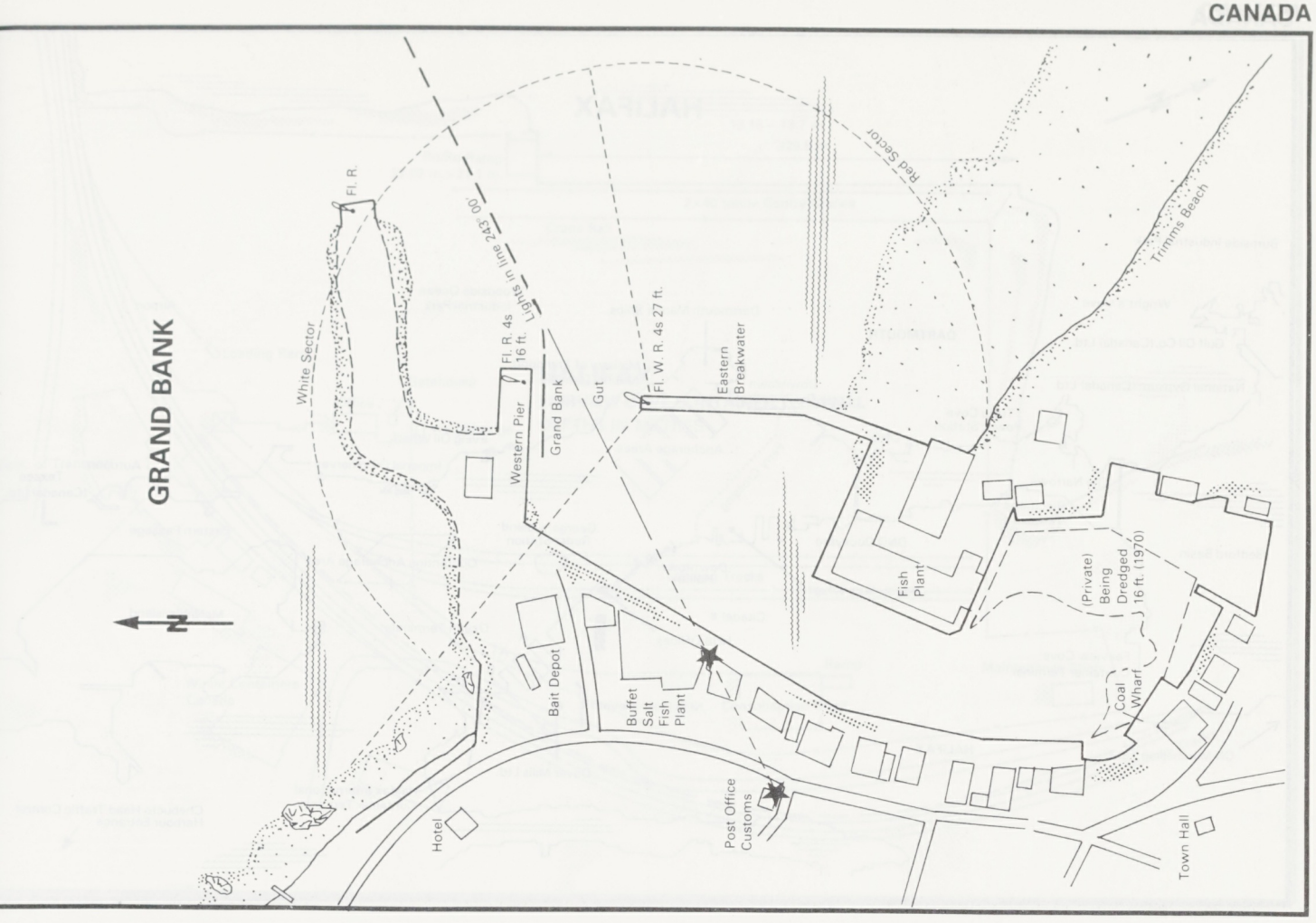

N
Government Wharf
Storage Shed
Bulk Cargo Shipments
Depth 34 ft. L.W.O.S.T.
Not in Use
Ferry Terminal
Paper Warehouse
M.O.T. Wharf
Depth 32 ft.
DALHOUSIE
Power Plant
C.I.L.
Paper Mill

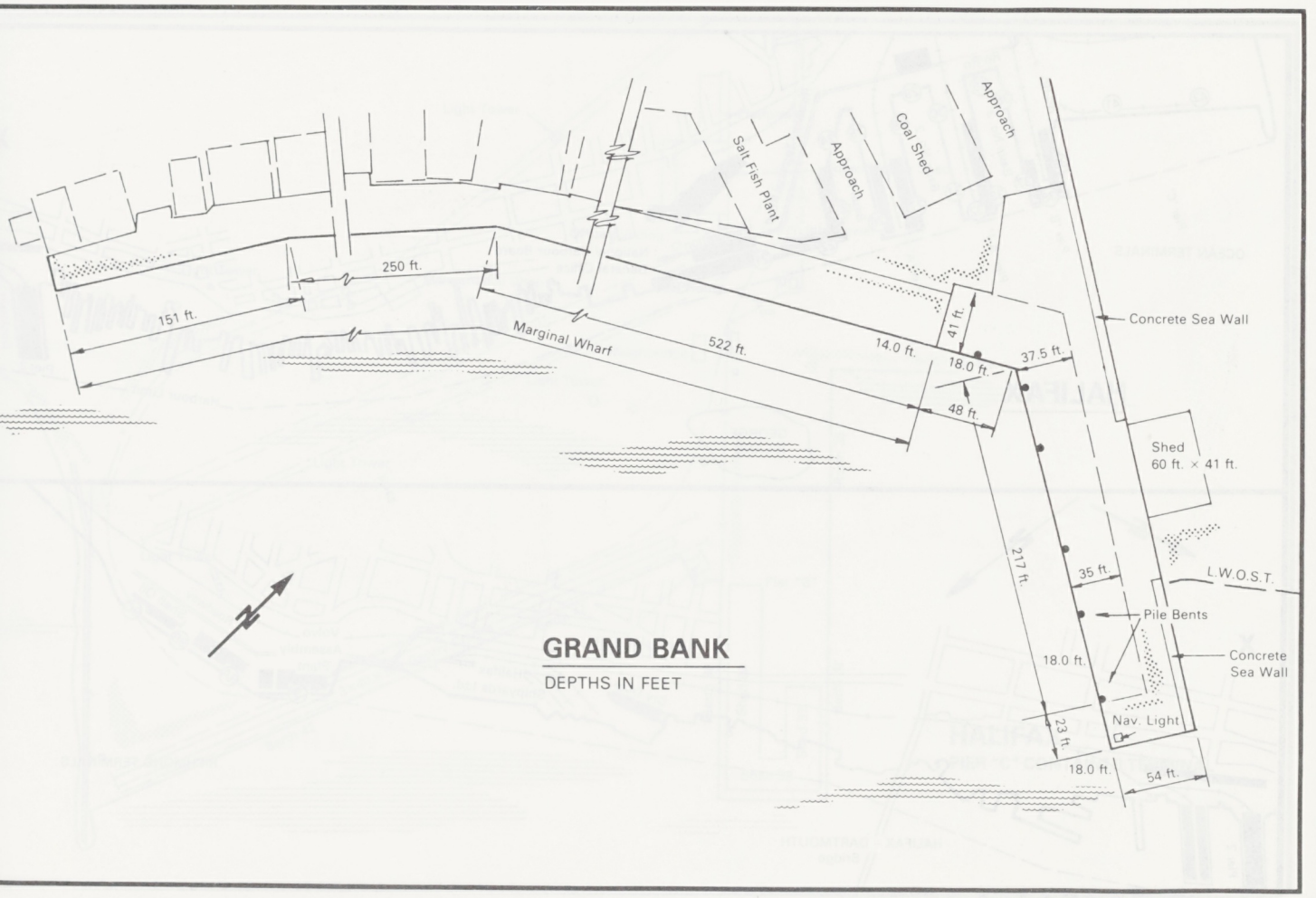

N
14 ft
14 ft
The Raquette
Oil Berth
FG
Government Wharf
Mud and Sand
R
Ruins
18 ft
7 ft
19 ft
Government Wharf
FR
6 ft
28 ft
10 ft
25 ft
Ruins
7 ft (1966)
Pier
15 ft
12 ft (1966)
Main Spur
22ft.
9 ft
Ruins
15ft.
7 ft
DIGBY
15ft.
0
200
SCALE IN METRES

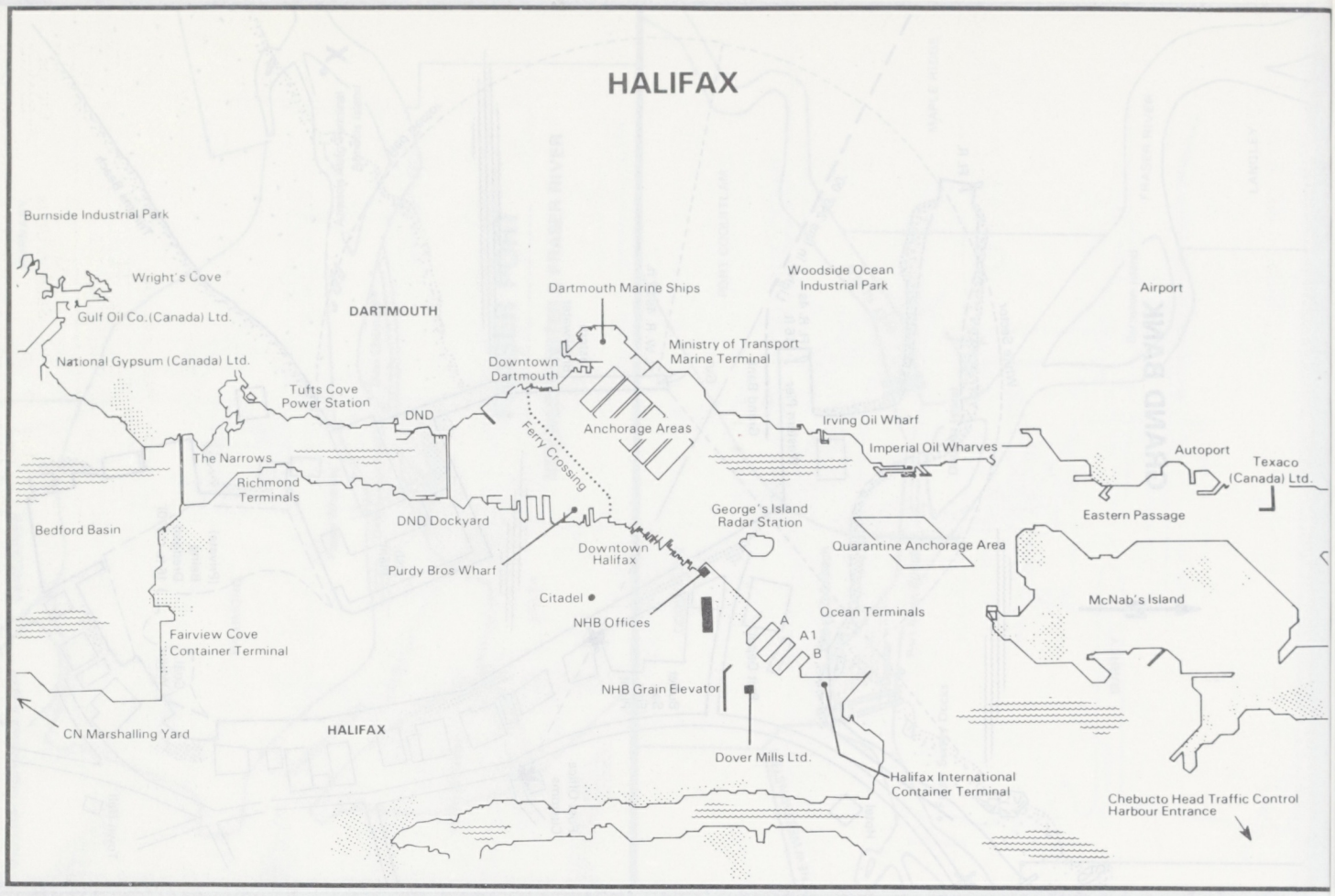

N
ROADWAY TO WHARF
2652 Ft Long and 30 Ft wide
GASPE
DEEPWATER WHARF
694 ft. 7 in.
776 ft. 5 in.
Fendering System

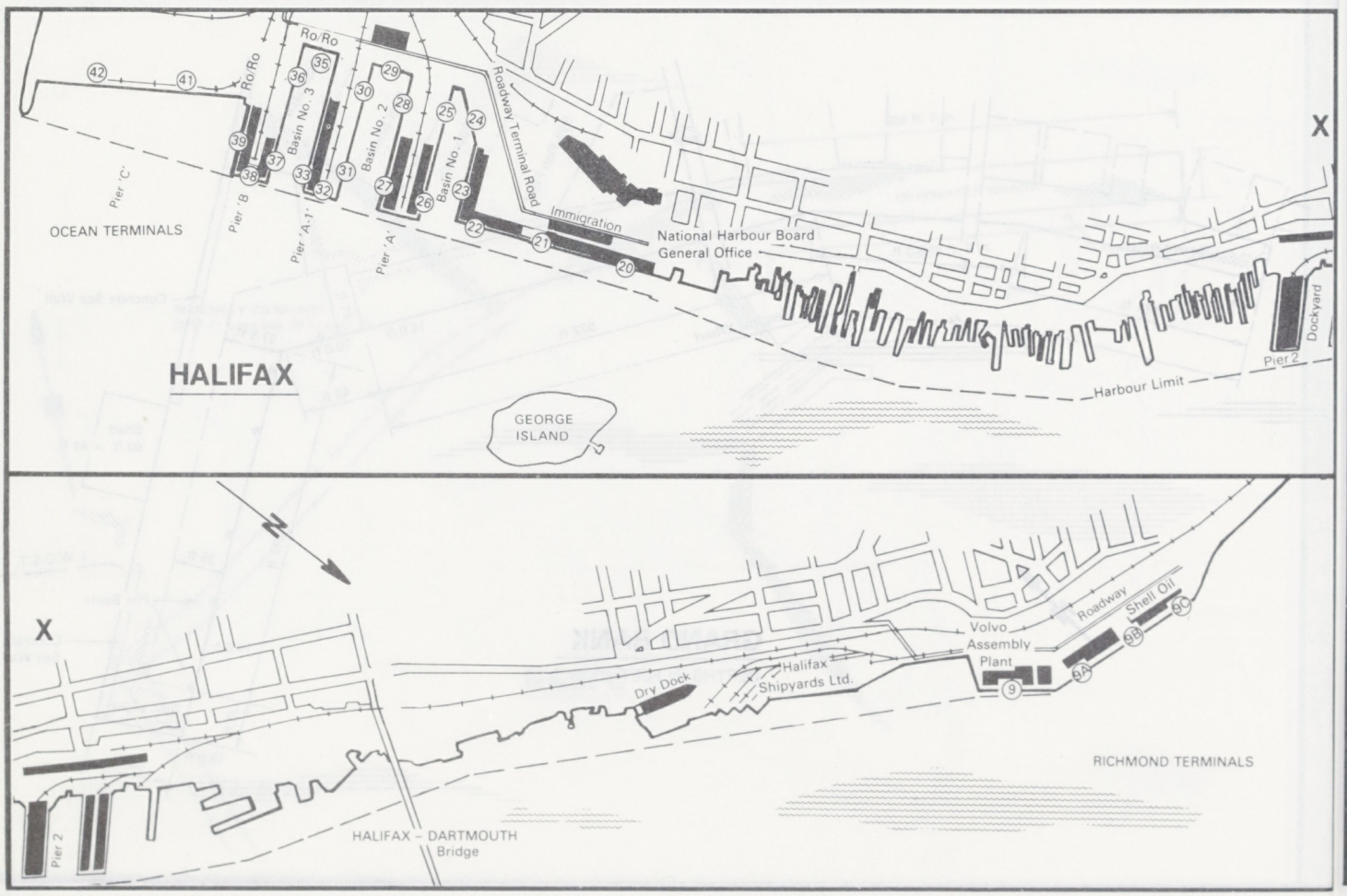

Vancouver International Airport
VANCOUVER
BURNABY
RICHMOND
FRASER RIVER
Fraser Wharves
Deas Island Tunnel
Dow Chemical
Annacis Auto Terminal
Annacis Island
X
Westham Island
DELTA
FRASER PORT
NEW WESTMINSTER & FRASER RIVER

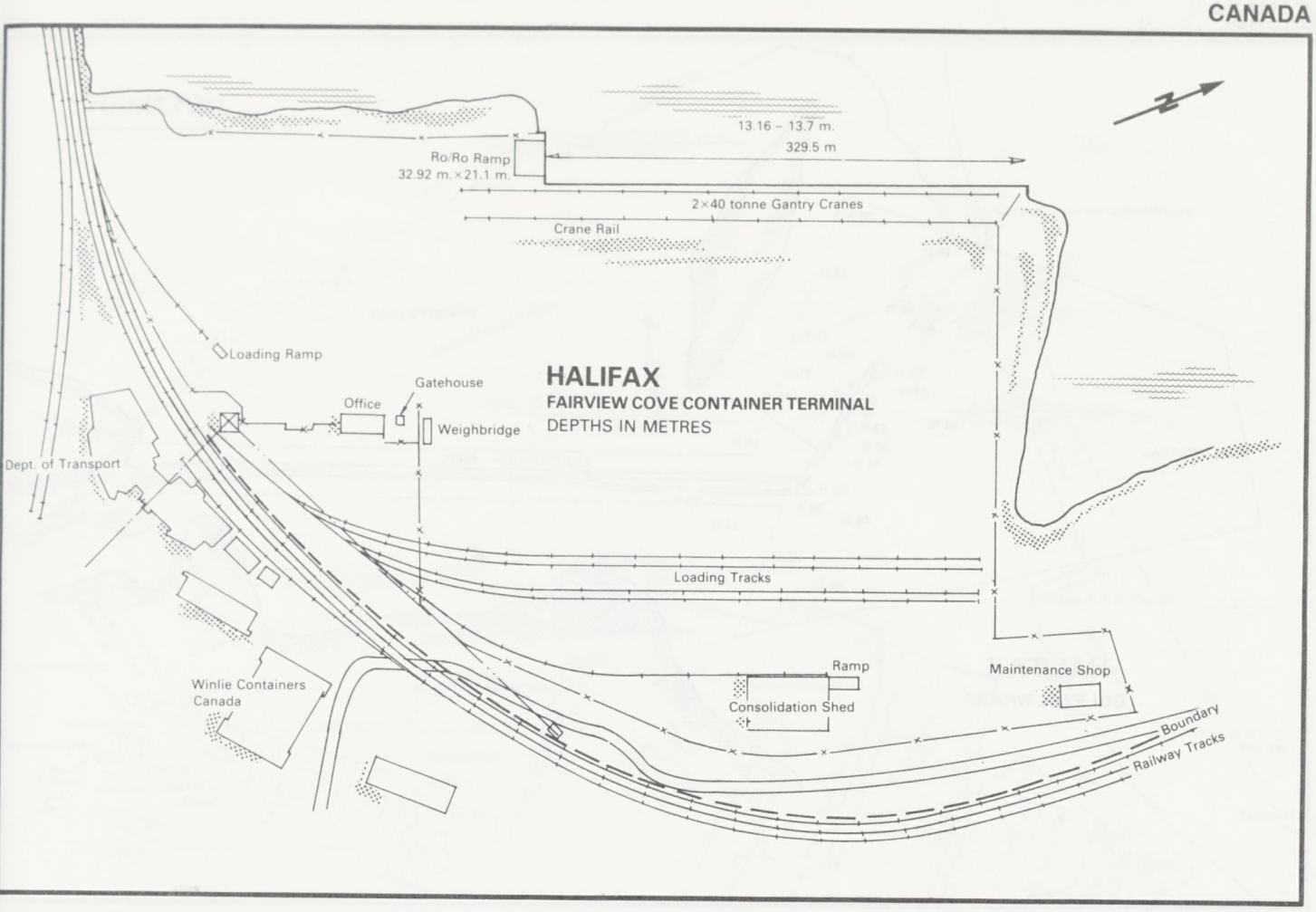

COQUITLAM
PORT COQUITLAM
NEW WESTMINSTER
Crown Zellerbach
Domtar
Port Mann Bridge
PITT RIVER
Fraser Surrey Docks
X
Douglas Island
MAPLE RIDGE
SURREY
Barnston Island
FRASER RIVER
LANGLEY


GRAND BANK
N
Fl. R.
Line of Sight 243° 00'
White Sector
Fl. R. 4s 16 ft.
Western Pier
Grand Bank
Gut
Fl. W. R. 4s 27 ft.
Eastern Breakwater
Red Sector
Trimms Beach
Fish Plant
(Private) Being Dredged 16 ft. (1970)
Coal Wharf
Bait Depot
Buffet Salt Fish Plant
Post Office Customs
Hotel
Town Hall


Salt Fish Plant
Approach
Coal Shed
Approach
250 ft.
151 ft.
Marginal Wharf
522 ft.
14.0 ft.
41 ft.
18.0 ft.
37.5 ft.
48 ft.
Concrete Sea Wall
Shed
60 ft. × 41 ft.
217 ft.
35 ft.
L.W.O.S.T.
Pile Bents
18.0 ft.
Concrete Sea Wall
Nav. Light
23 ft.
18.0 ft.
54 ft.
N
GRAND BANK
DEPTHS IN FEET


HALIFAX
Burnside Industrial Park
Wright's Cove
Gulf Oil Co.(Canada) Ltd.
DARTMOUTH
National Gypsum (Canada) Ltd.
Tufts Cove Power Station
DND
Dartmouth Marine Ships
Downtown Dartmouth
Ministry of Transport Marine Terminal
Anchorage Areas
Ferry Crossing
Woodside Ocean Industrial Park
Airport
Irving Oil Wharf
Imperial Oil Wharves
Autoport
Texaco (Canada) Ltd.
Eastern Passage
The Narrows
Richmond Terminals
Bedford Basin
DND Dockyard
George's Island Radar Station
Quarantine Anchorage Area
Downtown Halifax
Purdy Bros Wharf
Citadel
NHB Offices
Ocean Terminals
A
A1
B
McNab's Island
Fairview Cove Container Terminal
NHB Grain Elevator
CN Marshalling Yard
HALIFAX
Dover Mills Ltd.
Halifax International Container Terminal
Chebucto Head Traffic Control
Harbour Entrance

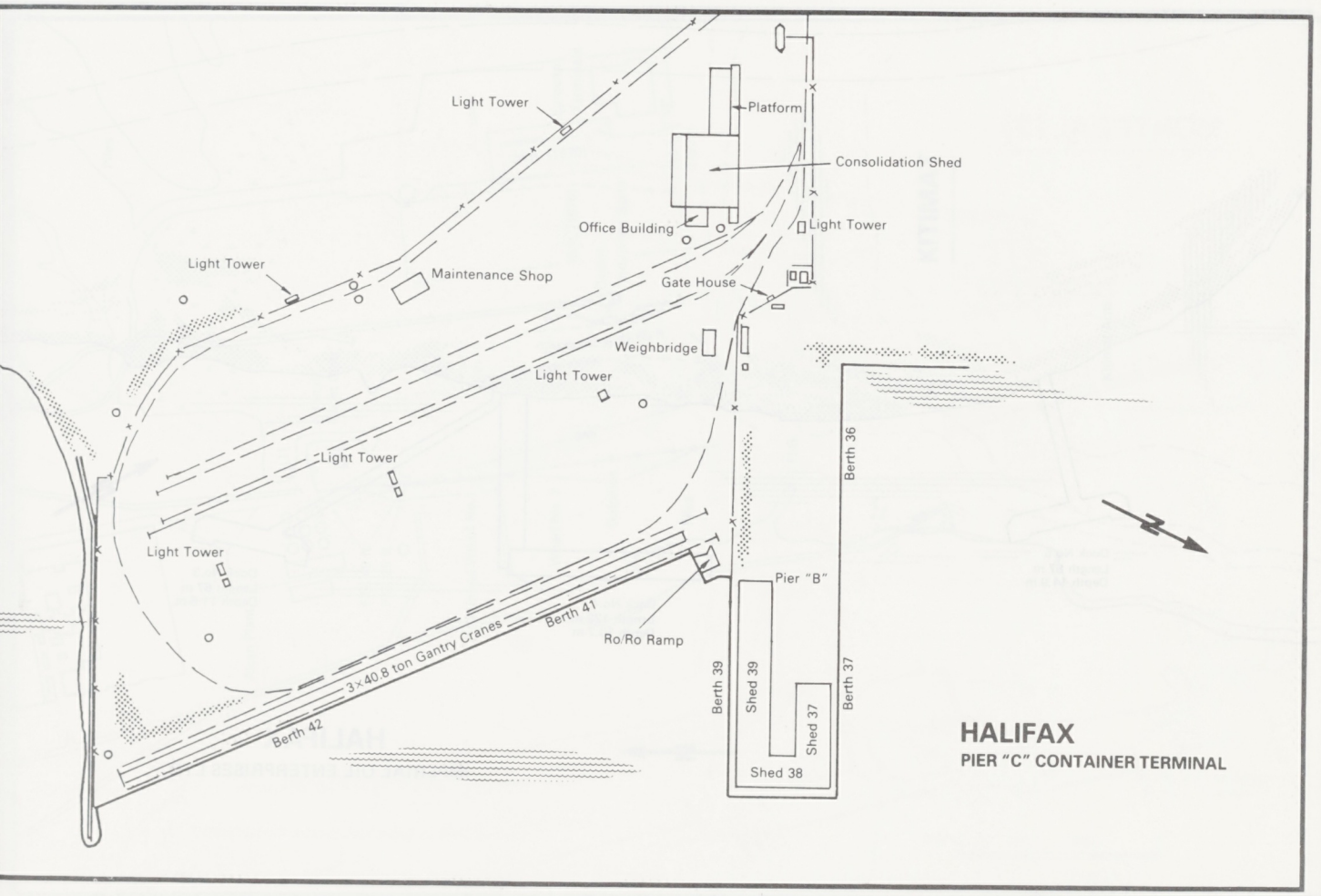

Ro/Ro
Ro/Ro
Basin No. 3
Basin No. 2
Basin No. 1
Roadway Terminal Road
Immigration
National Harbour Board General Office
Pier 'C'
Pier 'B'
Pier 'A-1'
Pier 'A'
OCEAN TERMINALS
HALIFAX
GEORGE ISLAND
Harbour Limit
Pier 2
Dockyard
X
X
Volvo Assembly Plant
Roadway
Shell Oil
Halifax Shipyards Ltd.
Dry Dock
RICHMOND TERMINALS
HALIFAX – DARTMOUTH Bridge
Pier 2



HALIFAX

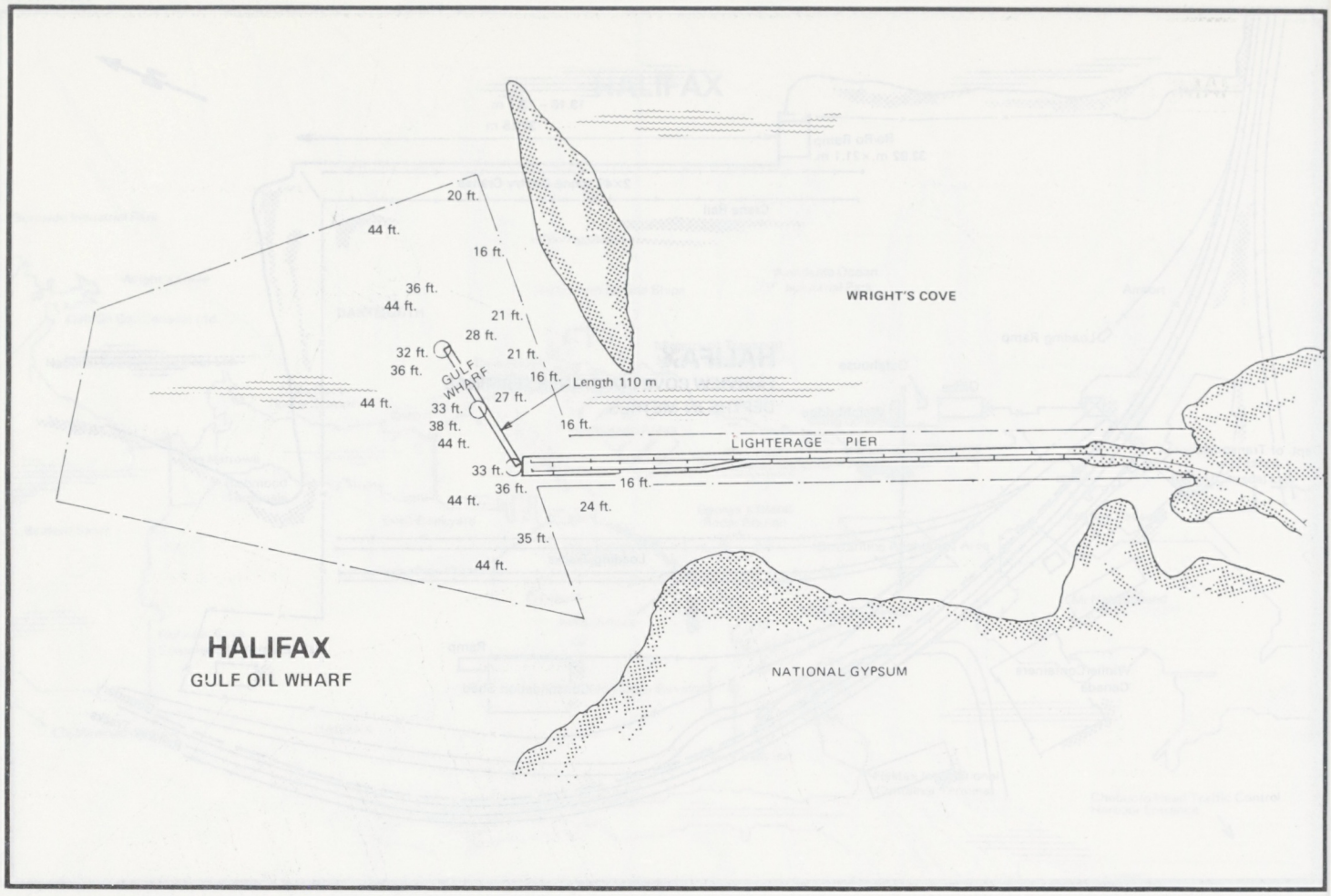
FAIRVIEW COVE CONTAINER TERMINAL

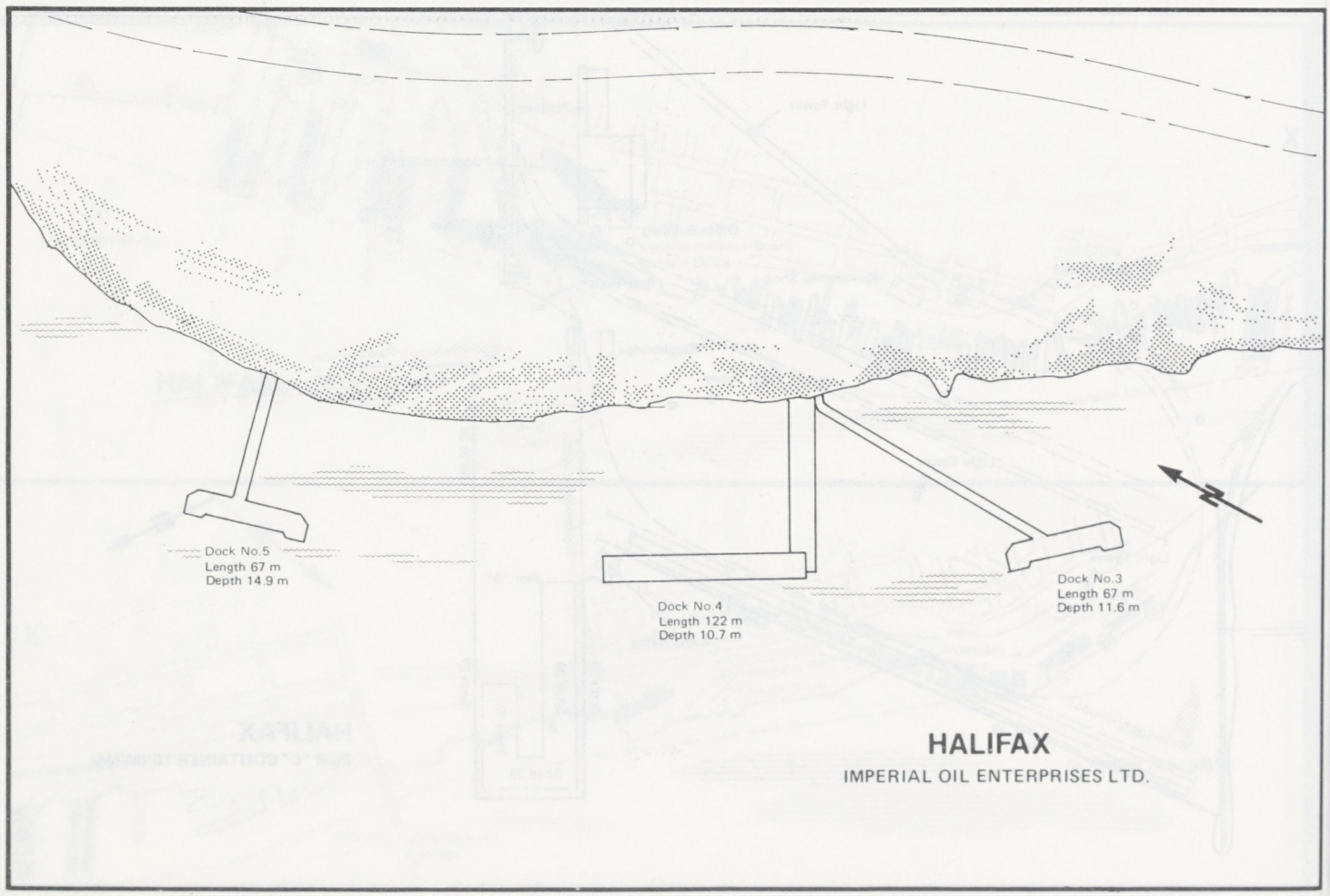
DEPTHS IN METRES

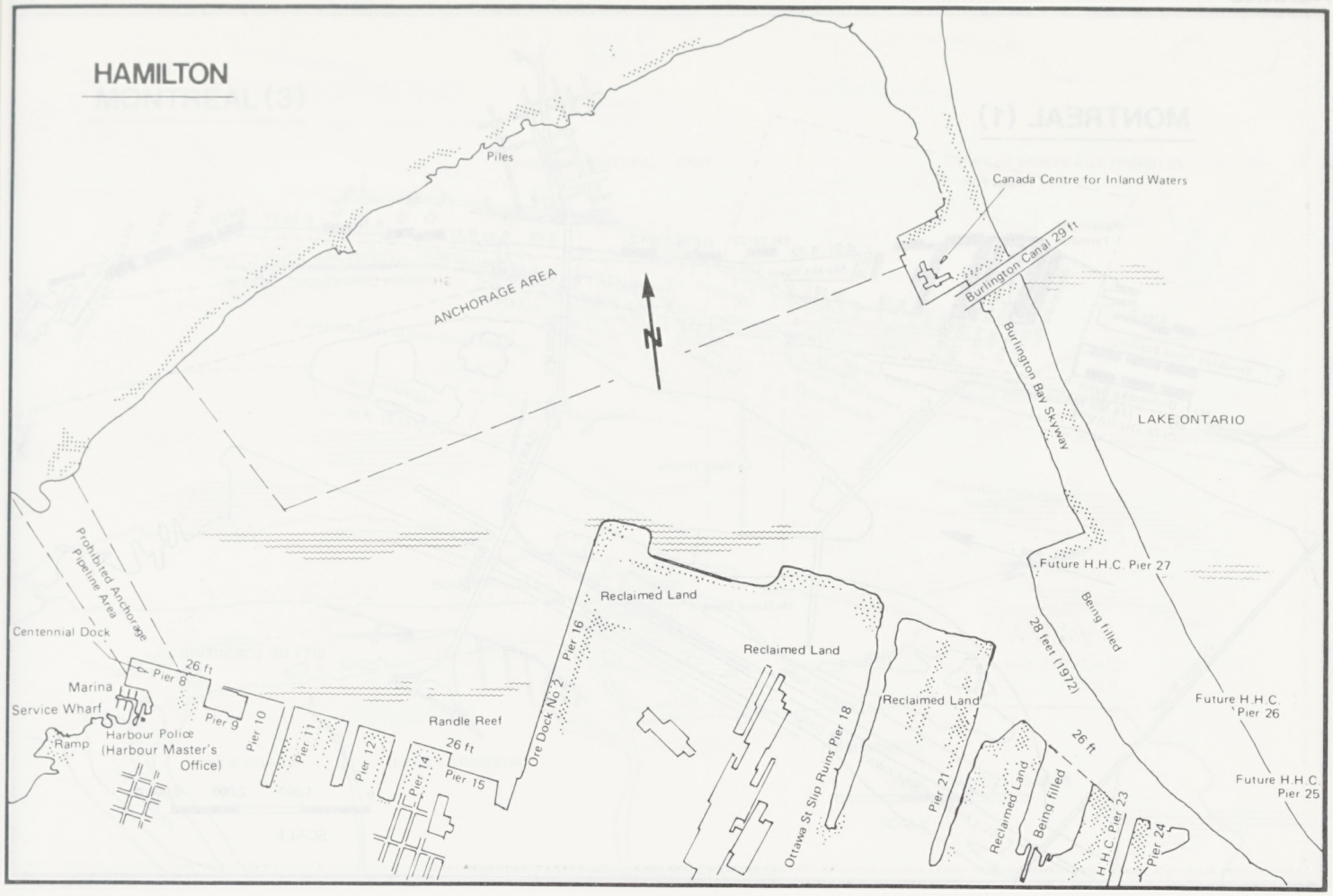


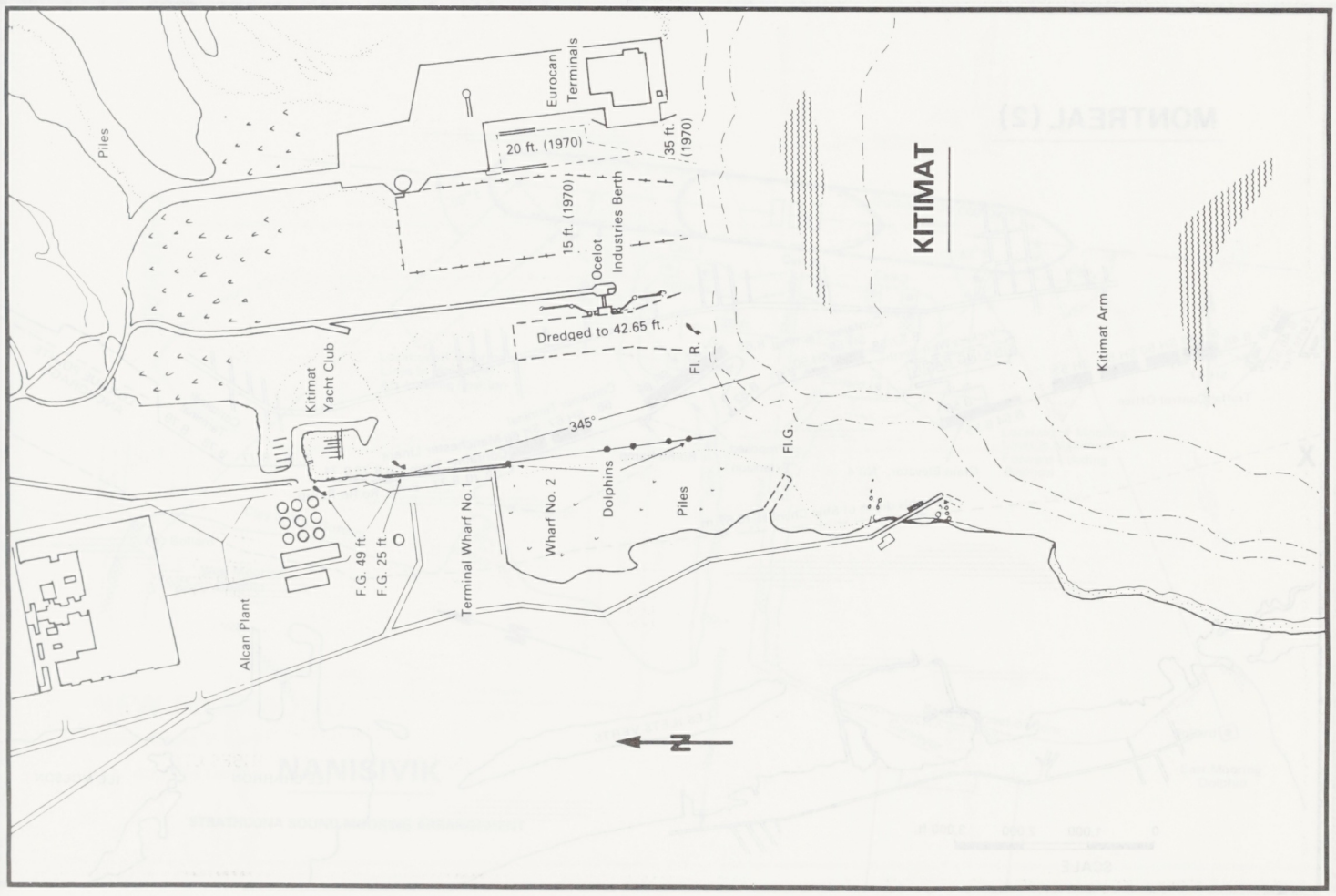
HALIFAX

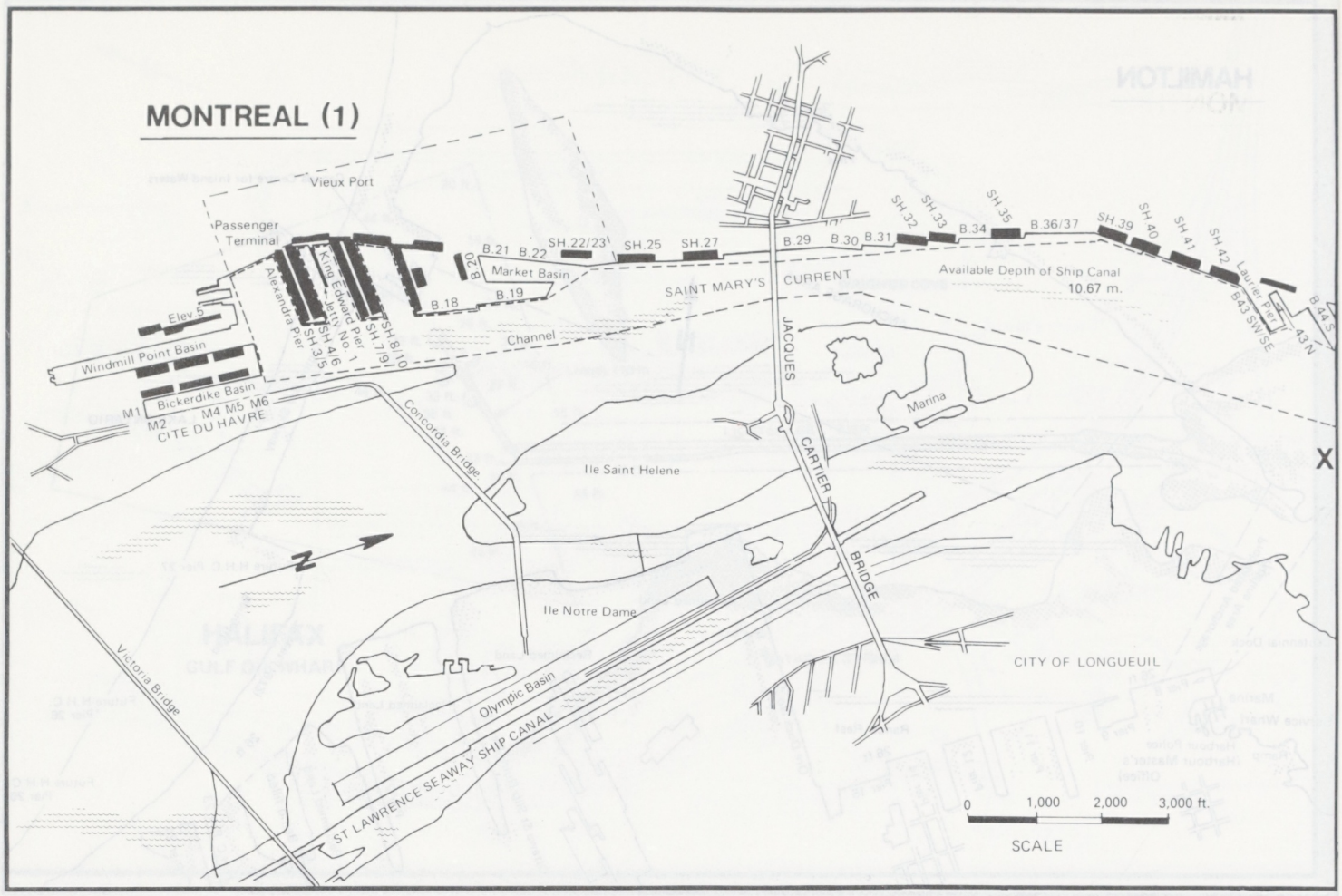
PIER "C" CONTAINER TERMINAL

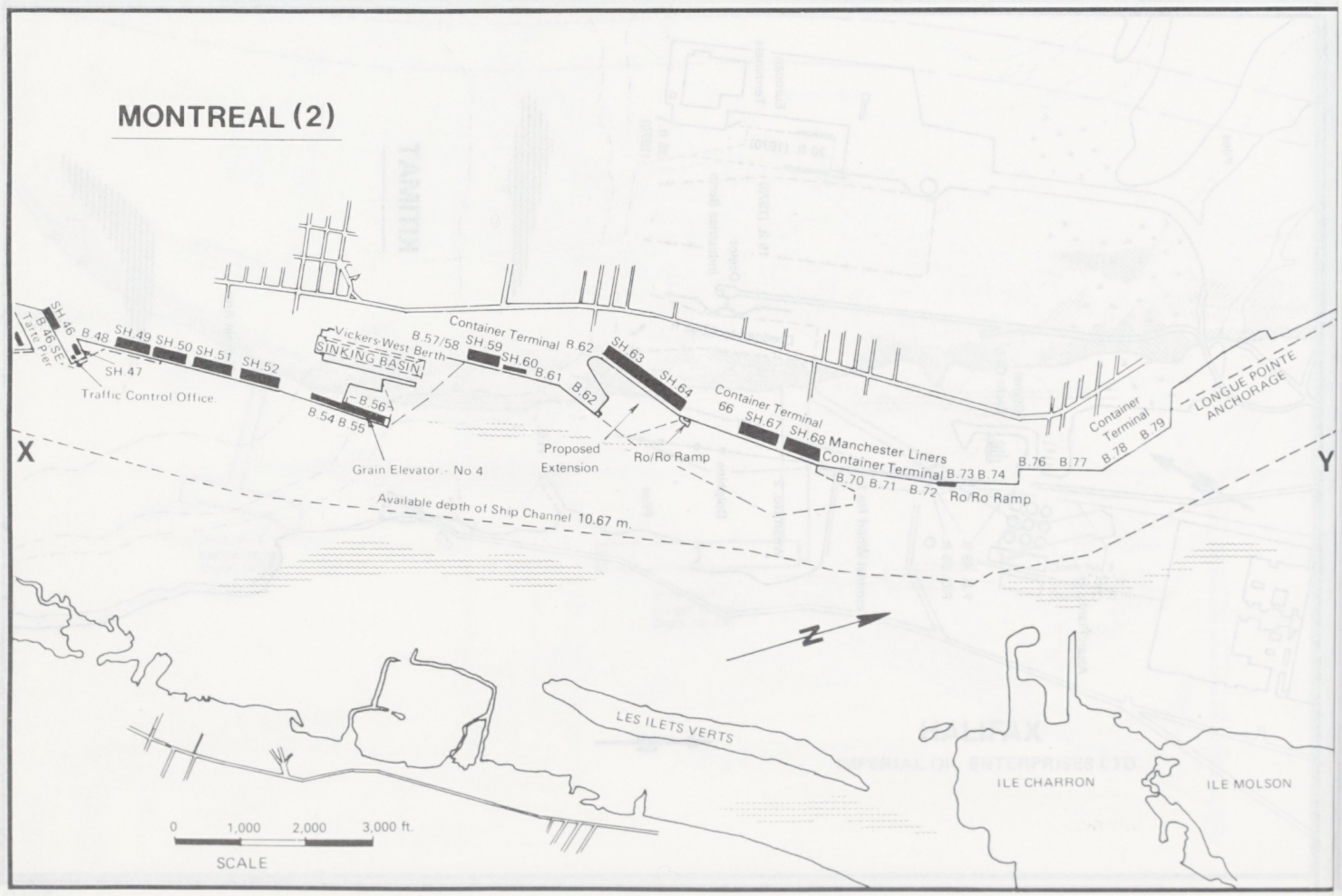

20 ft.
44 ft.
16 ft.
36 ft.
44 ft.
21 ft.
28 ft.
32 ft.
21 ft.
36 ft.
GULF WHARF
16 ft.
Length 110 m
44 ft.
27 ft.
33 ft.
38 ft.
16 ft.
44 ft.
LIGHTERAGE PIER
33 ft.
36 ft.
16 ft.
44 ft.
24 ft.
35 ft.
44 ft.
WRIGHT'S COVE
NATIONAL GYPSUM
HALIFAX
GULF OIL WHARF


Dock No.5
Length 67 m
Depth 14.9 m
Dock No.4
Length 122 m
Depth 10.7 m
Dock No.3
Length 67 m
Depth 11.6 m
HALIFAX
IMPERIAL OIL ENTERPRISES LTD.

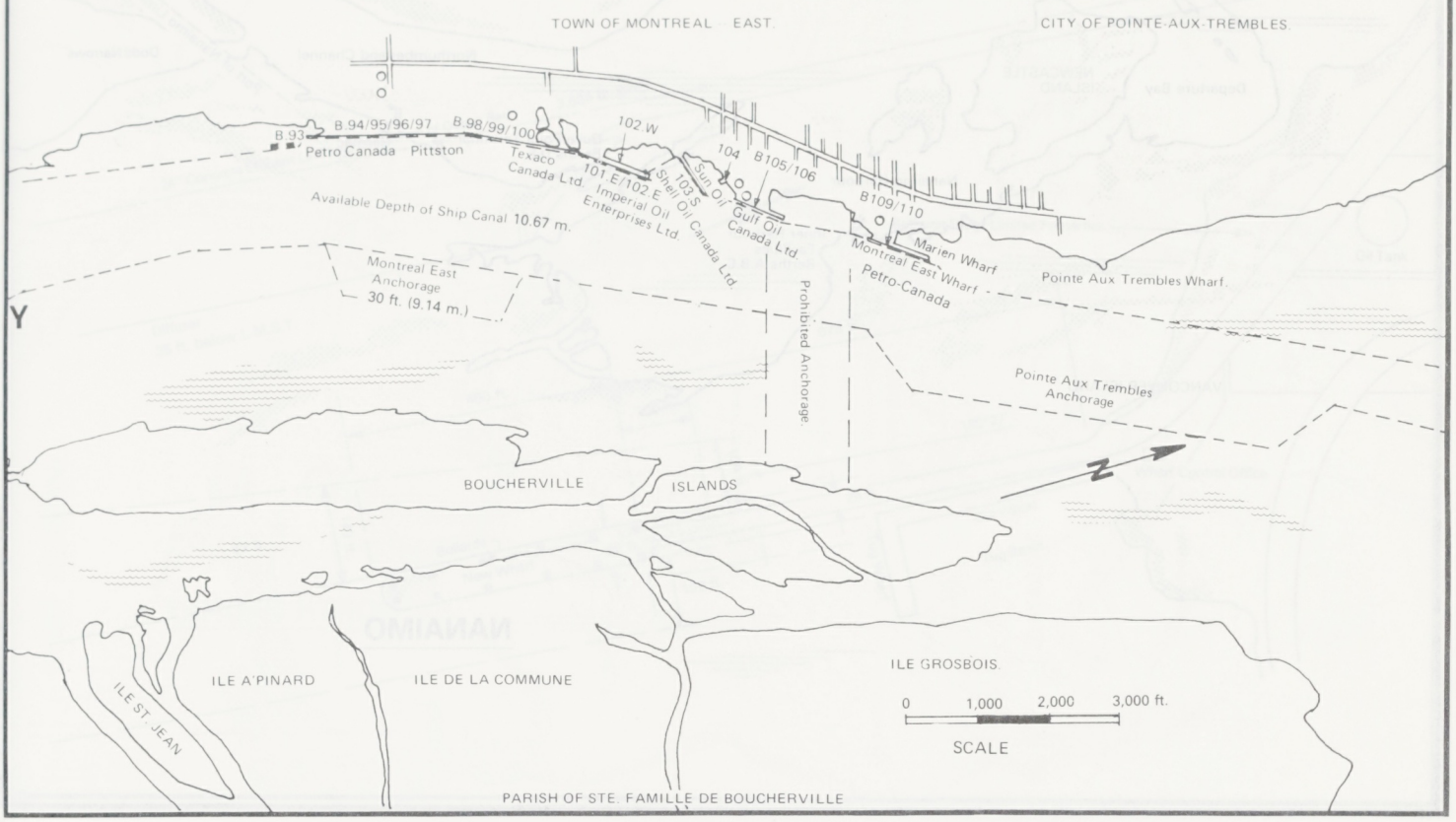

HAMILTON
Piles
Canada Centre for Inland Waters
ANCHORAGE AREA
Burlington Canal 29 ft.
Burlington Bay Skyway
LAKE ONTARIO
Future H.H.C. Pier 27
Being filled
28 feet (1972)
Future H.H.C. Pier 26
Future H.H.C. Pier 25
Prohibited Anchorage Pipeline Area
Centennial Dock
26 ft
Pier 8
Marina
Service Wharf
Ramp
Harbour Police (Harbour Master's Office)
Pier 9
Pier 10
Pier 11
Pier 12
Pier 14
Pier 15
Randle Reef
26 ft
Ore Dock No 2
Pier 16
Reclaimed Land
Reclaimed Land
Ottawa St Slip Ruins Pier 18
Reclaimed Land
Pier 21
Reclaimed Land
Being filled
26 ft
H.H.C. Pier 23
Pier 24


KITIMAT
Piles
Eurocan Terminals
20 ft. (1970)
35 ft. (1970)
15 ft. (1970)
Ocelot Industries Berth
Dredged to 42.65 ft.
Fl. R.
Kitimat Yacht Club
345°
Fl.G.
Kitimat Arm
Alcan Plant
F.G. 49 ft.
F.G. 25 ft.
Terminal Wharf No.1
Wharf No. 2
Dolphins
Piles


MONTREAL (1)
Vieux Port
Passenger Terminal
King Edward Pier
Jetty No. 1
Alexandra Pier
SH.3/5
SH.4/6
SH.7/9
SH.8/10
B.18
B.19
B.20
B.21
B.22
SH.22/23
SH.25
SH.27
Market Basin
Channel
SAINT MARY'S CURRENT
B.29
B.30
B.31
SH.32
SH.33
B.34
SH.35
B.36/37
SH.39
SH.40
SH.41
SH.42
Laurier Pier
B.43 SW SE
B.43 N
B.44 S
Available Depth of Ship Canal 10.67 m.
Elev.5
Windmill Point Basin
Bickerdike Basin
M1
M2
M4 M5 M6
CITE DU HAVRE
Concordia Bridge
Ile Saint Helene
JACQUES CARTIER BRIDGE
Marina
X
Ile Notre Dame
Victoria Bridge
Olympic Basin
ST LAWRENCE SEAWAY SHIP CANAL
CITY OF LONGUEUIL
0 1,000 2,000 3,000 ft.
SCALE

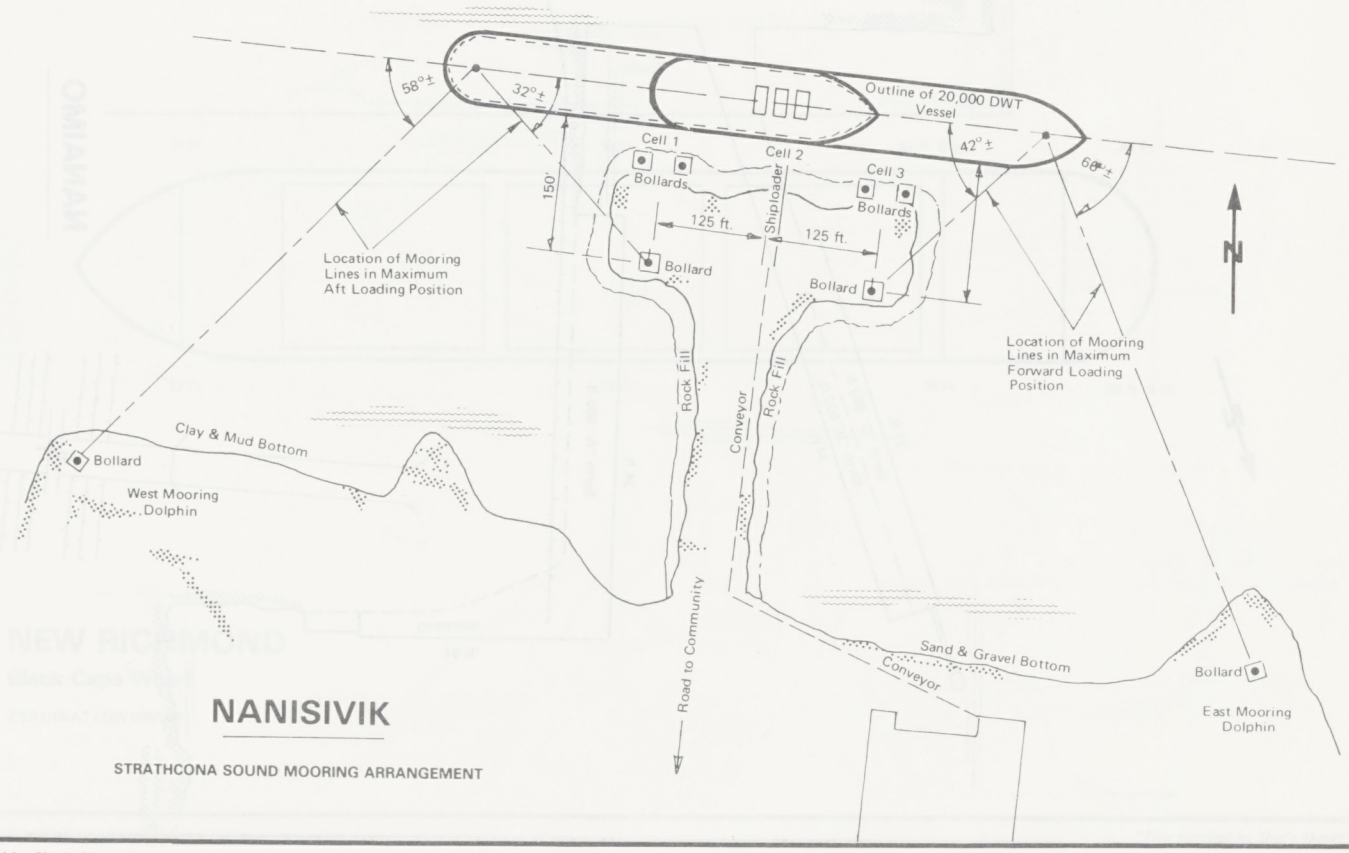

MONTREAL (2)
SH.46
B.46 SE
Tarte Pier
B.48
SH.49
SH.50
SH.51
SH.52
SH.47
Traffic Control Office
B.56
B.54
B.55
Grain Elevator No.4
Vickers-West Berth
SINKING BASIN
B.57/58
SH.59
SH.60
B.61
B.62
Container Terminal B.62
SH.63
SH.64
Proposed Extension
Ro/Ro Ramp
Container Terminal 66
SH.67
SH.68
Manchester Liners Container Terminal
B.70
B.71
B.72
Ro/Ro Ramp
B.73
B.74
B.76
B.77
Container Terminal
B.78
B.79
LONGUE POINTE ANCHORAGE
X
Y
Available depth of Ship Channel 10.67 m.
LES ILETS VERTS
ILE CHARRON
ILE MOLSON
0 1,000 2,000 3,000 ft.
SCALE

MONTREAL (3)

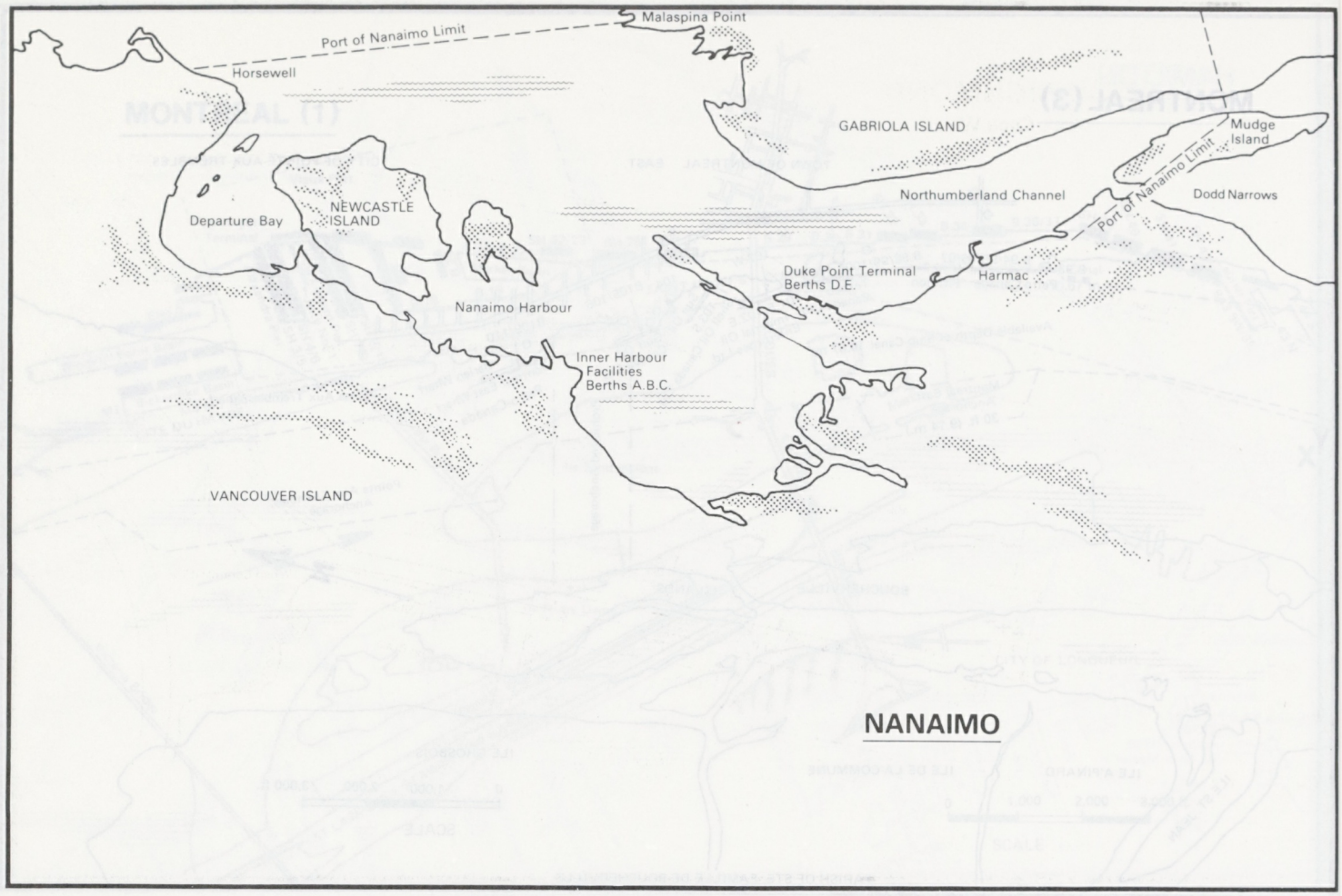


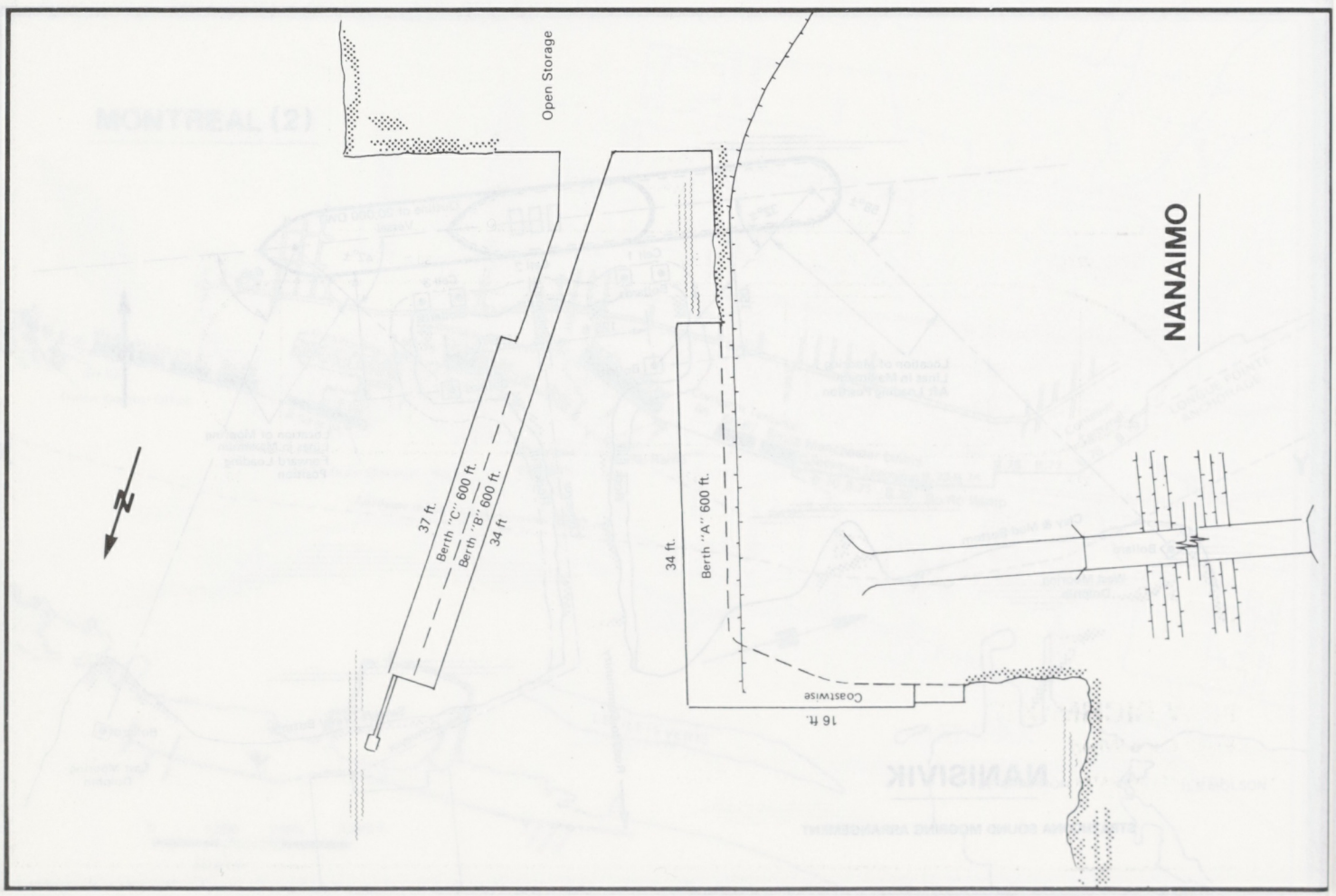
NANISIVIK

STRATHCONA SOUND MOORING ARRANGEMENT



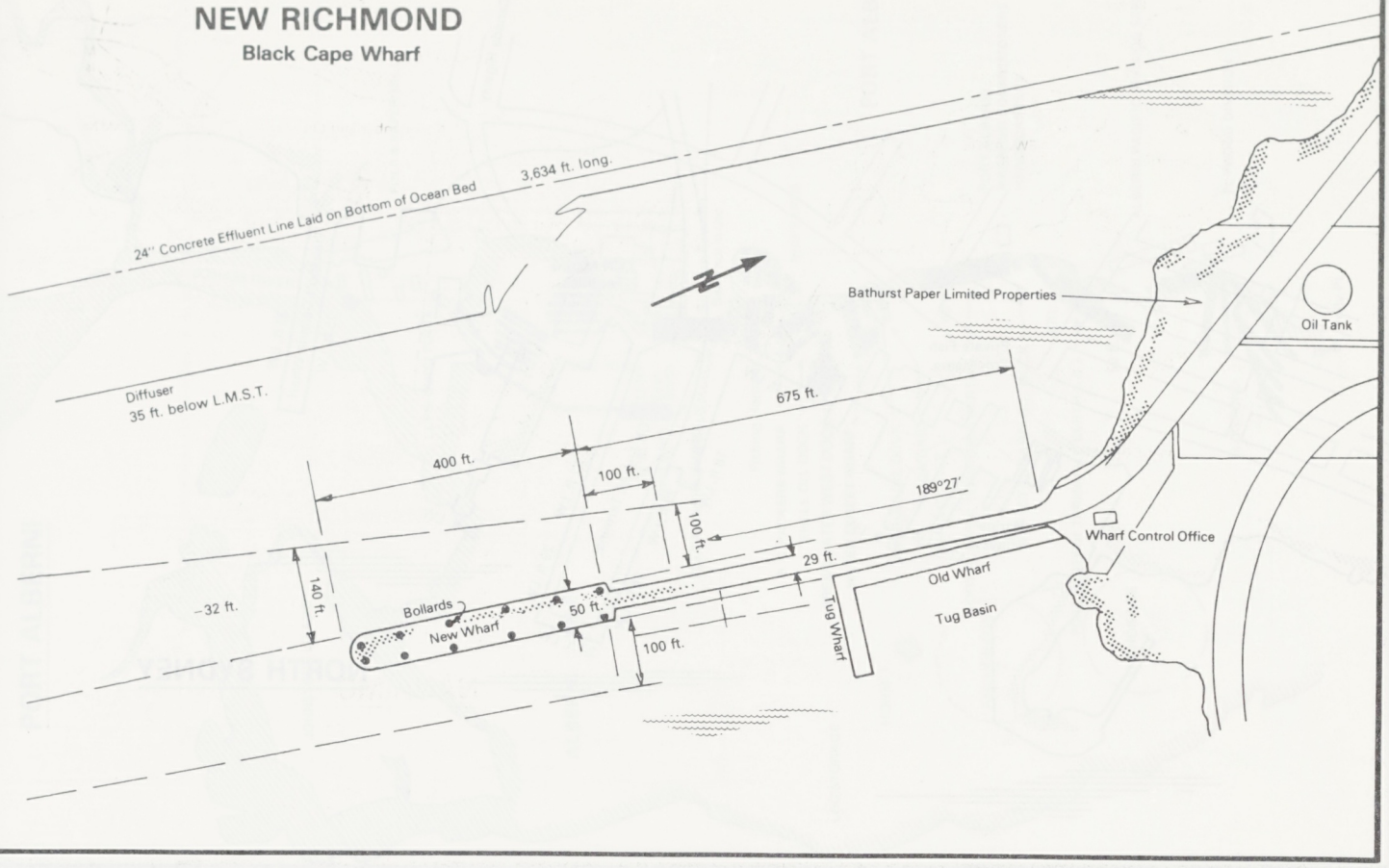
"Plan supplied by Ship's Master".

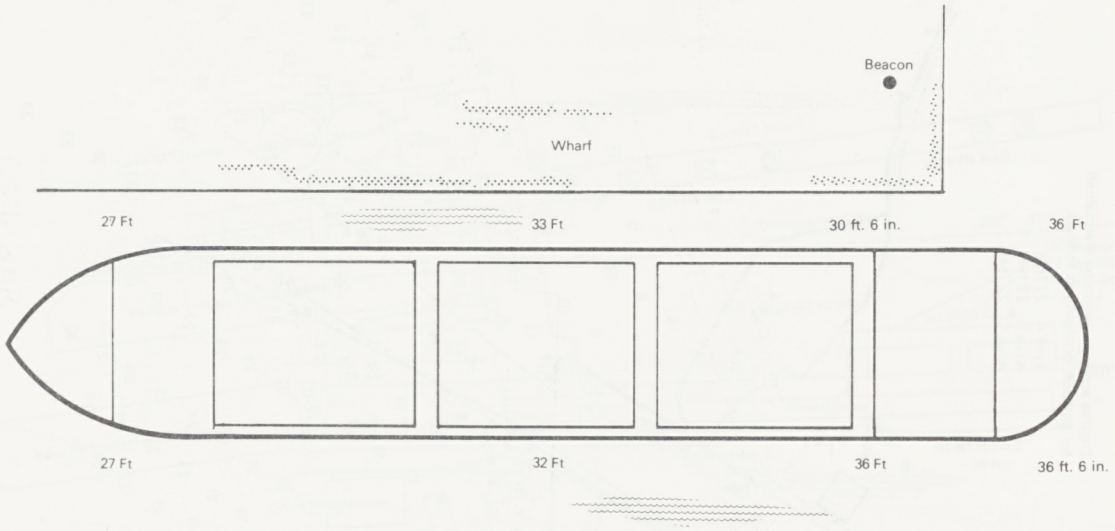

Malaspina Point
Port of Nanaimo Limit
Horsewell
GABRIOLA ISLAND
Mudge Island
Port of Nanaimo Limit
Northumberland Channel
Dodd Narrows
Departure Bay
NEWCASTLE ISLAND
Duke Point Terminal Berths D.E.
Harmac
Nanaimo Harbour
Inner Harbour Facilities Berths A.B.C.
VANCOUVER ISLAND
NANAIMO


Open Storage
NANAIMO
37 ft.
Berth "C" 600 ft.
Berth "B" 600 ft.
34 ft
34 ft.
Berth "A" 600 ft.
Coastwise
16 ft.

NEW RICHMOND

Black Cape Wharf



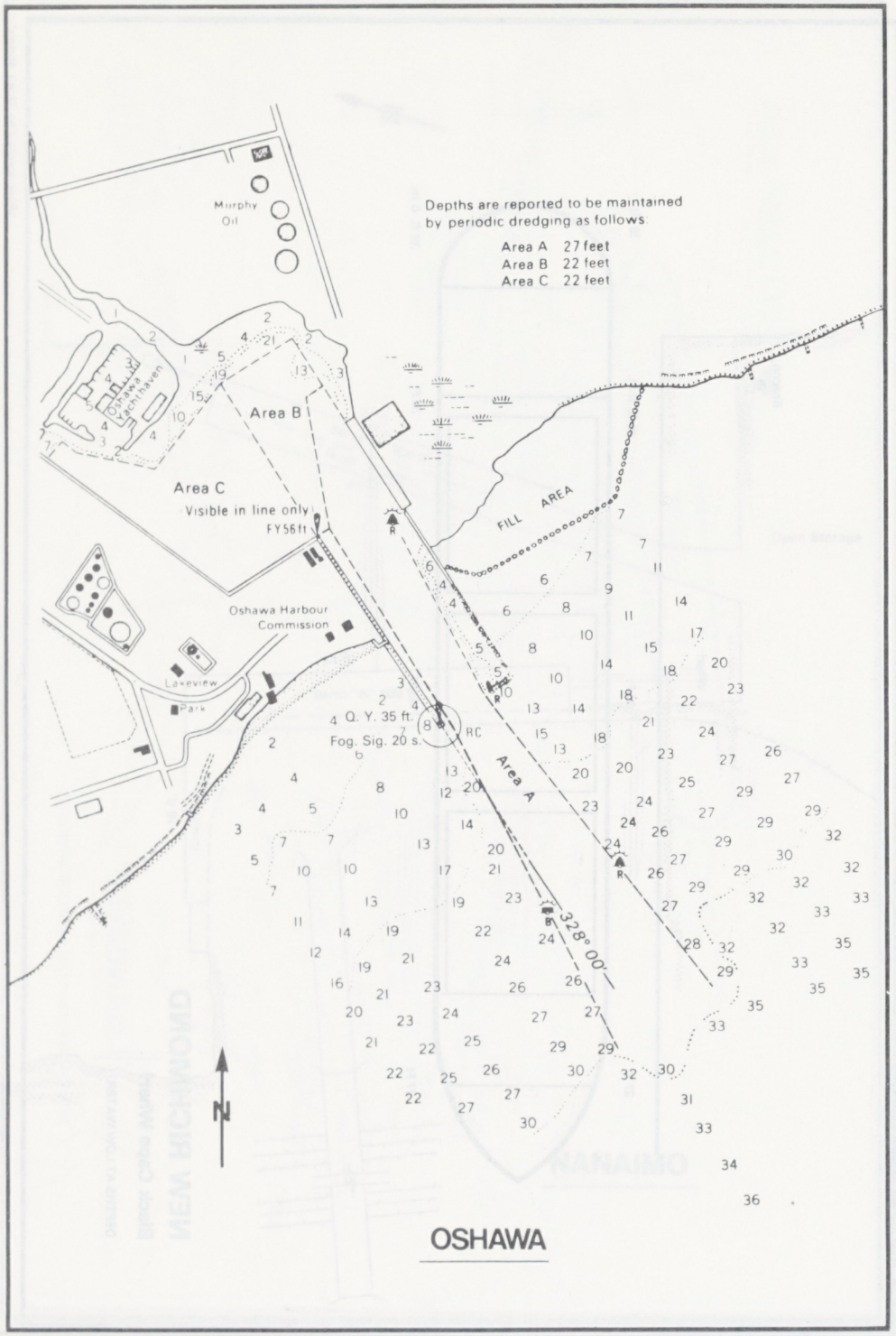


NEW RICHMOND

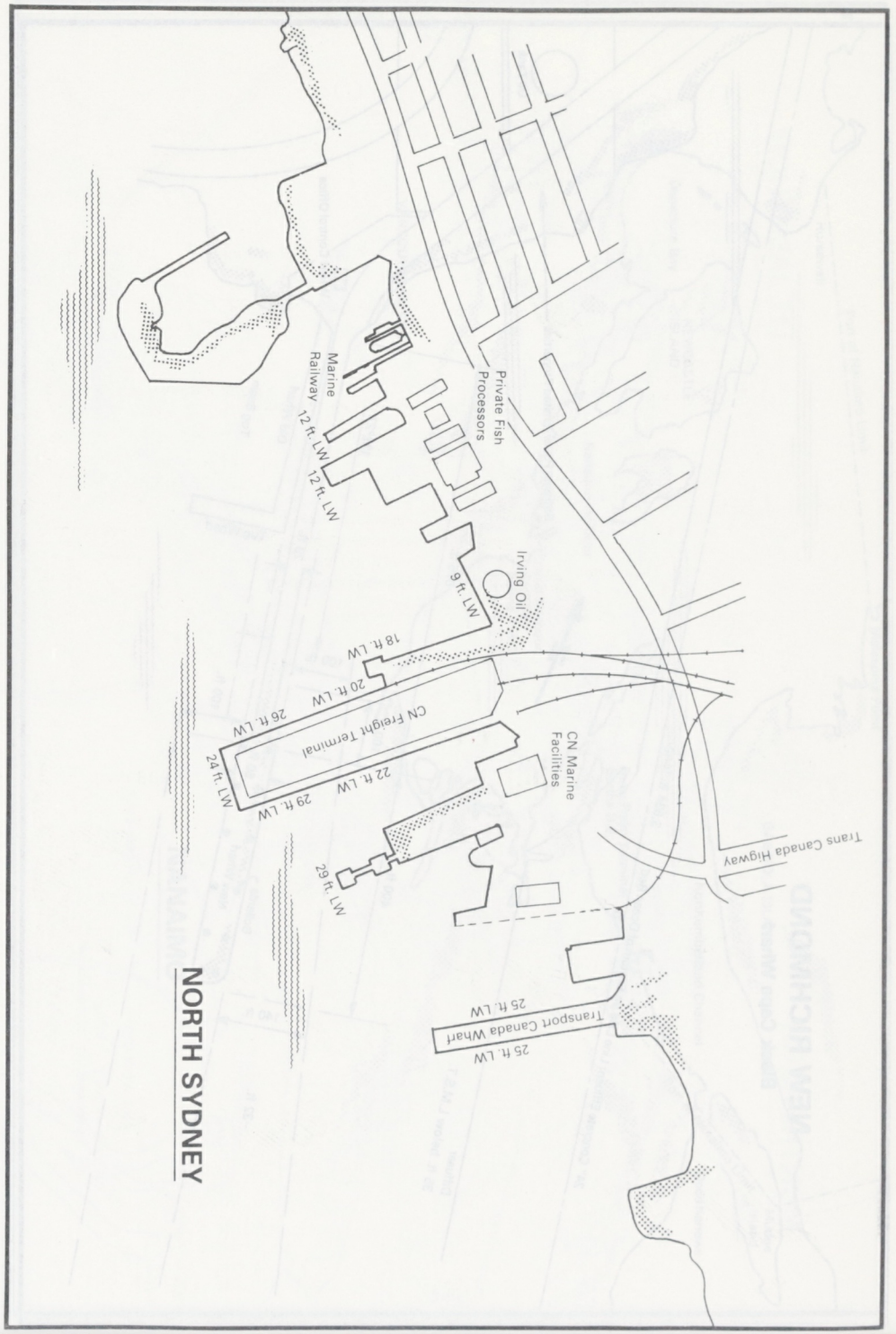
Black Cape Wharf

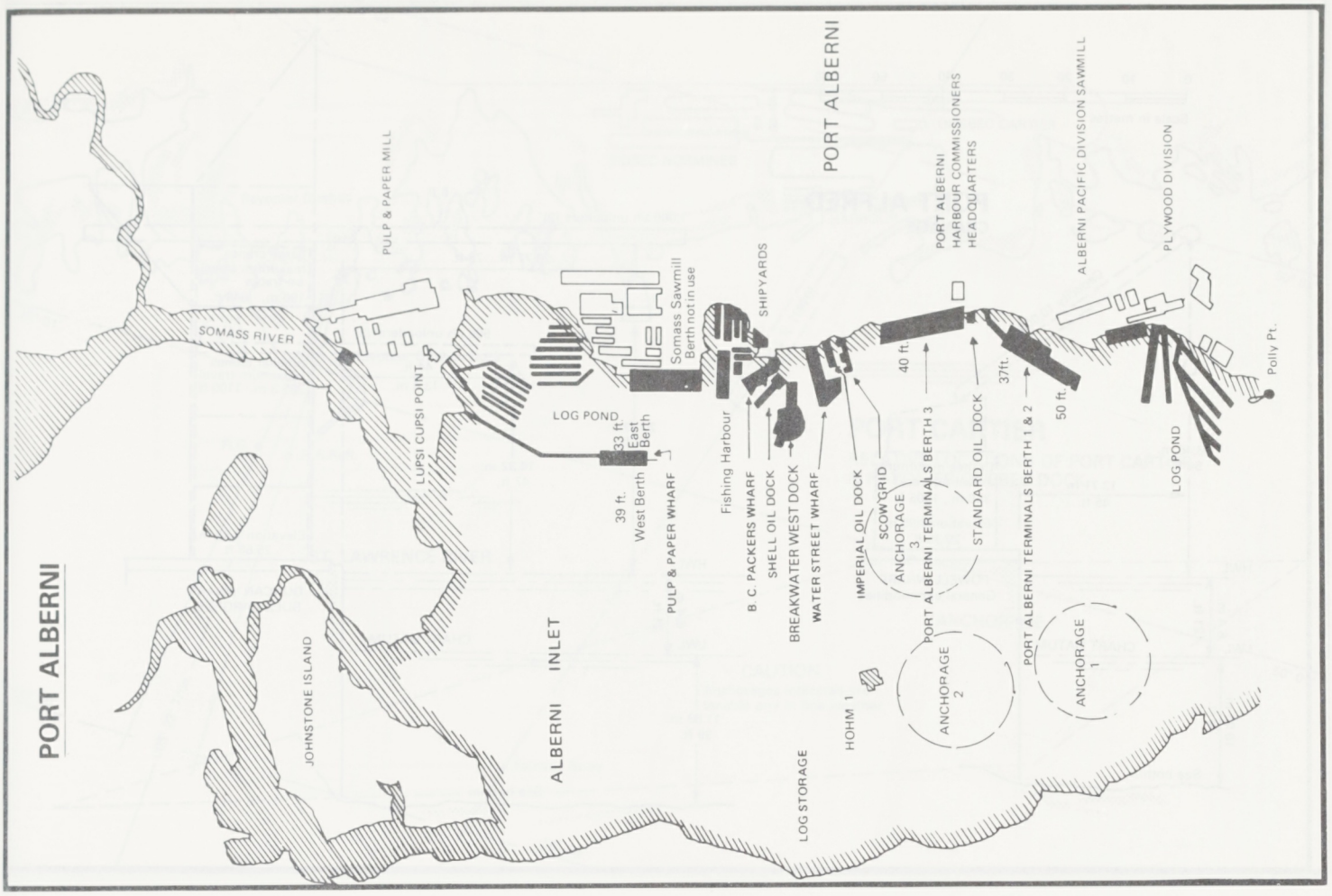
DEPTHS AT LOW WATER

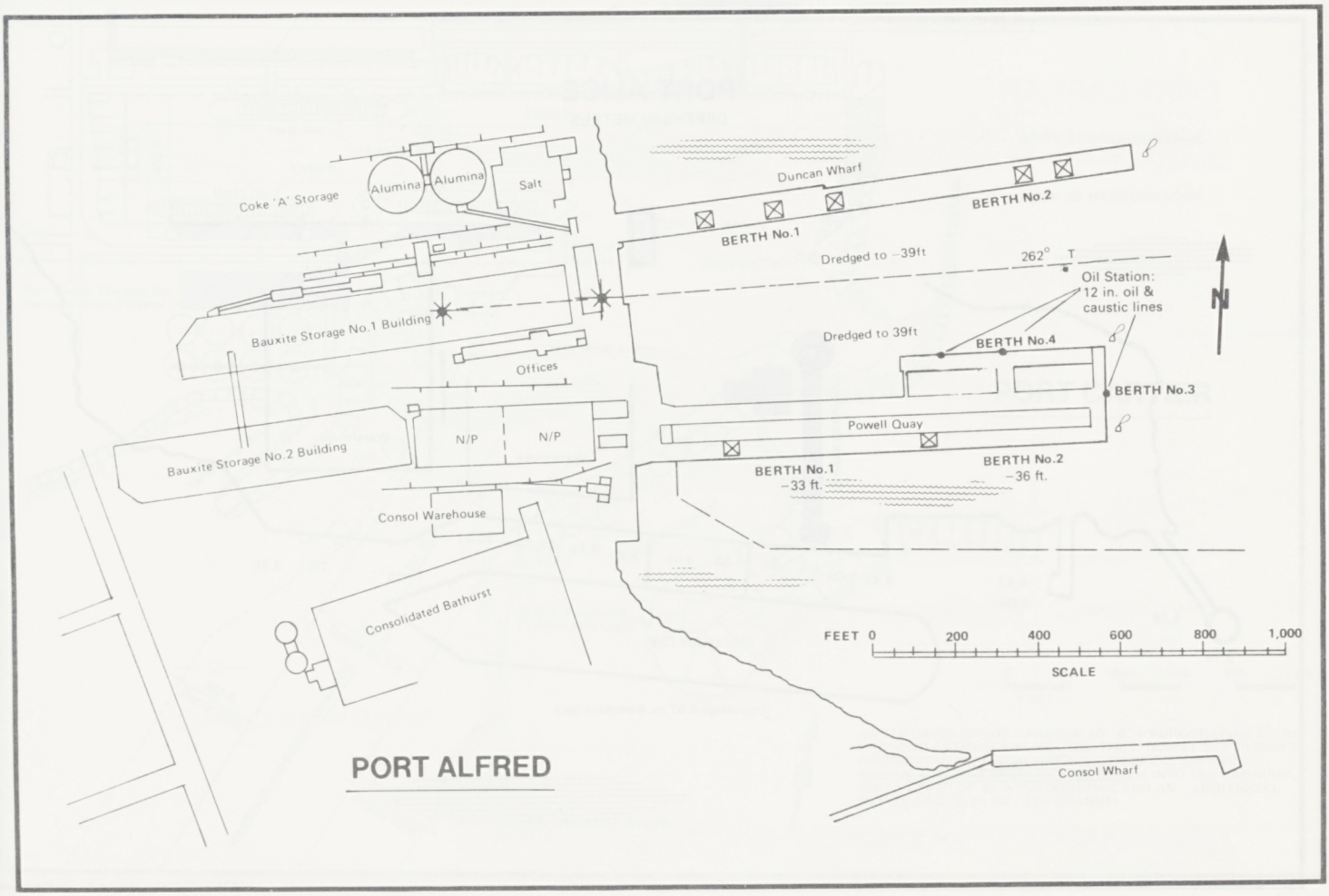
"Plan supplied by Ship's Master"

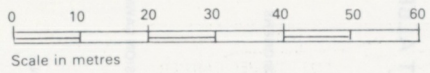

Depths are reported to be maintained
by periodic dredging as follows:
Area A 27 feet
Area B 22 feet
Area C 22 feet
Murphy Oil
Oshawa Yachtshaven
Area B
Area C
Visible in line only
FY56ft
FILL AREA
Oshawa Harbour Commission
Lakeview Park
Q. Y. 35 ft.
Fog. Sig. 20 s.
Area A
328° 00'
N

OSHAWA

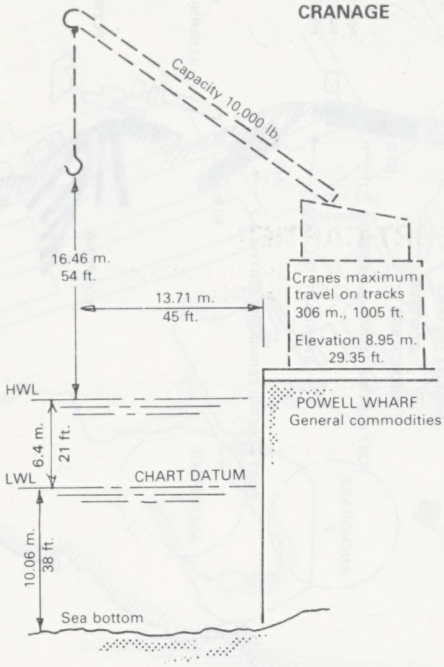

CANADA
Marine Railway
12 ft. LW
12 ft. LW
Private Fish Processors
Irving Oil
9 ft. LW
18 ft. LW
20 ft. LW
26 ft. LW
CN Freight Terminal
24 ft. LW
22 ft. LW
29 ft. LW
CN Marine Facilities
Trans Canada Highway
29 ft. LW
Transport Canada Wharf
25 ft. LW
25 ft. LW
NORTH SYDNEY

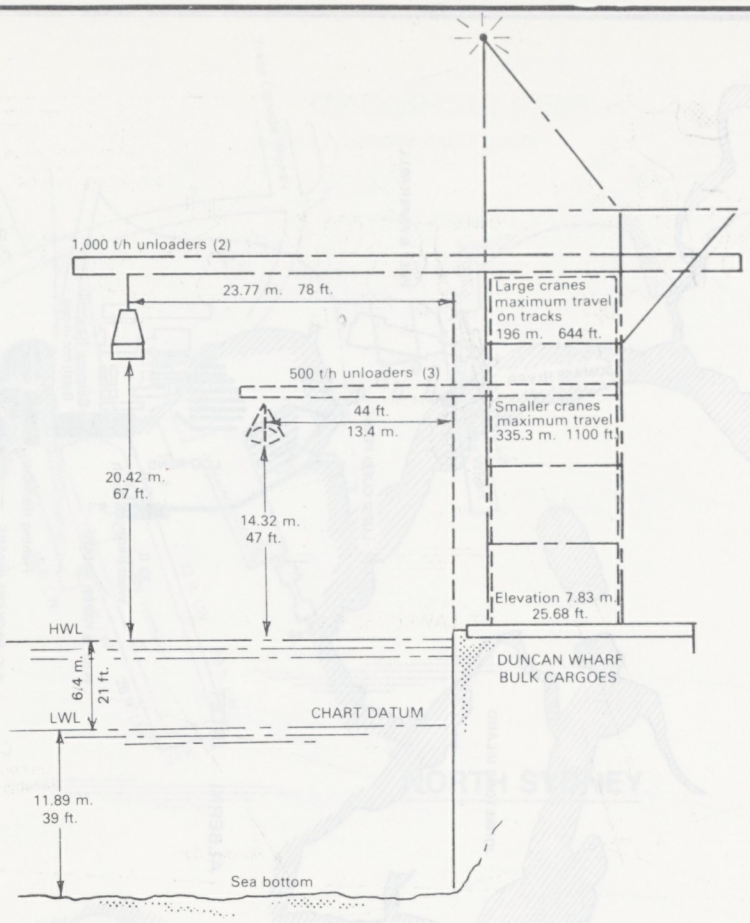

PORT ALBERNI
SOMASS RIVER
PULP & PAPER MILL
LUPSI CUPSI POINT
JOHNSTONE ISLAND
ALBERNI INLET
LOG POND
33 ft. East Berth
39 ft. West Berth
PULP & PAPER WHARF
Somass Sawmill Berth not in use
SHIPYARDS
Fishing Harbour
B. C. PACKERS WHARF
SHELL OIL DOCK
BREAKWATER WEST DOCK
WATER STREET WHARF
IMPERIAL OIL DOCK
SCOW GRID
ANCHORAGE 3
HOHM 1
LOG STORAGE
ANCHORAGE 2
PORT ALBERNI TERMINALS BERTH 3
40 ft.
PORT ALBERNI HARBOUR COMMISSIONERS HEADQUARTERS
STANDARD OIL DOCK
37ft.
PORT ALBERNI TERMINALS BERTH 1 & 2
50 ft.
ANCHORAGE 1
ALBERNI PACIFIC DIVISION SAWMILL
PLYWOOD DIVISION
LOG POND
Polly Pt.
PORT ALBERNI


Coke 'A' Storage
Alumina
Alumina
Salt
Duncan Wharf
BERTH No.1
BERTH No.2
Dredged to –39ft
262° T
Oil Station: 12 in. oil & caustic lines
N
Bauxite Storage No.1 Building
Dredged to 39ft
BERTH No.4
Offices
BERTH No.3
Powell Quay
Bauxite Storage No.2 Building
N/P
N/P
BERTH No.1 –33 ft.
BERTH No.2 –36 ft.
Consol Warehouse
Consolidated Bathurst
FEET 0 200 400 600 800 1,000
SCALE
PORT ALFRED
Consol Wharf

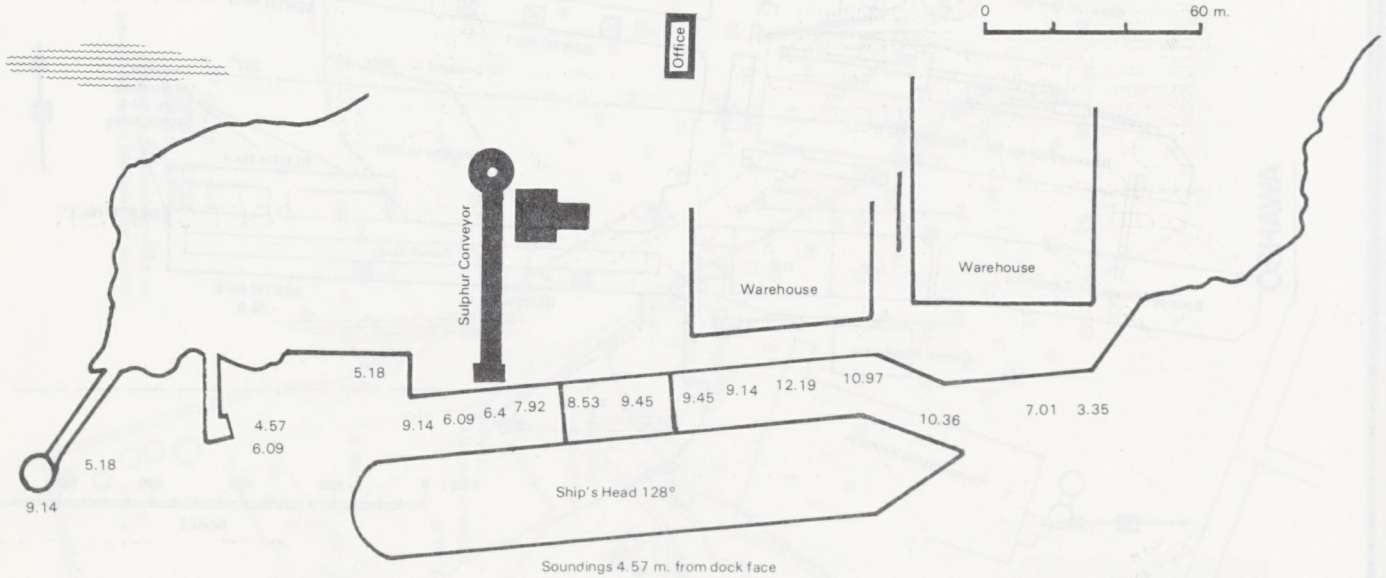


PORT ALFRED
CRANAGE

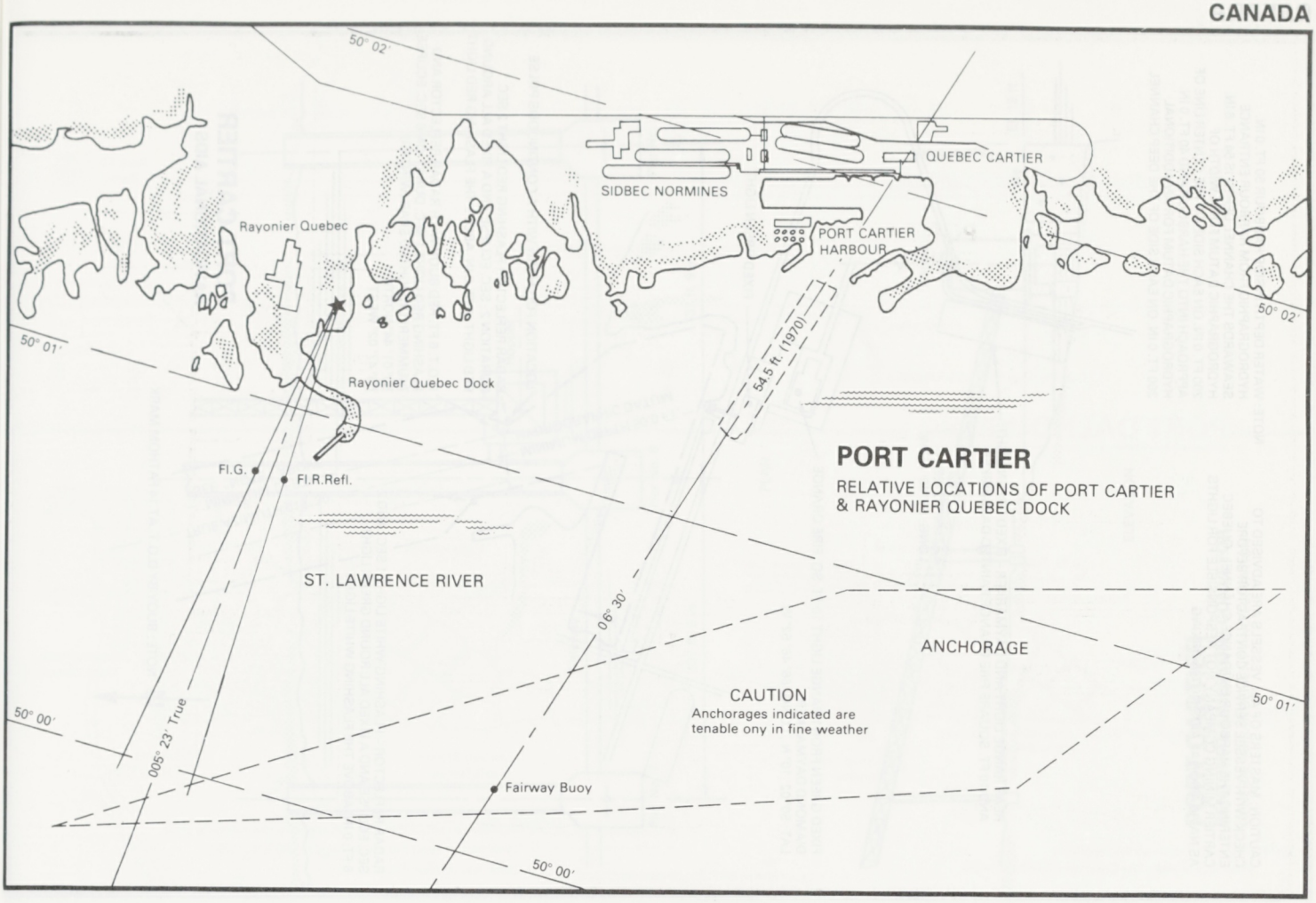


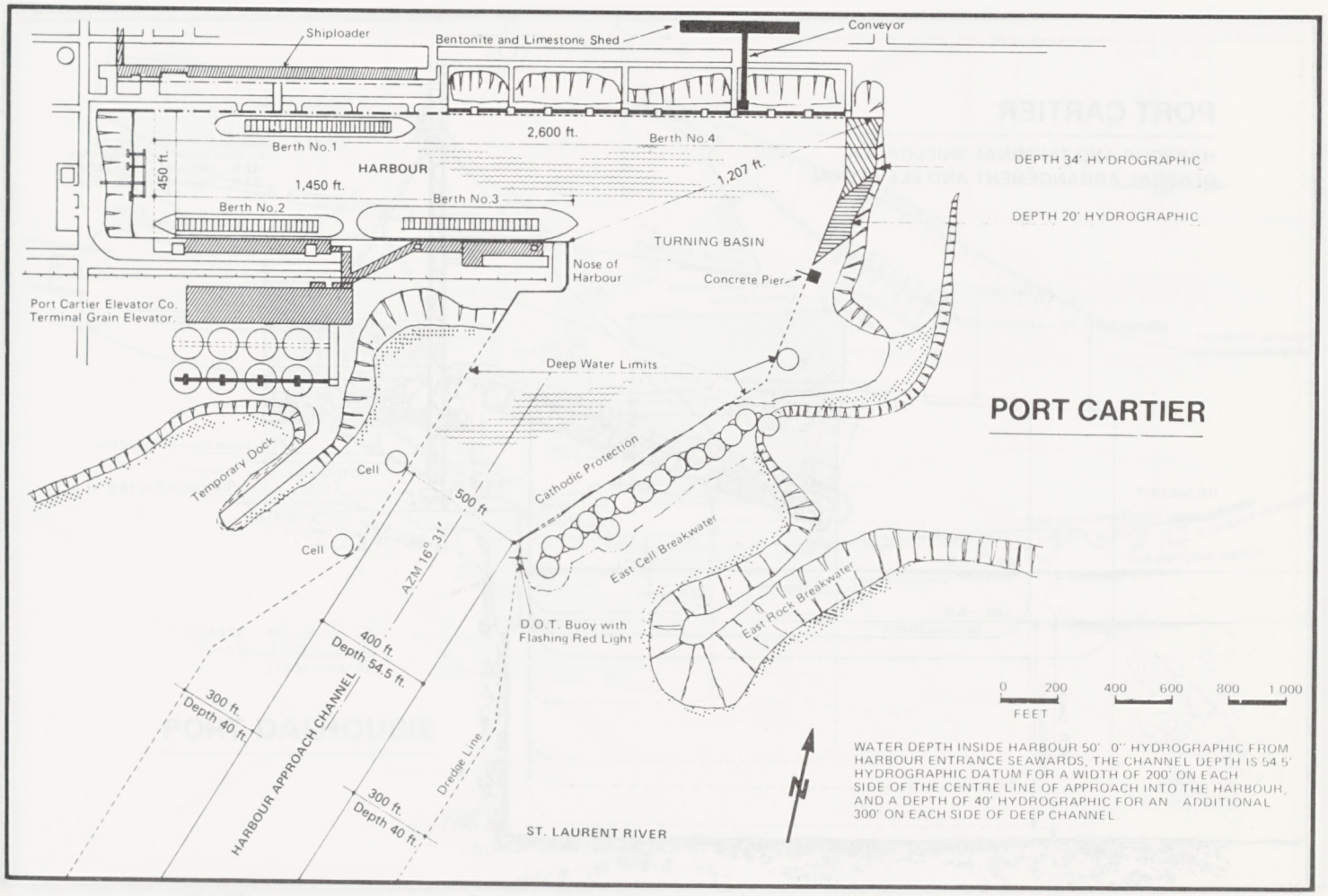


PORT ALICE
DEPTHS IN METRES



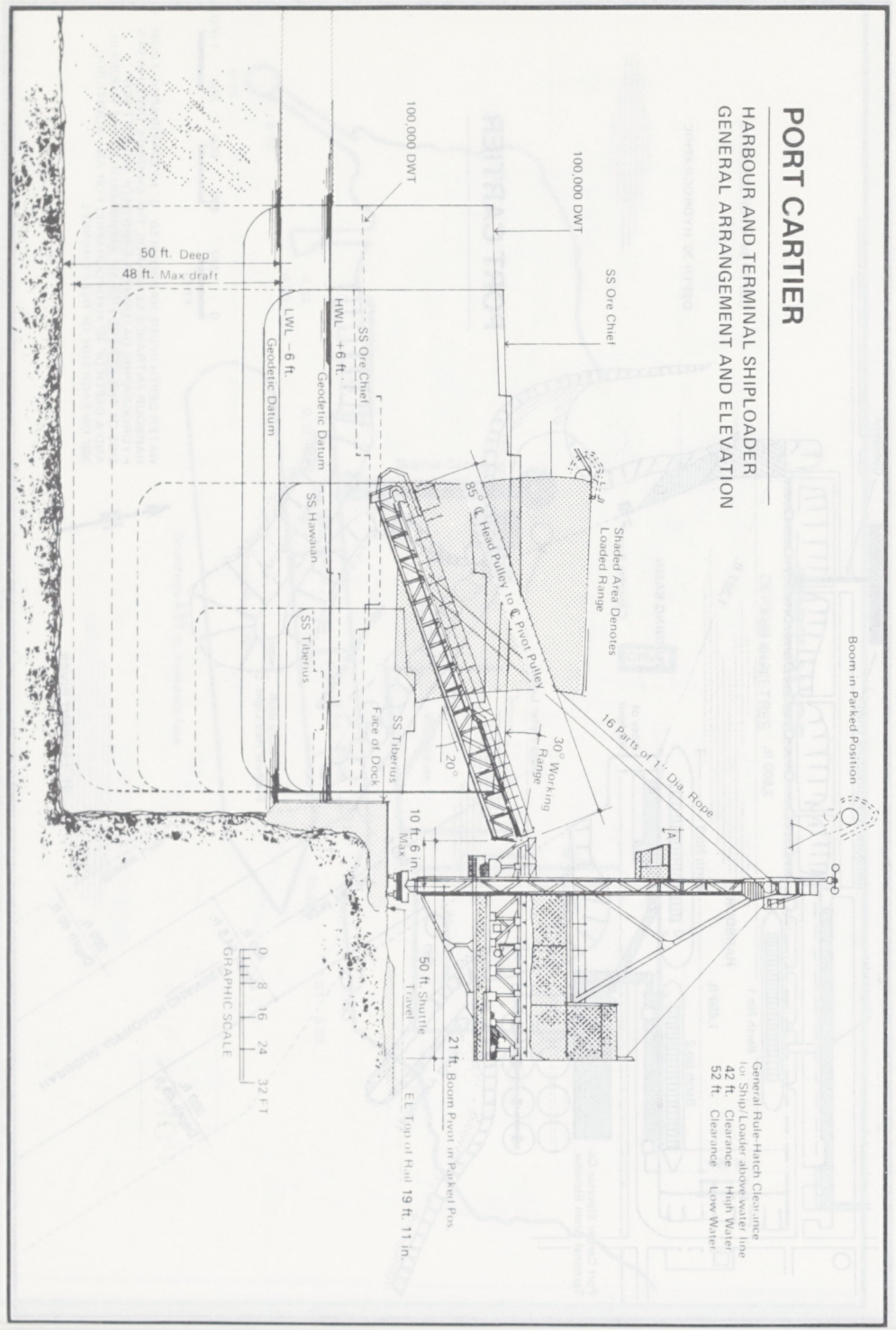
"Plan supplied by Ship's Master".


50° 02'
QUEBEC CARTIER
SIDBEC NORMINES
Rayonier Quebec
PORT CARTIER HARBOUR
50° 02'
50° 01'
54.5 ft. (1970)
Rayonier Quebec Dock
Fl.G.
Fl.R.Refl.
PORT CARTIER
RELATIVE LOCATIONS OF PORT CARTIER & RAYONIER QUEBEC DOCK
ST. LAWRENCE RIVER
06° 30'
ANCHORAGE
CAUTION
Anchorages indicated are tenable ony in fine weather
50° 01'
50° 00'
005° 23' True
Fairway Buoy
50° 00'


Shiploader
Bentonite and Limestone Shed
Conveyor
2,600 ft.
Berth No.4
Berth No.1
HARBOUR
450 ft.
1,450 ft.
Berth No.3
Berth No.2
1,207 ft.
DEPTH 34' HYDROGRAPHIC
DEPTH 20' HYDROGRAPHIC
TURNING BASIN
Nose of Harbour
Concrete Pier
Port Cartier Elevator Co. Terminal Grain Elevator
Deep Water Limits
PORT CARTIER
Temporary Dock
Cell
Cathodic Protection
500 ft.
Cell
AZM 16° 31'
East Cell Breakwater
East Rock Breakwater
D.O.T. Buoy with Flashing Red Light
400 ft.
Depth 54.5 ft.
300 ft.
Depth 40 ft.
HARBOUR APPROACH CHANNEL
Dredge Line
300 ft.
Depth 40 ft.
ST. LAURENT RIVER
0 200 400 600 800 1 000
FEET
N
WATER DEPTH INSIDE HARBOUR 50' 0" HYDROGRAPHIC FROM HARBOUR ENTRANCE SEAWARDS, THE CHANNEL DEPTH IS 54 5' HYDROGRAPHIC DATUM FOR A WIDTH OF 200' ON EACH SIDE OF THE CENTRE LINE OF APPROACH INTO THE HARBOUR, AND A DEPTH OF 40' HYDROGRAPHIC FOR AN ADDITIONAL 300' ON EACH SIDE OF DEEP CHANNEL

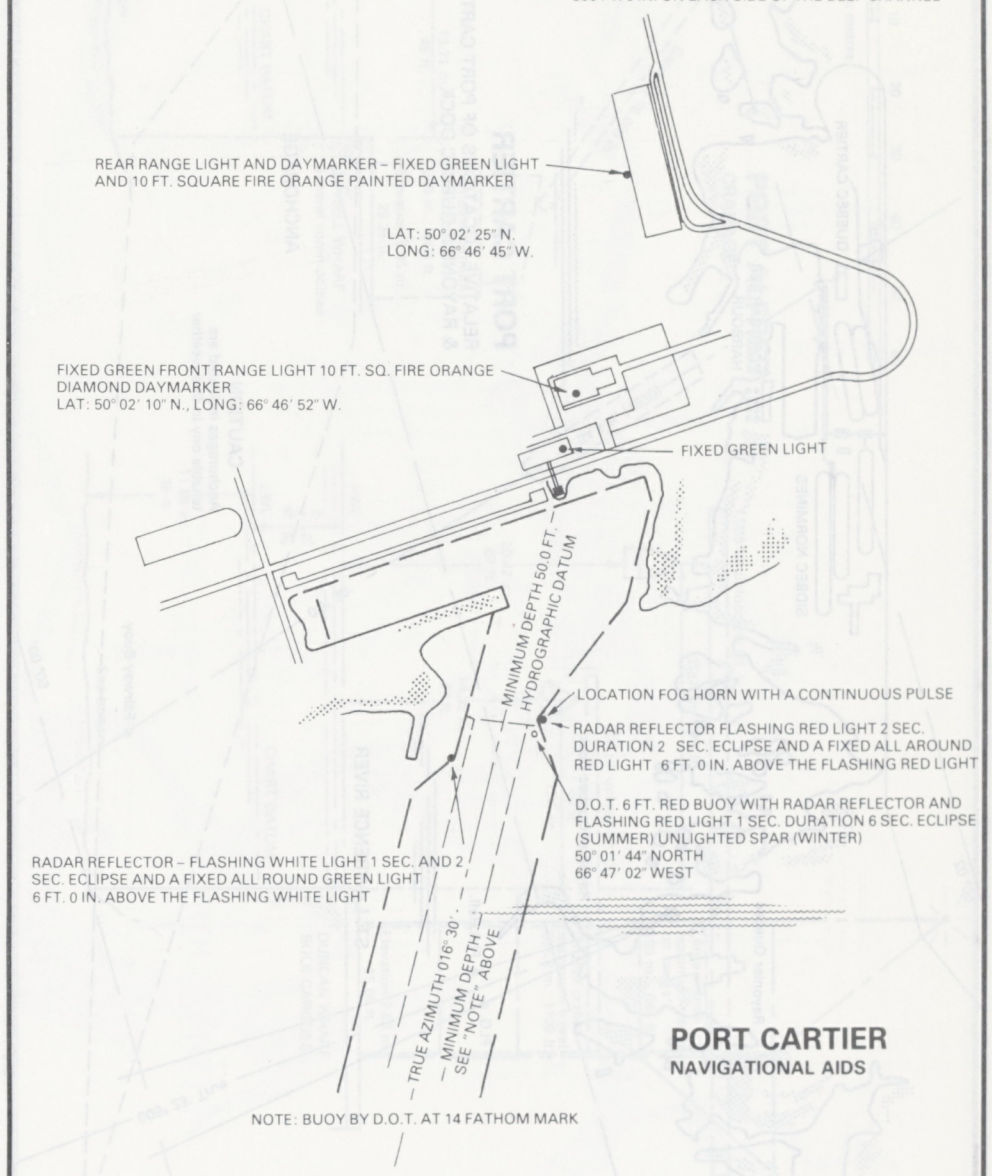
PORT CARTIER

HARBOUR AND TERMINAL SHIPLOADER
GENERAL ARRANGEMENT AND ELEVATION



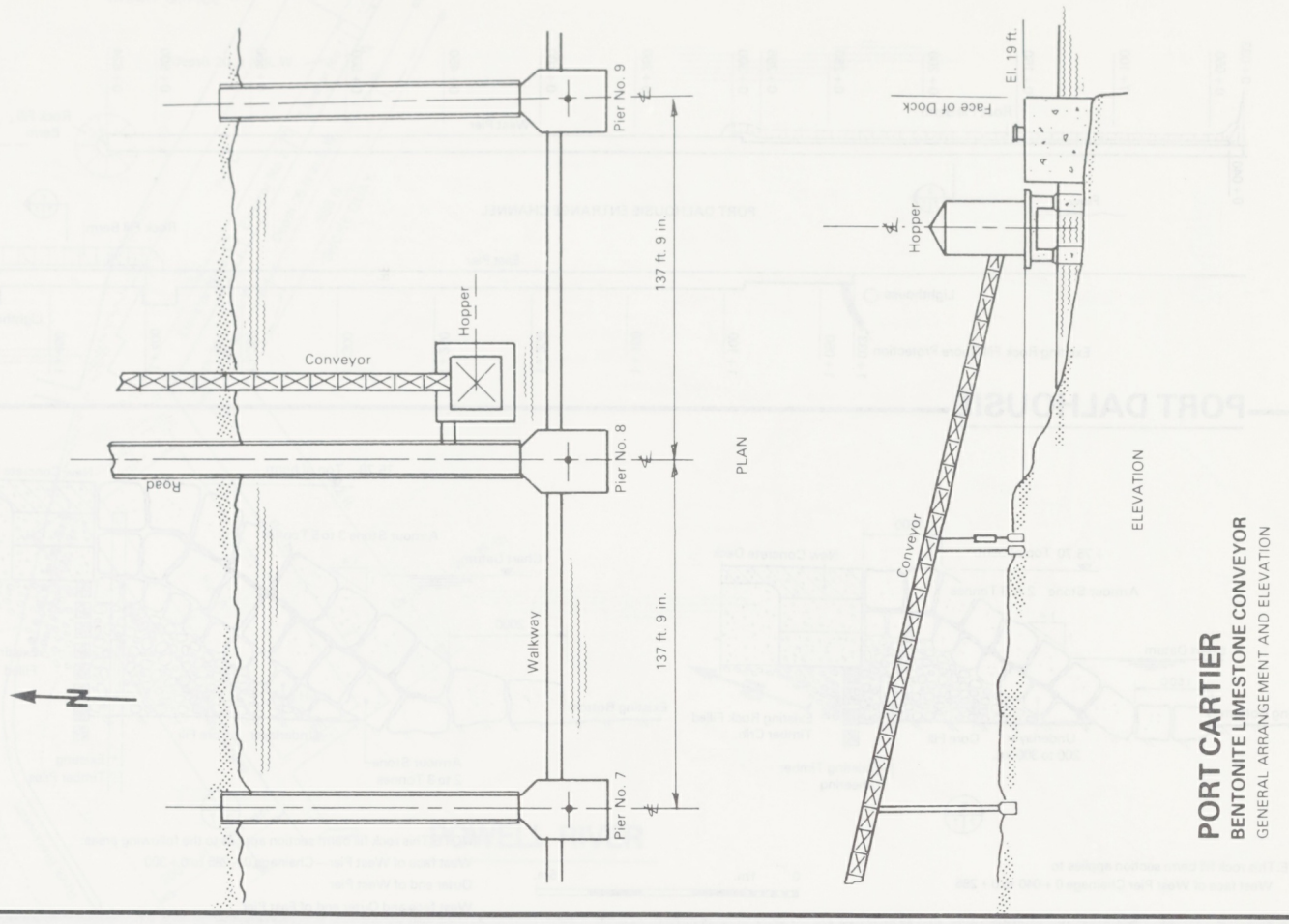
CAUTION: MASTERS OF ALL VESSELS ARE ADVISED TO CHECK WITH VESSEL SERVICE CONTRACTOR BEFORE ENTERING THE HARBOUR ENTRANCE CHANNEL, QUEBEC CARTIER MINING COMPANY NOT RESPONSIBLE FOR LIGHTS AS NAVIGATIONAL AIDS NOT WORKING

NOTE: WATER DEPTH INSIDE HARBOUR 50 FT. 0 IN. HYDROGRAPHIC FROM HARBOUR ENTRANCE SEAWARDS THE CHANNEL DEPTH IS 54 FT. 6 IN. HYDROGRAPHIC DATUM FOR A WIDTH OF 200 FT. 0 IN. ON EACH SIDE OF THE CENTER LINE OF APPROACH INTO THE HARBOUR AND 40 FT. 0 IN. HYDROGRAPHIC DATUM FOR AN ADDITIONAL 300 FT. 0 IN. ON EACH SIDE OF THE DEEP CHANNEL

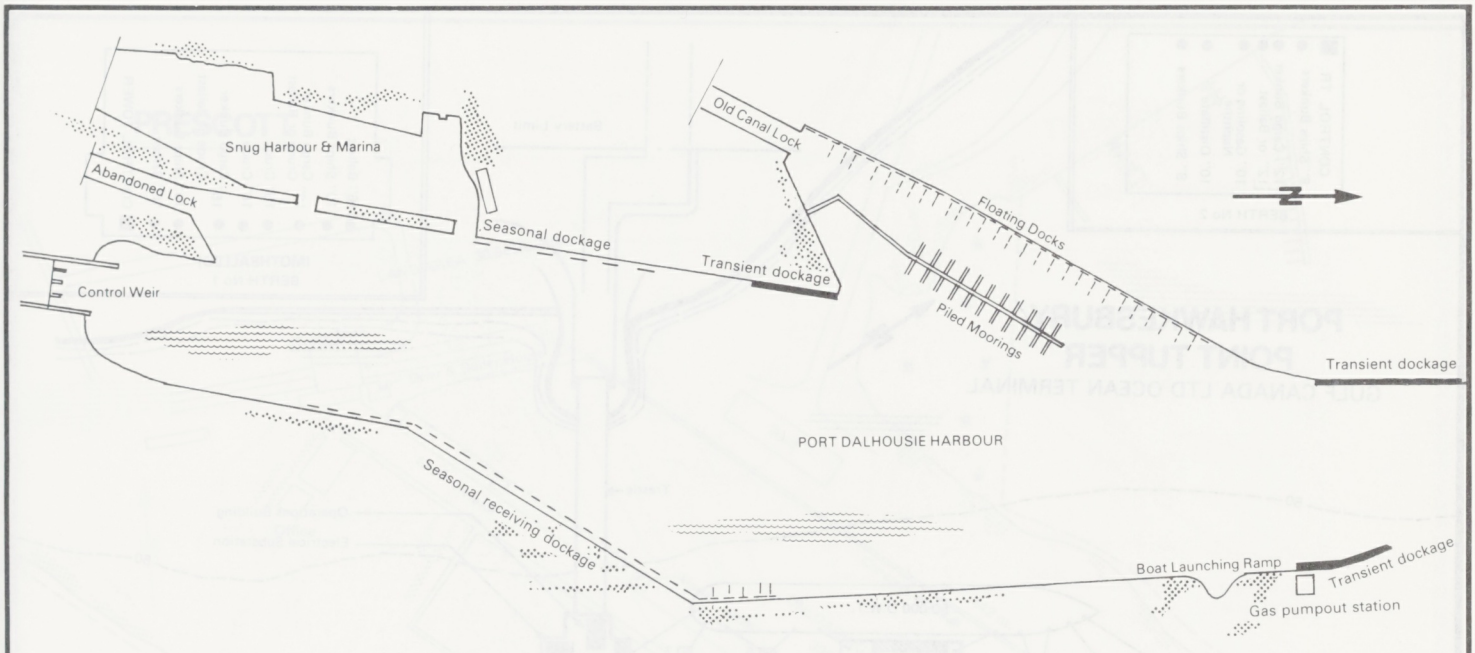


PORT CARTIER

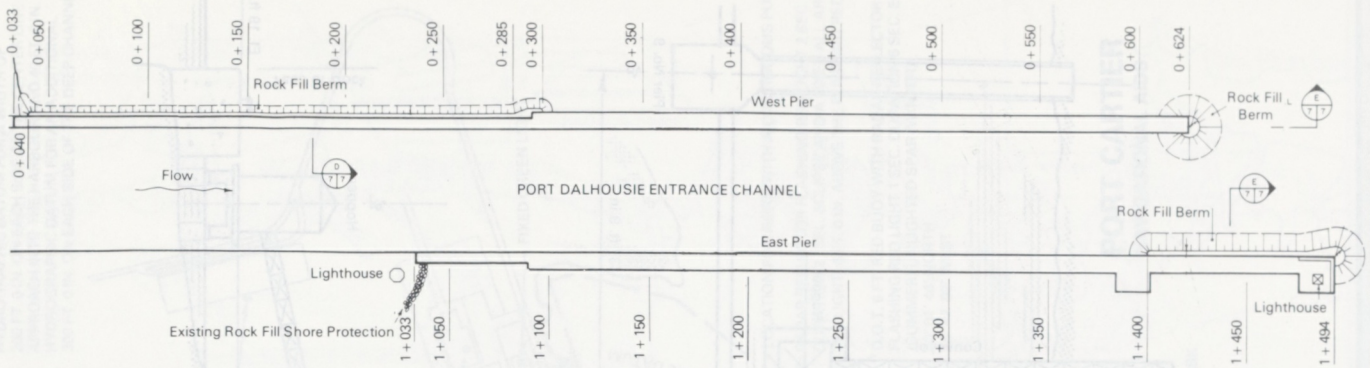
NAVIGATIONAL AIDS



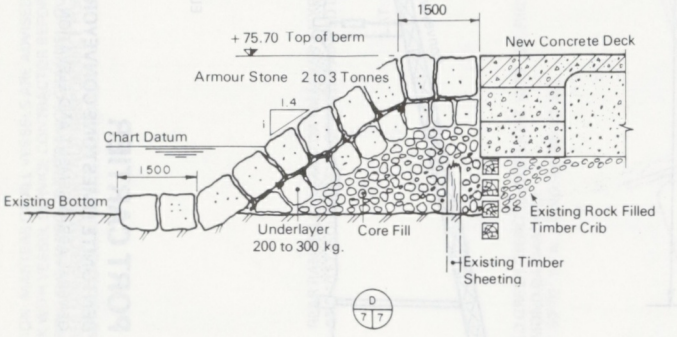
PORT CARTIER
BENTONITE LIMESTONE CONVEYOR
GENERAL ARRANGEMENT AND ELEVATION



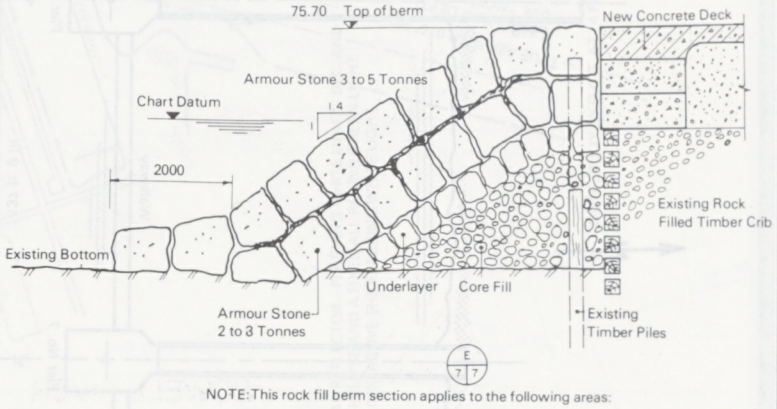
PORT DALHOUSIE



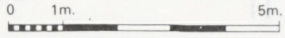
PORT DALHOUSIE

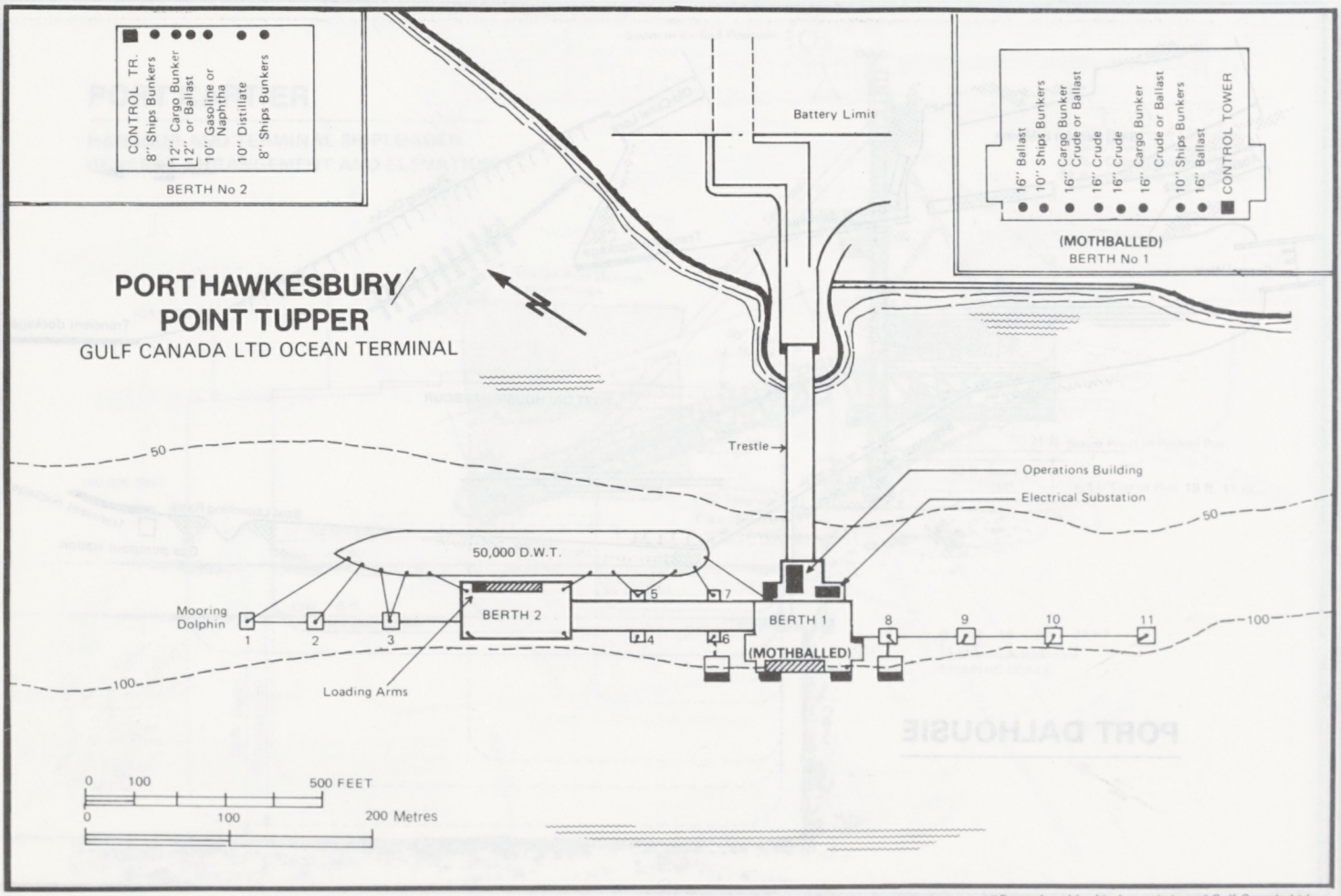


NOTE: This rock fill berm section applies to
West face of West Pier Chainage 0 + 040 to 0 + 285

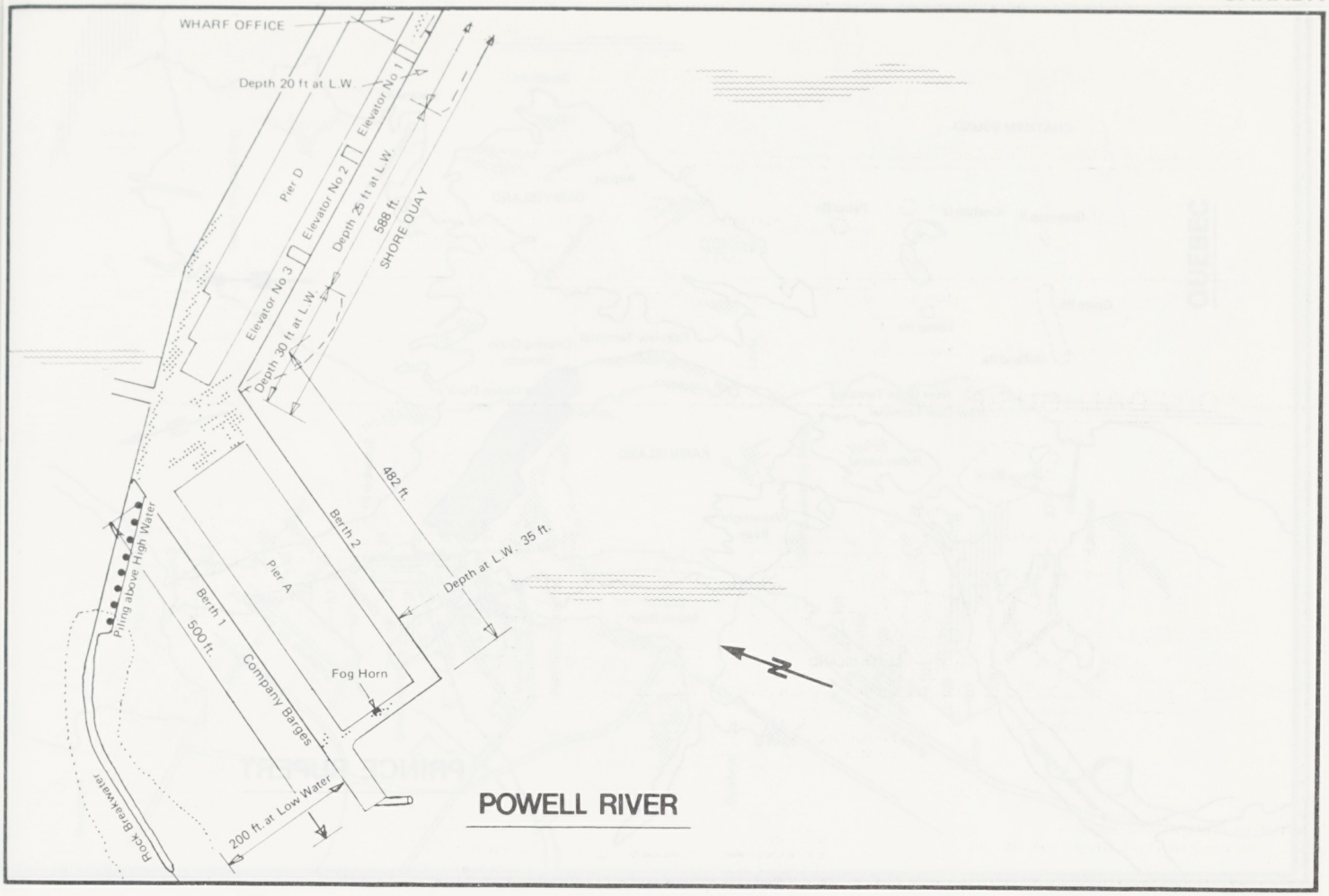


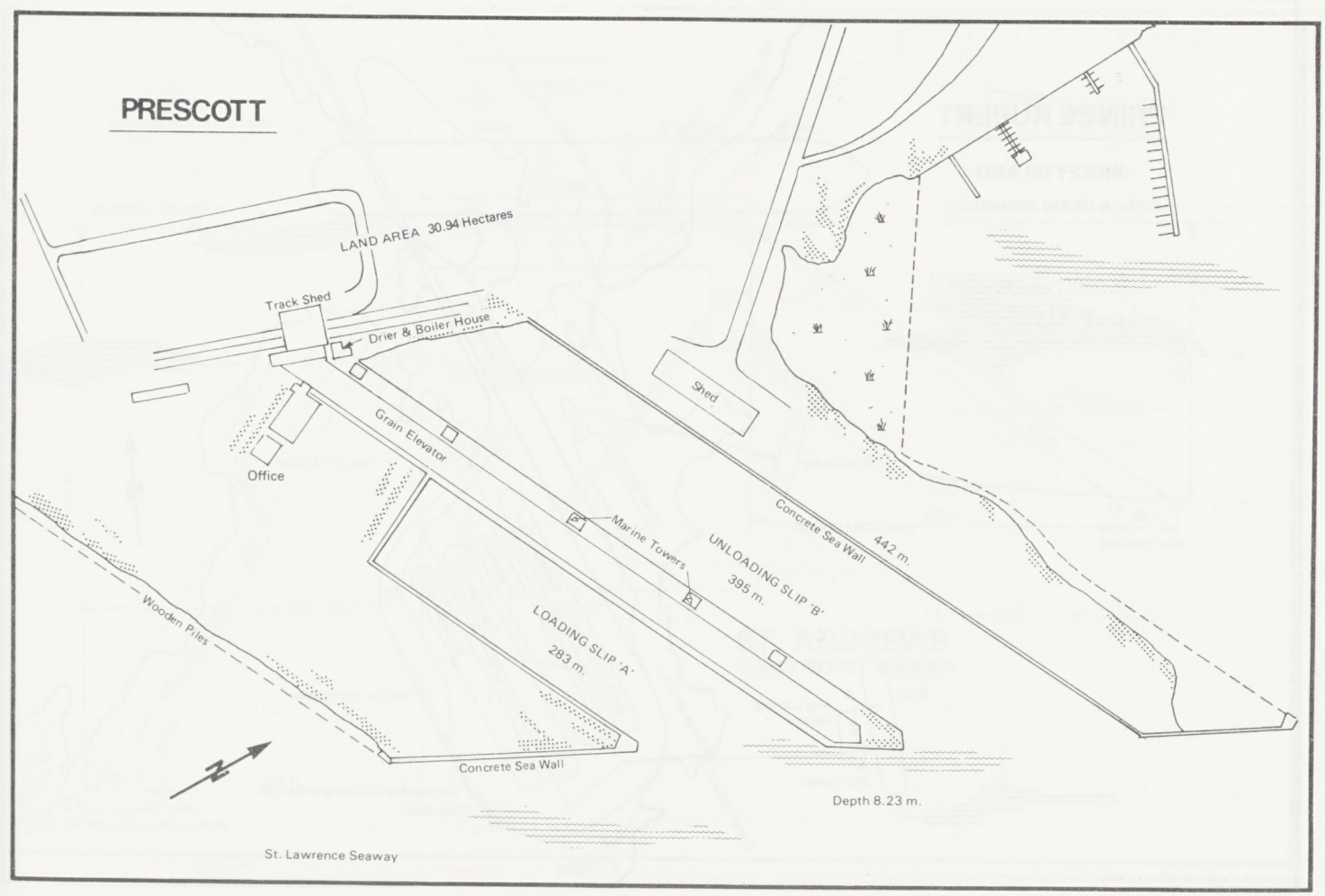
NOTE: This rock fill berm section applies to the following areas:
West face of West Pier — Chainage 0 + 285 to 0 + 300
Outer end of West Pier
West face and Outer end of East Pier

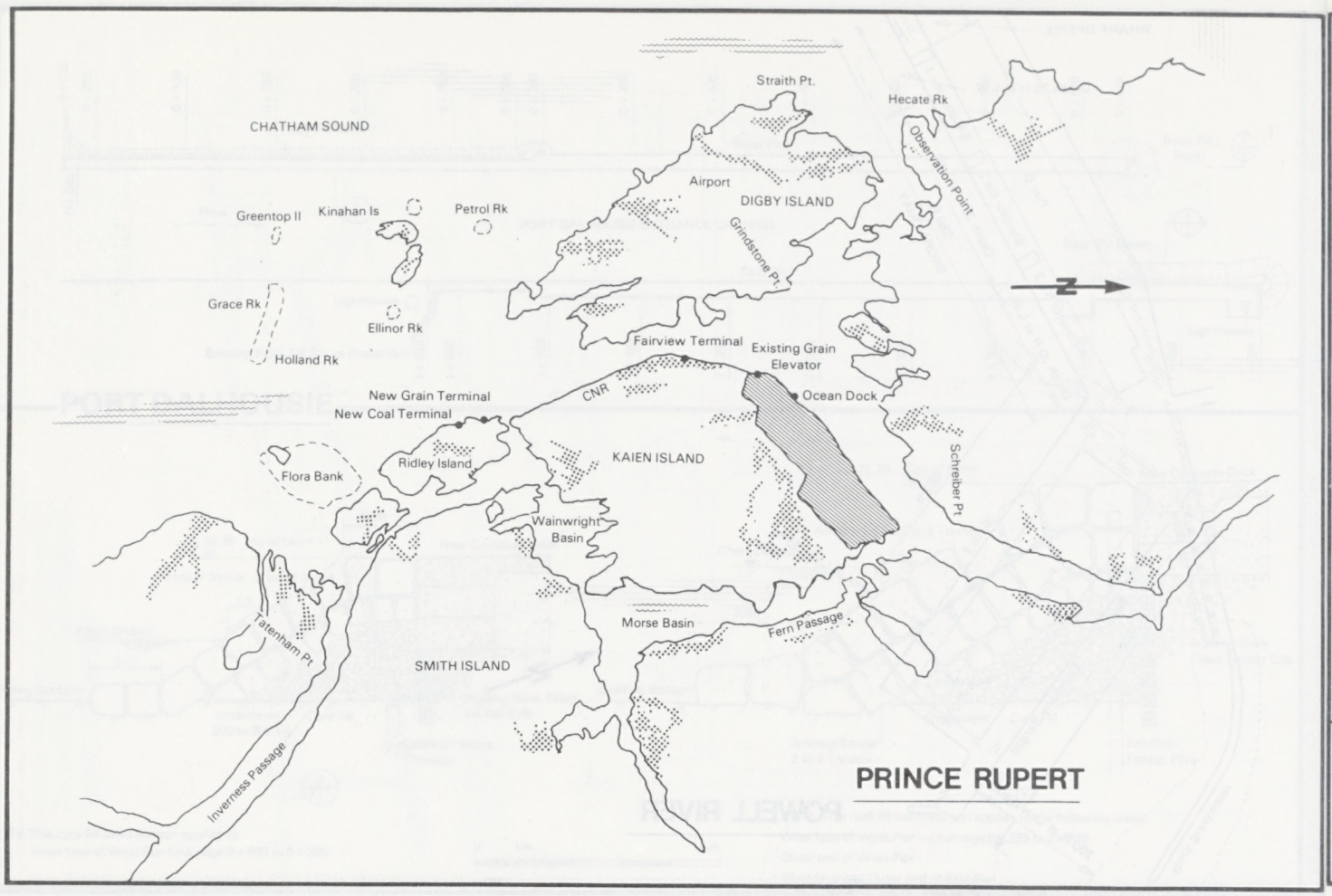


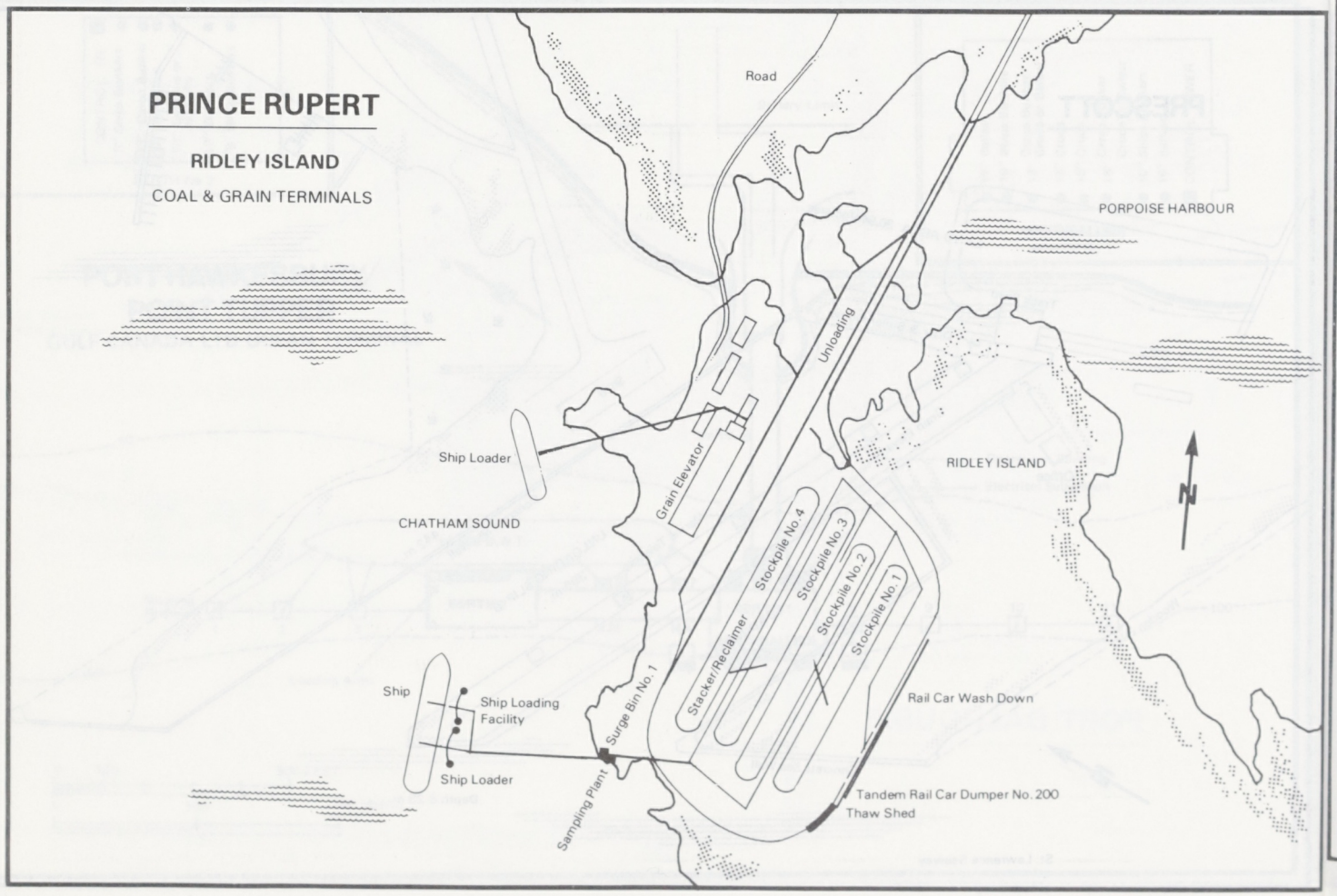


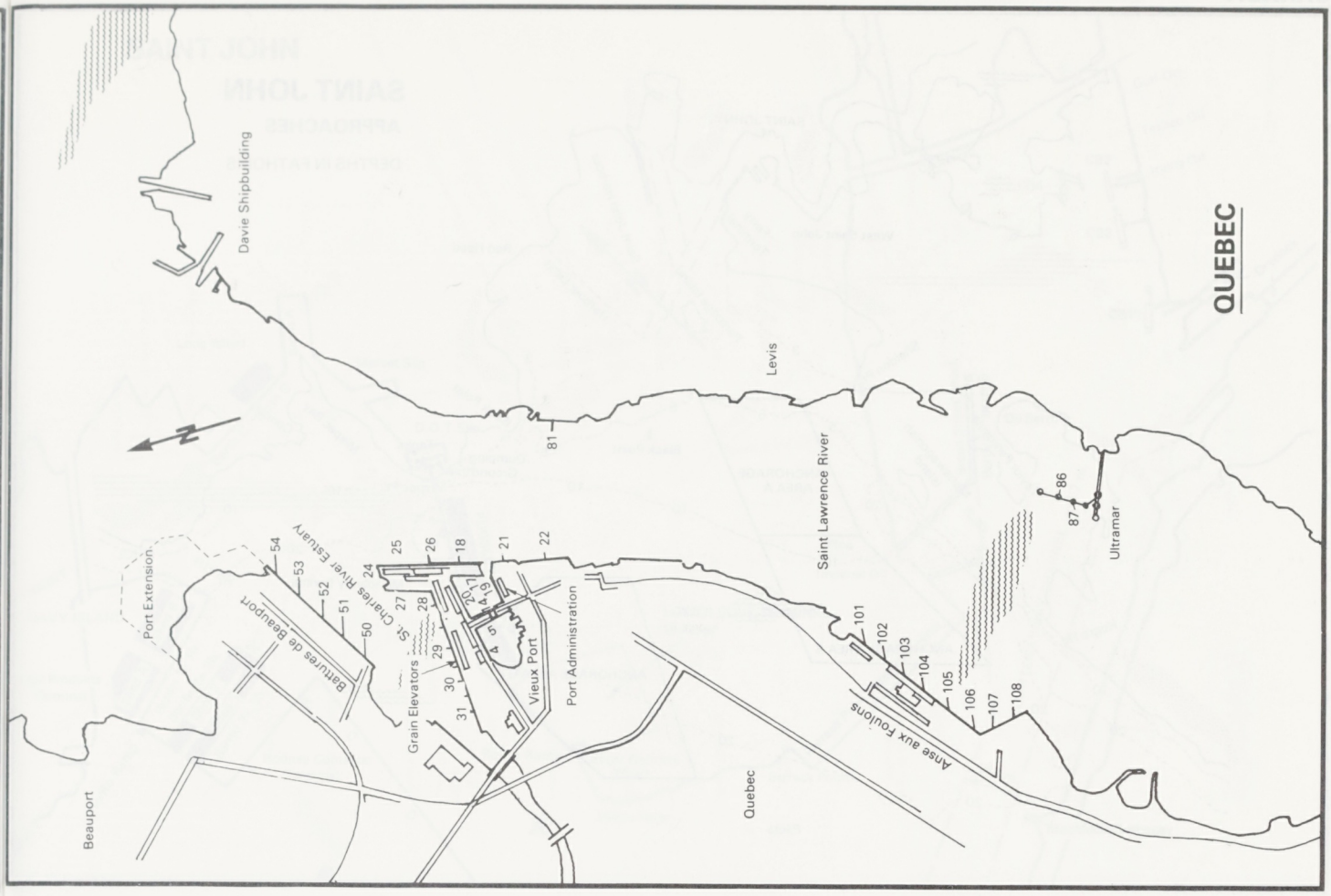
"Reproduced by kind permission of Gulf Canada Ltd.

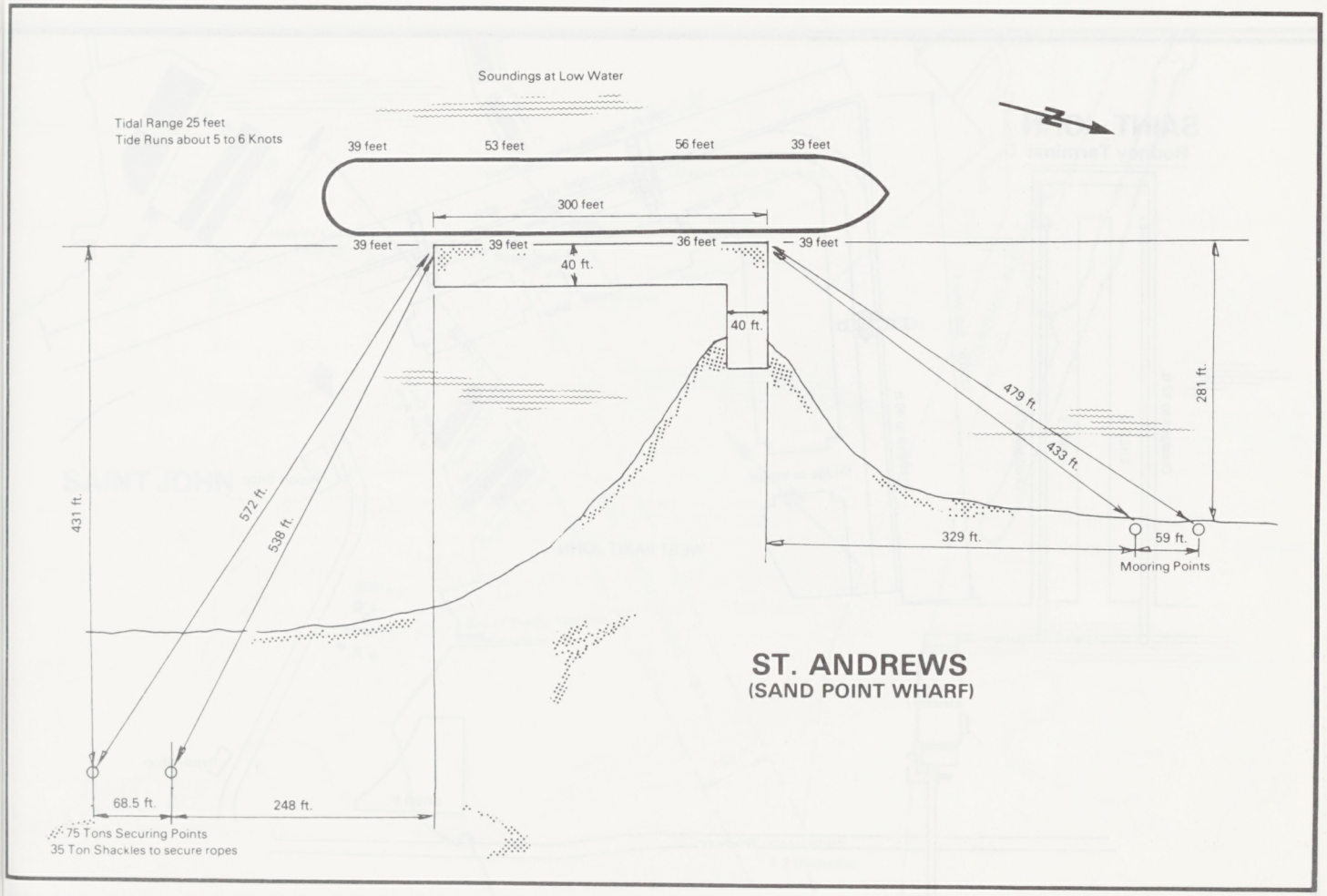

WHARF OFFICE
Depth 20 ft at L.W.
Pier D
Elevator No 1
Elevator No 2
Elevator No 3
Depth 25 ft at L.W.
588 ft.
SHORE QUAY
Depth 30 ft at L.W.
482 ft.
Berth 2
Pier A
Depth at L.W. 35 ft.
Piling above High Water
Berth 1
500 ft.
Company Barges
Fog Horn
Rock Breakwater
200 ft. at Low Water
POWELL RIVER


PRESCOTT
LAND AREA 30.94 Hectares
Track Shed
Drier & Boiler House
Shed
Grain Elevator
Office
Marine Towers
UNLOADING SLIP 'B'
395 m.
Concrete Sea Wall
442 m.
LOADING SLIP 'A'
283 m.
Wooden Piles
Concrete Sea Wall
Depth 8.23 m.
St. Lawrence Seaway


CHATHAM SOUND
Straith Pt.
Hecate Rk
Observation Point
Airport
DIGBY ISLAND
Grindstone Pt.
Greentop II
Kinahan Is
Petrol Rk
Grace Rk
Ellinor Rk
Holland Rk
Fairview Terminal
Existing Grain Elevator
Ocean Dock
CNR
New Grain Terminal
New Coal Terminal
Ridley Island
KAIEN ISLAND
Flora Bank
Wainwright Basin
Schreiber Pt.
Morse Basin
Fern Passage
Tatenham Pt.
SMITH ISLAND
Inverness Passage
PRINCE RUPERT

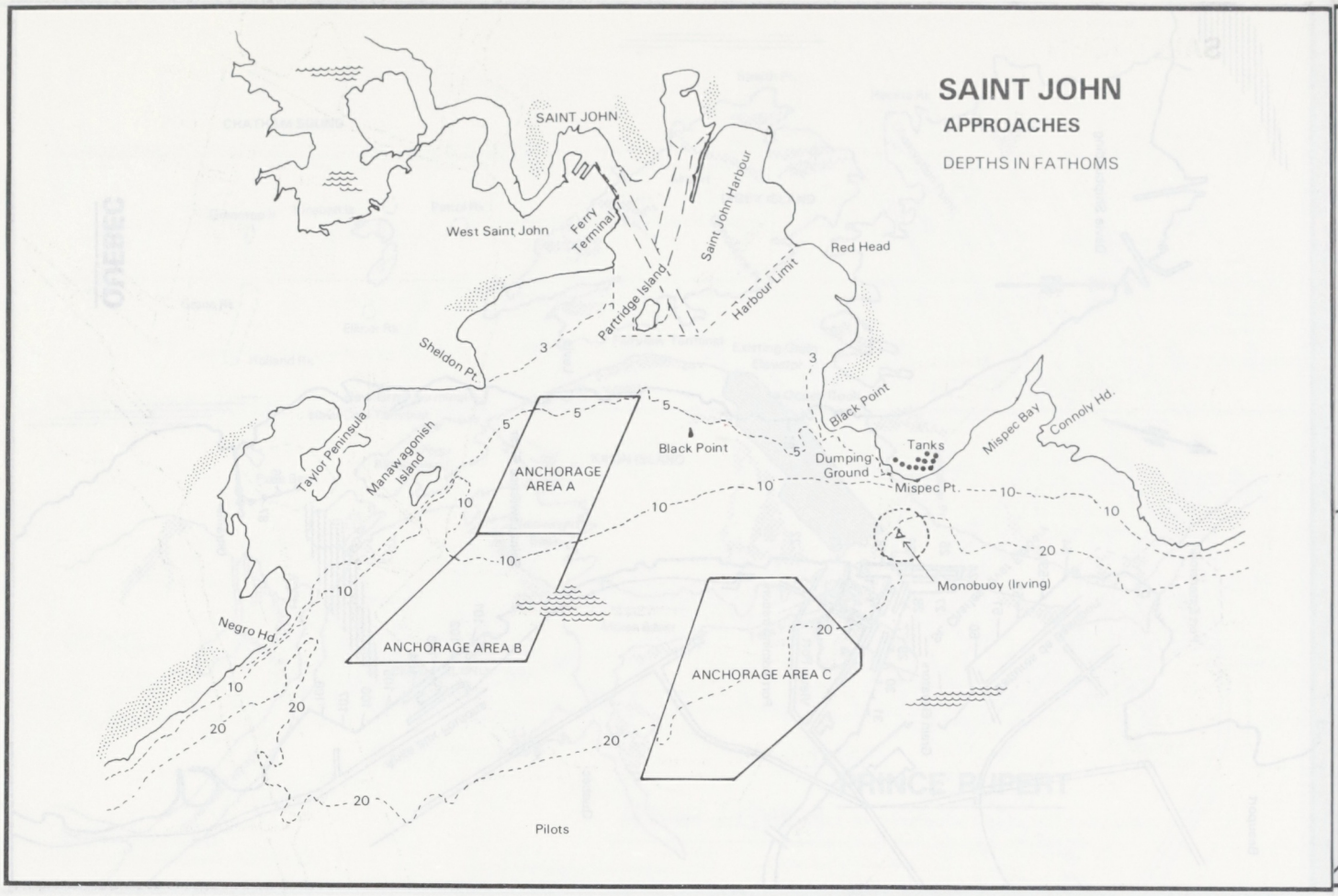

PRINCE RUPERT
RIDLEY ISLAND
COAL & GRAIN TERMINALS
Road
PORPOISE HARBOUR
Unloading
Ship Loader
Grain Elevator
CHATHAM SOUND
RIDLEY ISLAND
Stockpile No. 4
Stockpile No. 3
Stockpile No. 2
Stockpile No. 1
Stacker/Reclaimer
Ship
Ship Loading Facility
Surge Bin No. 1
Rail Car Wash Down
Ship Loader
Sampling Plant
Tandem Rail Car Dumper No. 200
Thaw Shed

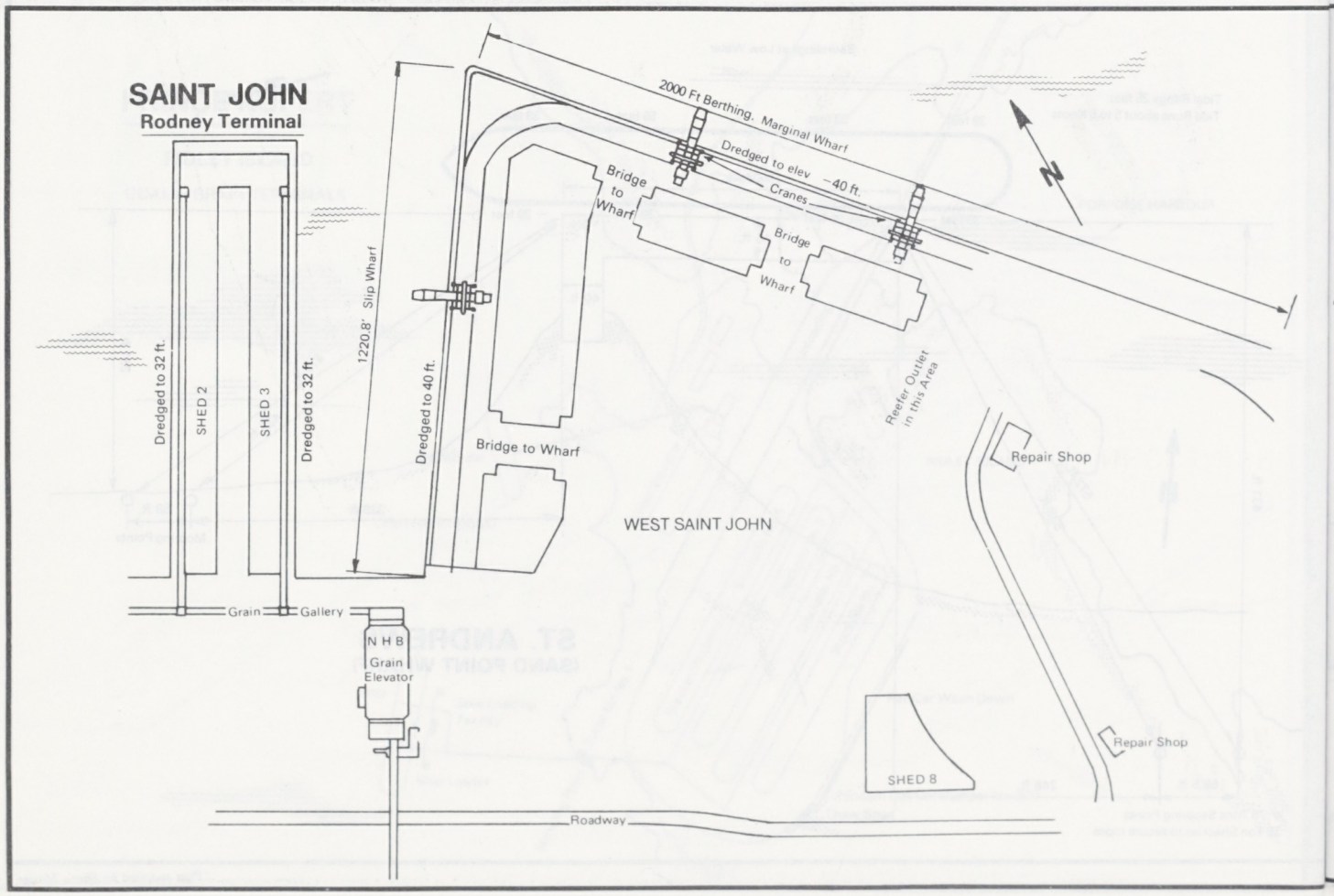


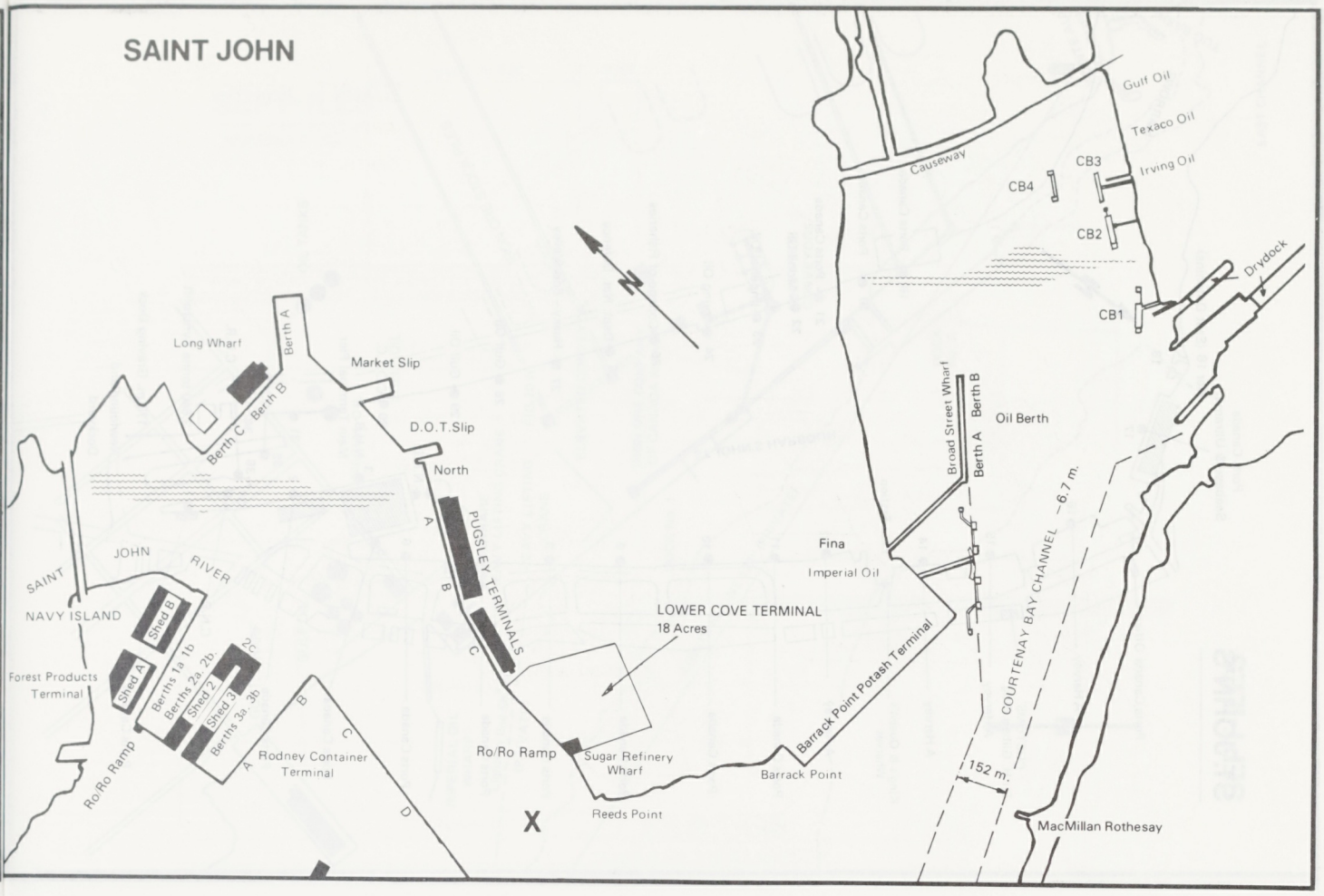


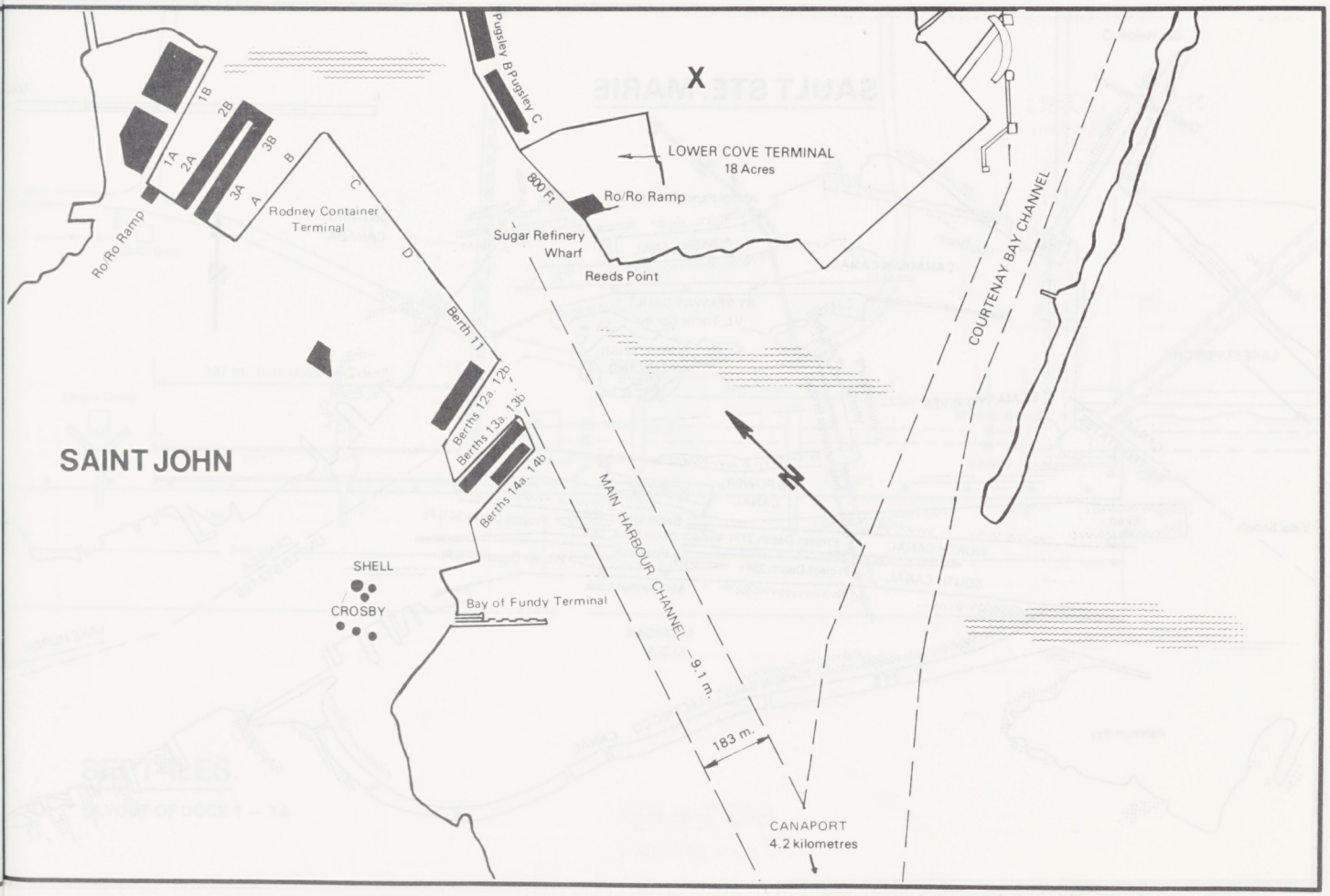
ST. ANDREWS
(SAND POINT WHARF)

"Plan supplied by Ship's Master"

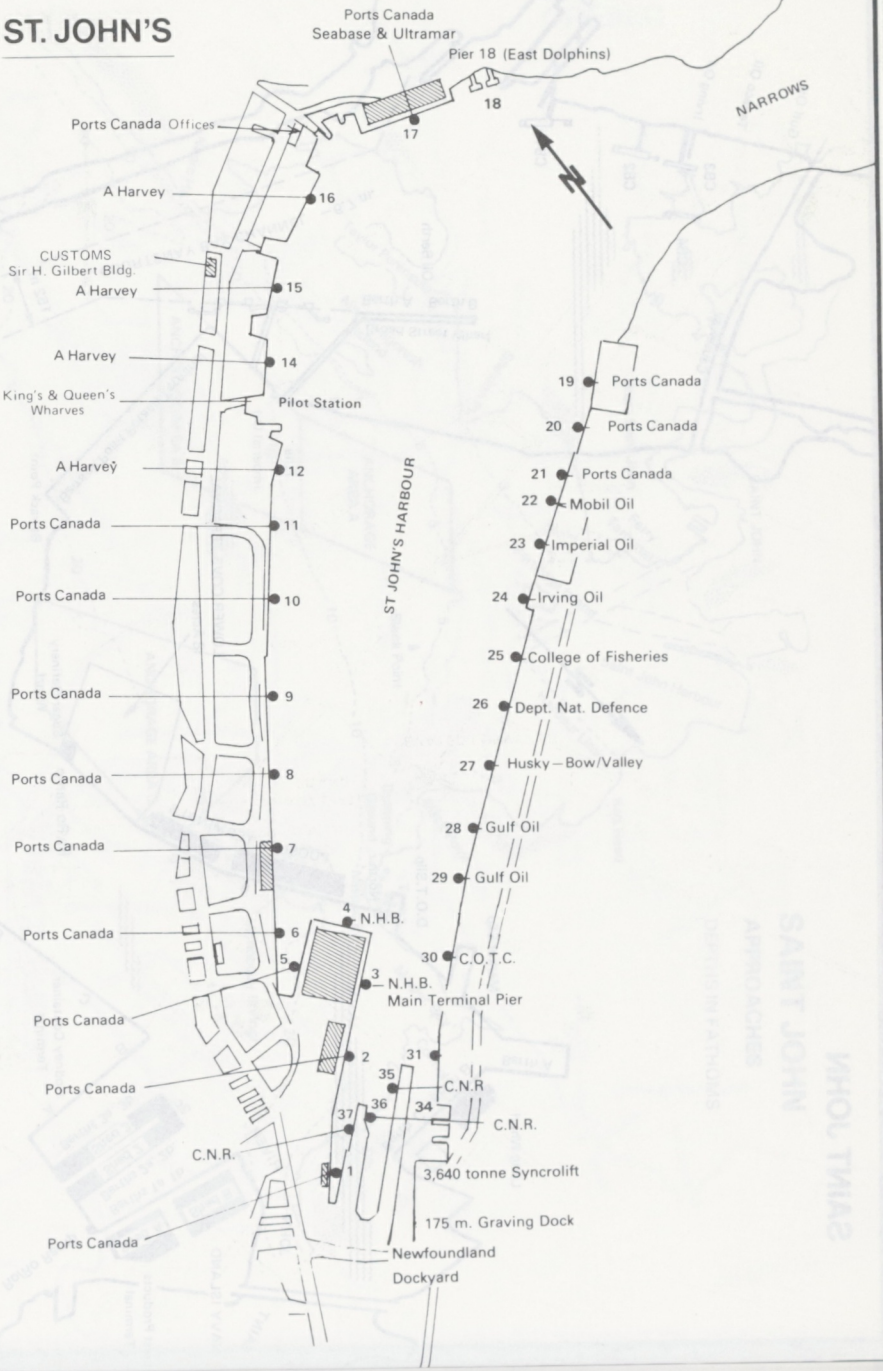

SAINT JOHN
APPROACHES
DEPTHS IN FATHOMS
SAINT JOHN
West Saint John
Ferry Terminal
Saint John Harbour
Red Head
Partridge Island
Harbour Limit
Sheldon Pt.
Taylor Peninsula
Manawagonish Island
ANCHORAGE AREA A
Black Point
Black Point
Dumping Ground
Tanks
Mispec Bay
Connoly Hd.
Mispec Pt.
Monobuoy (Irving)
ANCHORAGE AREA B
ANCHORAGE AREA C
Negro Hd.
Pilots


SAINT JOHN
Rodney Terminal
2000 Ft Berthing. Marginal Wharf
Dredged to elev −40 ft.
Cranes
Bridge to Wharf
Bridge to Wharf
1220.8' Slip Wharf
Dredged to 32 ft.
SHED 2
SHED 3
Dredged to 32 ft.
Dredged to 40 ft.
Bridge to Wharf
Reefer Outlet in this Area
Repair Shop
WEST SAINT JOHN
Grain
Gallery
N H B
Grain Elevator
SHED 8
Repair Shop
Roadway

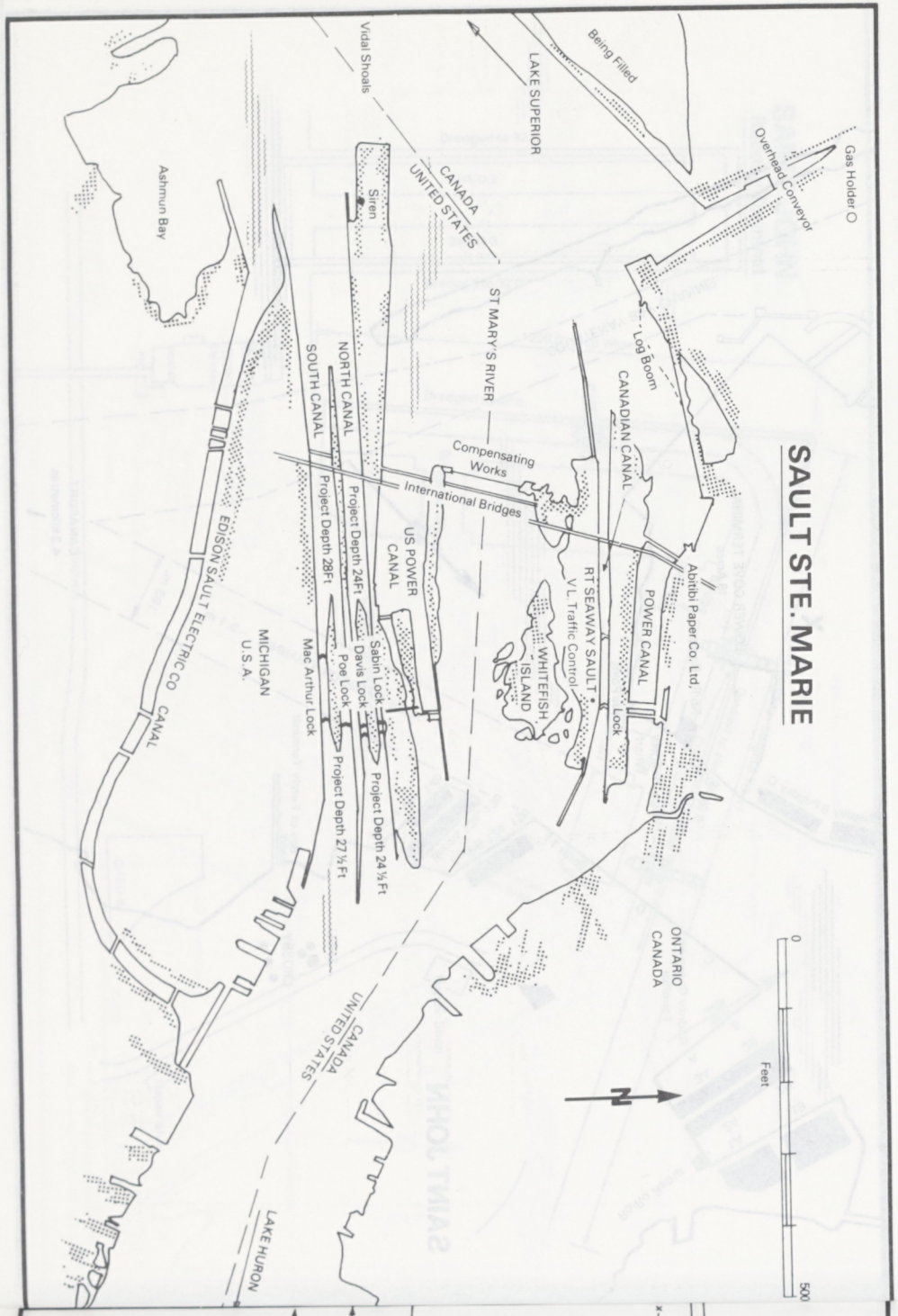

SAINT JOHN
Gulf Oil
Texaco Oil
Irving Oil
Causeway
CB3
CB4
CB2
CB1
Drydock
Long Wharf
Berth A
Berth B
Berth C
Market Slip
D.O.T.Slip
North
PUGSLEY TERMINALS
A
B
C
Broad Street Wharf
Berth A
Berth B
Oil Berth
Fina
Imperial Oil
COURTENAY BAY CHANNEL – 6.7 m.
SAINT JOHN RIVER
NAVY ISLAND
Shed B
Shed A
Forest Products Terminal
Berths 1a 1b
Berths 2a 2b
Shed 2
Shed 3
Berths 3a 3b
2c
Ro/Ro Ramp
Rodney Container Terminal
LOWER COVE TERMINAL
18 Acres
Ro/Ro Ramp
Sugar Refinery Wharf
Reeds Point
Barrack Point Potash Terminal
Barrack Point
152 m.
MacMillan Rothesay
X

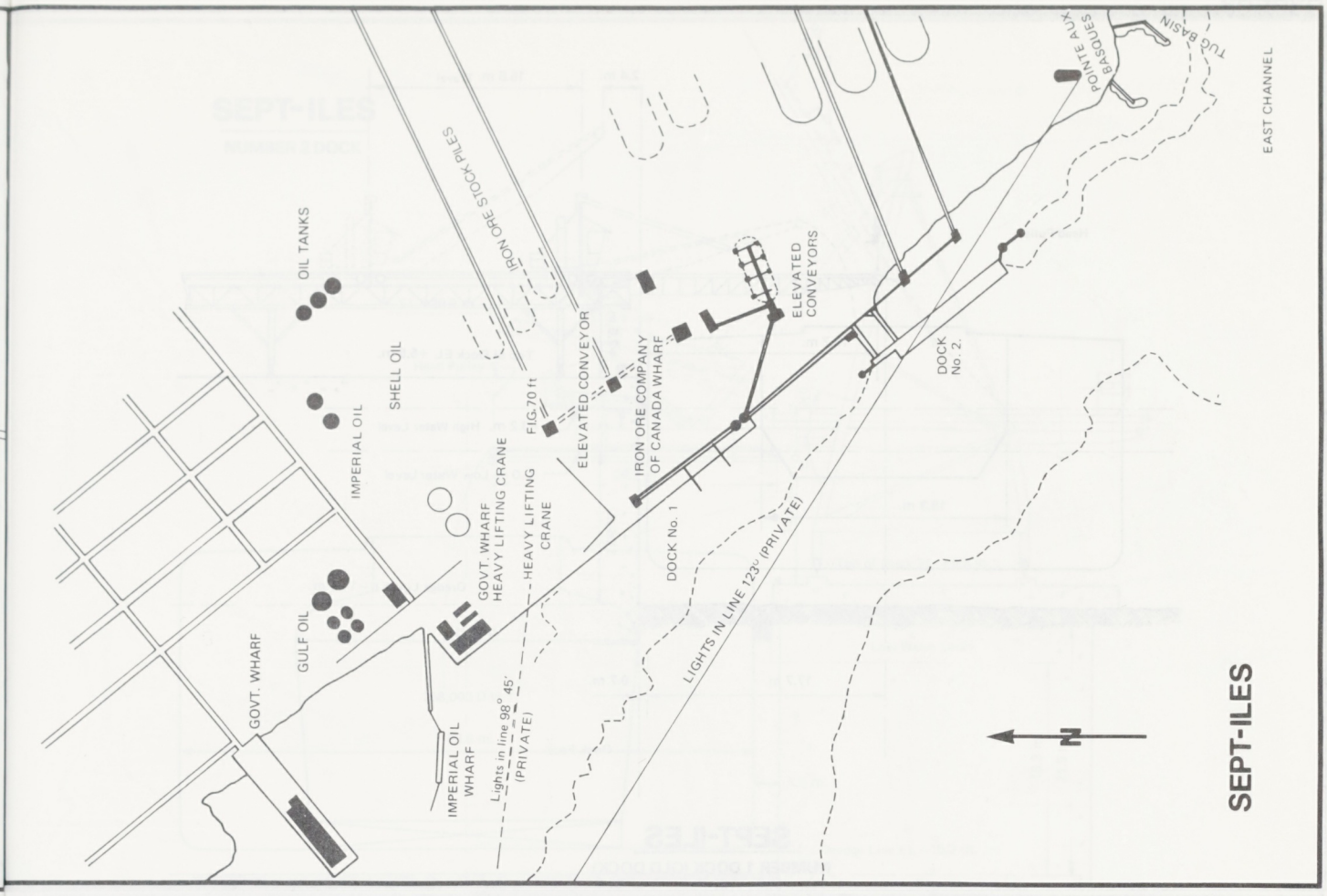

SAINT JOHN
Pugsley B
Pugsley C
X
LOWER COVE TERMINAL
18 Acres
800 Ft
Ro/Ro Ramp
Sugar Refinery Wharf
Reeds Point
1A
1B
2A
2B
3A
3B
A
B
C
D
Ro/Ro Ramp
Rodney Container Terminal
Berth 11
Berths 12a 12b
Berths 13a 13b
Berths 14a 14b
COURTENAY BAY CHANNEL
MAIN HARBOUR CHANNEL – 9.1 m.
183 m.
SHELL
CROSBY
Bay of Fundy Terminal
CANAPORT
4.2 kilometres

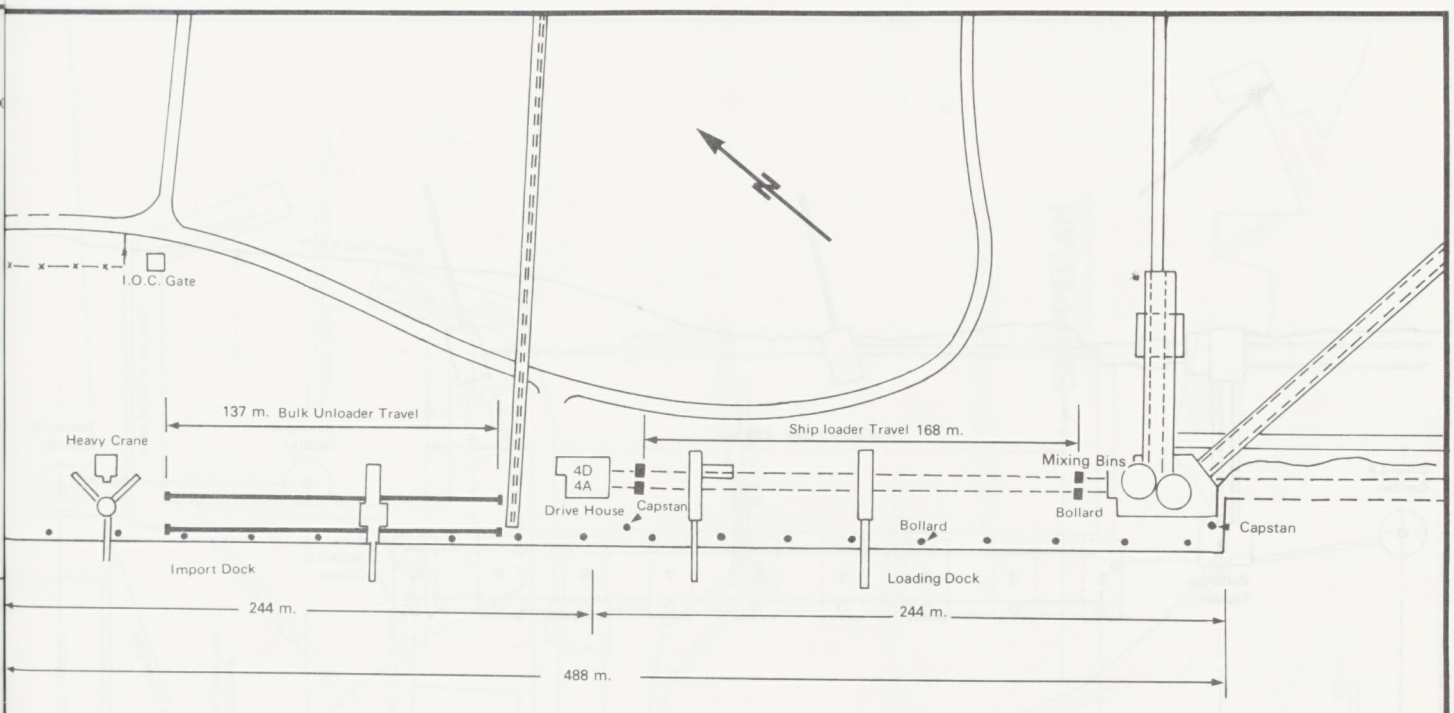
ST. JOHN'S



SAULT STE. MARIE

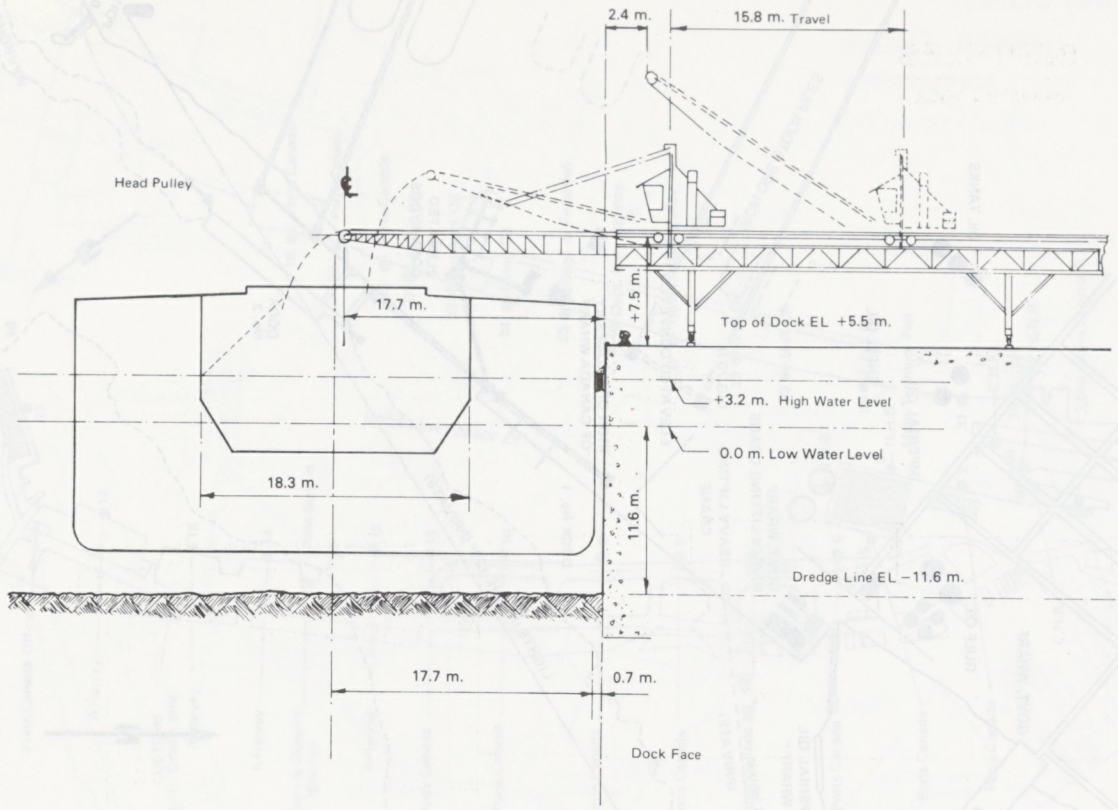






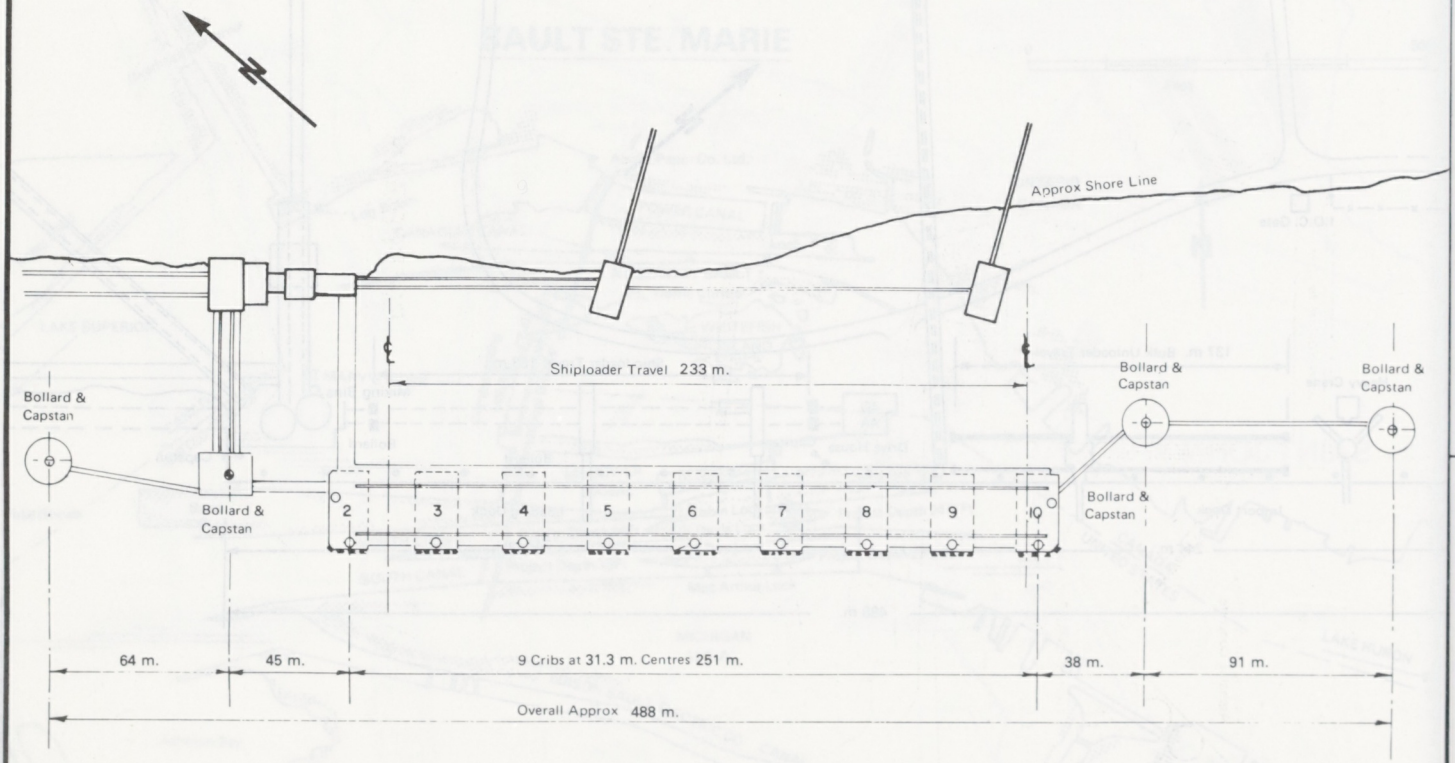
SEPT-ILES

LAYOUT OF DOCK 1 — 1A



SEPT-ILES

NUMBER 1 DOCK (OLD DOCK)

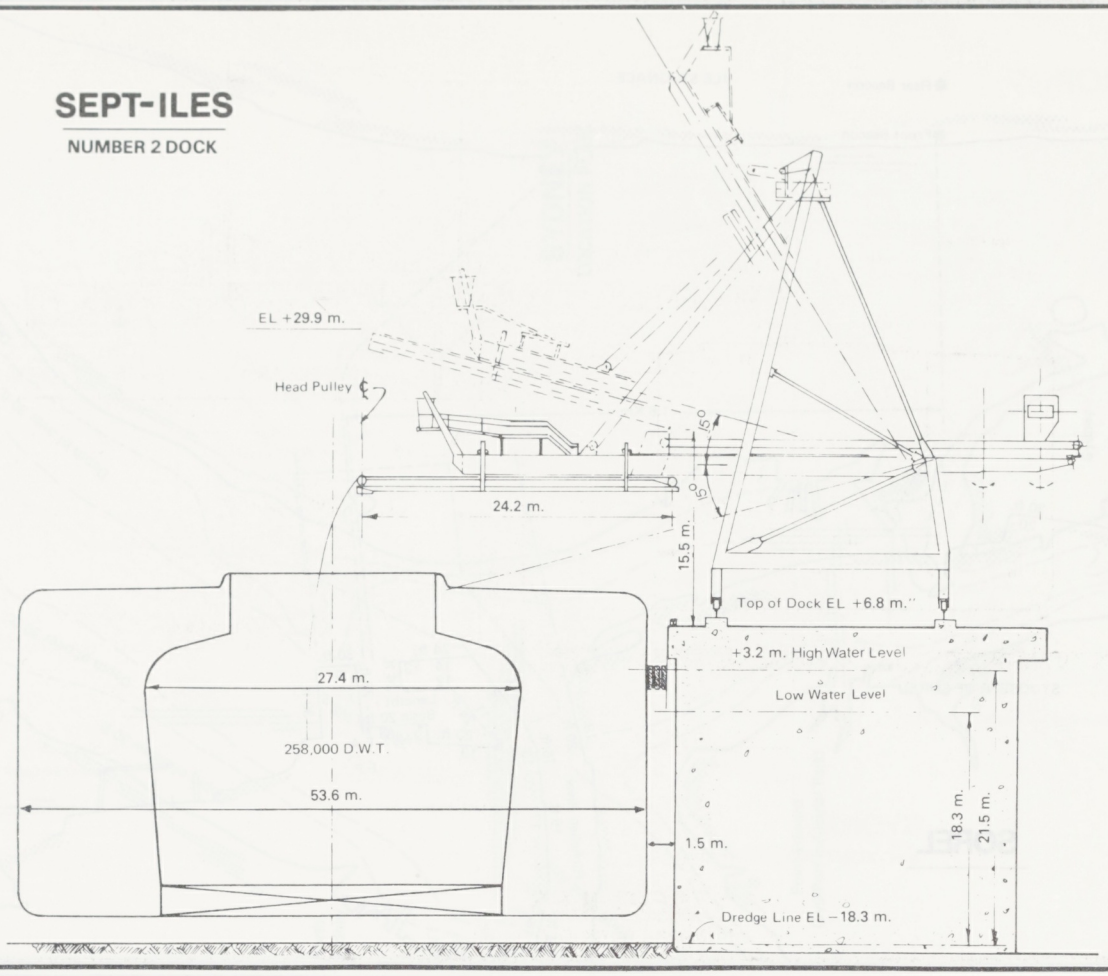


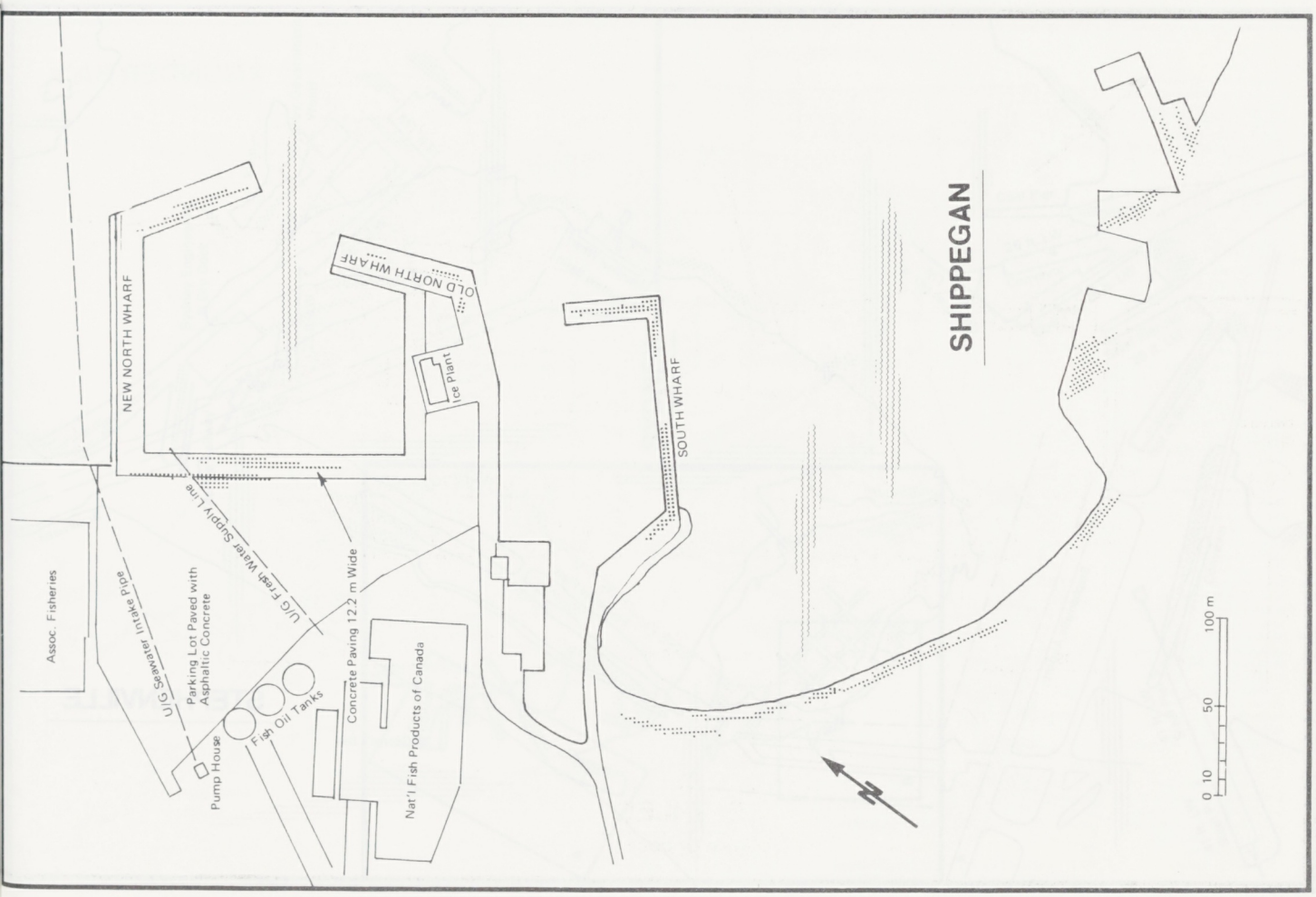
SEPT-ILES

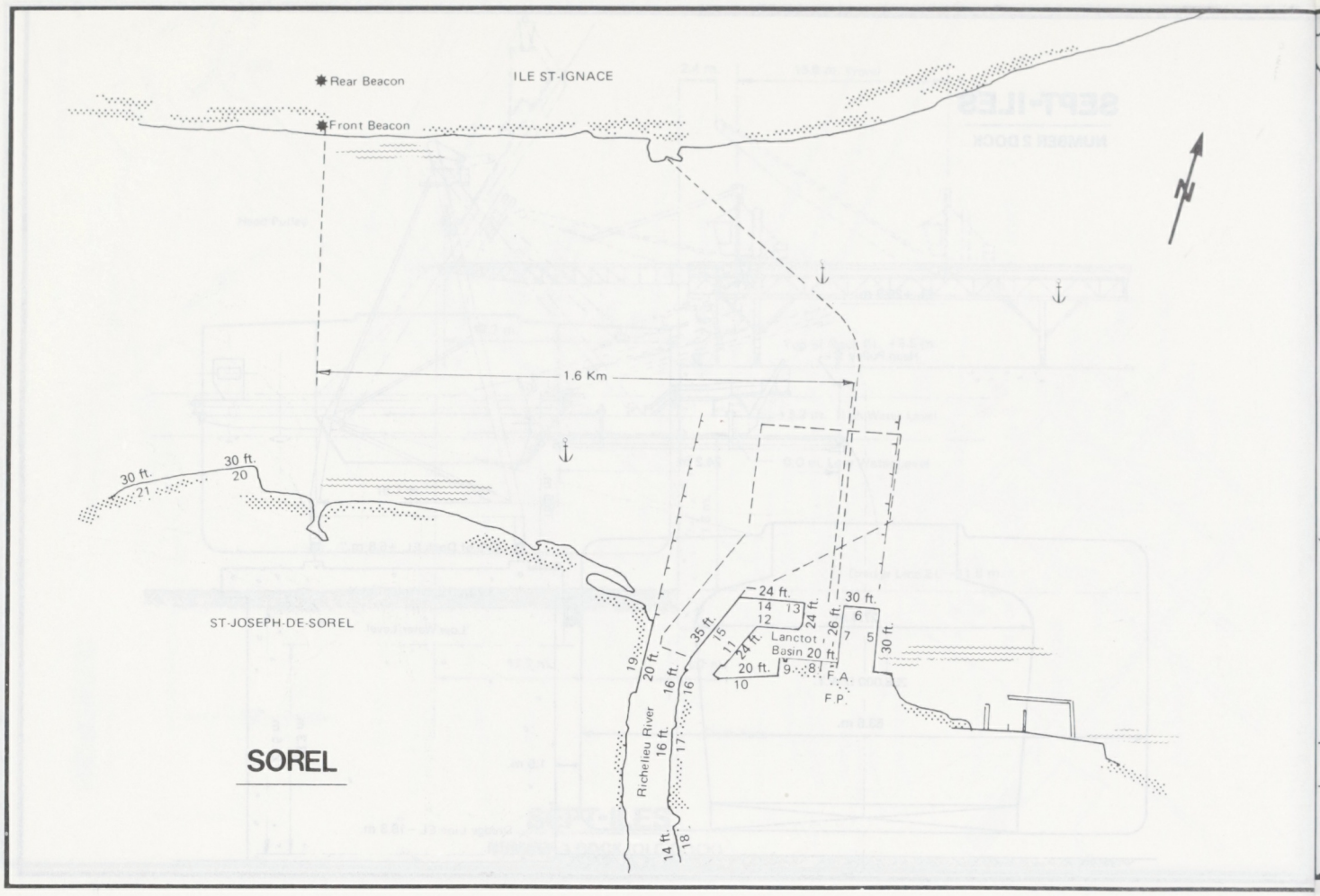
LAYOUT OF DOCK 2

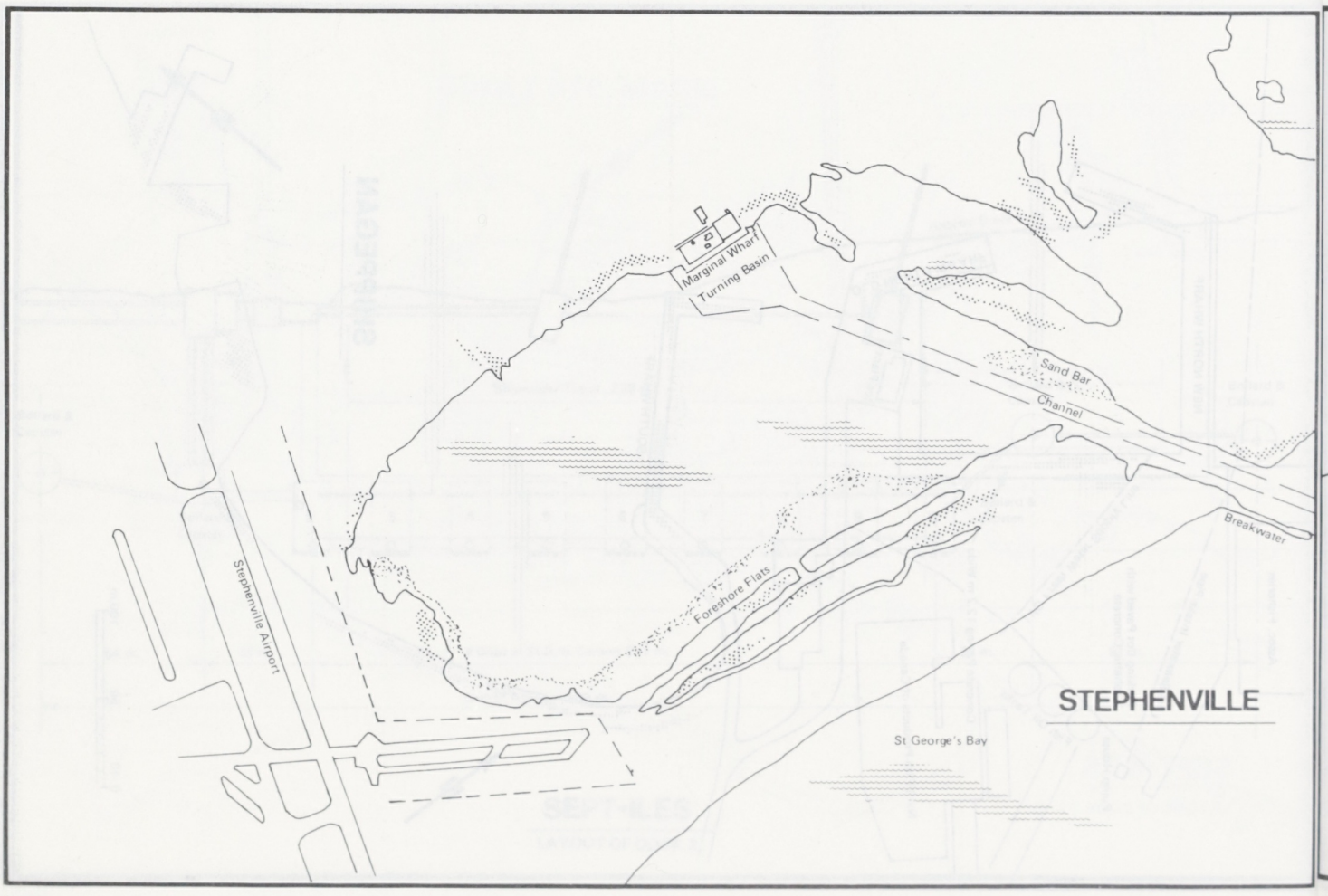
SEPT-ILES

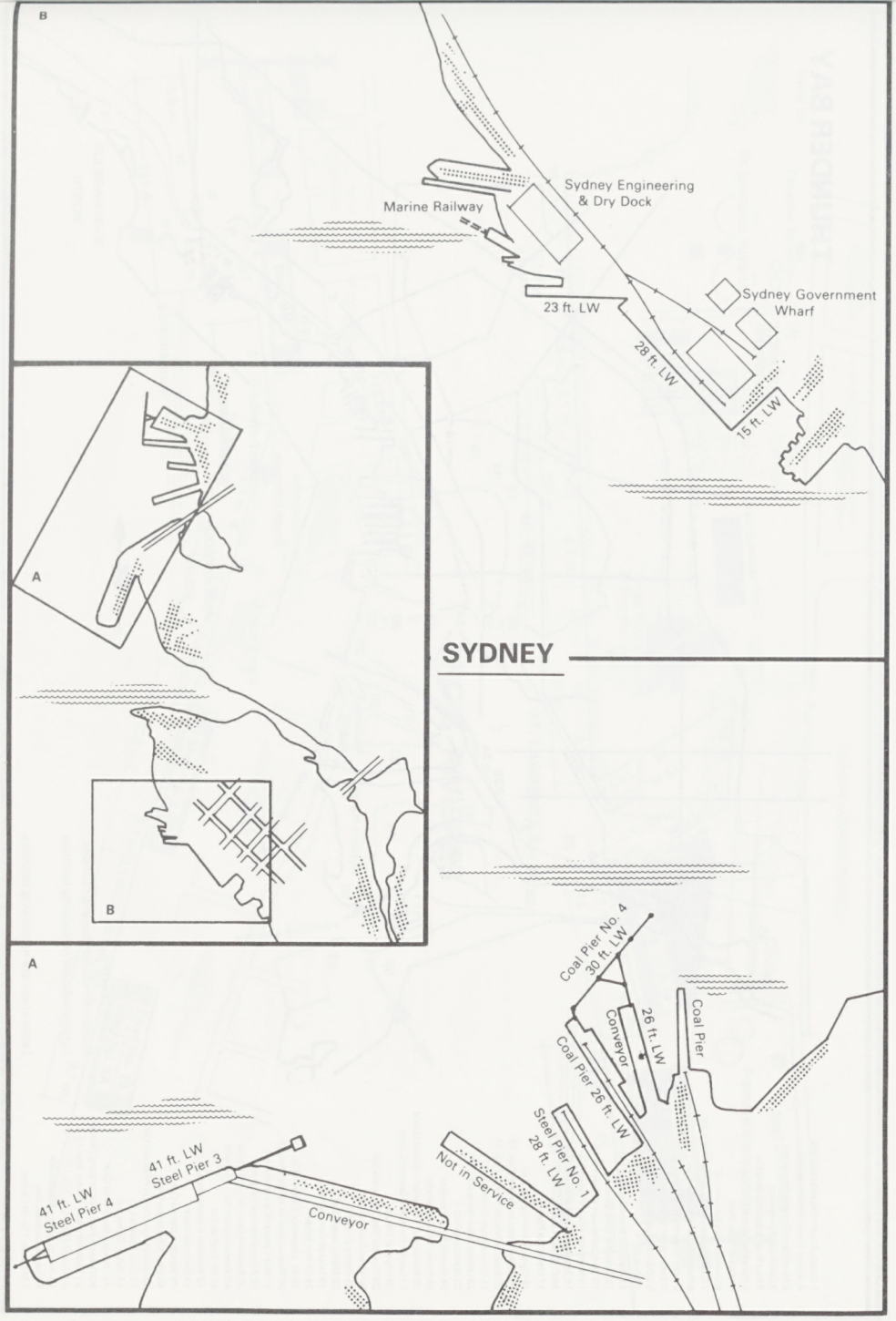
NUMBER 2 DOCK

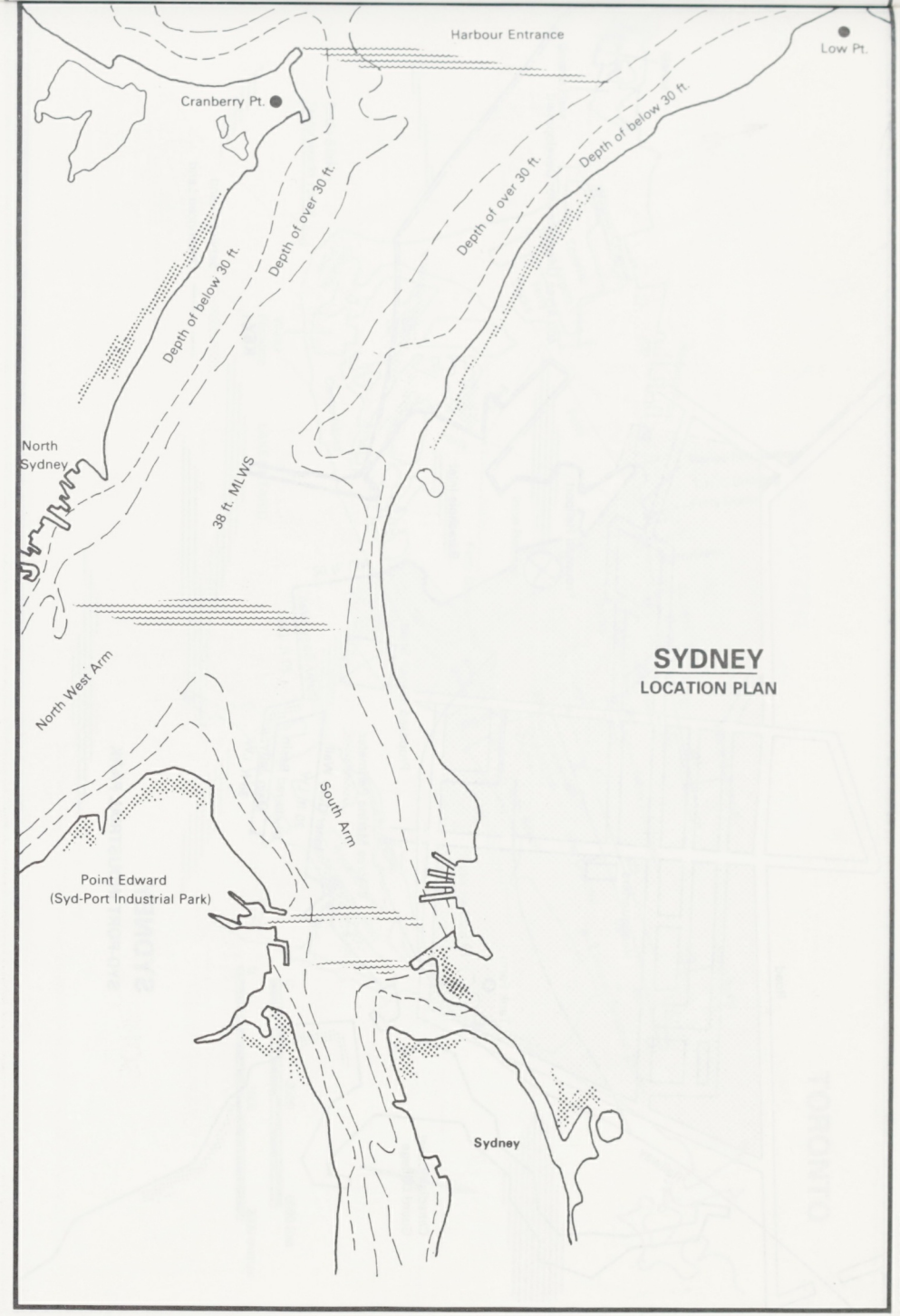




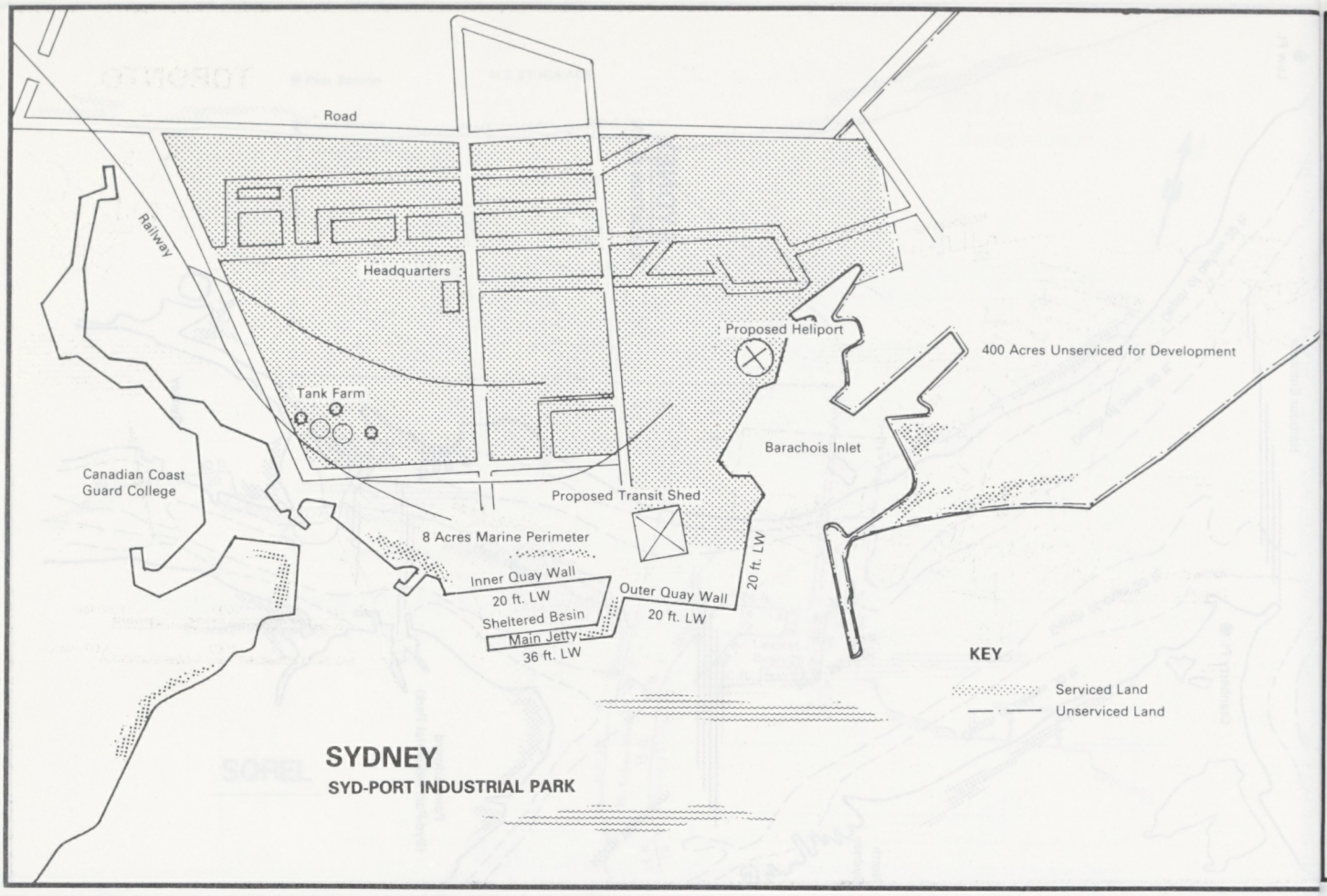

Rear Beacon
ILE ST-IGNACE
Front Beacon
1.6 Km
30 ft.
21
30 ft.
20
ST-JOSEPH-DE-SOREL
SOREL
Richelieu River
16 ft.
19
20 ft.
16 ft.
16
17
14 ft.
18
35 ft.
15
24 ft.
11
24 ft.
14
13
12
24 ft.
Lanctot
Basin 20 ft.
20 ft.
10
9
8
F.A.
F.P.
26 ft.
30 ft.
6
7
5
30 ft.

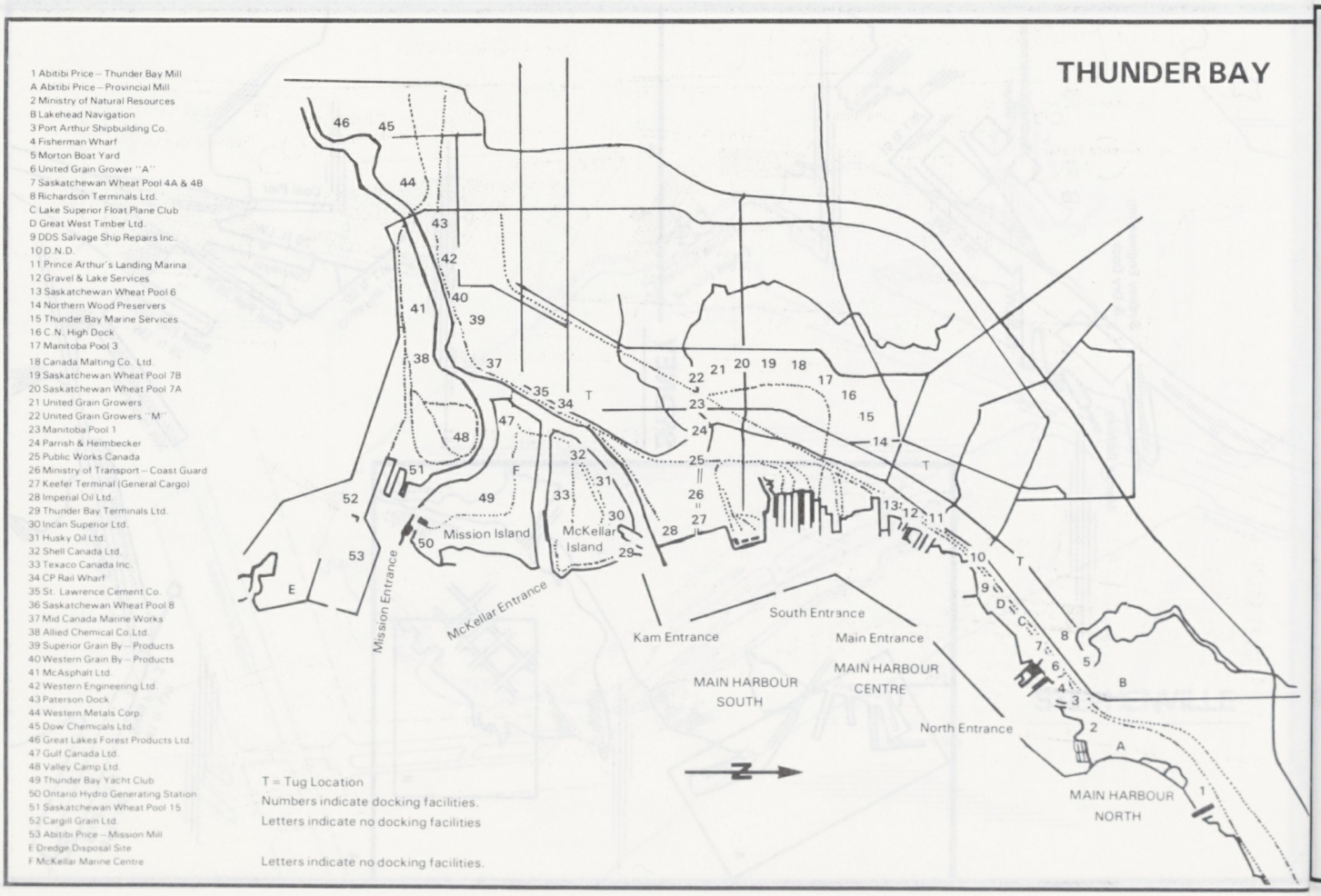

Marginal Wharf
Turning Basin
Sand Bar
Channel
Breakwater
Foreshore Flats
Stephenville Airport
STEPHENVILLE
St George's Bay

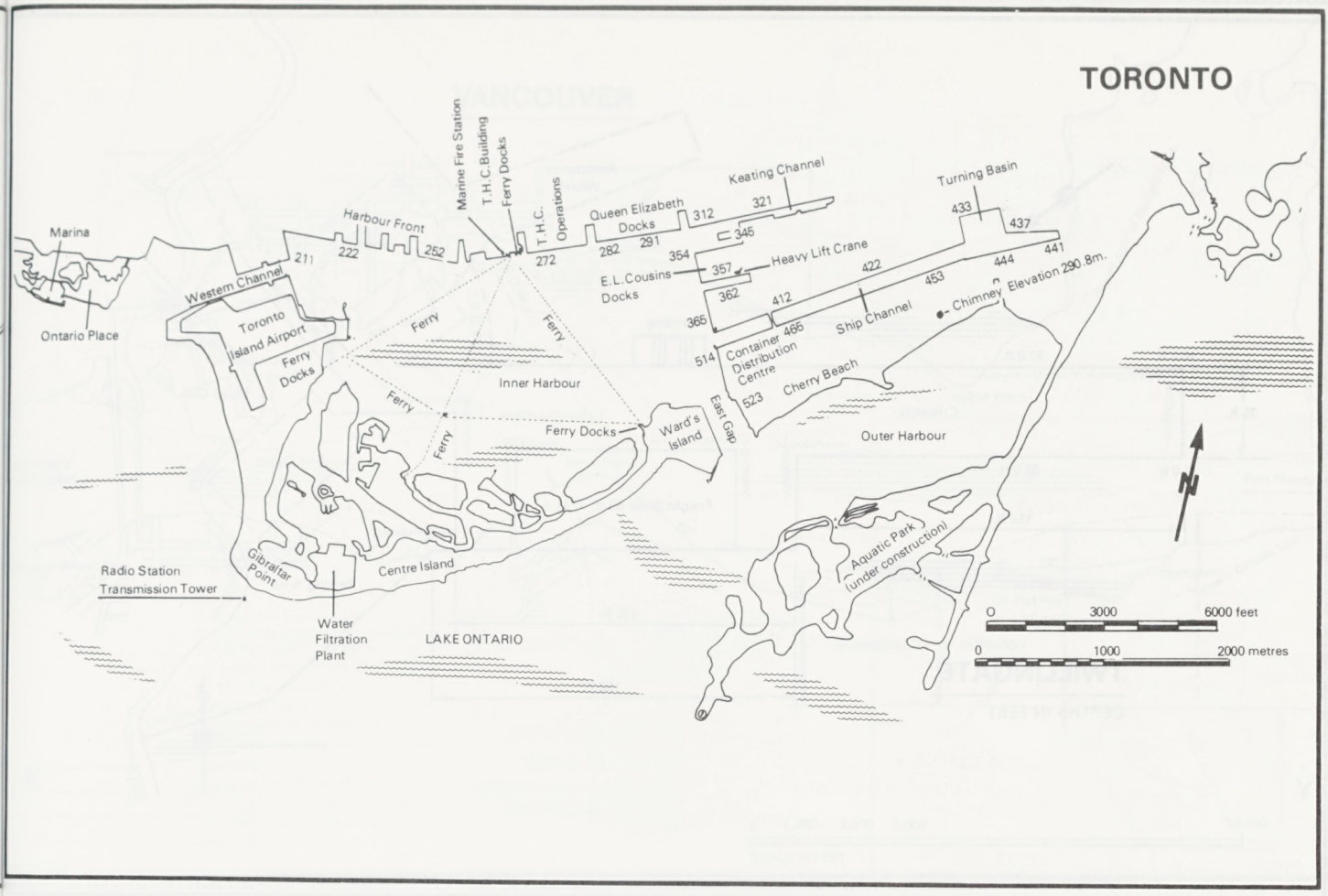

B
Sydney Engineering & Dry Dock
Marine Railway
23 ft. LW
Sydney Government Wharf
28 ft. LW
15 ft. LW
A
B
SYDNEY
A
Coal Pier No. 4 30 ft. LW
Conveyor
26 ft. LW
Coal Pier
Coal Pier 26 ft. LW
Steel Pier No. 1 28 ft. LW
Not in Service
41 ft. LW Steel Pier 3
41 ft. LW Steel Pier 4
Conveyor

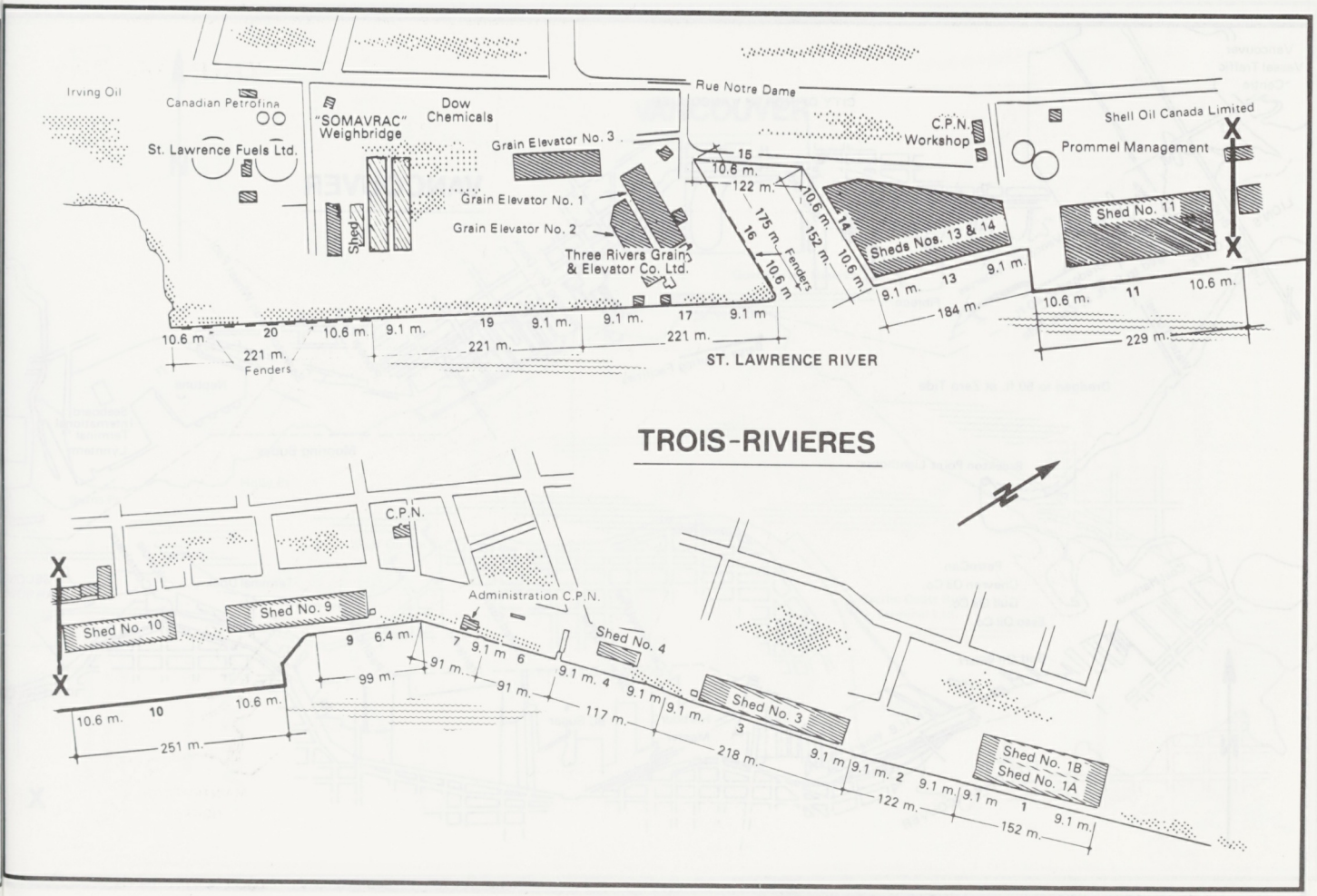

Harbour Entrance
Low Pt.
Cranberry Pt.
Depth of below 30 ft.
Depth of over 30 ft.
Depth of over 30 ft.
Depth of below 30 ft.
North Sydney
38 ft. MLWS
North West Arm
South Arm
Point Edward (Syd-Port Industrial Park)
Sydney
SYDNEY
LOCATION PLAN

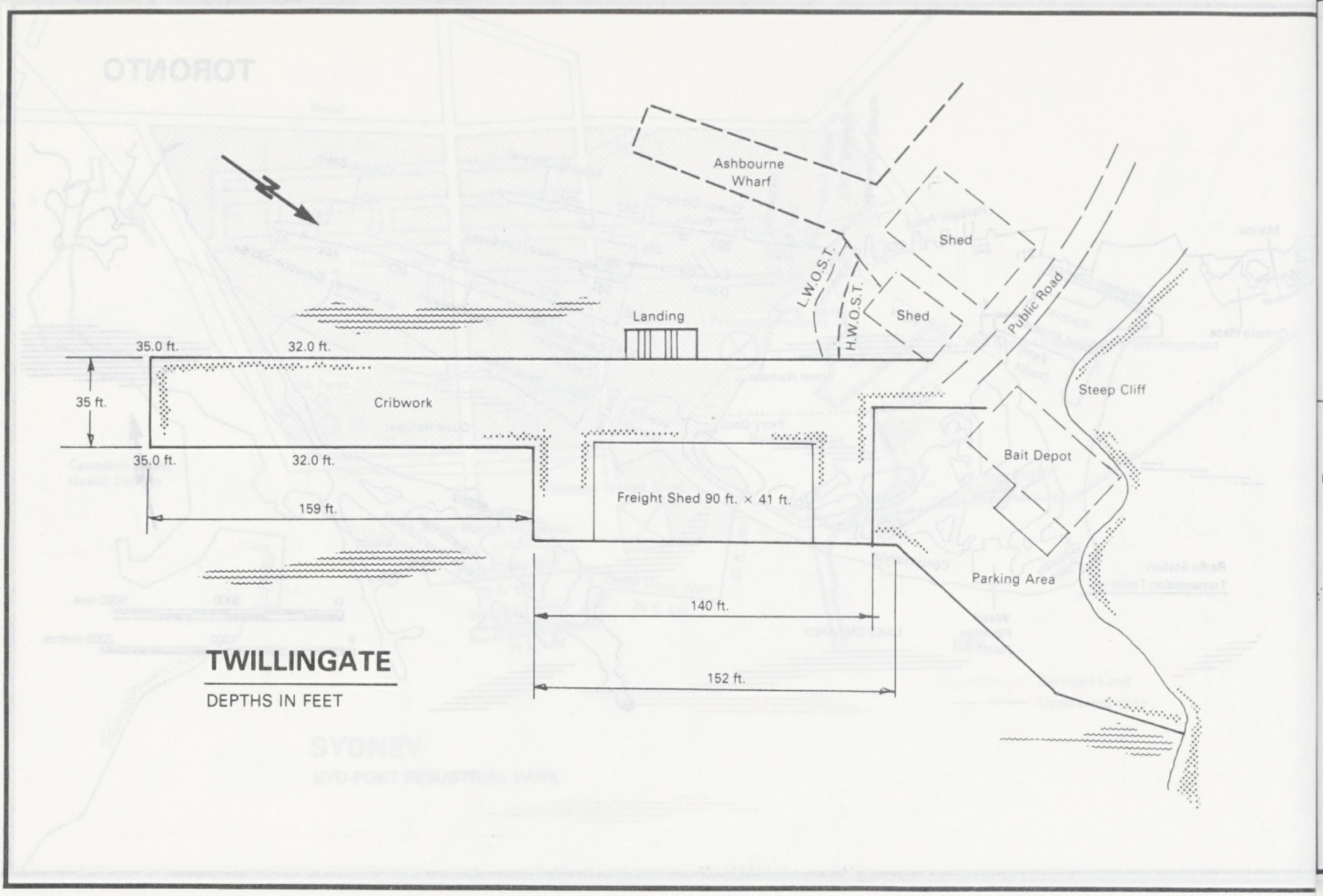
CANADA

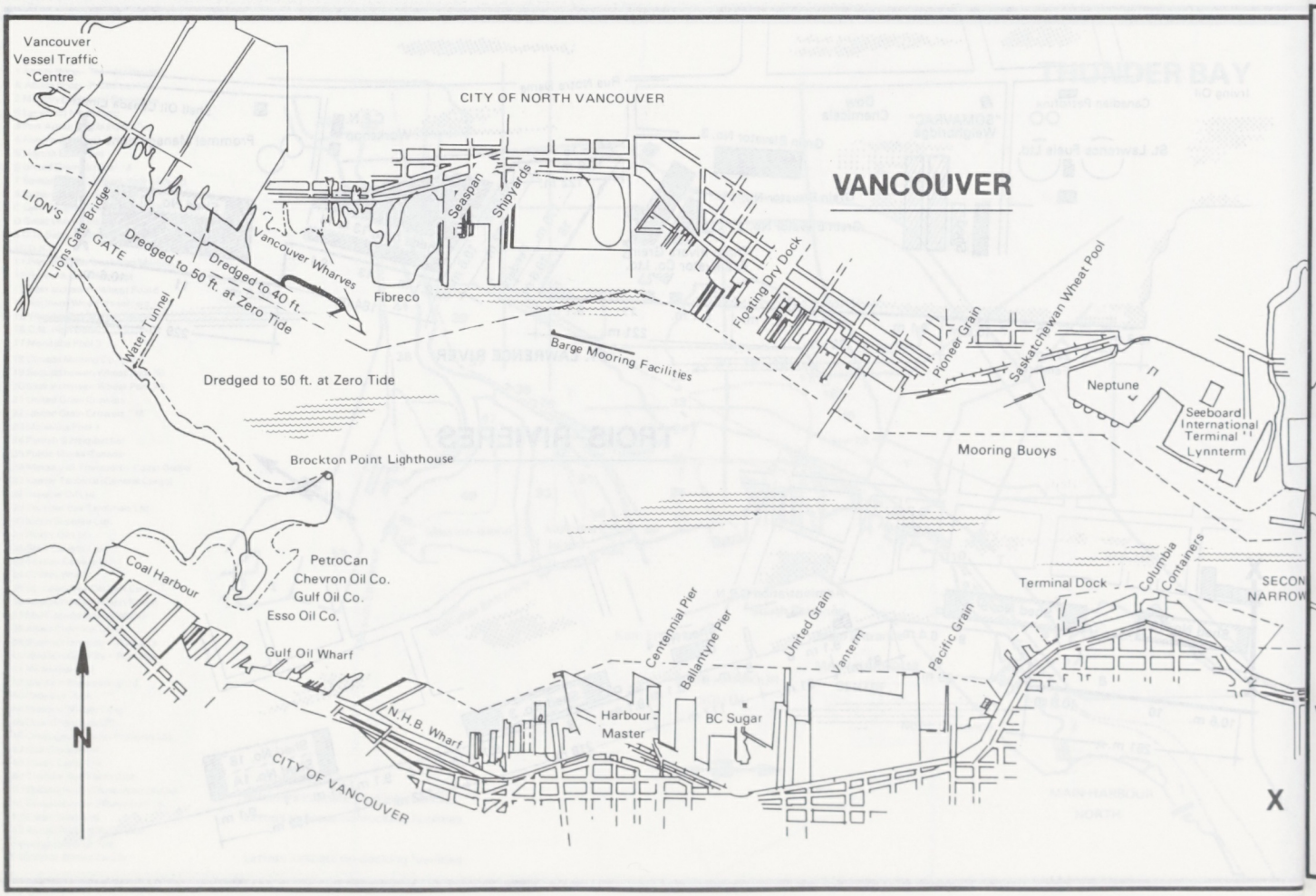

Road
Railway
Headquarters
Tank Farm
Proposed Heliport
400 Acres Unserviced for Development
Barachois Inlet
Canadian Coast Guard College
Proposed Transit Shed
8 Acres Marine Perimeter
Inner Quay Wall
20 ft. LW
Sheltered Basin
Main Jetty
36 ft. LW
Outer Quay Wall
20 ft. LW
20 ft. LW
KEY
Serviced Land
Unserviced Land
SYDNEY
SYD-PORT INDUSTRIAL PARK

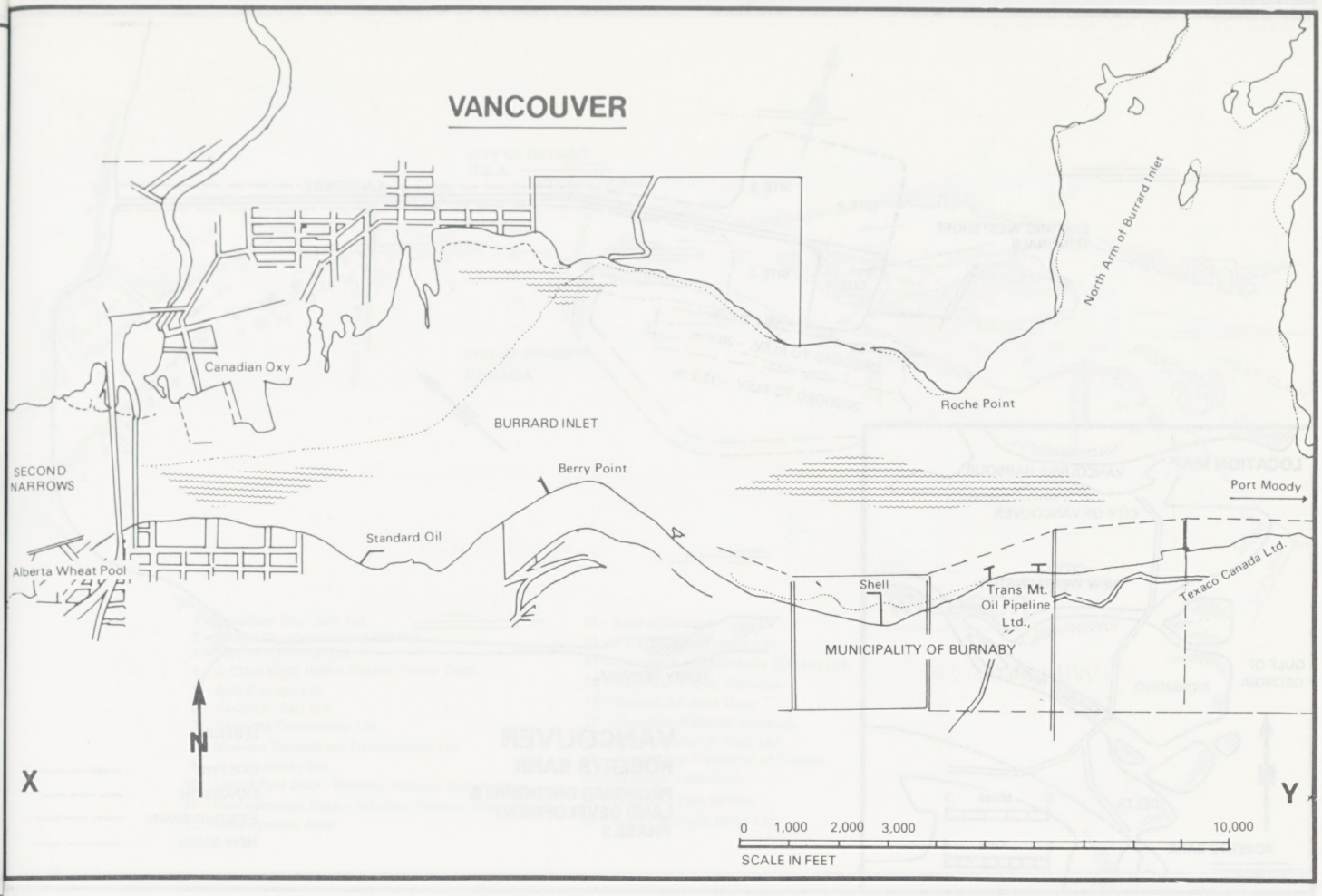

THUNDER BAY
1 Abitibi Price – Thunder Bay Mill
A Abitibi Price – Provincial Mill
2 Ministry of Natural Resources
B Lakehead Navigation
3 Port Arthur Shipbuilding Co.
4 Fisherman Wharf
5 Morton Boat Yard
6 United Grain Grower "A"
7 Saskatchewan Wheat Pool 4A & 4B
8 Richardson Terminals Ltd.
C Lake Superior Float Plane Club
D Great West Timber Ltd.
9 DDS Salvage Ship Repairs Inc.
10 D.N.D.
11 Prince Arthur's Landing Marina
12 Gravel & Lake Services
13 Saskatchewan Wheat Pool 6
14 Northern Wood Preservers
15 Thunder Bay Marine Services
16 C.N. High Dock
17 Manitoba Pool 3
18 Canada Malting Co. Ltd.
19 Saskatchewan Wheat Pool 7B
20 Saskatchewan Wheat Pool 7A
21 United Grain Growers
22 United Grain Growers "M"
23 Manitoba Pool 1
24 Parrish & Heimbecker
25 Public Works Canada
26 Ministry of Transport – Coast Guard
27 Keefer Terminal (General Cargo)
28 Imperial Oil Ltd.
29 Thunder Bay Terminals Ltd.
30 Incan Superior Ltd.
31 Husky Oil Ltd.
32 Shell Canada Ltd.
33 Texaco Canada Inc.
34 CP Rail Wharf
35 St. Lawrence Cement Co.
36 Saskatchewan Wheat Pool 8
37 Mid Canada Marine Works
38 Allied Chemical Co. Ltd.
39 Superior Grain By – Products
40 Western Grain By – Products
41 McAsphalt Ltd.
42 Western Engineering Ltd.
43 Paterson Dock
44 Western Metals Corp.
45 Dow Chemicals Ltd.
46 Great Lakes Forest Products Ltd.
47 Gulf Canada Ltd.
48 Valley Camp Ltd.
49 Thunder Bay Yacht Club
50 Ontario Hydro Generating Station
51 Saskatchewan Wheat Pool 15
52 Cargill Grain Ltd.
53 Abitibi Price – Mission Mill
E Dredge Disposal Site
F McKellar Marine Centre
T = Tug Location
Numbers indicate docking facilities.
Letters indicate no docking facilities
Letters indicate no docking facilities.
Mission Island
McKellar Island
Mission Entrance
McKellar Entrance
Kam Entrance
South Entrance
Main Entrance
North Entrance
MAIN HARBOUR SOUTH
MAIN HARBOUR CENTRE
MAIN HARBOUR NORTH

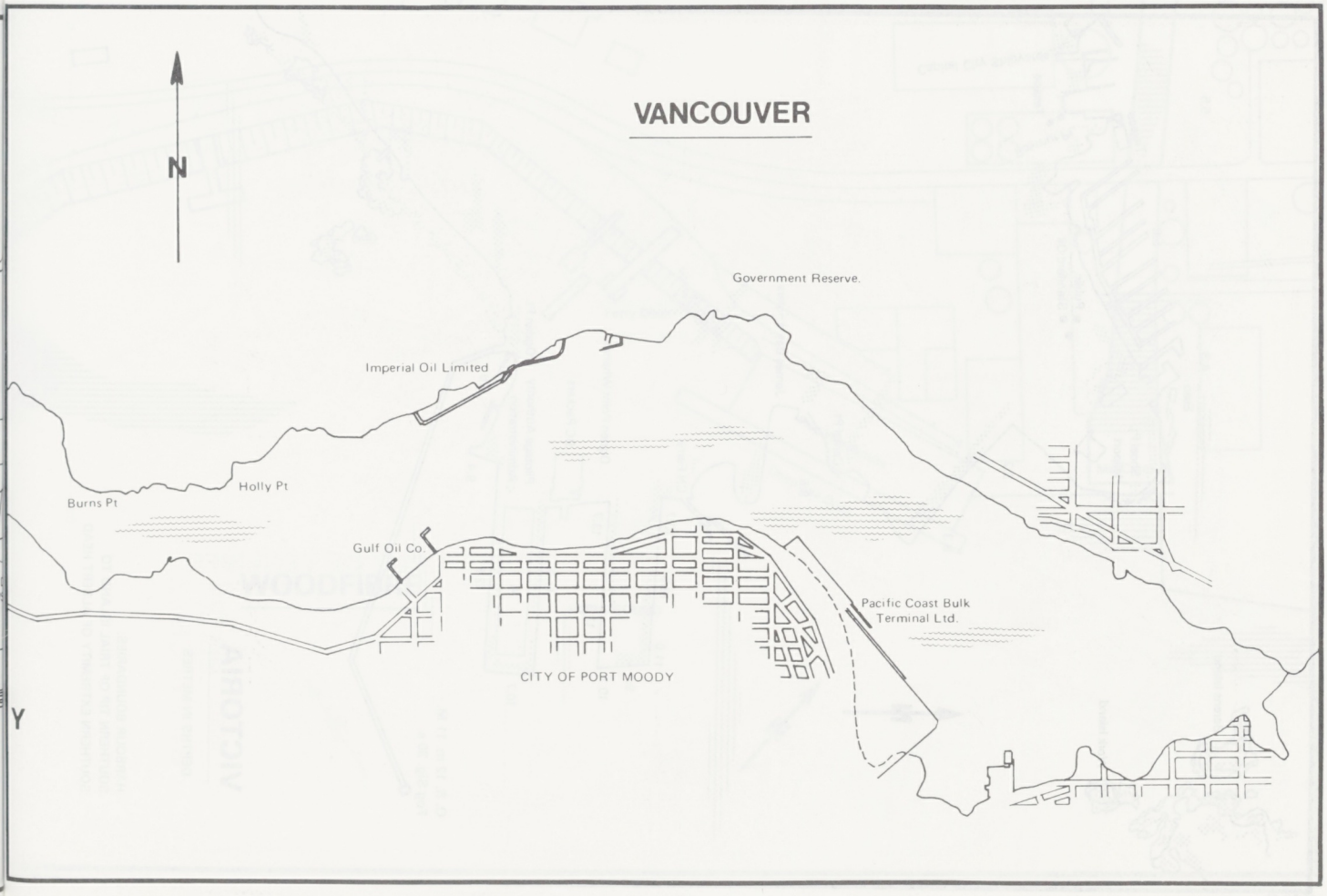

TORONTO
Marina
Ontario Place
Western Channel
Toronto Island Airport
Ferry Docks
Harbour Front
Marine Fire Station
T.H.C. Building
Ferry Docks
T.H.C. Operations
Queen Elizabeth Docks
Keating Channel
Turning Basin
E.L. Cousins Docks
Heavy Lift Crane
Ship Channel
Chimney
Elevation 290.8m.
Container Distribution Centre
Cherry Beach
Inner Harbour
Outer Harbour
Ward's Island
East Gap
Ferry
Ferry Docks
Gibraltar Point
Centre Island
Radio Station Transmission Tower
Water Filtration Plant
LAKE ONTARIO
Aquatic Park (under construction)
0 3000 6000 feet
0 1000 2000 metres

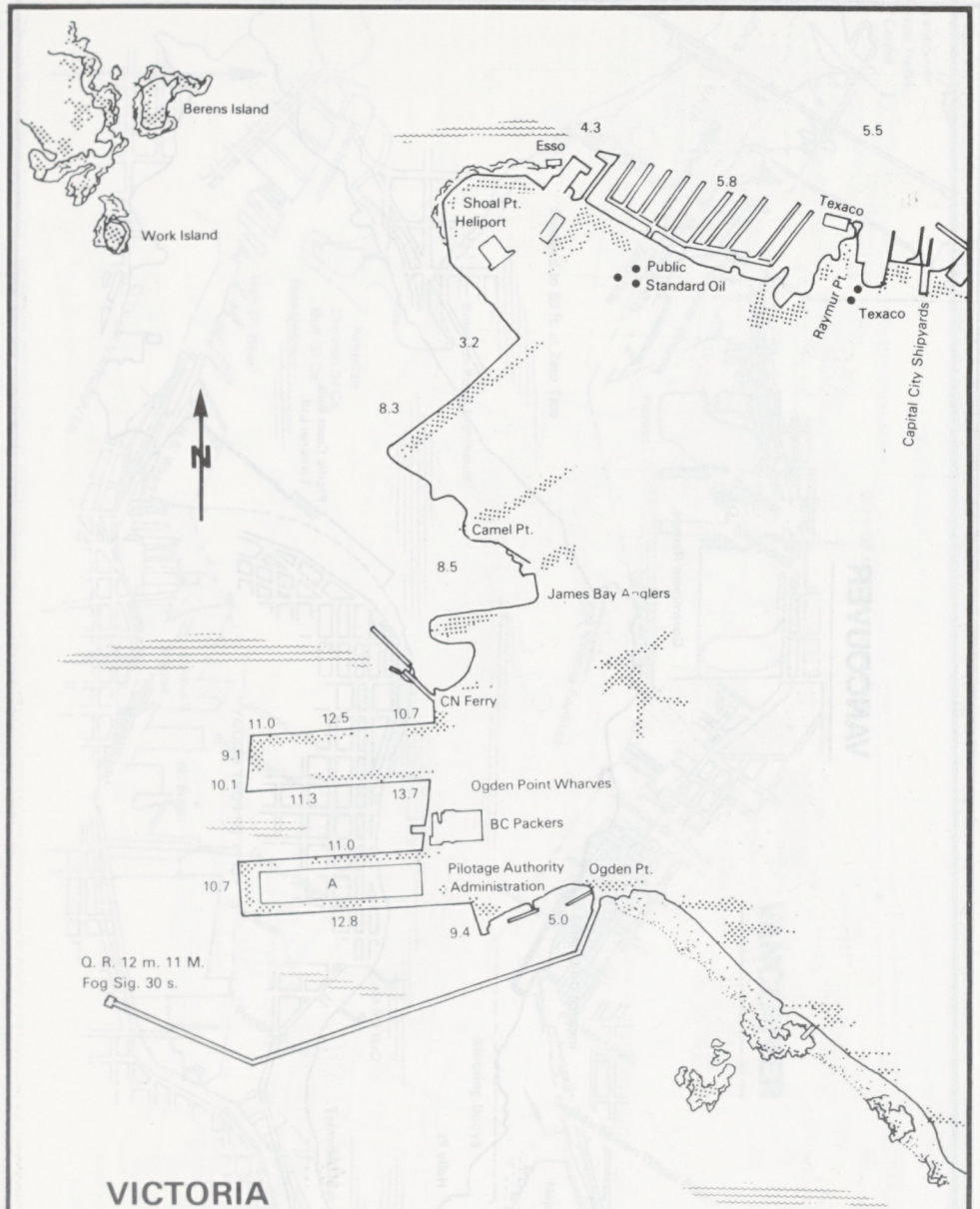

Irving Oil
Canadian Petrofina
St. Lawrence Fuels Ltd.
"SOMAVRAC" Weighbridge
Dow Chemicals
Rue Notre Dame
C.P.N. Workshop
Shell Oil Canada Limited
Prommel Management
Grain Elevator No. 3
Grain Elevator No. 1
Grain Elevator No. 2
Shed
Three Rivers Grain & Elevator Co. Ltd.
Sheds Nos. 13 & 14
Shed No. 11
Fenders
ST. LAWRENCE RIVER
TROIS-RIVIERES
C.P.N.
Administration C.P.N.
Shed No. 10
Shed No. 9
Shed No. 4
Shed No. 3
Shed No. 1B
Shed No. 1A


Ashbourne Wharf
Shed
Shed
L.W.O.S.T.
H.W.O.S.T.
Public Road
Landing
35.0 ft.
32.0 ft.
35 ft.
Cribwork
Steep Cliff
35.0 ft.
32.0 ft.
Bait Depot
Freight Shed 90 ft. × 41 ft.
159 ft.
Parking Area
140 ft.
152 ft.
TWILLINGATE
DEPTHS IN FEET


Vancouver Vessel Traffic Centre
CITY OF NORTH VANCOUVER
VANCOUVER
LION'S GATE
Lions Gate Bridge
Dredged to 50 ft. at Zero Tide
Dredged to 40 ft.
Vancouver Wharves
Fibreco
Seaspan Shipyards
Floating Dry Dock
Pioneer Grain
Saskatchewan Wheat Pool
Water Tunnel
Barge Mooring Facilities
Dredged to 50 ft. at Zero Tide
Neptune
Seaboard International Terminal
Lynnterm
Mooring Buoys
Brockton Point Lighthouse
Coal Harbour
PetroCan
Chevron Oil Co.
Gulf Oil Co.
Esso Oil Co.
Gulf Oil Wharf
Centennial Pier
Ballantyne Pier
United Grain
Vanterm
Pacific Grain
Terminal Dock
Columbia Containers
N.H.B. Wharf
Harbour Master
BC Sugar
CITY OF VANCOUVER
N
X


VANCOUVER
North Arm of Burrard Inlet
Canadian Oxy
Roche Point
BURRARD INLET
SECOND NARROWS
Berry Point
Port Moody
Standard Oil
Alberta Wheat Pool
Shell
Trans Mt. Oil Pipeline Ltd.,
Texaco Canada Ltd.
MUNICIPALITY OF BURNABY
N
X
Y
0 1,000 2,000 3,000 10,000
SCALE IN FEET


VANCOUVER
N
Government Reserve.
Imperial Oil Limited
Burns Pt
Holly Pt
Gulf Oil Co.
Pacific Coast Bulk Terminal Ltd.
CITY OF PORT MOODY
Y

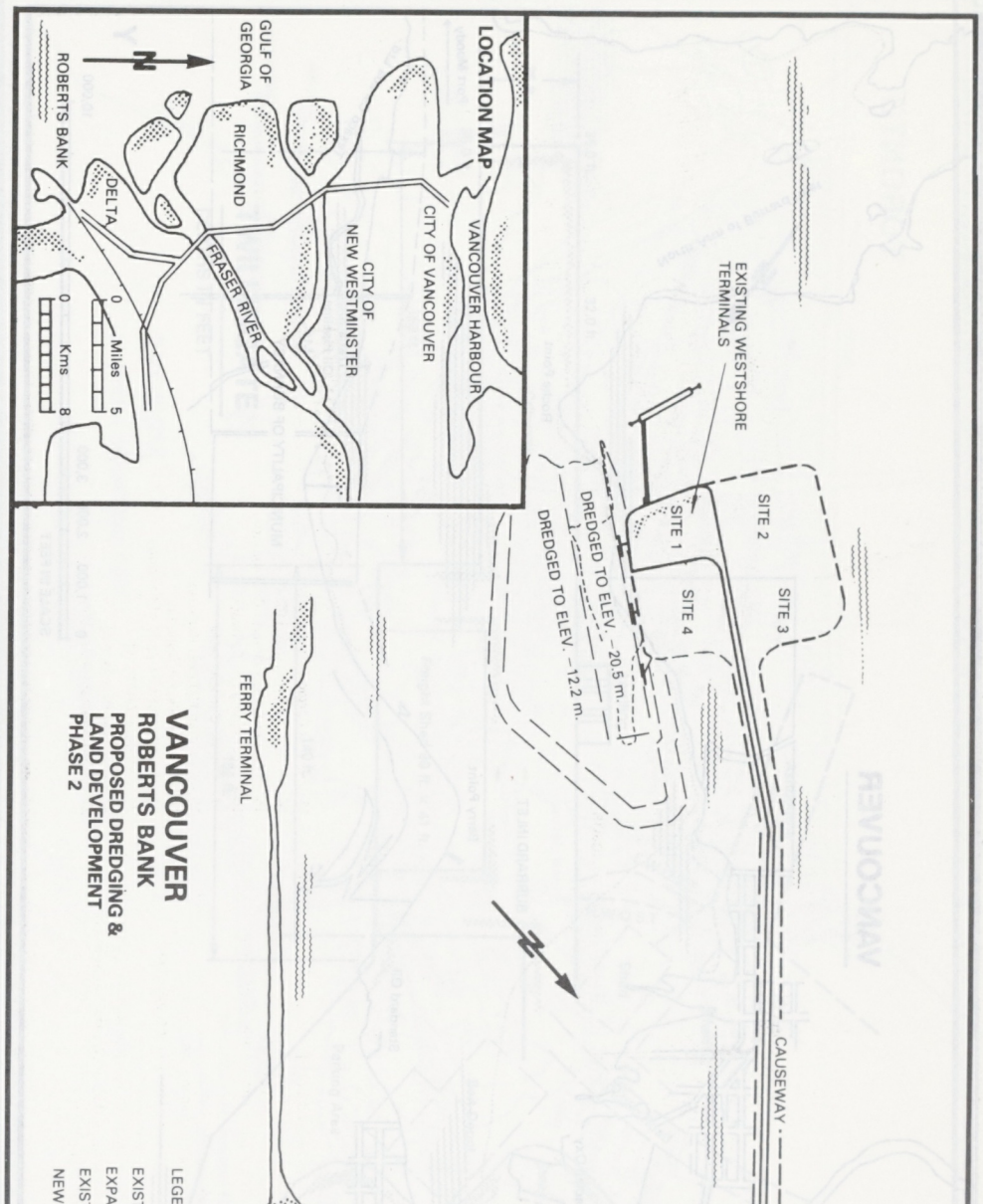


VICTORIA

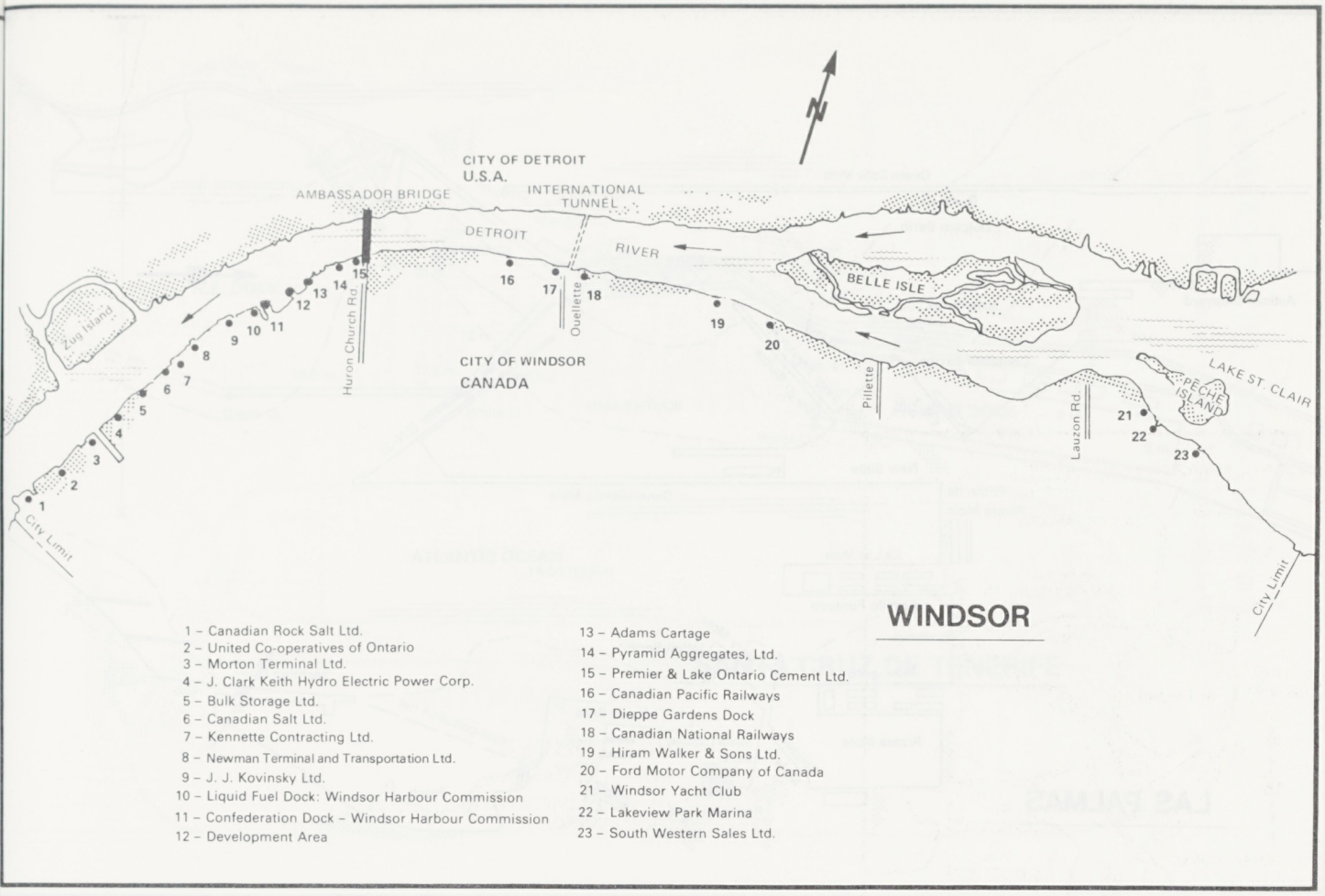
DEPTHS IN METRES

HARBOUR BOUNDARIES:
SOUTHERN TIP OF TRIAL ISLAND TO
SOUTHERN EXTREMITY OF ALBERT HEAD

CANADA

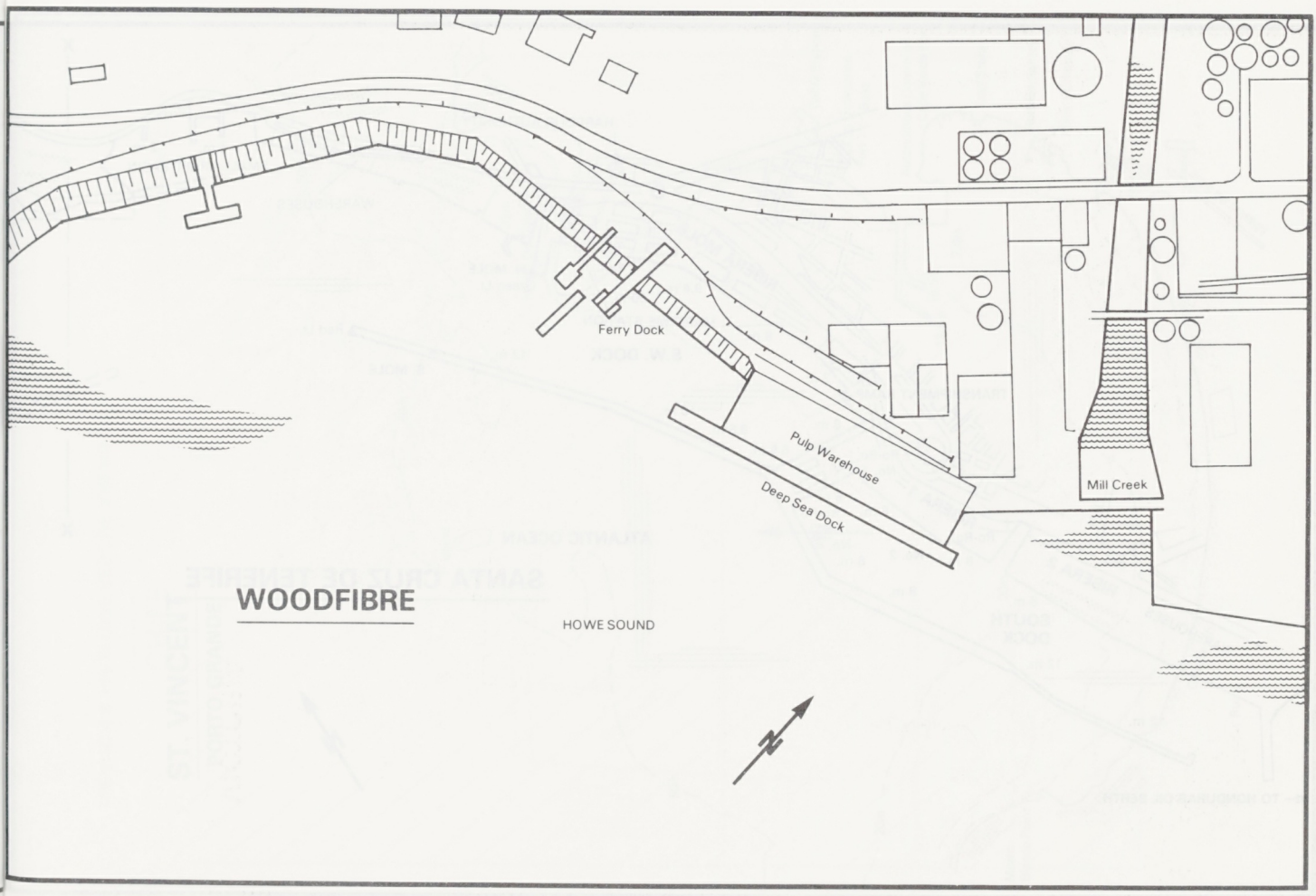


VANCOUVER
ROBERTS BANK
PROPOSED DREDGING & LAND DEVELOPMENT PHASE 2

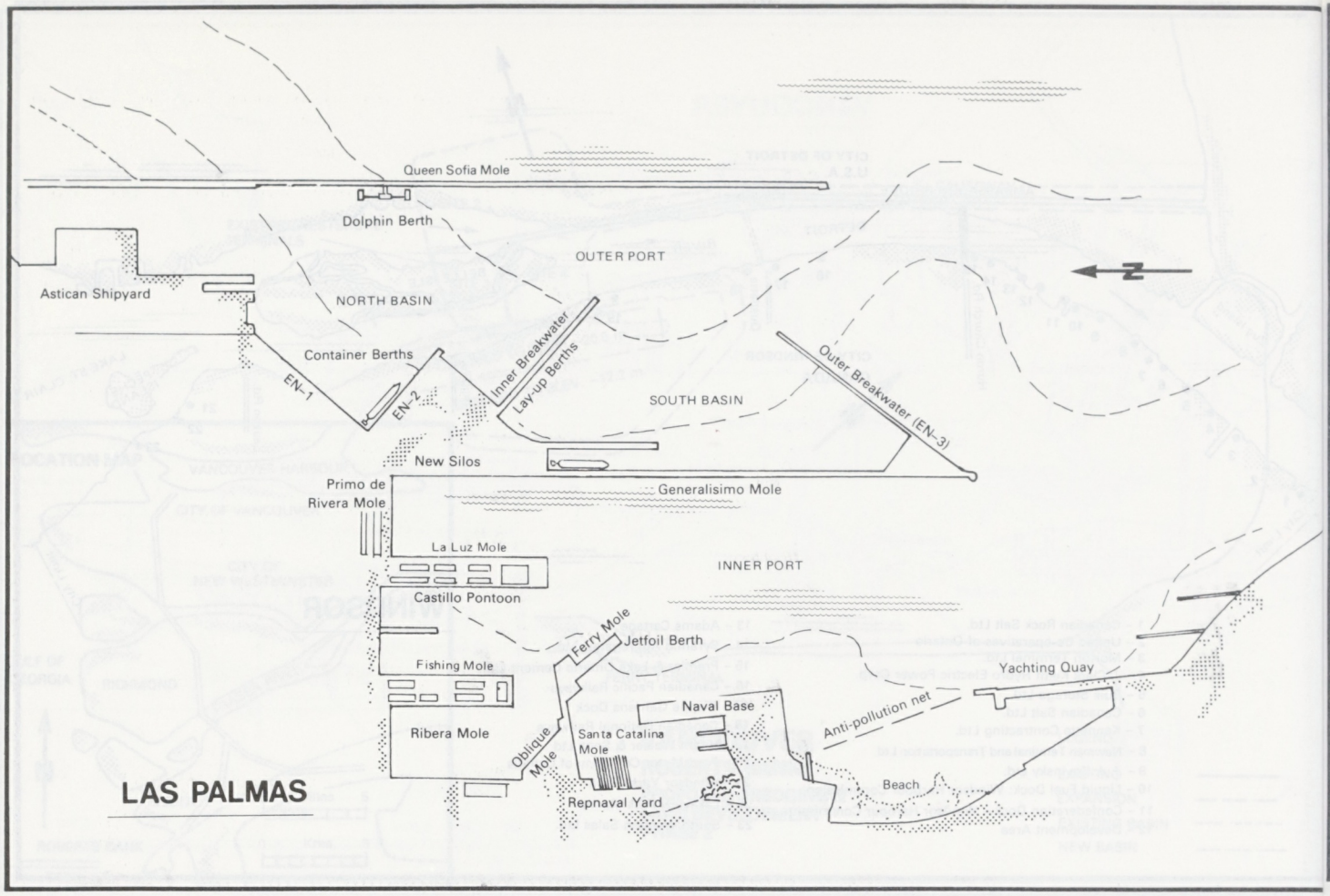


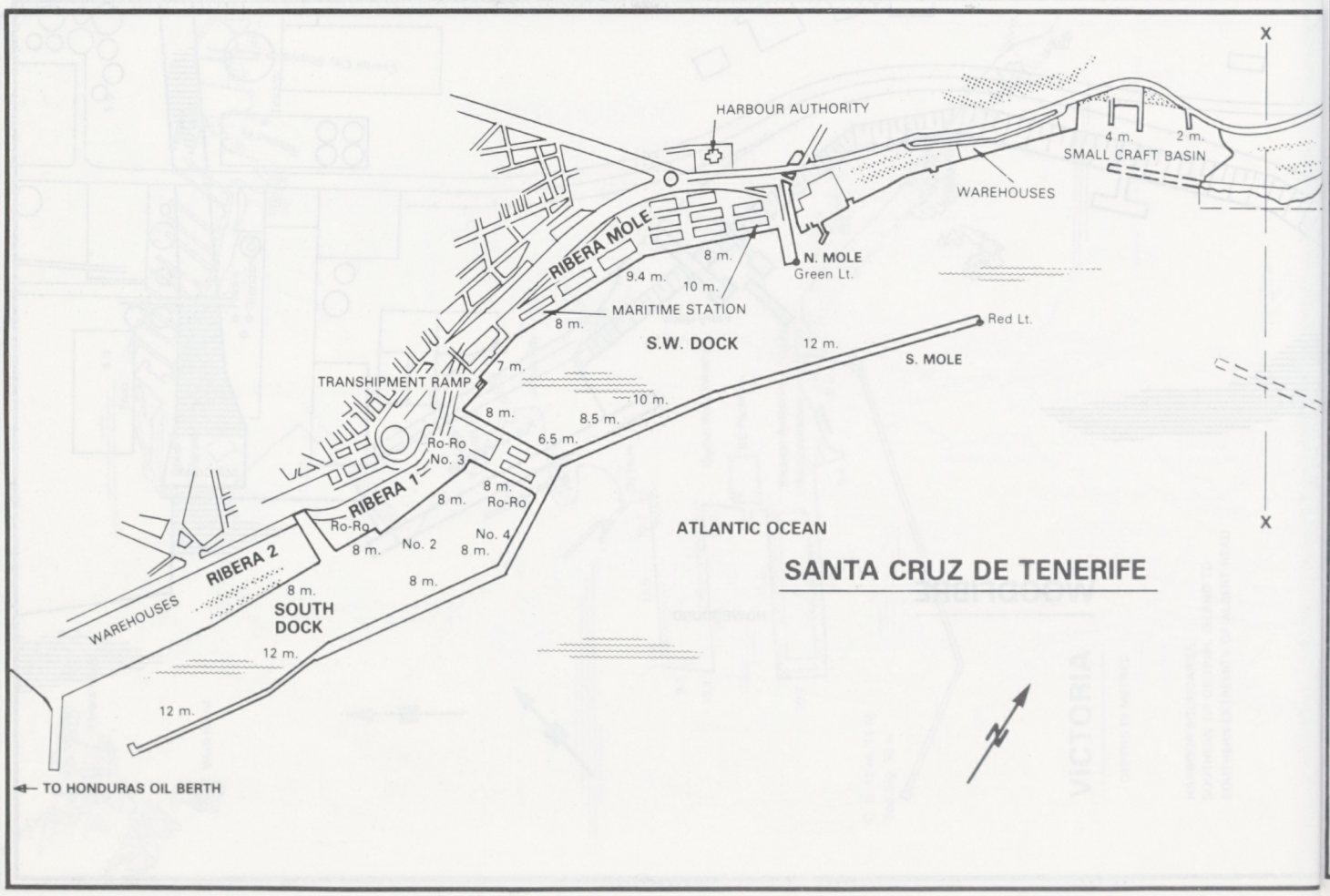
WINDSOR

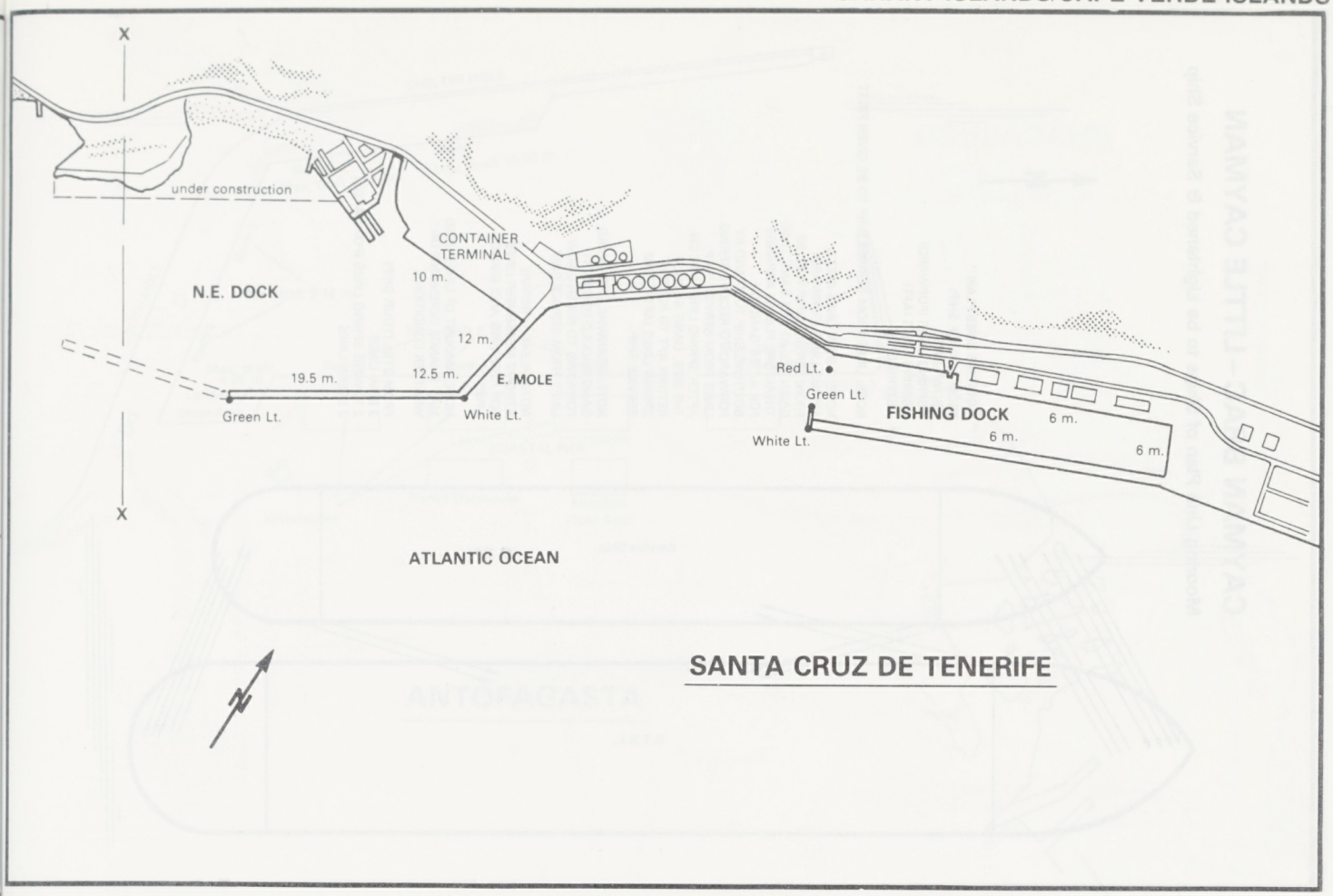
1 – Canadian Rock Salt Ltd.
2 – United Co-operatives of Ontario
3 – Morton Terminal Ltd.
4 – J. Clark Keith Hydro Electric Power Corp.
5 – Bulk Storage Ltd.
6 – Canadian Salt Ltd.
7 – Kennette Contracting Ltd.
8 – Newman Terminal and Transportation Ltd.
9 – J. J. Kovinsky Ltd.
10 – Liquid Fuel Dock: Windsor Harbour Commission
11 – Confederation Dock – Windsor Harbour Commission
12 – Development Area
13 – Adams Cartage
14 – Pyramid Aggregates, Ltd.
15 – Premier & Lake Ontario Cement Ltd.
16 – Canadian Pacific Railways
17 – Dieppe Gardens Dock
18 – Canadian National Railways
19 – Hiram Walker & Sons Ltd.
20 – Ford Motor Company of Canada
21 – Windsor Yacht Club
22 – Lakeview Park Marina
23 – South Western Sales Ltd.



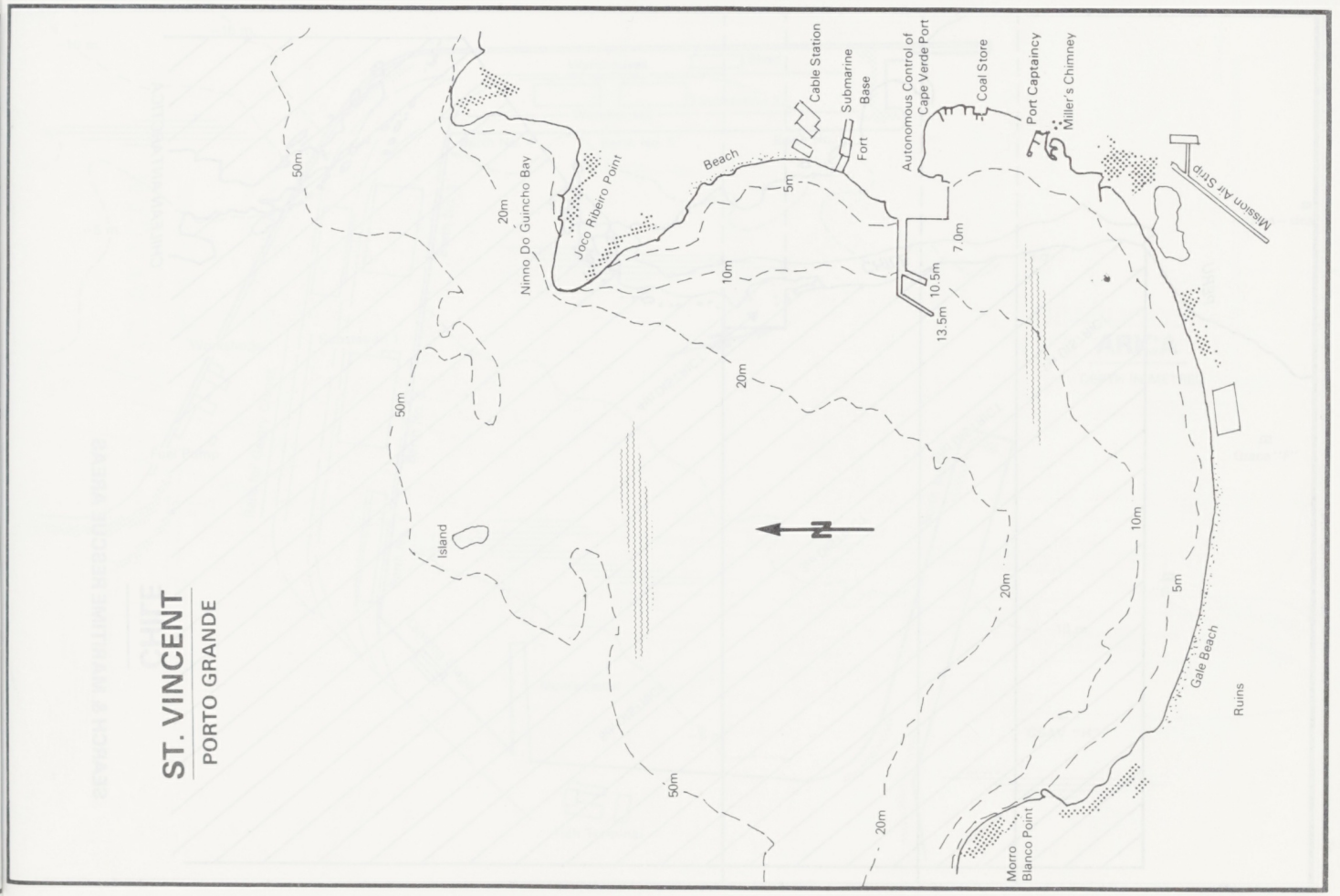
WOODFIBRE


Queen Sofia Mole
Dolphin Berth
OUTER PORT
Astican Shipyard
NORTH BASIN
Container Berths
EN-1
EN-2
Inner Breakwater
Lay-up Berths
SOUTH BASIN
Outer Breakwater (EN-3)
New Silos
Primo de Rivera Mole
Generalisimo Mole
La Luz Mole
INNER PORT
Castillo Pontoon
Ferry Mole
Jetfoil Berth
Fishing Mole
Yachting Quay
Naval Base
Anti-pollution net
Ribera Mole
Oblique Mole
Santa Catalina Mole
Beach
Repnaval Yard
LAS PALMAS

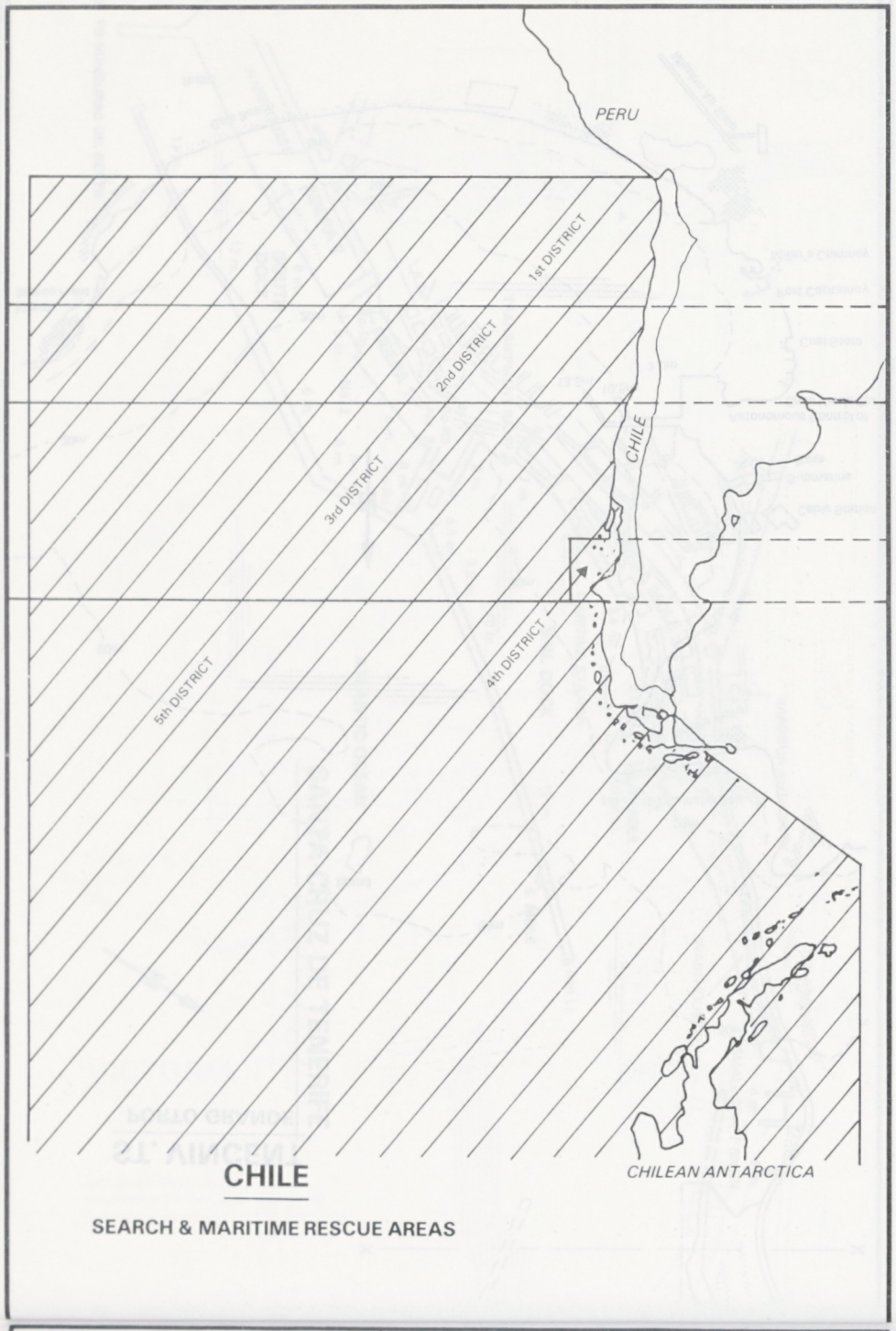

HARBOUR AUTHORITY
4 m.
2 m.
SMALL CRAFT BASIN
WAREHOUSES
RIBERA MOLE
8 m.
N. MOLE
Green Lt.
9.4 m.
10 m.
MARITIME STATION
8 m.
S.W. DOCK
12 m.
Red Lt.
S. MOLE
7 m.
TRANSHIPMENT RAMP
10 m.
8 m.
8.5 m.
6.5 m.
Ro-Ro
No. 3
RIBERA 1
8 m.
8 m.
Ro-Ro
Ro-Ro
No. 2
No. 4
8 m.
8 m.
RIBERA 2
8 m.
WAREHOUSES
SOUTH DOCK
12 m.
12 m.
ATLANTIC OCEAN
SANTA CRUZ DE TENERIFE
TO HONDURAS OIL BERTH
X
X



SANTA CRUZ DE TENERIFE



ST. VINCENT
PORTO GRANDE

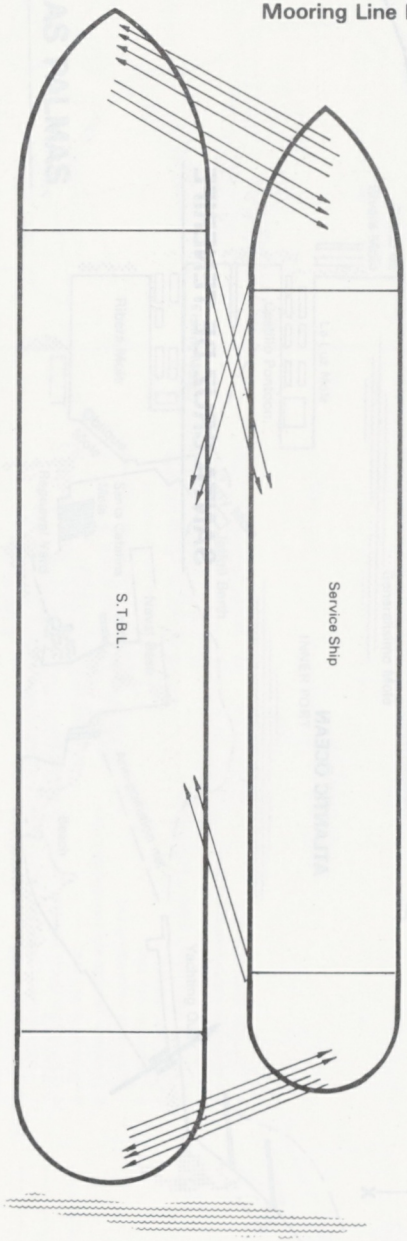


CHILE

SEARCH & MARITIME RESCUE AREAS

CAYMAN BRAC – LITTLE CAYMAN

Mooring Line Plan of Ships to be Lightened & Service Ship



" MOORING LINES PLAN "

FROM SERVICE SHIP:
4 BOW LINES
2 SPRING LINES (FORWARD)
2 SPRING LINES (AFT)
3 STERN LINES

NOTE: LINES FROM SERVICE SHIP TO BE GIVEN FIRST

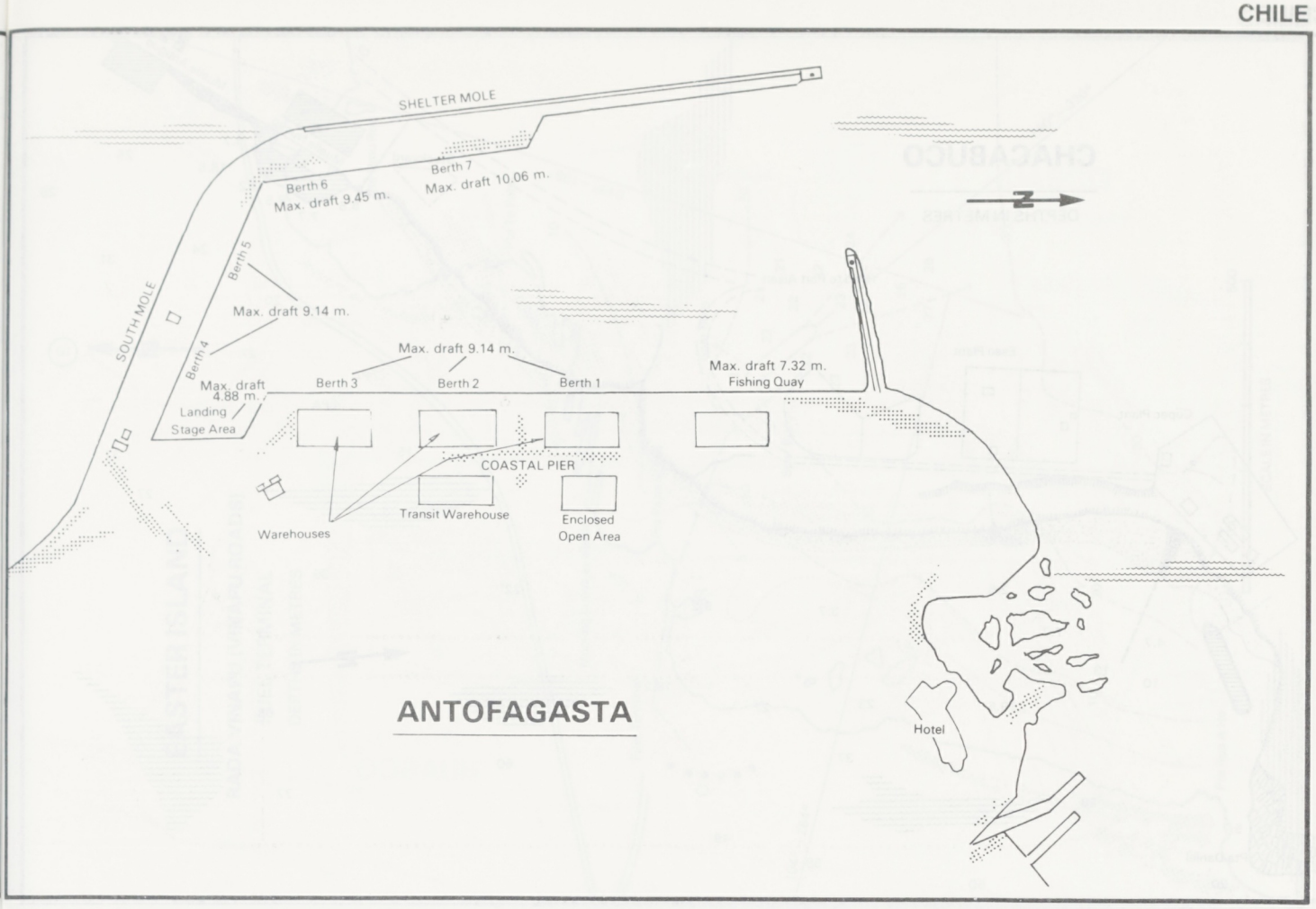
NOTE: 2 BOW LINES AND 2 SPRING LINES (FORWARD) FROM SERVICE SHIP WILL BE GIVEN ALL AT THE SAME TIME; THEREFORE PLEASE ARRANGE FOR AFTER GANG ON BERTHING SHIP TO STAND-BY FORWARD TO RECEIVE SPRING LINES FROM SERVICE SHIP. AFTER SPRING LINES ARE ON THE BITS, GANG SHOULD RETURN AFT TO RECEIVE SPRING LINES (AFT) FROM SERVICE SHIP.

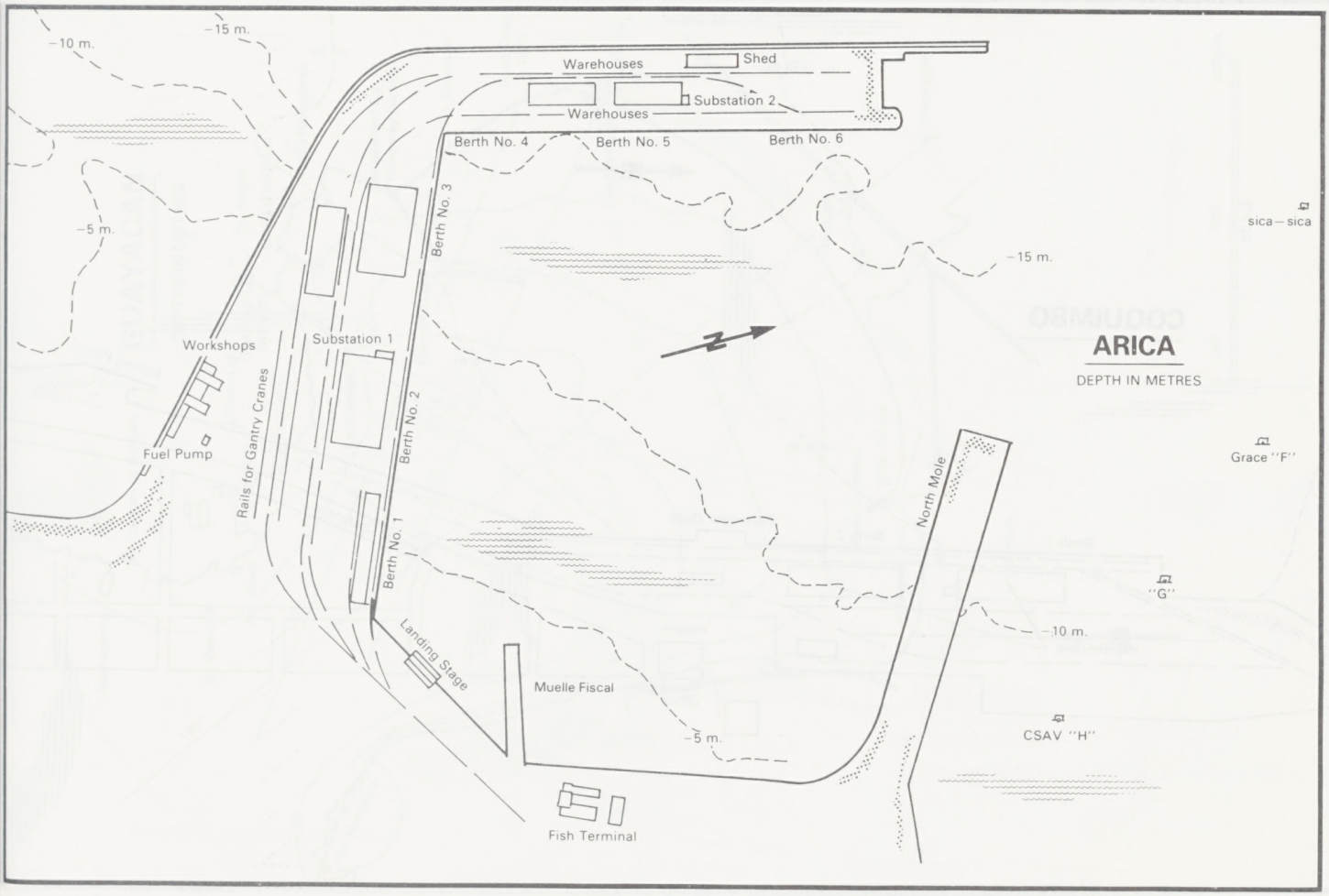
NOTE: MEANWHILE FORWARD GANG SHOULD STAND-BY FORWARD TO RECEIVE BOW LINES FROM SERVICE SHIP

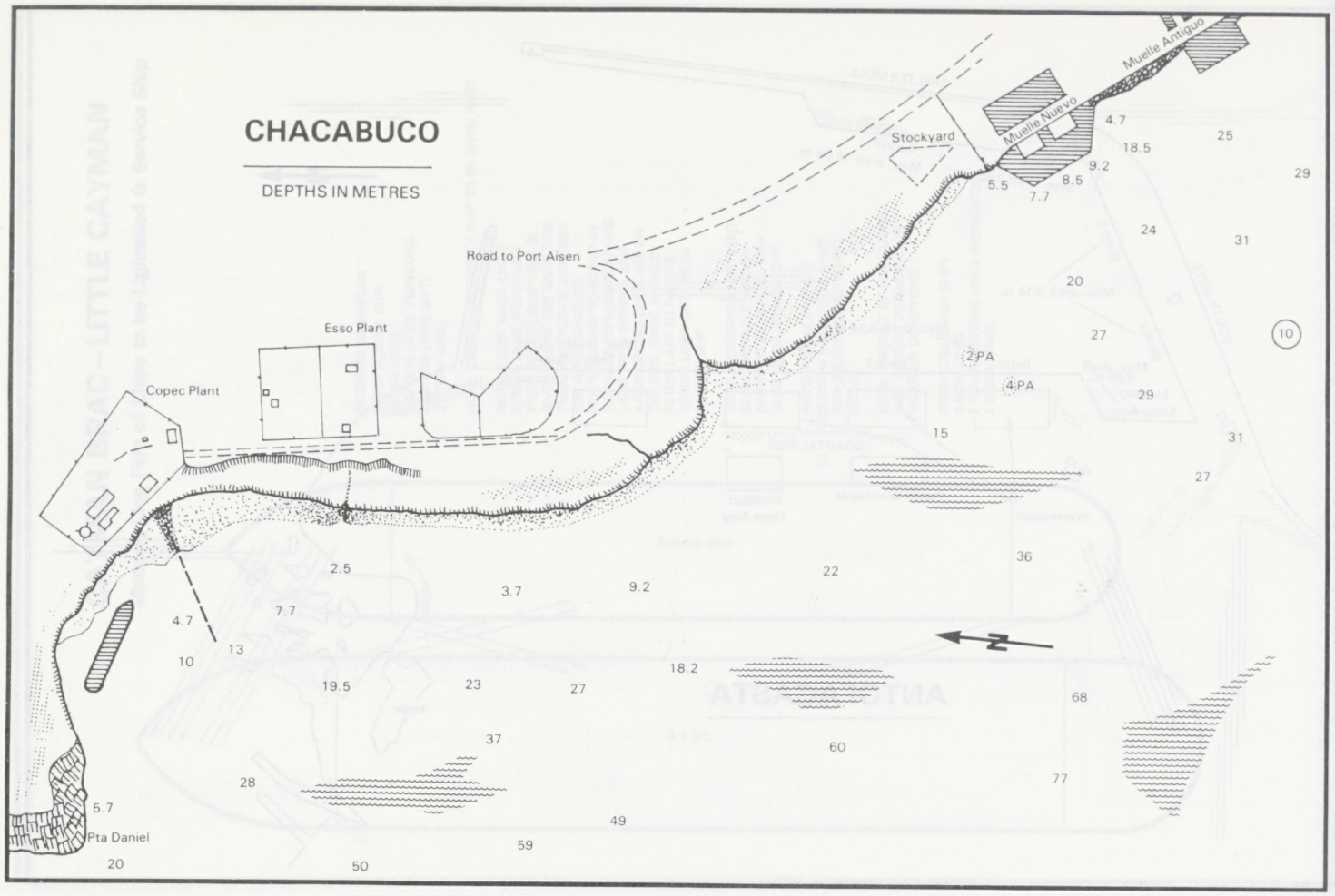
NOTE: PLEASE PREPARE STRONG MESSENGER LINES FOR RECEIVING AND GIVING LINES.

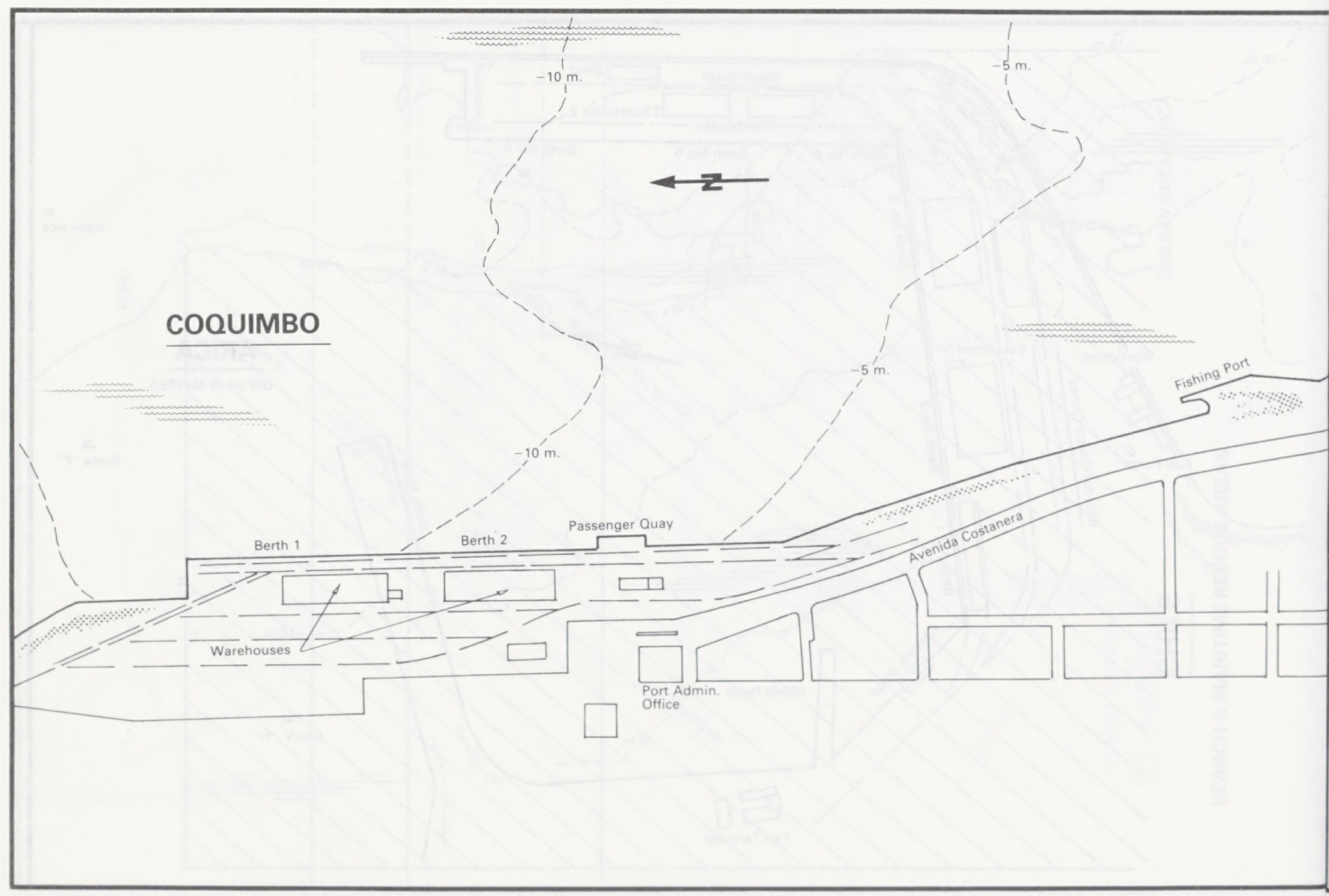
NOTE: AMOUNT OF LINES USED MAY CHANGE DEPENDING ON WEATHER CONDITIONS.

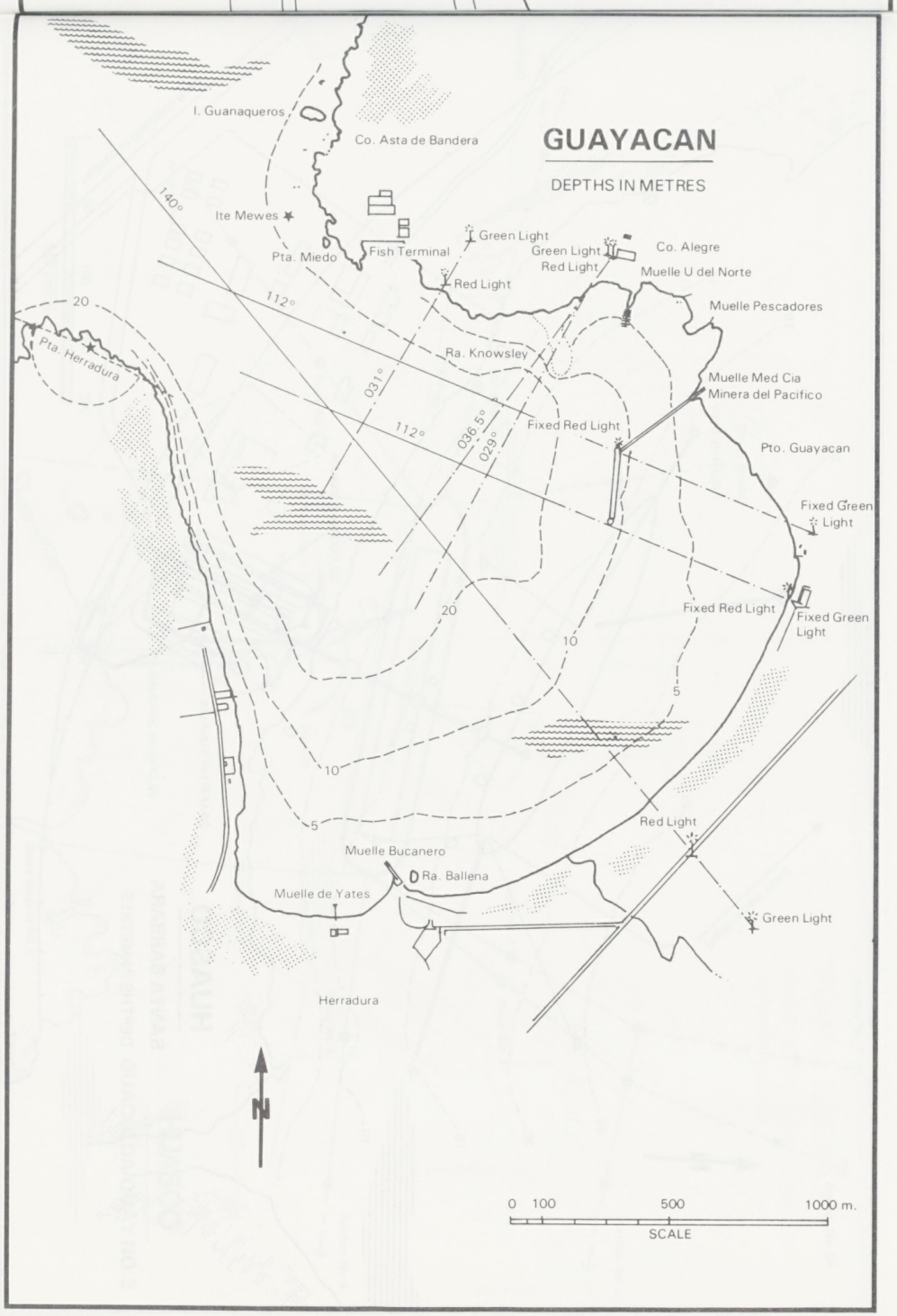
FROM STBL (YOUR SHIP)
3 BOW LINES
2 TOWING SPRING LINES (FORWARD)
2 STERN LINES

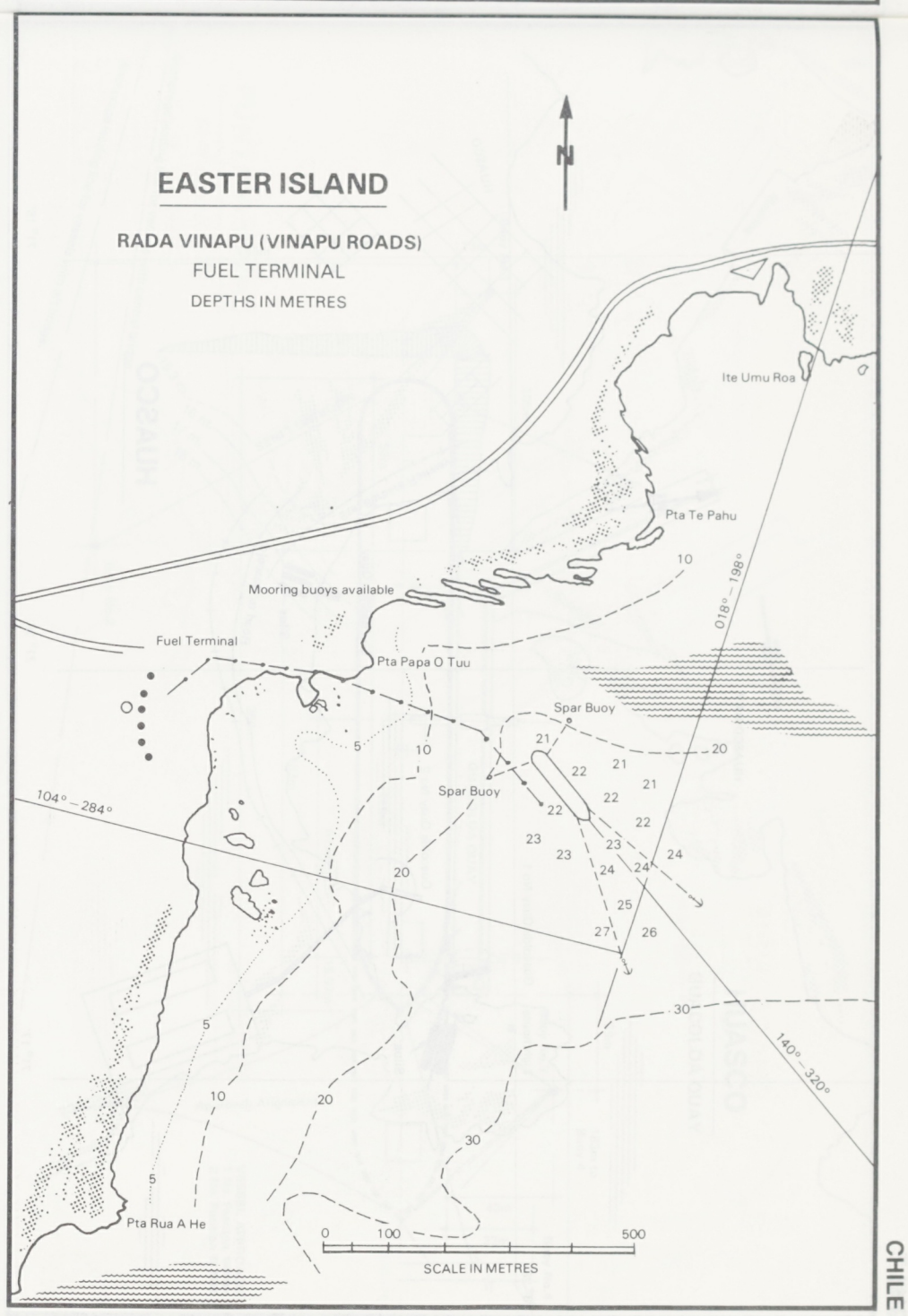

SHELTER MOLE
Berth 6
Max. draft 9.45 m.
Berth 7
Max. draft 10.06 m.
SOUTH MOLE
Berth 5
Max. draft 9.14 m.
Berth 4
Max. draft 9.14 m.
Max. draft 4.88 m.
Landing Stage Area
Berth 3
Berth 2
Berth 1
Max. draft 7.32 m.
Fishing Quay
COASTAL PIER
Warehouses
Transit Warehouse
Enclosed Open Area
Hotel
ANTOFAGASTA

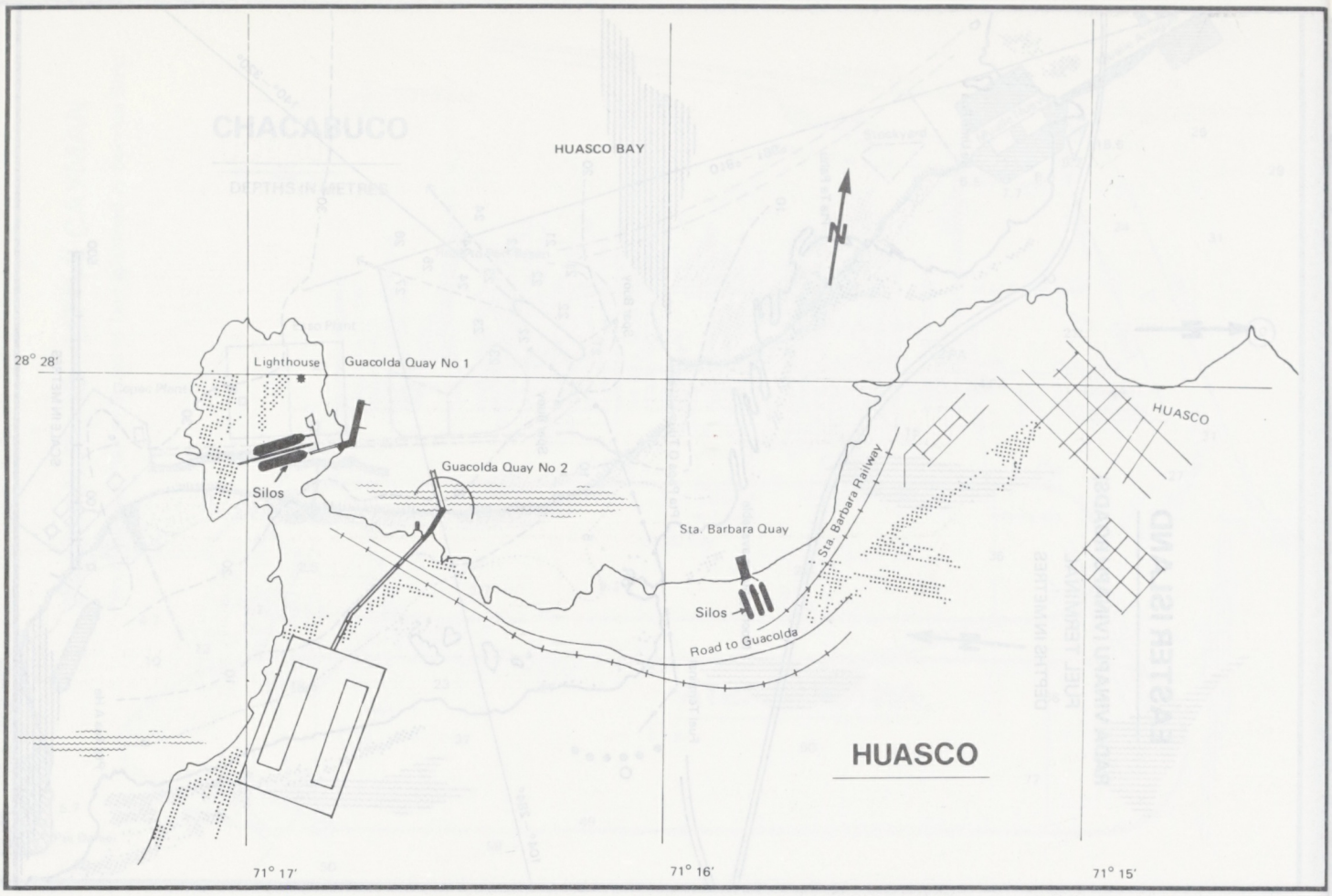

-10 m.
-15 m.
Warehouses
Shed
Substation 2
Warehouses
Berth No. 4
Berth No. 5
Berth No. 6
Berth No. 3
-5 m.
-15 m.
sica—sica
Workshops
Substation 1
Rails for Gantry Cranes
Berth No. 2
Fuel Pump
ARICA
DEPTH IN METRES
Grace "F"
North Mole
Berth No. 1
"G"
Landing Stage
Muelle Fiscal
-10 m.
-5 m.
CSAV "H"
Fish Terminal

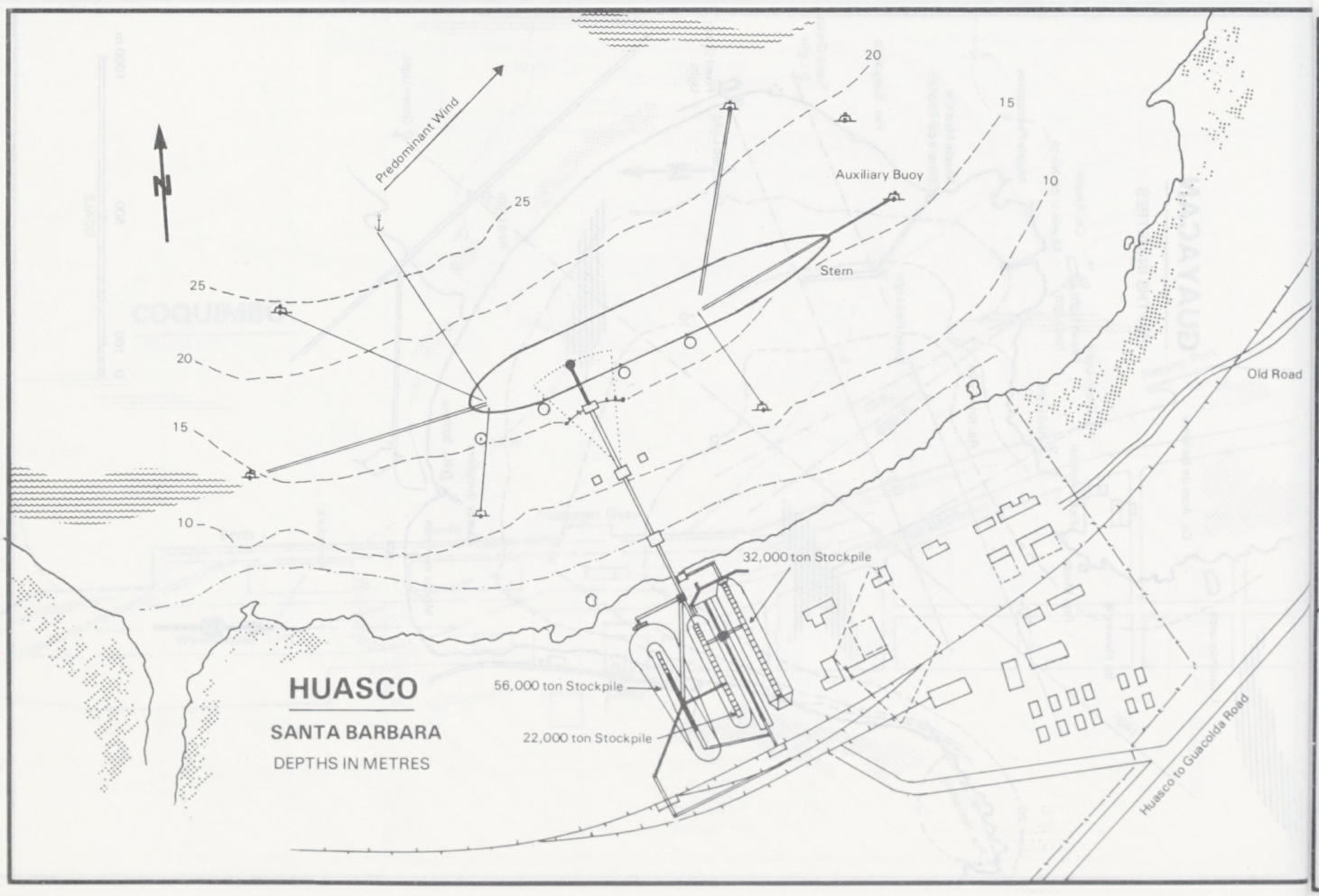

CHACABUCO
DEPTHS IN METRES
Muelle Antiguo
Muelle Nuevo
Stockyard
Road to Port Aisen
Esso Plant
Copec Plant
2 PA
4 PA
Pta Daniel
N

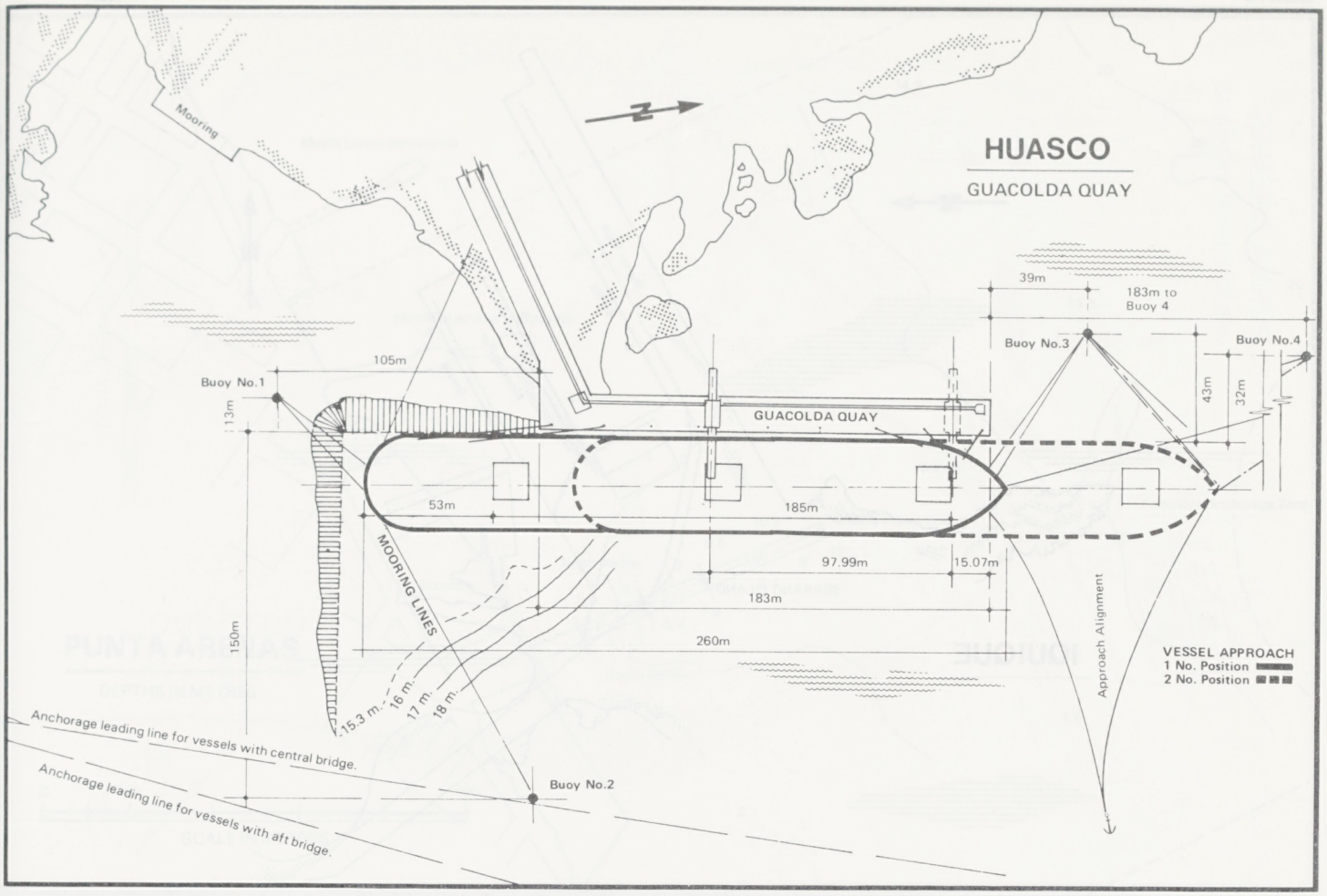

COQUIMBO
−10 m.
−5 m.
Fishing Port
Berth 1
Berth 2
Passenger Quay
Avenida Costanera
Warehouses
Port Admin. Office
N

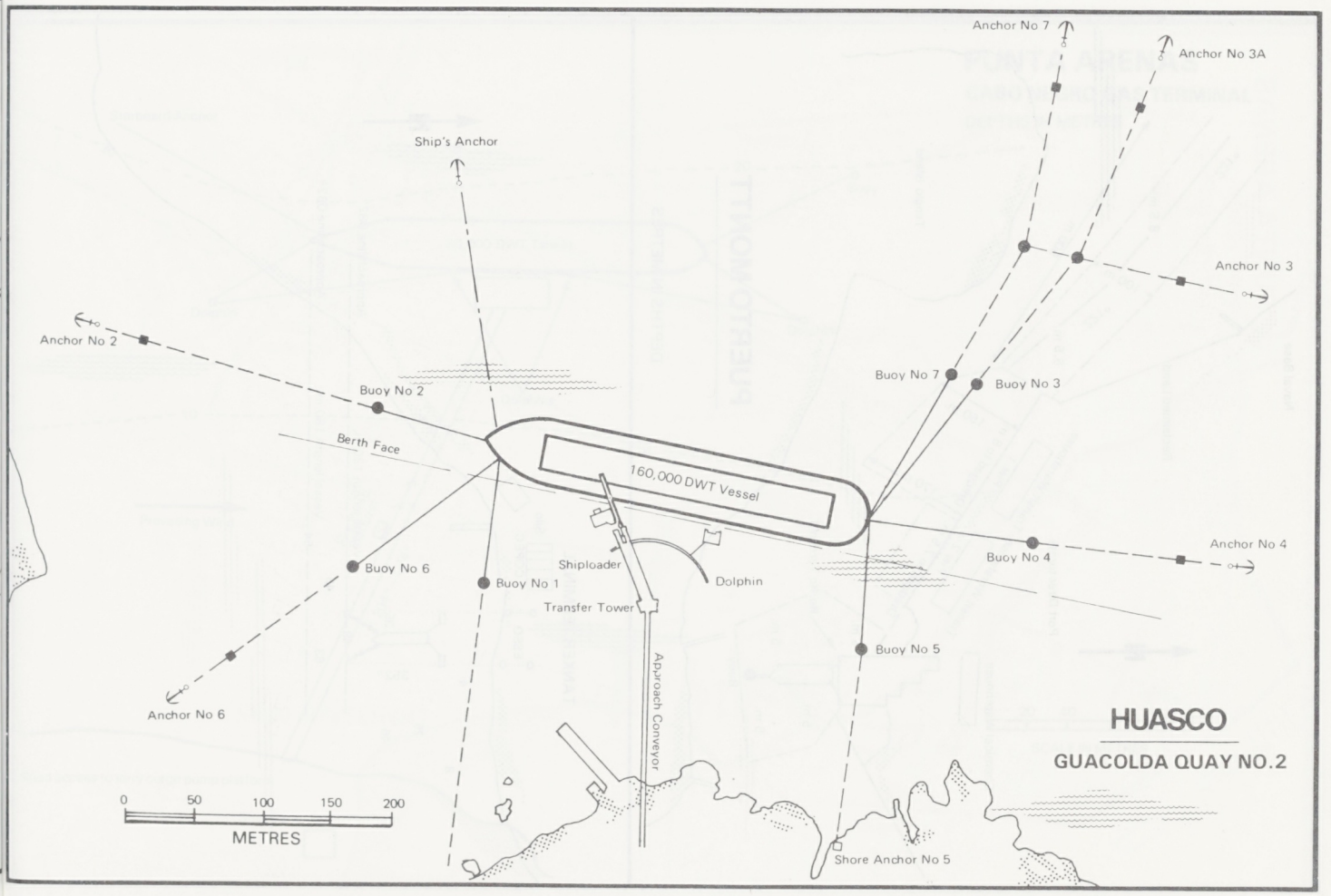

GUAYACAN
DEPTHS IN METRES
I. Guanaqueros
Co. Asta de Bandera
Ite Mewes
Pta. Miedo
Fish Terminal
Green Light
Green Light
Red Light
Co. Alegre
Muelle U del Norte
Red Light
Muelle Pescadores
Ra. Knowsley
Muelle Med Cia
Minera del Pacifico
Fixed Red Light
Pto. Guayacan
Fixed Green
Light
Fixed Red Light
Fixed Green
Light
Pta. Herradura
Red Light
Muelle Bucanero
Ra. Ballena
Muelle de Yates
Green Light
Herradura
140°
112°
031°
036.5°
029°
112°
20
10
5
20
10
5
N
0 100 500 1000 m.
SCALE

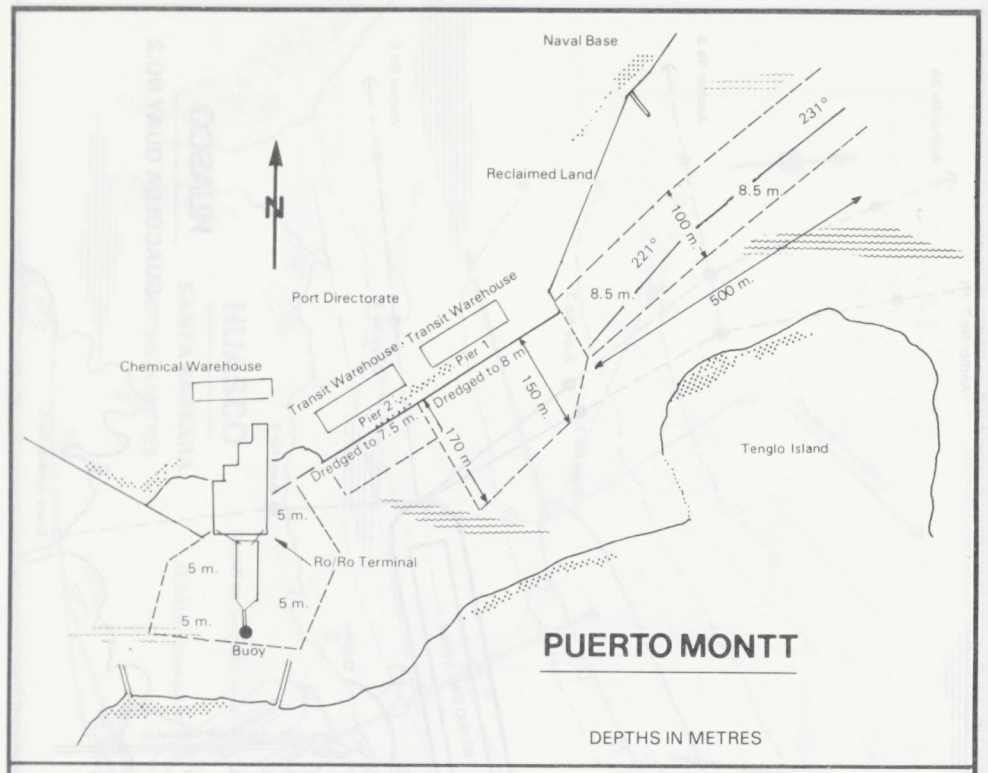

EASTER ISLAND
RADA VINAPU (VINAPU ROADS)
FUEL TERMINAL
DEPTHS IN METRES
N
Ite Umu Roa
Pta Te Pahu
Mooring buoys available
018° – 198°
Fuel Terminal
Pta Papa O Tuu
Spar Buoy
Spar Buoy
104° – 284°
140° – 320°
Pta Rua A He
0 100 500
SCALE IN METRES

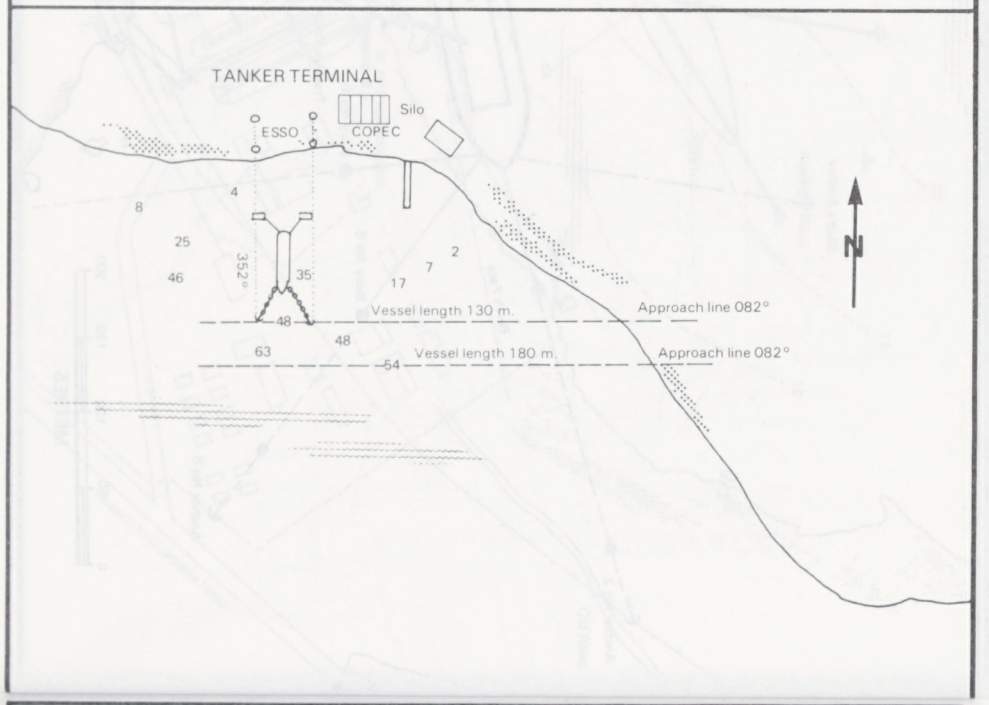

HUASCO BAY
N
28° 28'
Lighthouse
Guacolda Quay No 1
Guacolda Quay No 2
Silos
Sta. Barbara Quay
Sta. Barbara Railway
Silos
Road to Guacolda
HUASCO
HUASCO
71° 17'
71° 16'
71° 15'

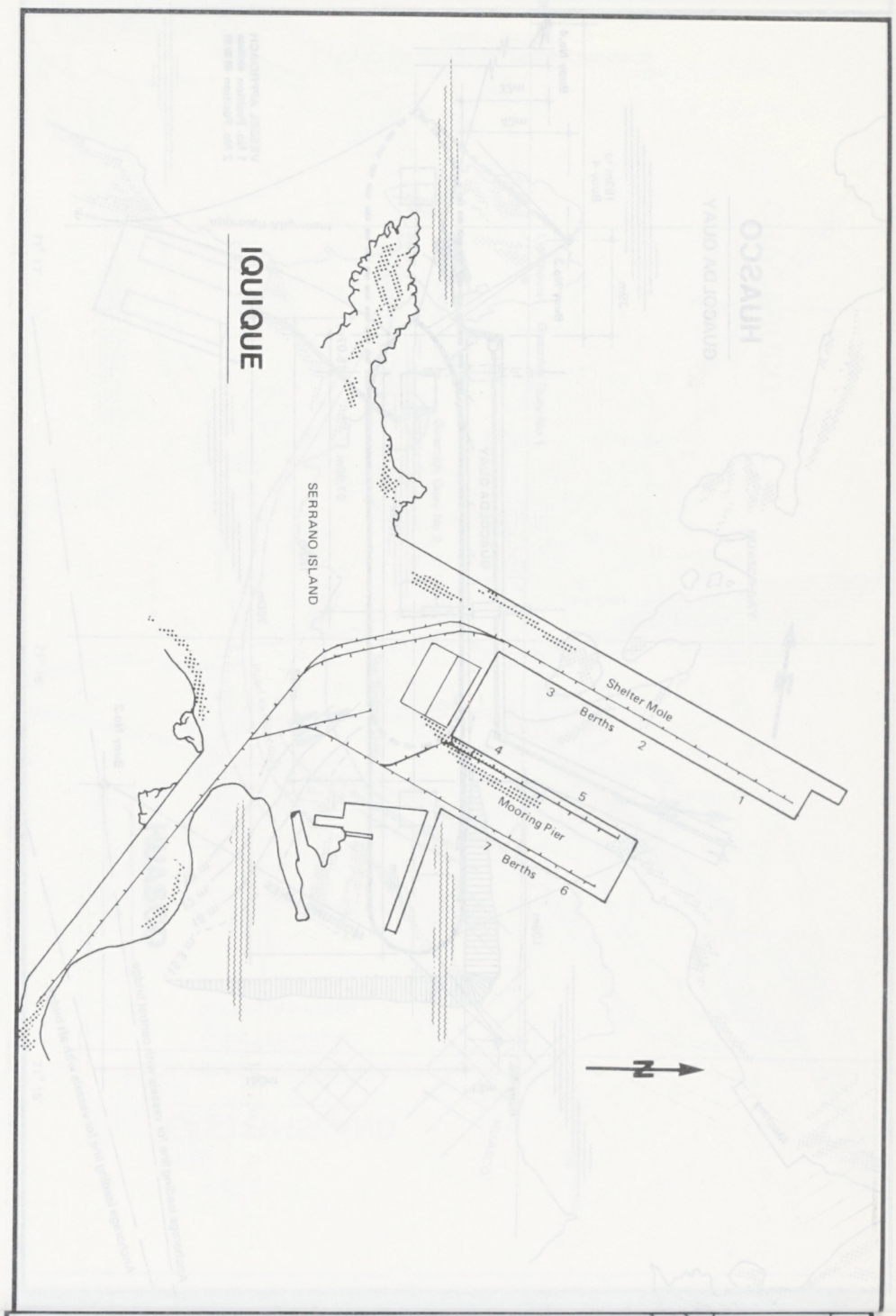

N
Predominant Wind
20
15
10
25
25
20
15
10
Auxiliary Buoy
Stern
Old Road
32,000 ton Stockpile
56,000 ton Stockpile
22,000 ton Stockpile
HUASCO
SANTA BARBARA
DEPTHS IN METRES
Huasco to Guacolda Road

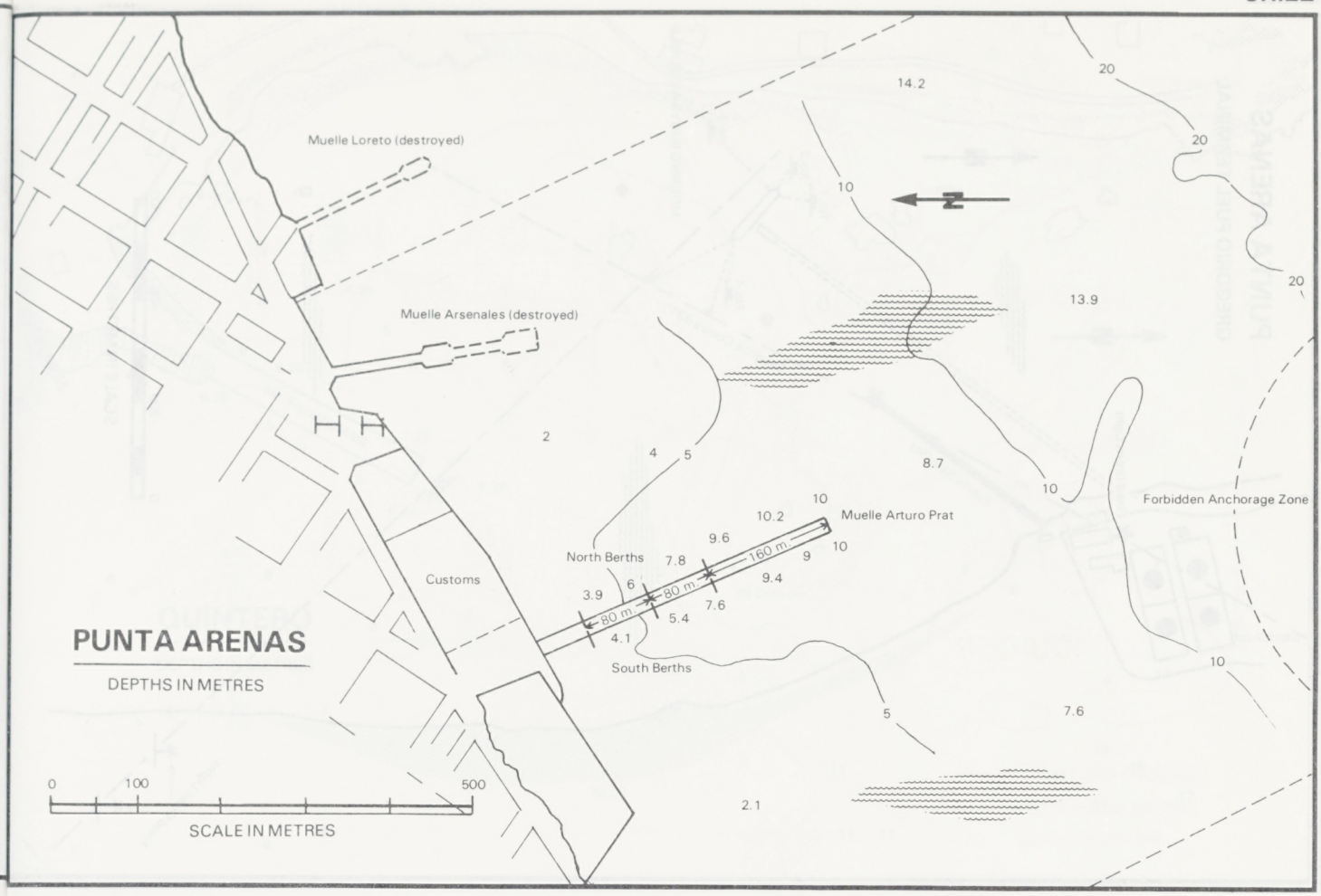

HUASCO
GUACOLDA QUAY
Mooring
N
39m
183m to Buoy 4
Buoy No.3
Buoy No.4
105m
Buoy No.1
13m
GUACOLDA QUAY
43m
32m
53m
185m
MOORING LINES
97.99m
15.07m
183m
260m
150m
15.3 m.
16 m.
17 m.
18 m.
Approach Alignment
VESSEL APPROACH
1 No. Position
2 No. Position
Anchorage leading line for vessels with central bridge.
Anchorage leading line for vessels with aft bridge.
Buoy No.2

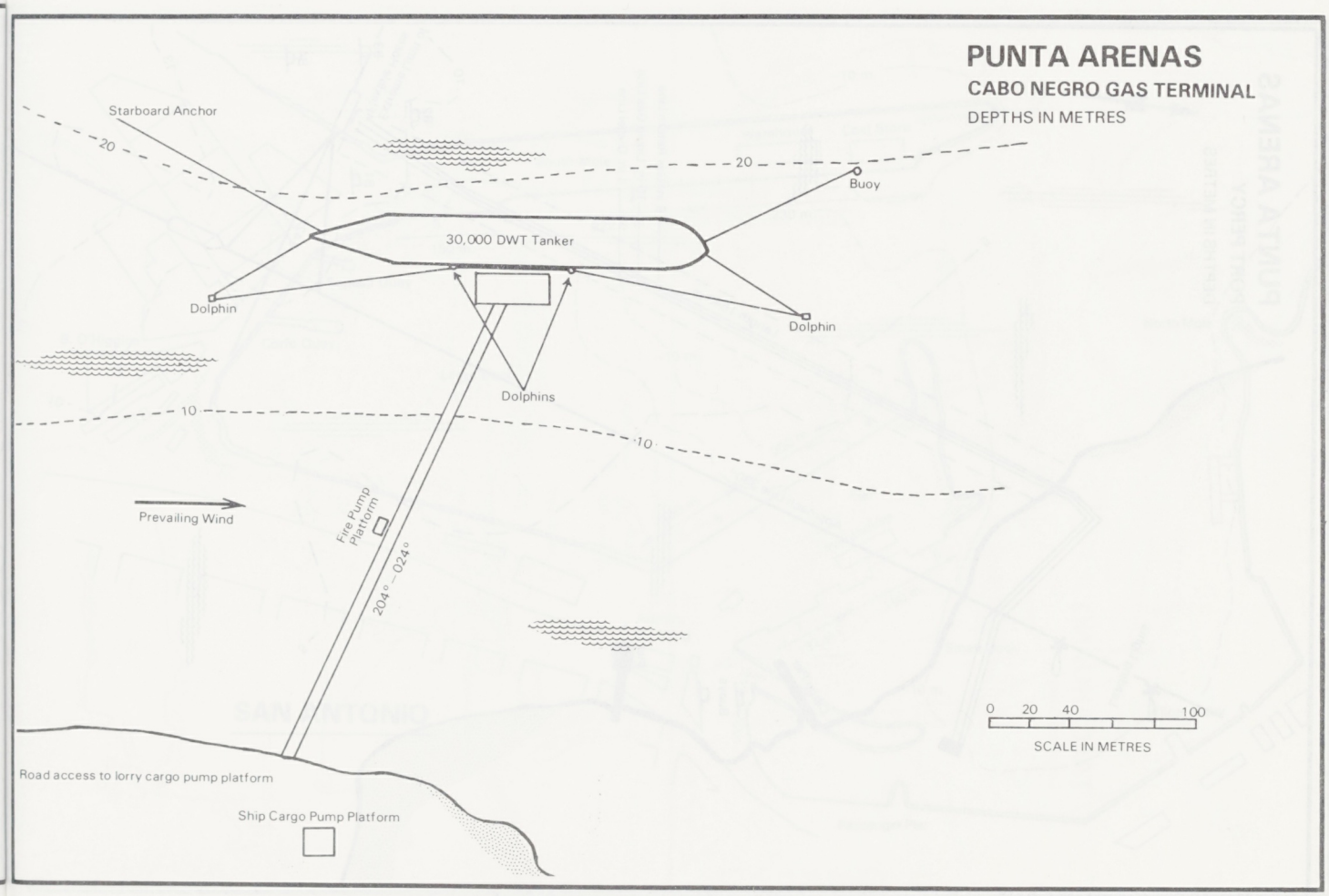

Anchor No 7
Anchor No 3A
Ship's Anchor
Anchor No 3
Anchor No 2
Buoy No 7
Buoy No 3
Buoy No 2
Berth Face
160,000 DWT Vessel
Anchor No 4
Buoy No 4
Buoy No 6
Shiploader
Buoy No 1
Dolphin
Transfer Tower
Buoy No 5
Anchor No 6
Approach Conveyor
HUASCO
GUACOLDA QUAY NO.2
0 50 100 150 200
METRES
Shore Anchor No 5

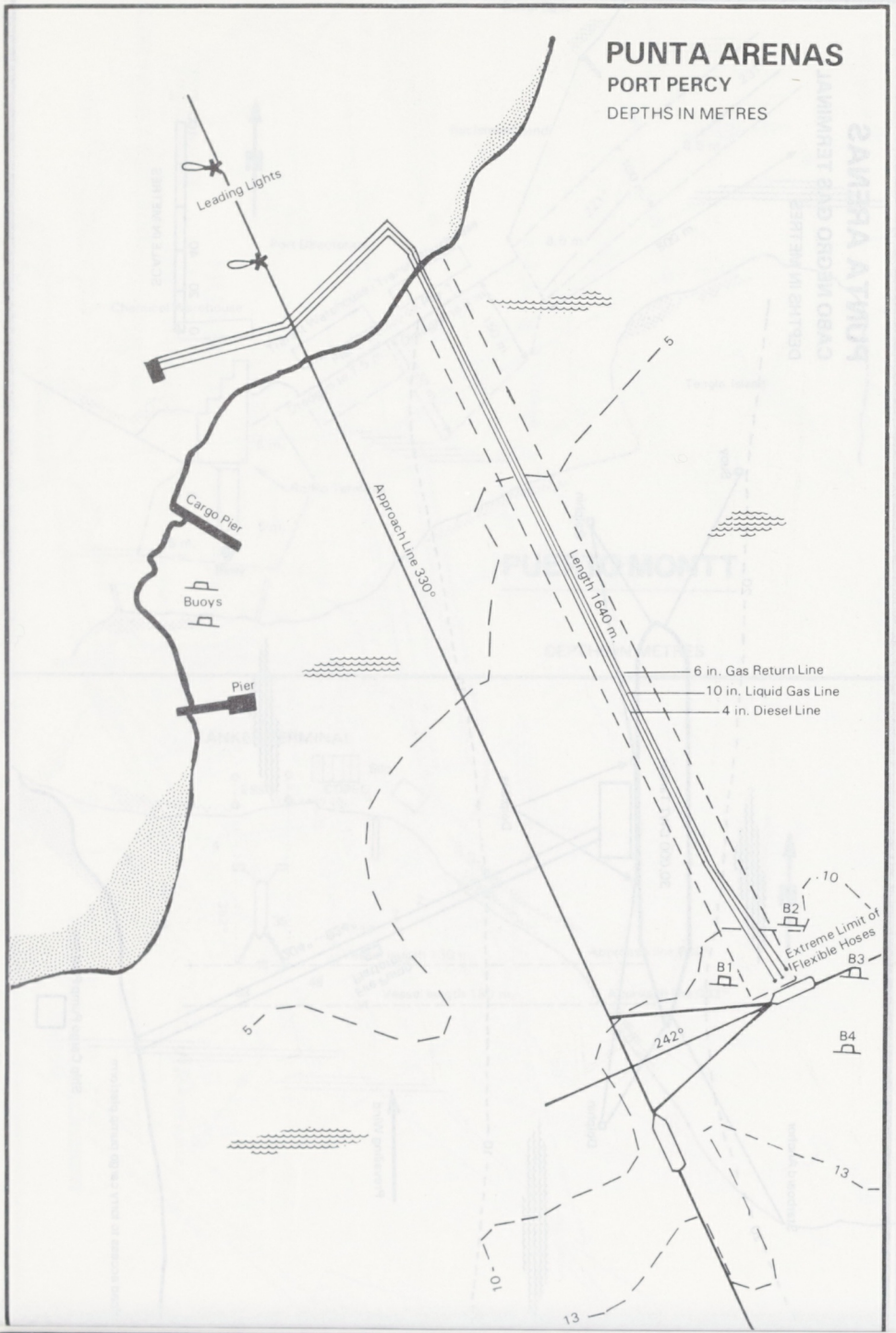

Naval Base
Reclaimed Land
231°
8.5 m.
100 m.
221°
8.5 m.
500 m.
N
Port Directorate
Chemical Warehouse
Transit Warehouse
Transit Warehouse
Pier 1
Pier 2
Dredged to 8 m.
Dredged to 7.5 m.
150 m.
170 m.
Tenglo Island
5 m.
5 m.
Ro/Ro Terminal
5 m.
5 m.
Buoy
PUERTO MONTT
DEPTHS IN METRES

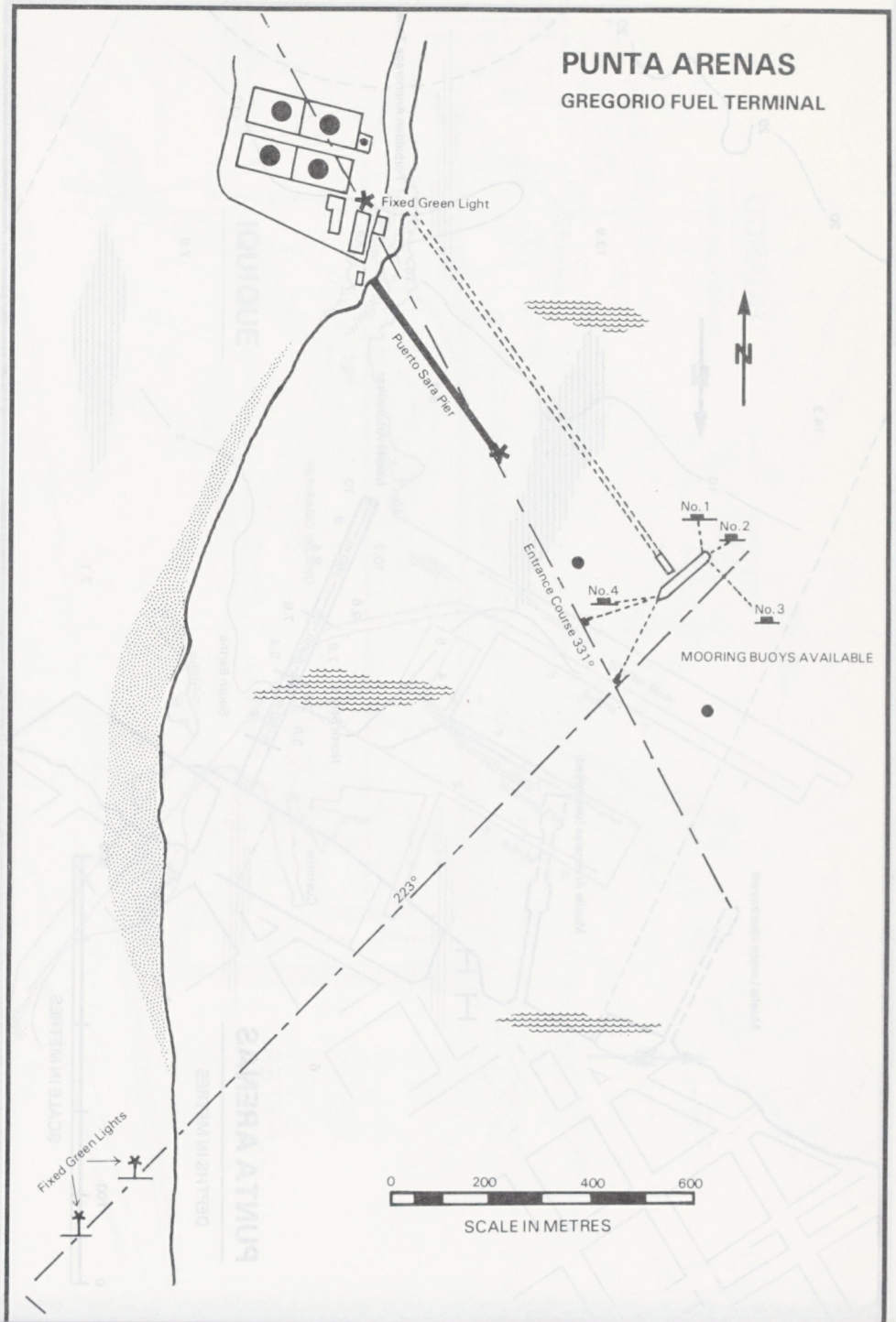

TANKER TERMINAL
Silo
ESSO
COPEC
N
8
4
25
46
352°
35
17
7
2
48
Vessel length 130 m.
Approach line 082°
48
63
Vessel length 180 m.
54
Approach line 082°

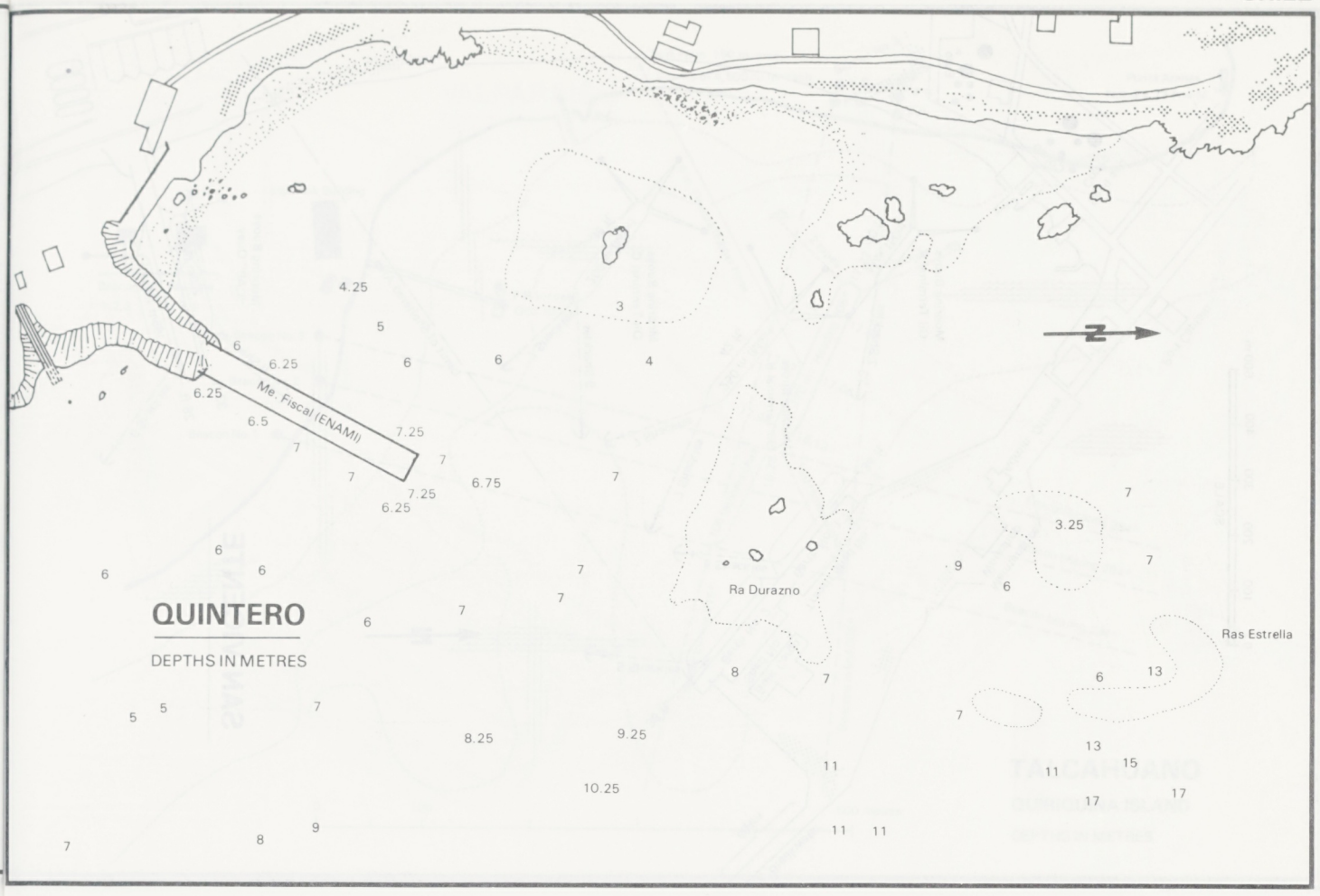

IQUIQUE
SERRANO ISLAND
Shelter Mole
3
Berths
2
1
4
5
Mooring Pier
7
Berths
6
N

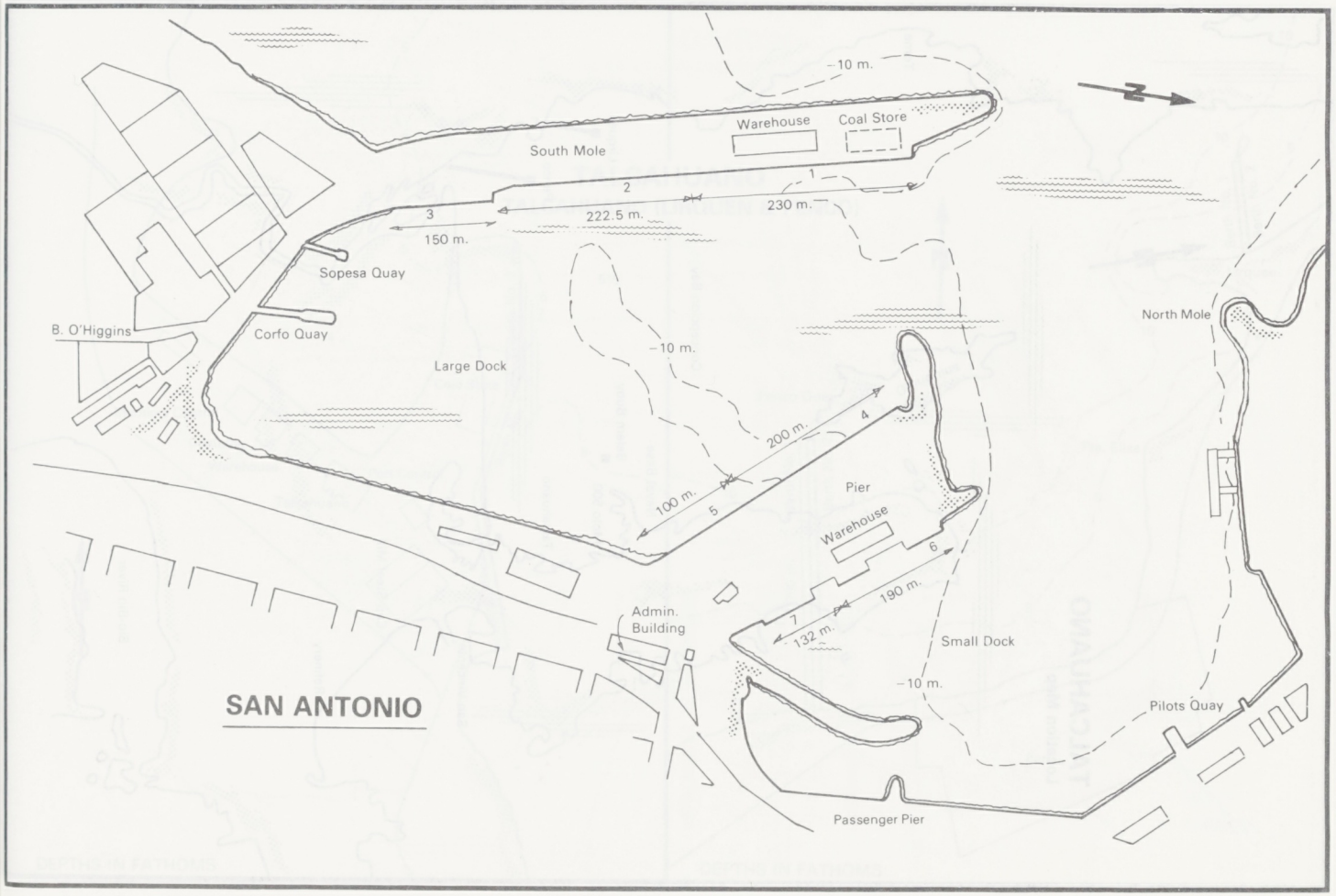

Muelle Loreto (destroyed)
Muelle Arsenales (destroyed)
Customs
North Berths
South Berths
Muelle Arturo Prat
160 m
80 m
80 m
Forbidden Anchorage Zone
14.2
13.9
8.7
10.2
9.6
7.8
9.4
7.6
5.4
4.1
3.9
2.1
7.6
PUNTA ARENAS
DEPTHS IN METRES
0
100
500
SCALE IN METRES


PUNTA ARENAS
CABO NEGRO GAS TERMINAL
DEPTHS IN METRES
Starboard Anchor
Buoy
30,000 DWT Tanker
Dolphin
Dolphin
Dolphins
Prevailing Wind
Fire Pump Platform
204° – 024°
Road access to lorry cargo pump platform
Ship Cargo Pump Platform
0
20
40
100
SCALE IN METRES

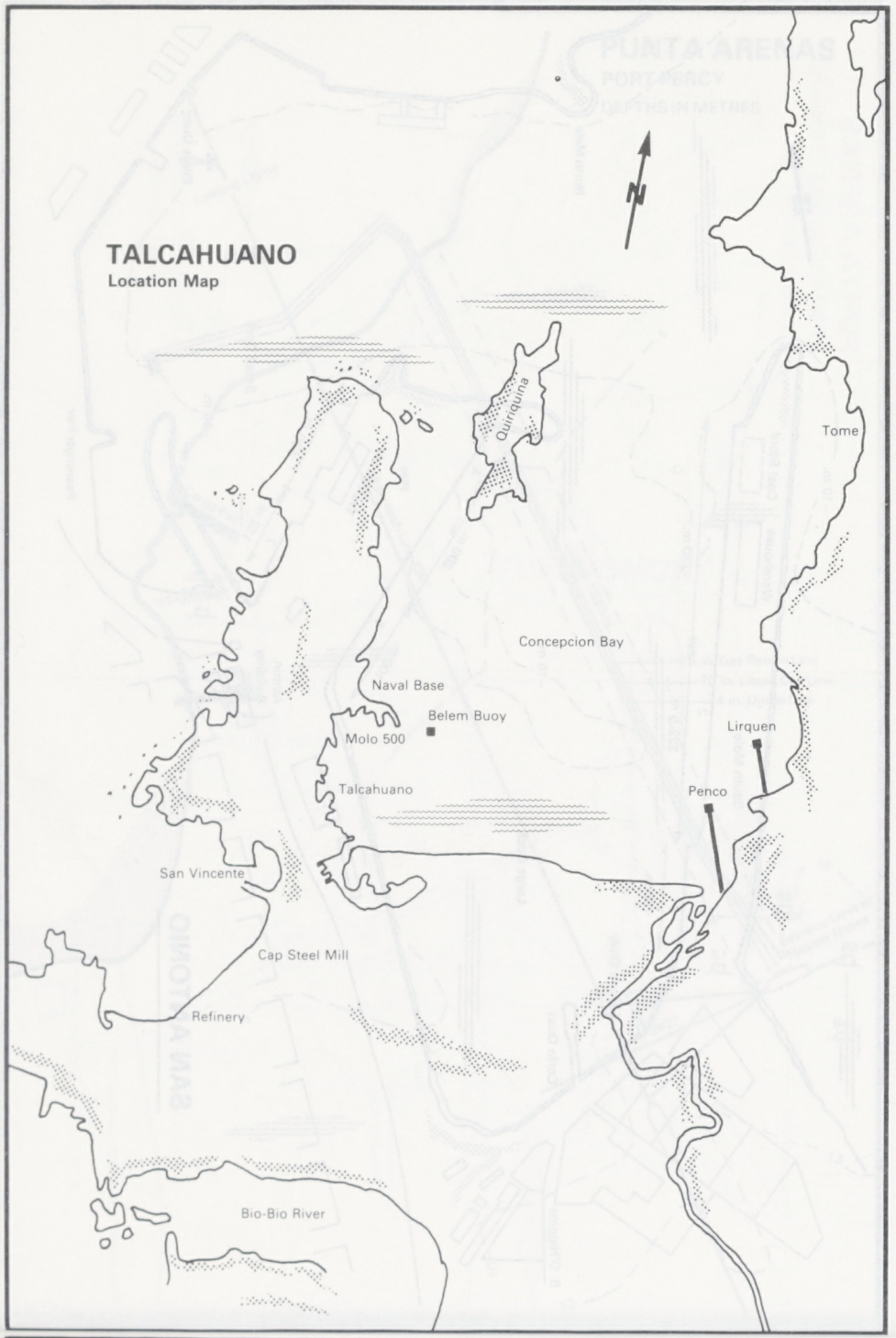

PUNTA ARENAS
PORT PERCY
DEPTHS IN METRES
Leading Lights
Cargo Pier
Buoys
Pier
Approach Line 330°
Length 1640 m.
6 in. Gas Return Line
10 in. Liquid Gas Line
4 in. Diesel Line
B1
B2
B3
B4
Extreme Limit of Flexible Hoses
242°
5
10
13


PUNTA ARENAS
GREGORIO FUEL TERMINAL
Fixed Green Light
Puerto Sara Pier
N
No. 1
No. 2
No. 3
No. 4
Entrance Course 331°
MOORING BUOYS AVAILABLE
223°
Fixed Green Lights
0
200
400
600
SCALE IN METRES

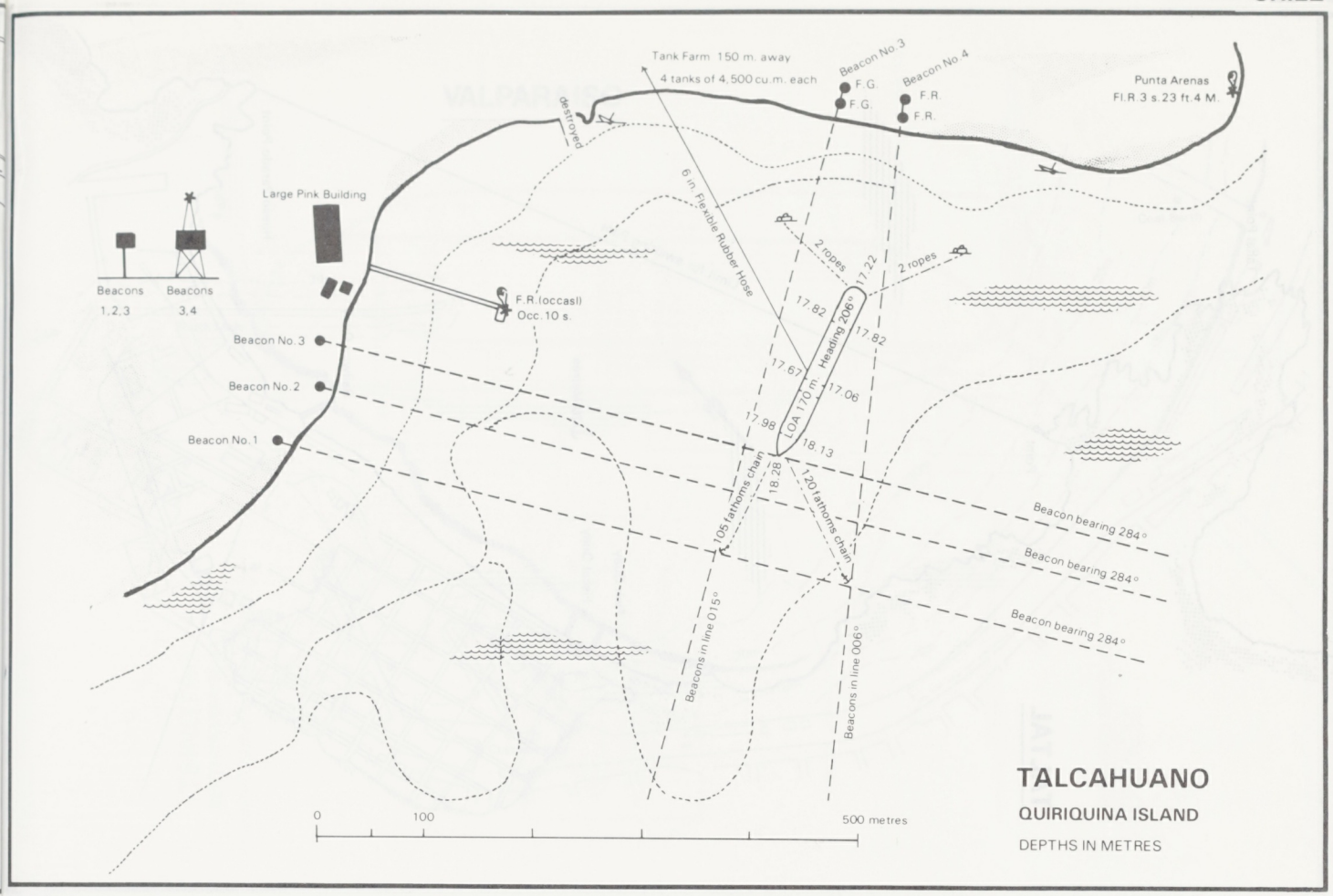

QUINTERO
DEPTHS IN METRES
Me. Fiscal (ENAMI)
Ra Durazno
Ras Estrella
4.25
6.25
6.5
7.25
6.75
3.25
8.25
9.25
10.25
N

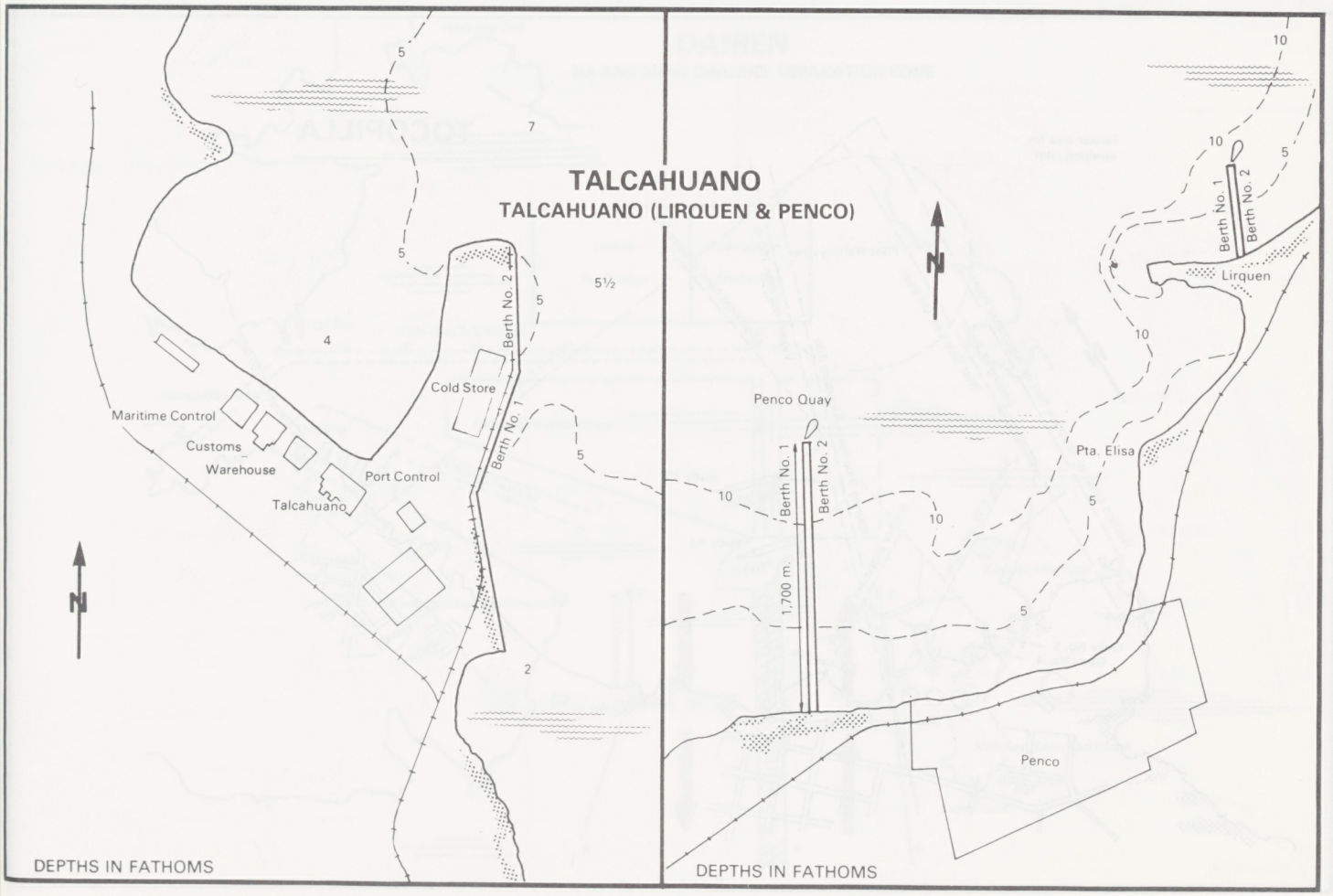

SAN ANTONIO
South Mole
Warehouse
Coal Store
230 m.
222.5 m.
150 m.
Sopesa Quay
Corfo Quay
B. O'Higgins
Large Dock
–10 m.
200 m.
100 m.
Pier
Warehouse
190 m.
132 m.
Admin. Building
Small Dock
North Mole
Pilots Quay
Passenger Pier
N

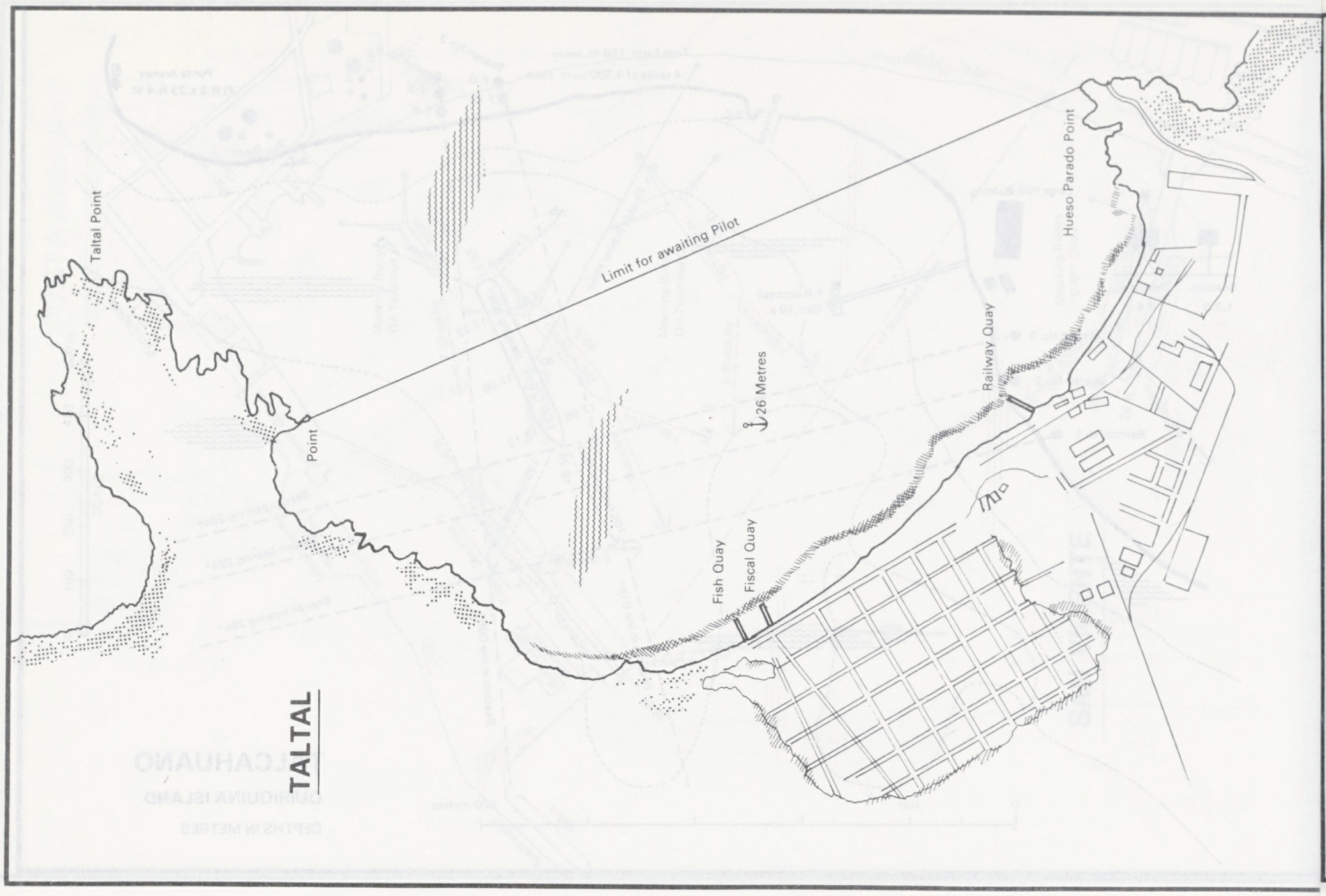
TALCAHUANO
Location Map

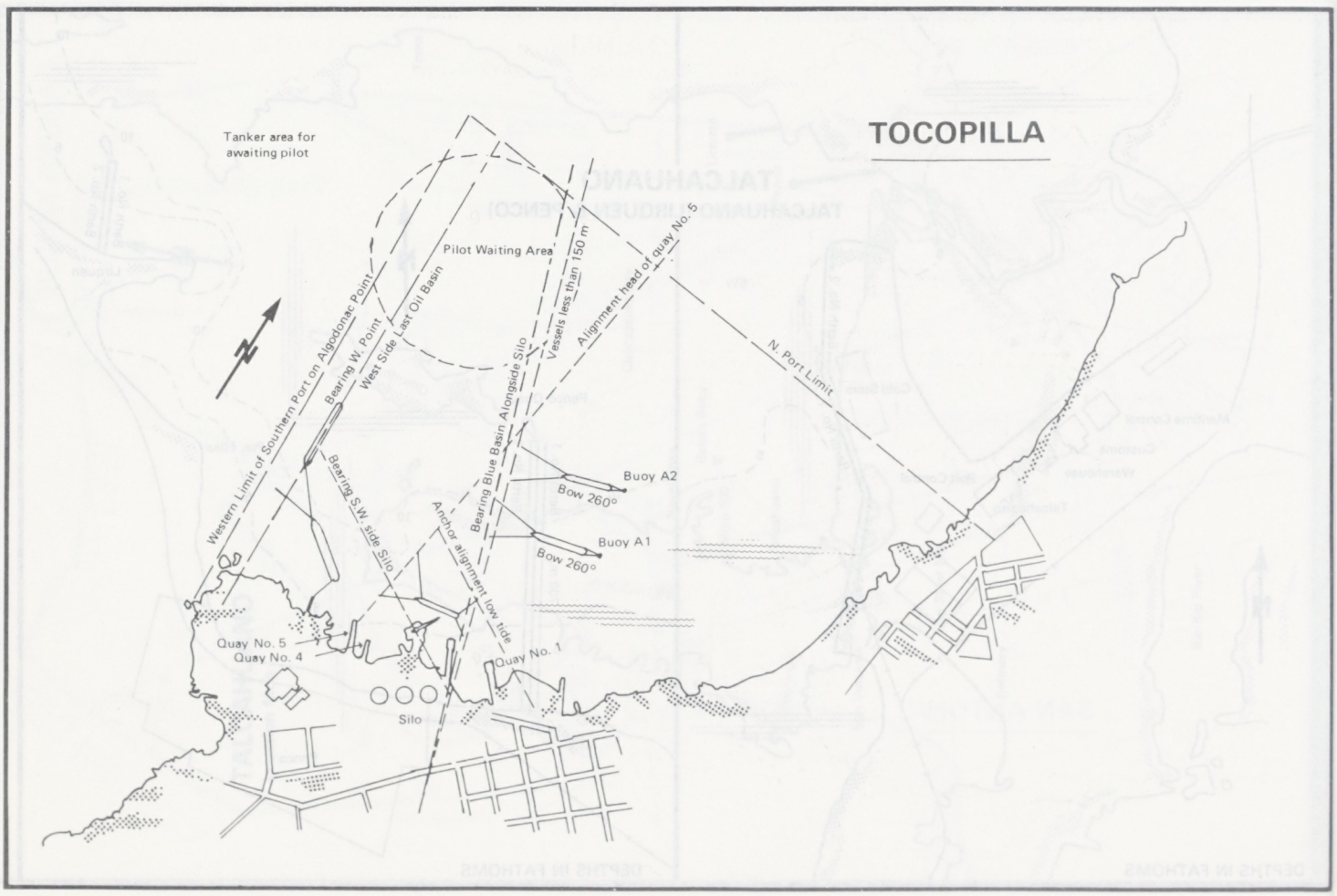


SAN VICENTE

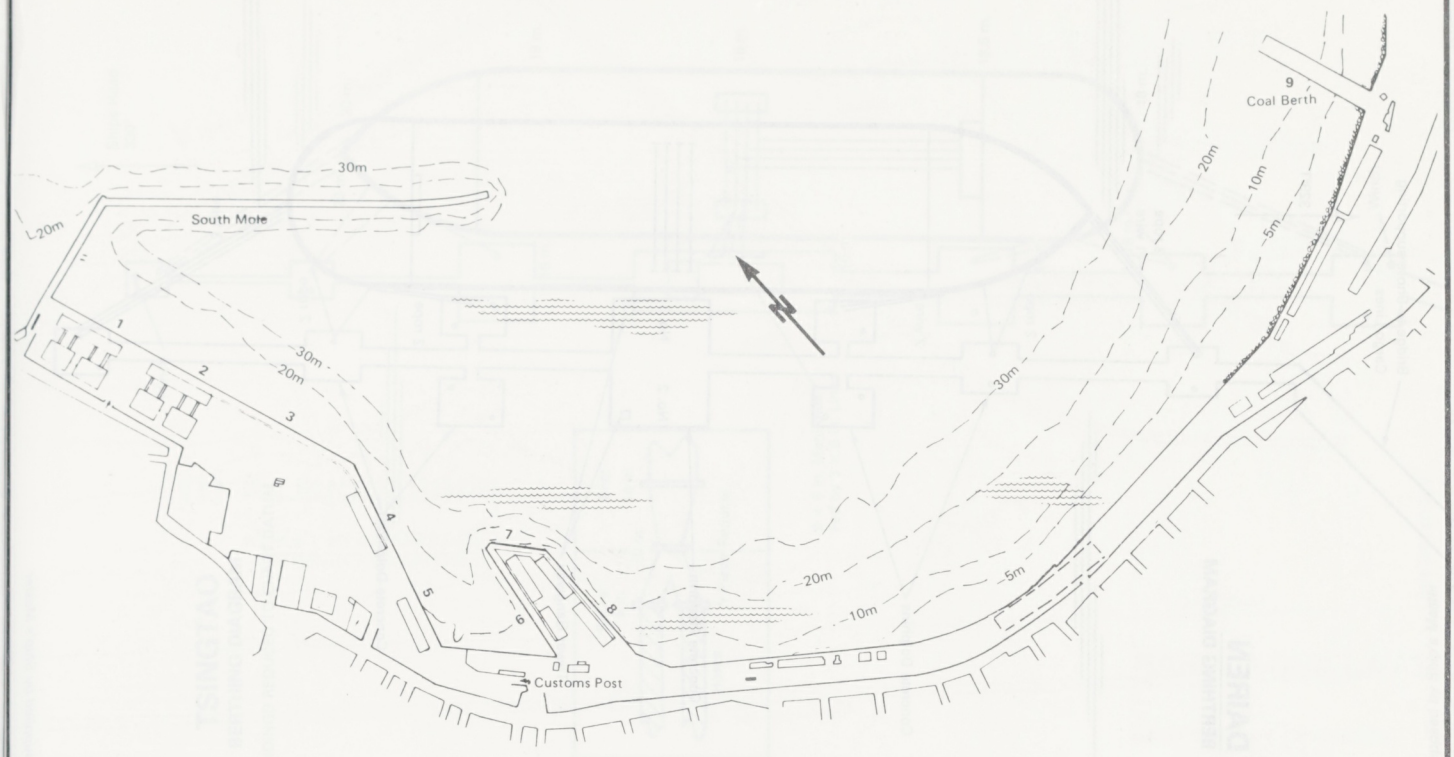

Tank Farm 150 m. away
4 tanks of 4,500 cu.m. each
Beacon No.3
F.G.
F.G.
Beacon No.4
F.R.
F.R.
Punta Arenas
Fl.R.3 s.23 ft.4 M.
destroyed
6 in. Flexible Rubber Hose
Large Pink Building
Beacons 1,2,3
Beacons 3,4
F.R.(occasl)
Occ.10 s.
2 ropes
2 ropes
17.22
17.82
17.82
17.67
Heading 206°
17.06
17.98
COA 170 m.
18.13
18.28
105 fathoms chain
120 fathoms chain
Beacon No.3
Beacon No.2
Beacon No.1
Beacon bearing 284°
Beacon bearing 284°
Beacon bearing 284°
Beacons in line 015°
Beacons in line 006°
0
100
500 metres
TALCAHUANO
QUIRIQUINA ISLAND
DEPTHS IN METRES


TALCAHUANO
TALCAHUANO (LIRQUEN & PENCO)
Berth No. 2
Berth No. 1
Cold Store
Maritime Control
Customs
Warehouse
Port Control
Talcahuano
N
DEPTHS IN FATHOMS
Berth No. 1
Berth No. 2
Lirquen
Penco Quay
Pta. Elisa
1,700 m.
Penco
N
DEPTHS IN FATHOMS


Taltal Point
Limit for awaiting Pilot
Hueso Parado Point
Railway Quay
26 Metres
Point
Fish Quay
Fiscal Quay
TALTAL

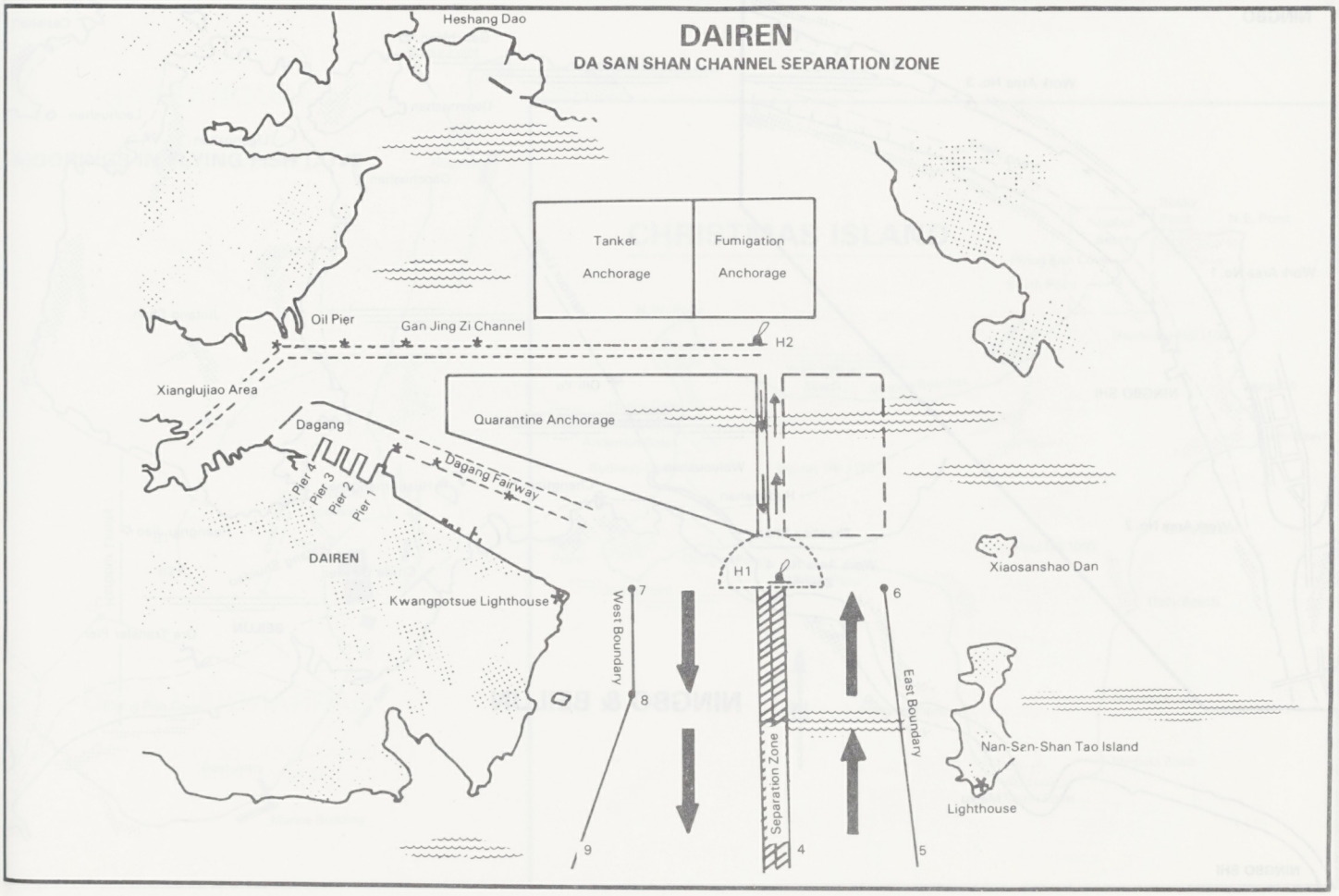

TOCOPILLA
Tanker area for awaiting pilot
Pilot Waiting Area
Western Limit of Southern Port on Algodonac Point
Bearing W. Point West Side Last Oil Basin
Vessels less than 150 m
Alignment head of quay No. 5
N. Port Limit
Bearing Blue Basin Alongside Silo
Bearing S.W. side Silo
Anchor alignment low tide
Buoy A2
Bow 260°
Buoy A1
Bow 260°
Quay No. 5
Quay No. 4
Quay No. 1
Silo

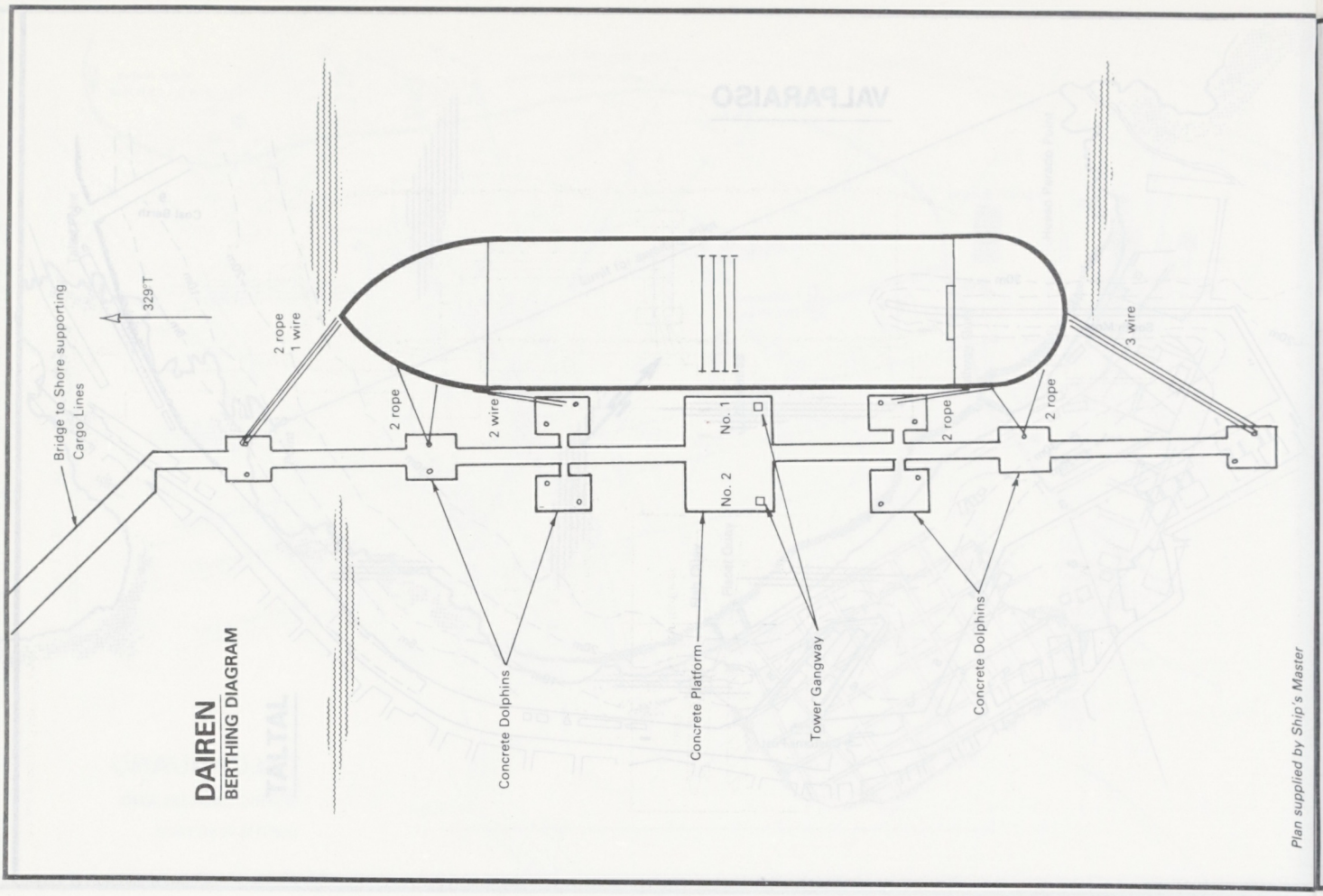
VALPARAISO



DAIREN

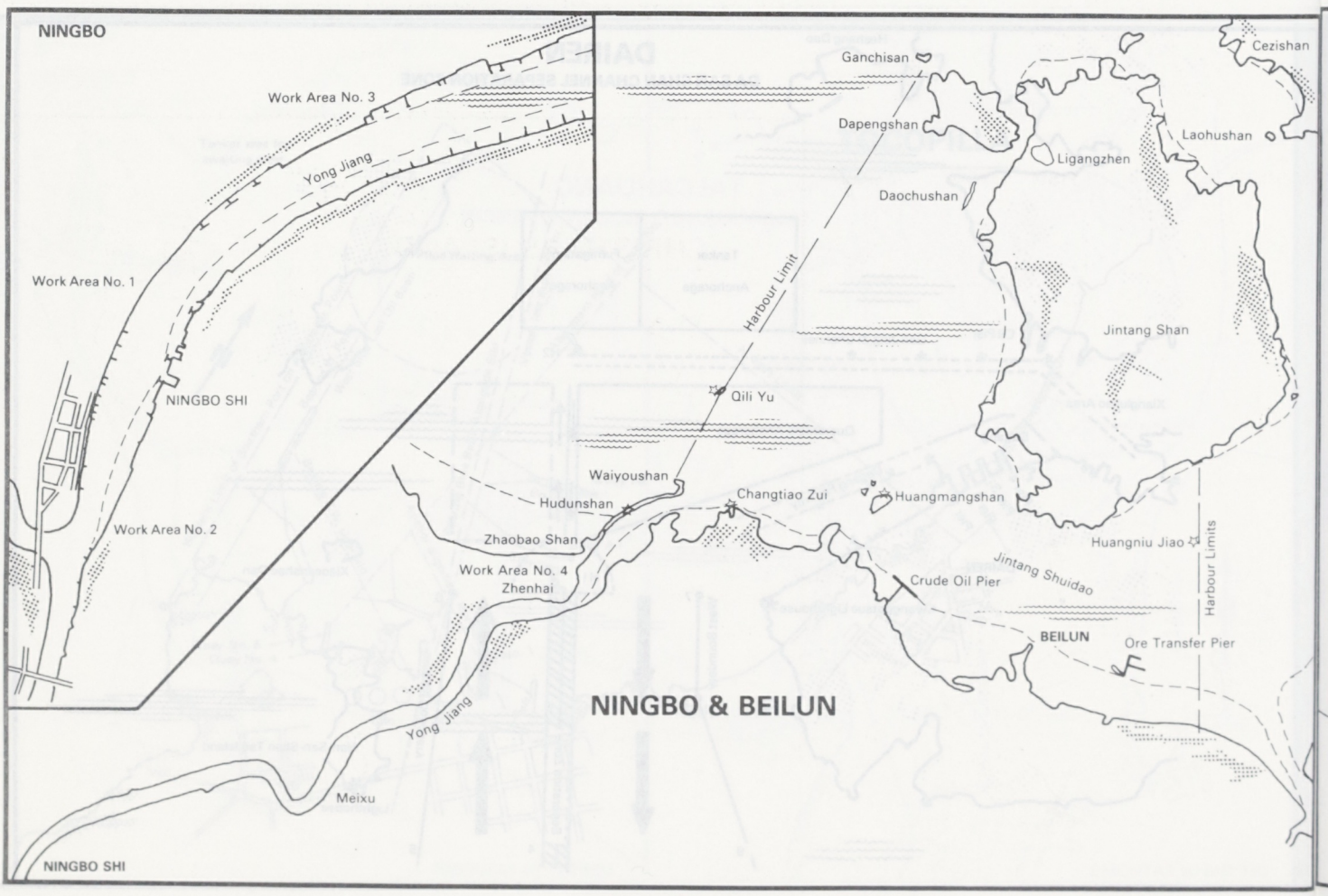
DA SAN SHAN CHANNEL SEPARATION ZONE

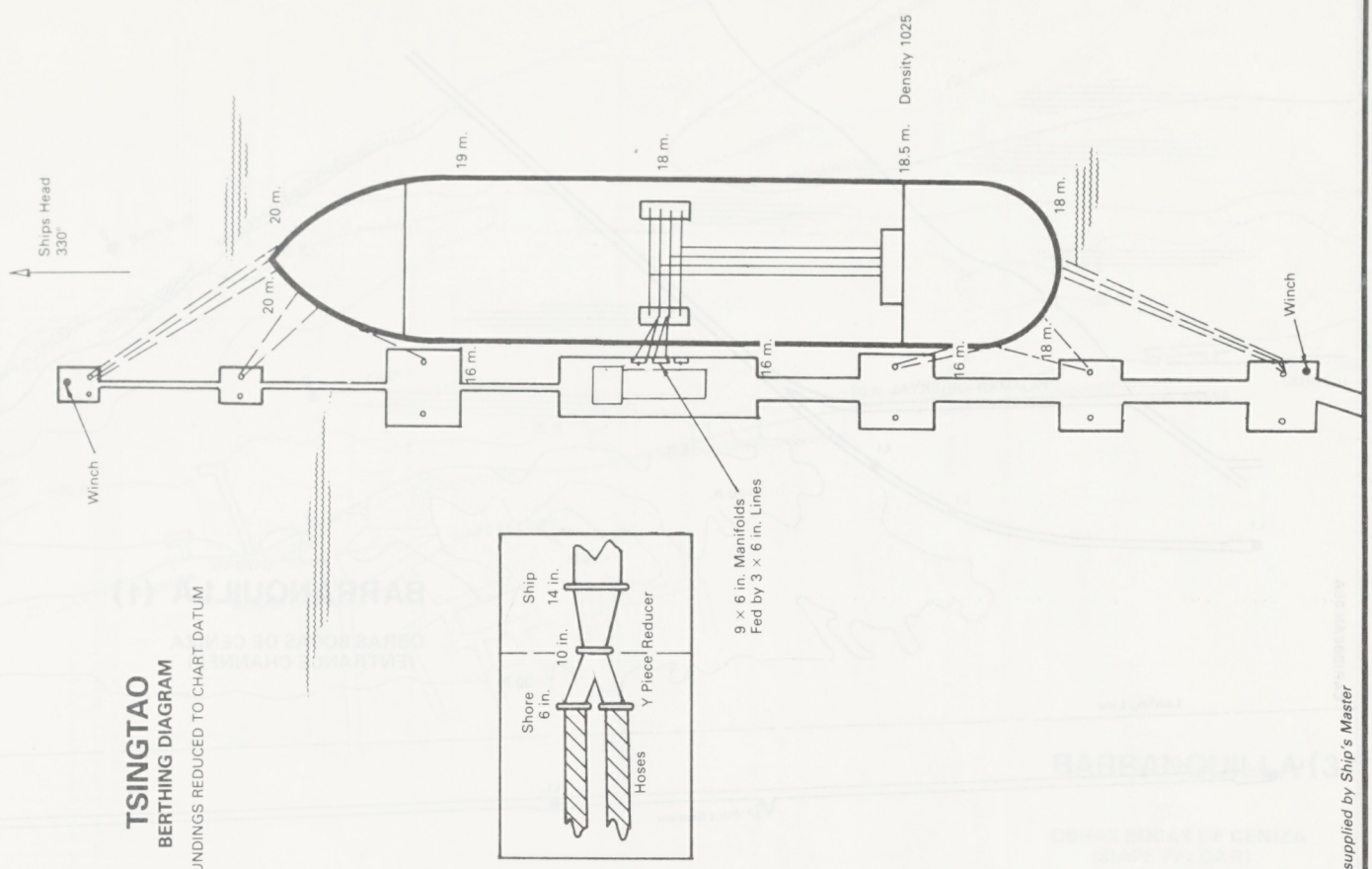




DAIREN
BERTHING DIAGRAM

Plan supplied by Ship's Master



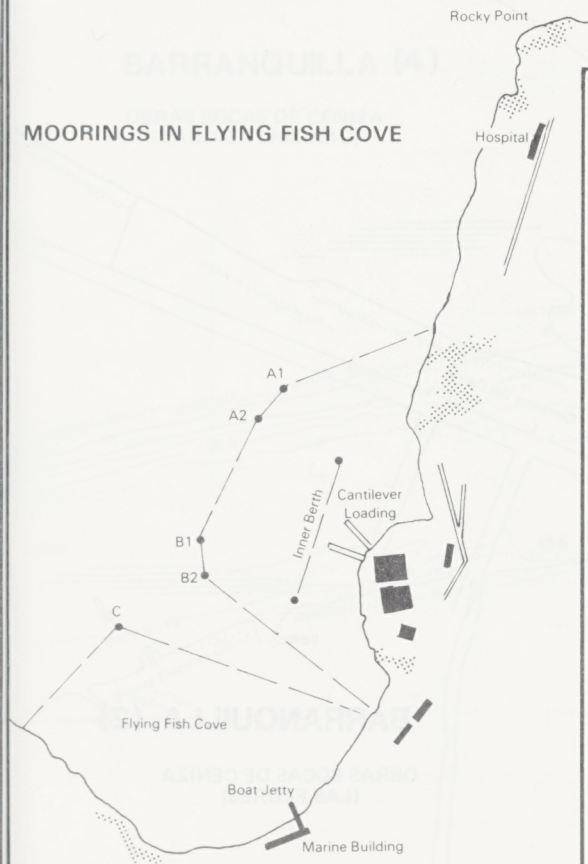


TSINGTAO
BERTHING DIAGRAM

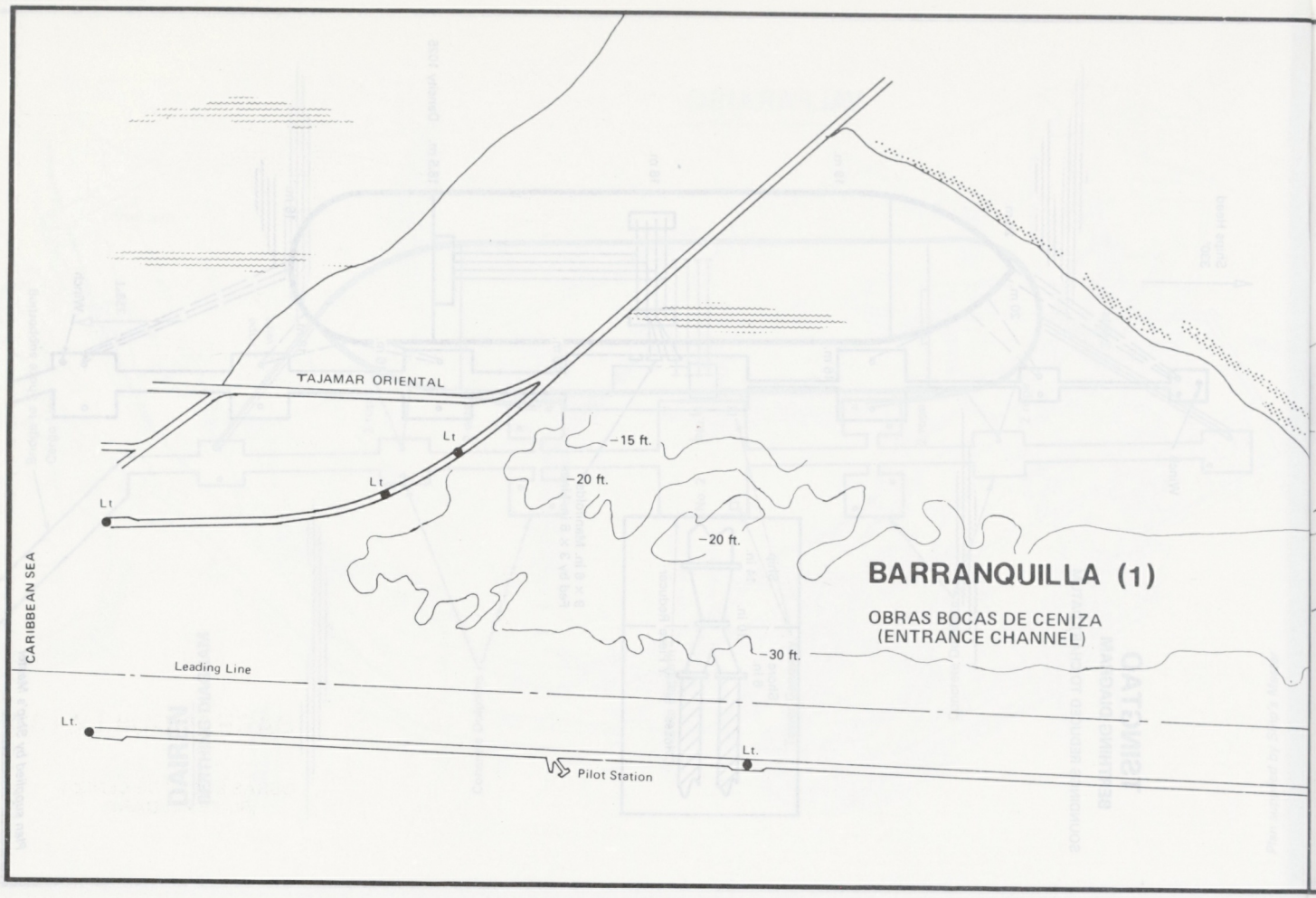
SOUNDINGS REDUCED TO CHART DATUM

Plan supplied by Ship's Master

MOORINGS IN FLYING FISH COVE

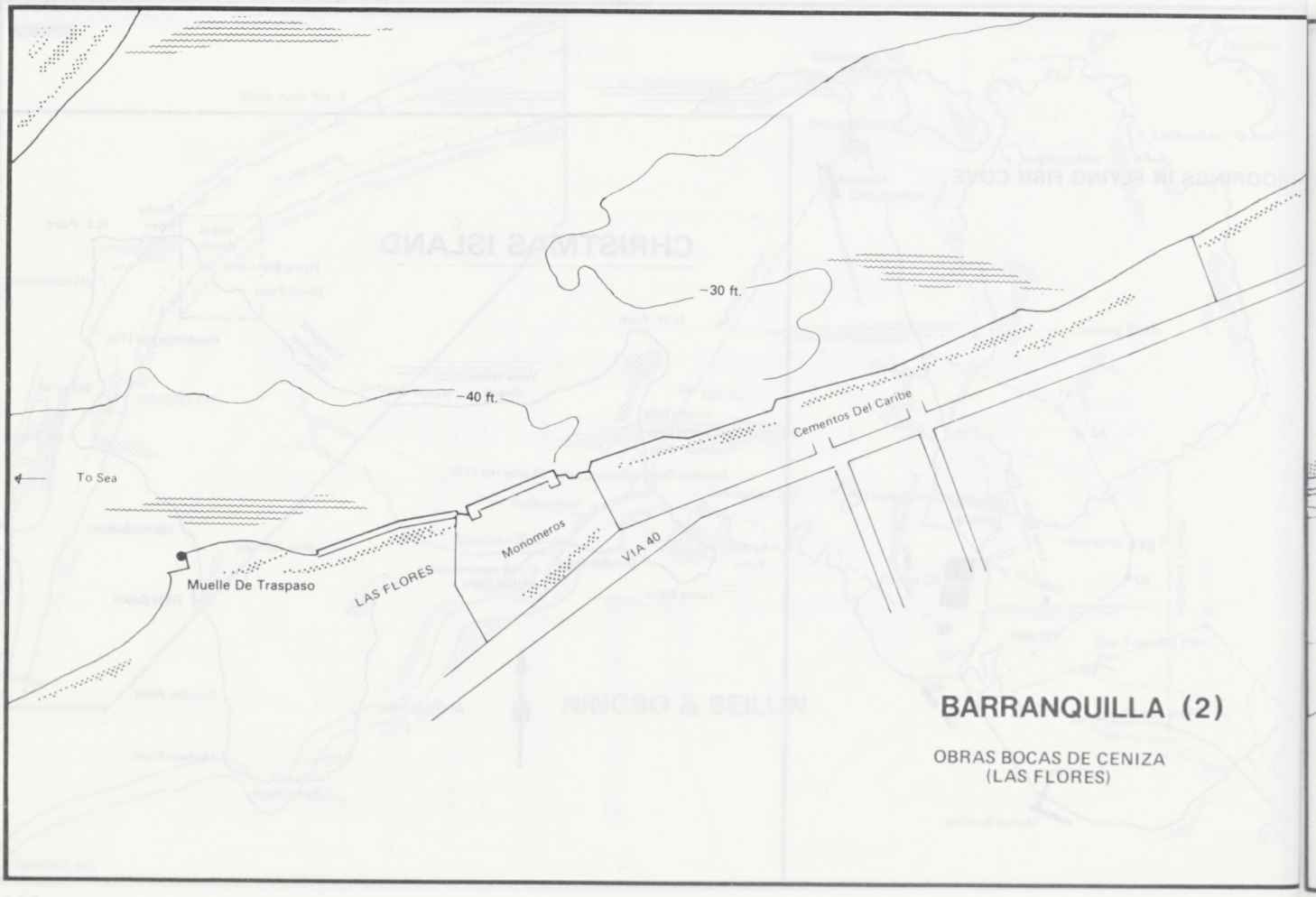


CHRISTMAS ISLAND



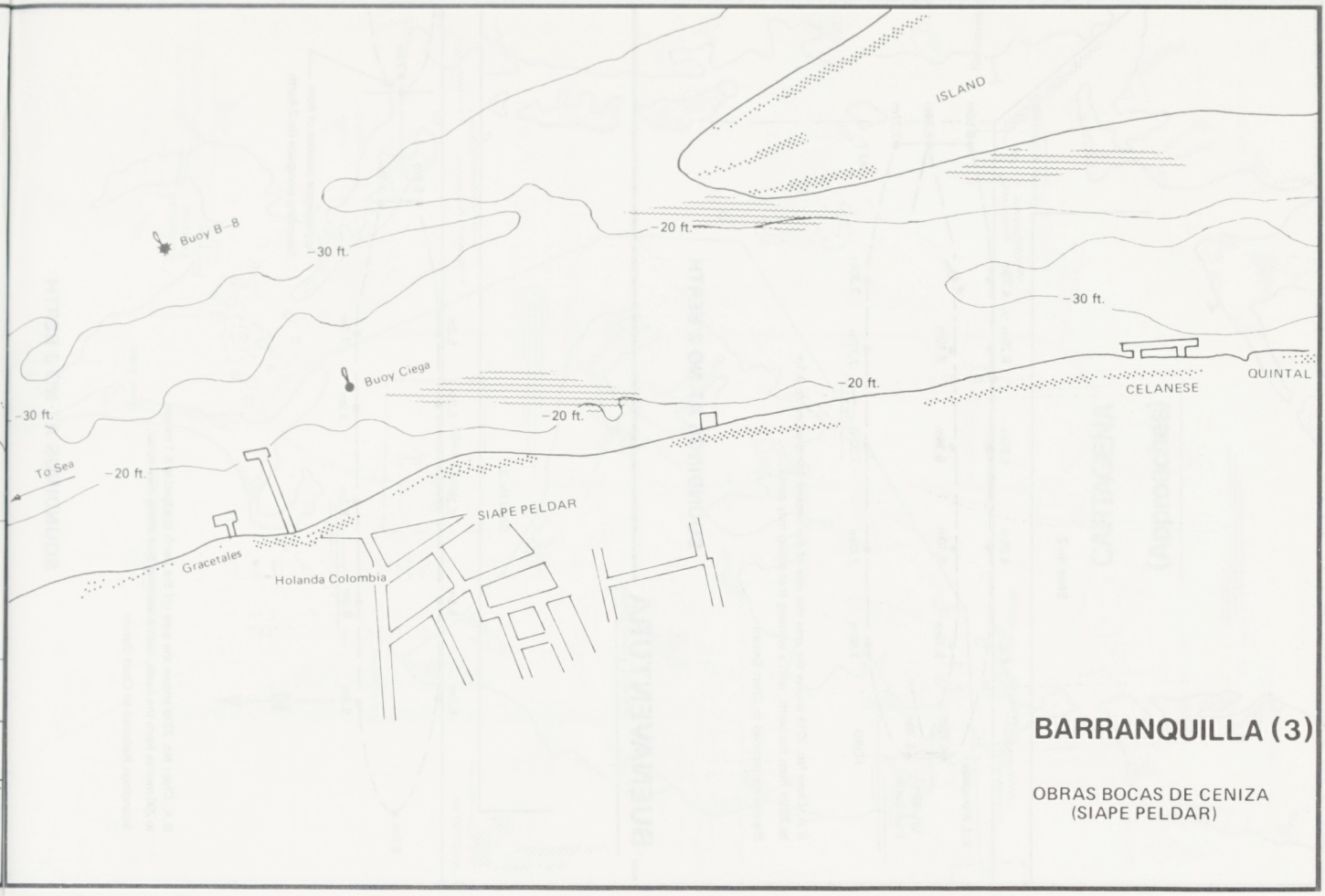
BARRANQUILLA (1)

OBRAS BOCAS DE CENIZA
(ENTRANCE CHANNEL)



BARRANQUILLA (2)

OBRAS BOCAS DE CENIZA
(LAS FLORES)

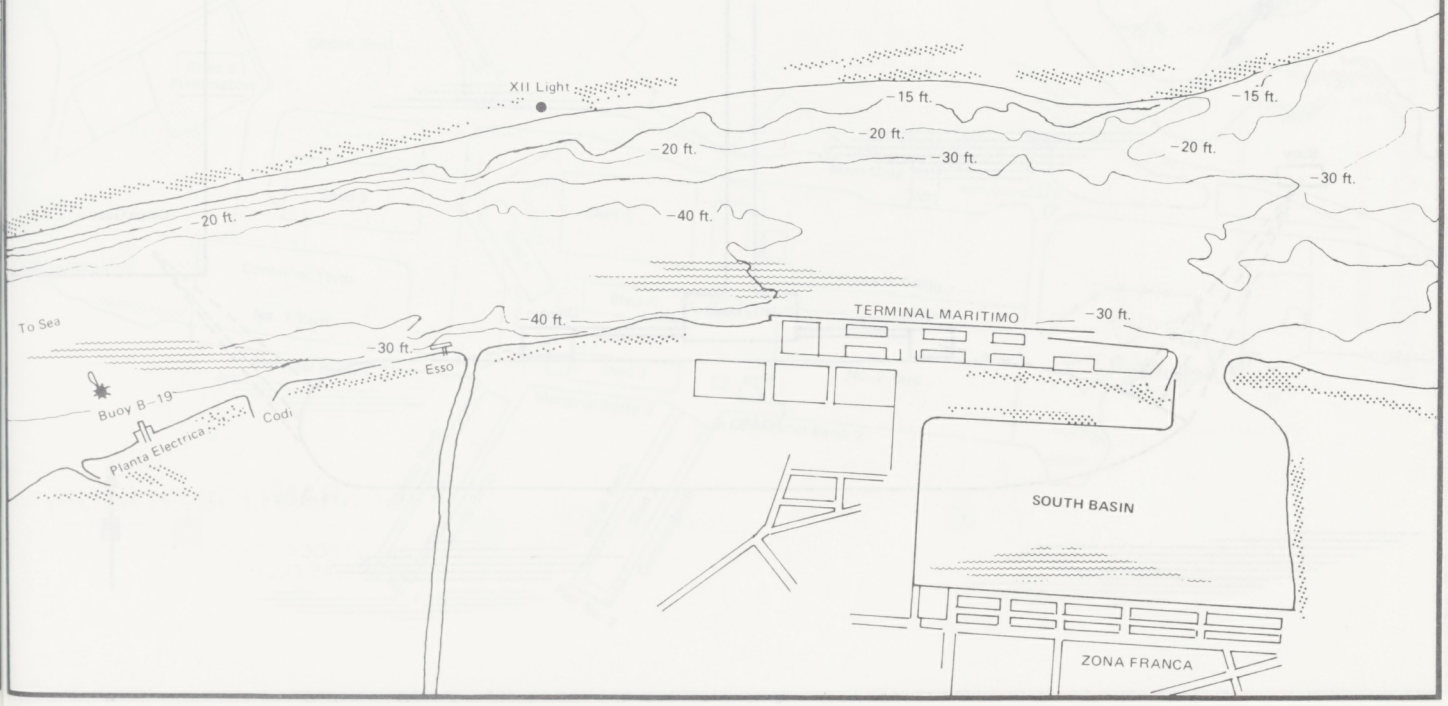


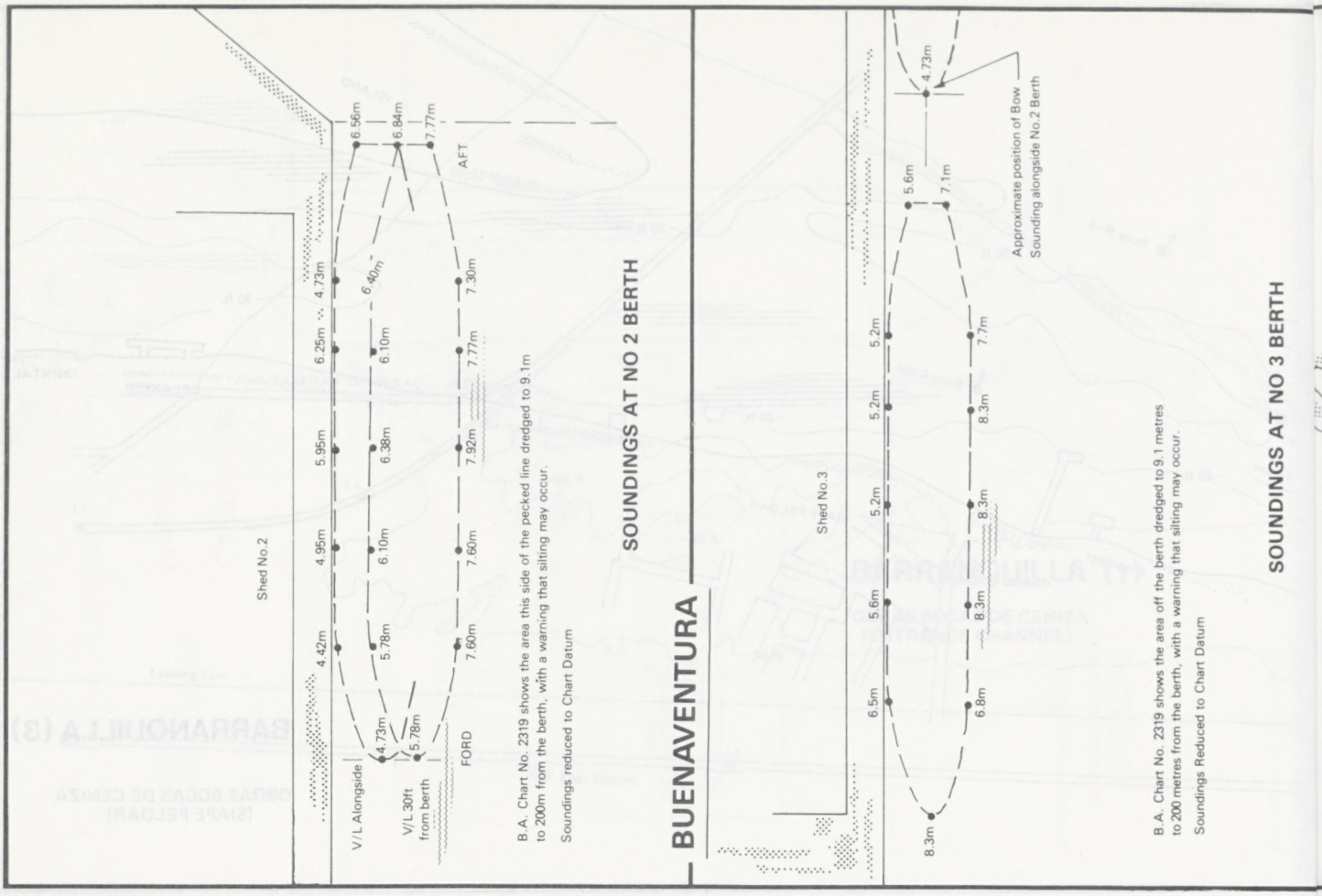
BARRANQUILLA (3)

OBRAS BOCAS DE CENIZA
(SIAPE PELDAR)

BARRANQUILLA (4)

OBRAS BOCAS DE CENIZA
(MARINE TERMINAL)

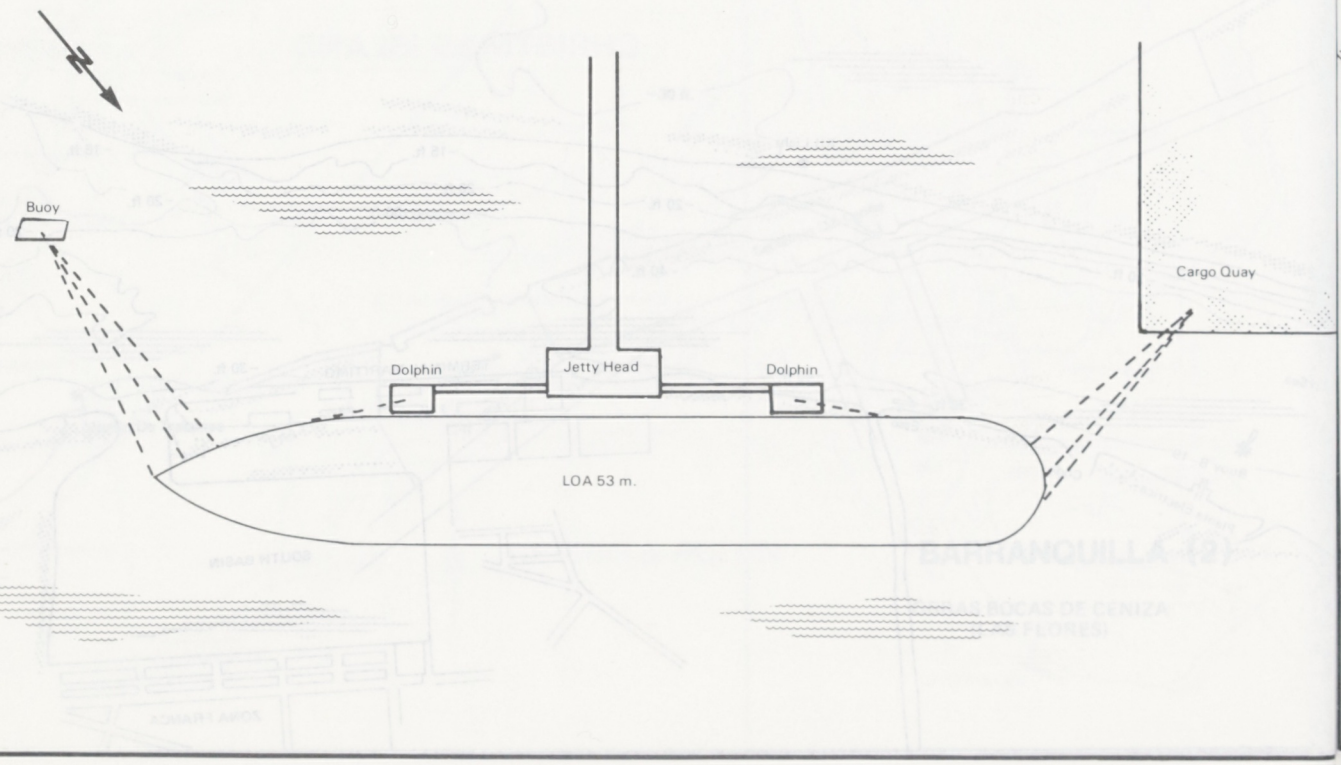




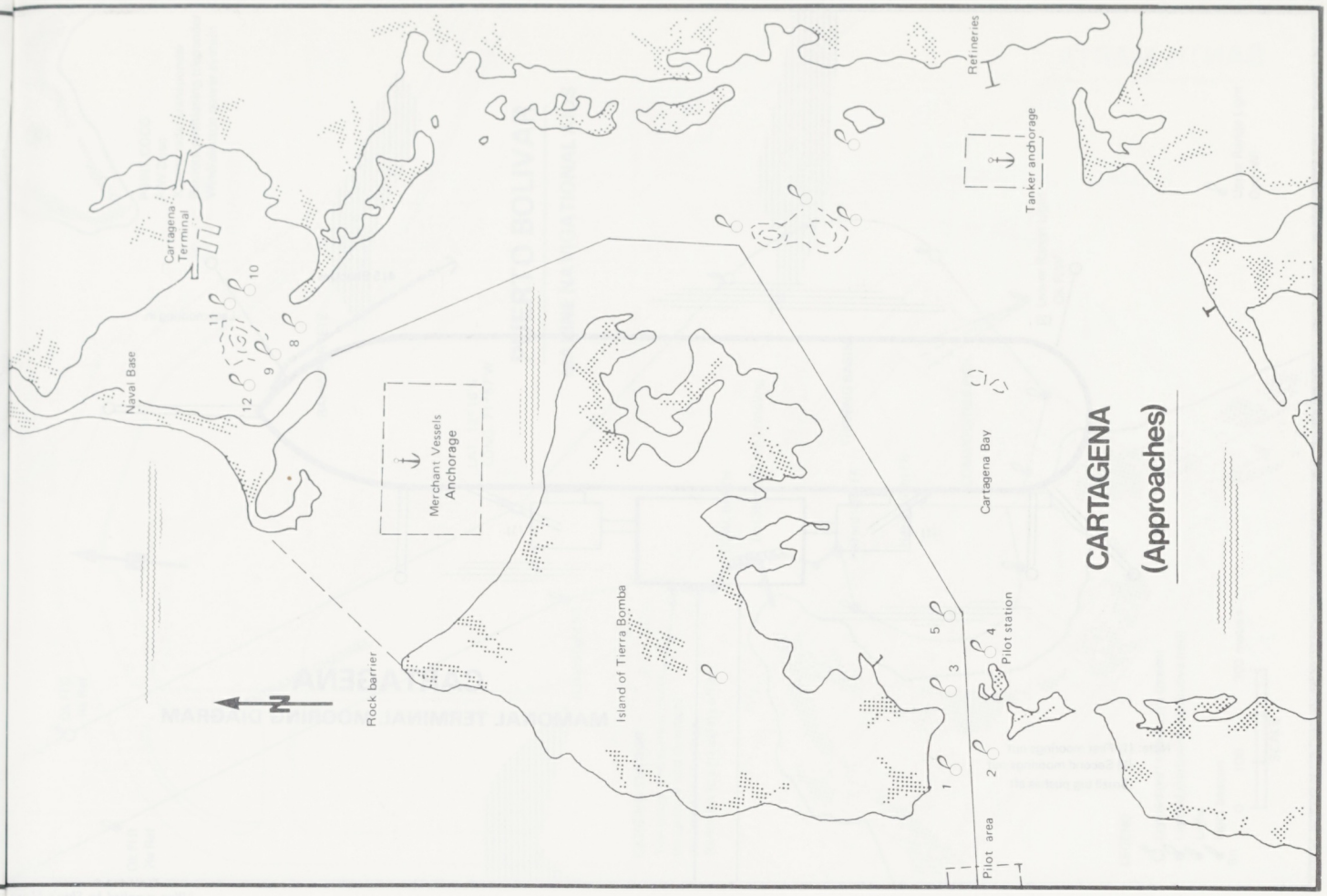
"Plan supplied by Ship's Maste

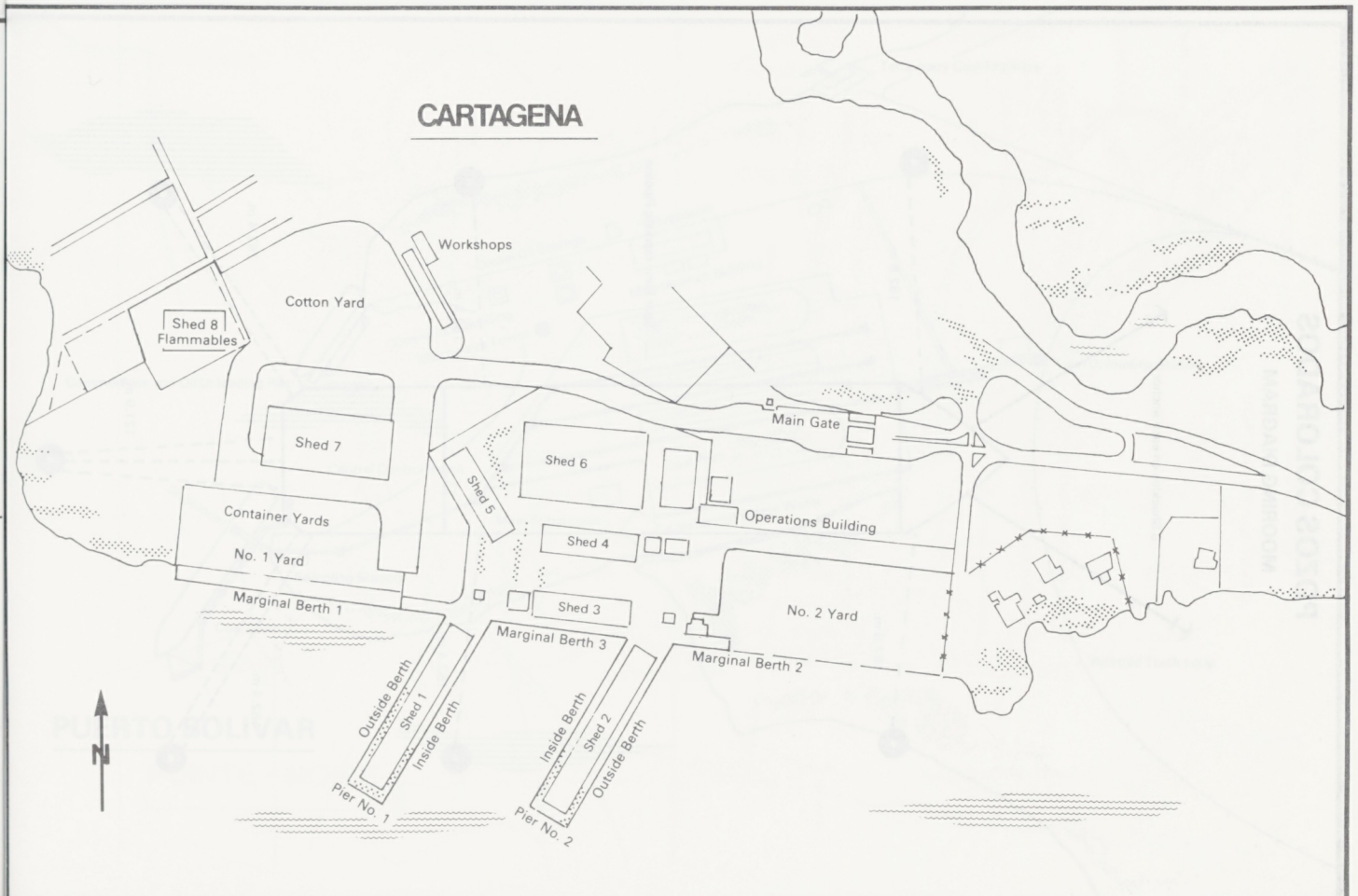
BUENAVENTURA

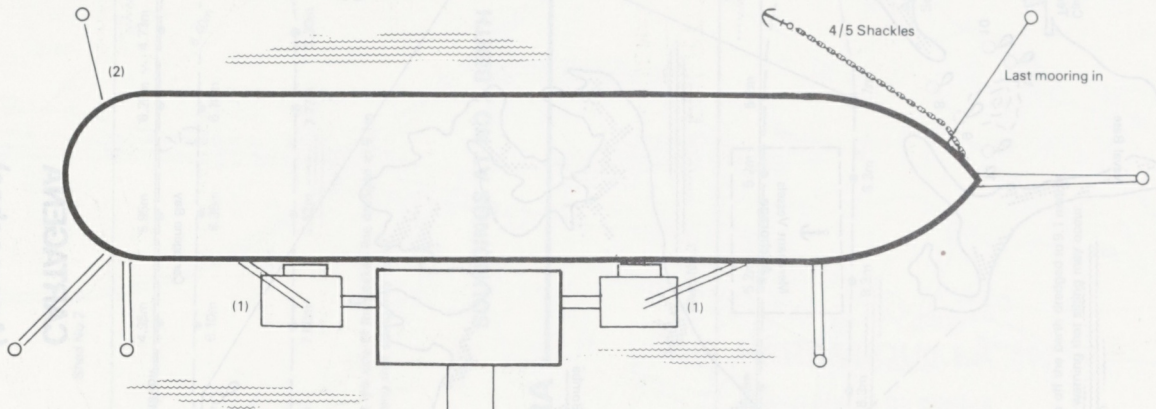
MOORING ARRANGEMENT — TANKER BERTH



"Plan supplied by Ship's Master


CARTAGENA
(Approaches)
Refineries
Tanker anchorage
Cartagena Terminal
Naval Base
Merchant Vessels Anchorage
Rock barrier
Island of Tierra Bomba
Cartagena Bay
Pilot station
Pilot area
N


CARTAGENA
Workshops
Cotton Yard
Shed 8
Flammables
Shed 7
Container Yards
No. 1 Yard
Marginal Berth 1
Shed 5
Shed 6
Main Gate
Operations Building
Shed 4
Shed 3
No. 2 Yard
Marginal Berth 3
Marginal Berth 2
Outside Berth
Shed 1
Inside Berth
Pier No. 1
Inside Berth
Shed 2
Outside Berth
Pier No. 2
N



CARTAGENA

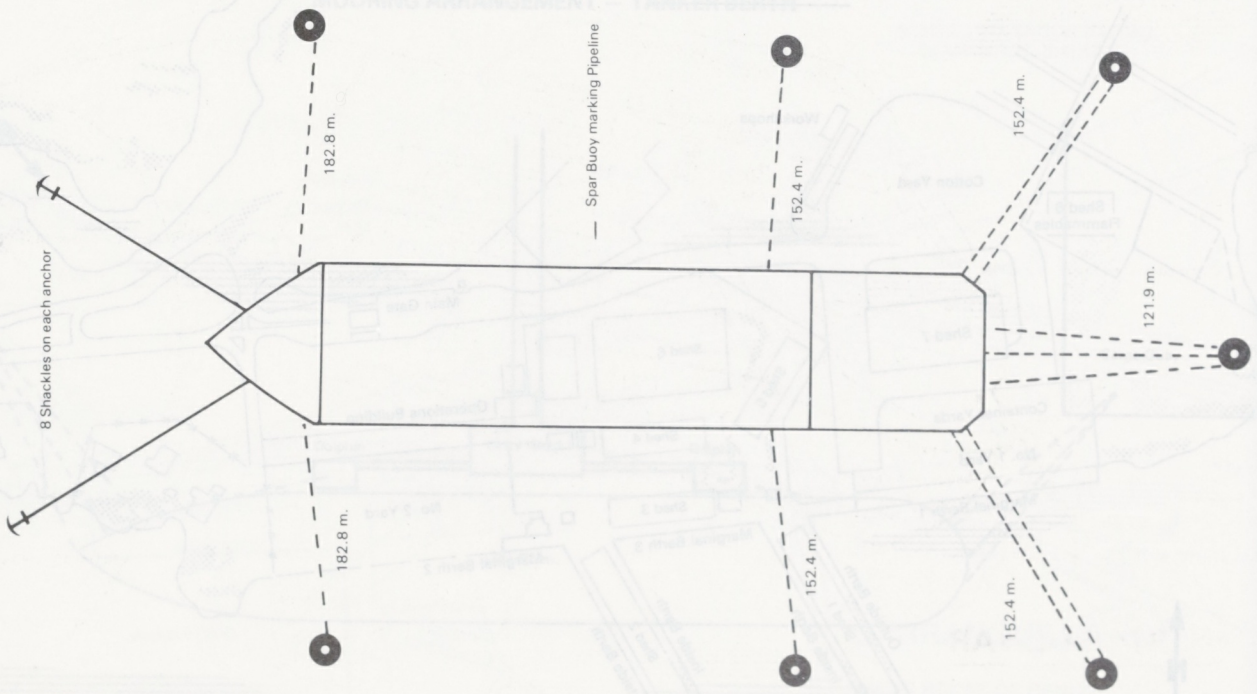
MAMONAL TERMINAL MOORING DIAGRAM

Note: (1) First moorings out
(2) Second moorings out
Small tug pushes aft

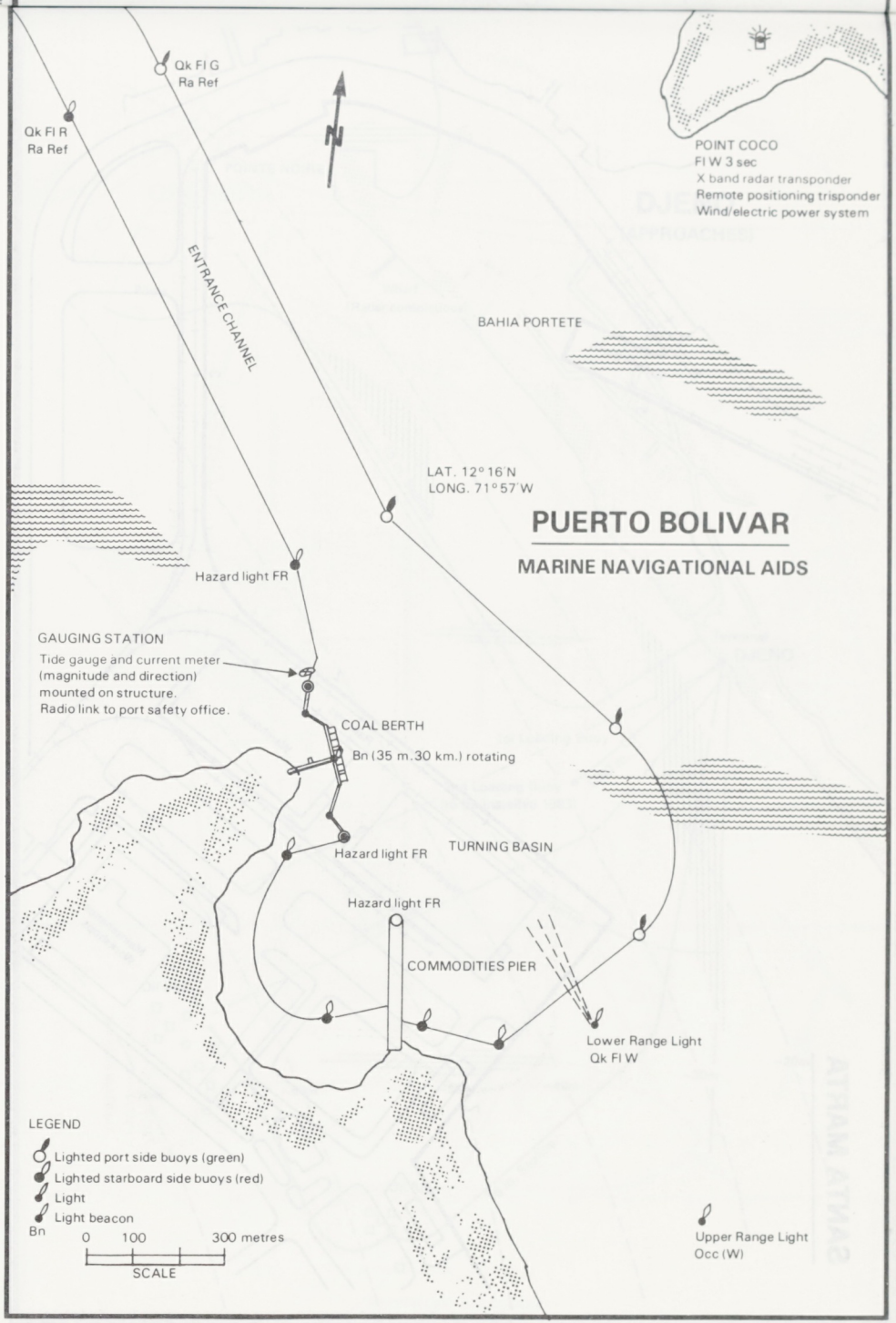
"Plan supplied by Ship's Maste

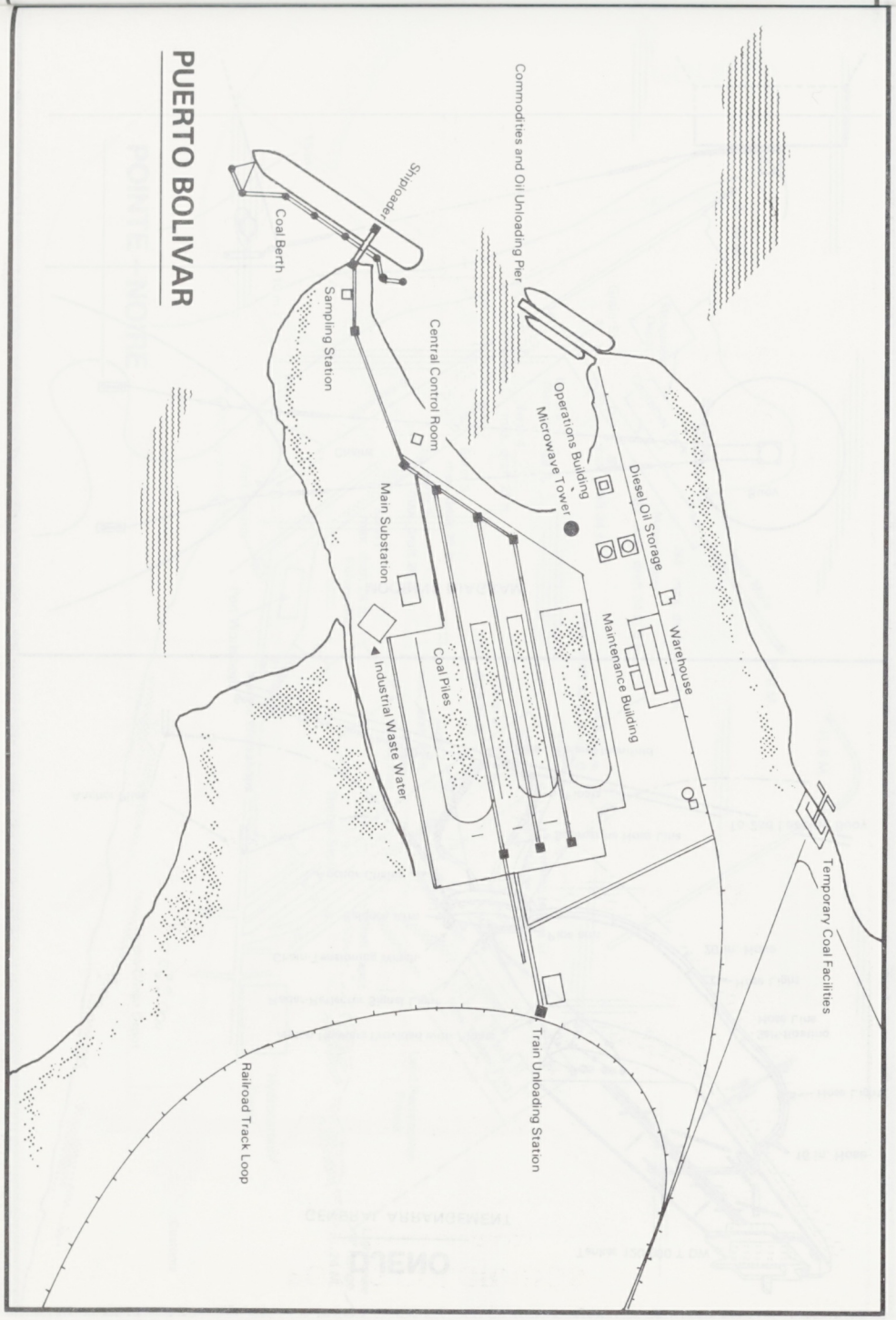
POZOS COLORADOS

MOORING DIAGRAM



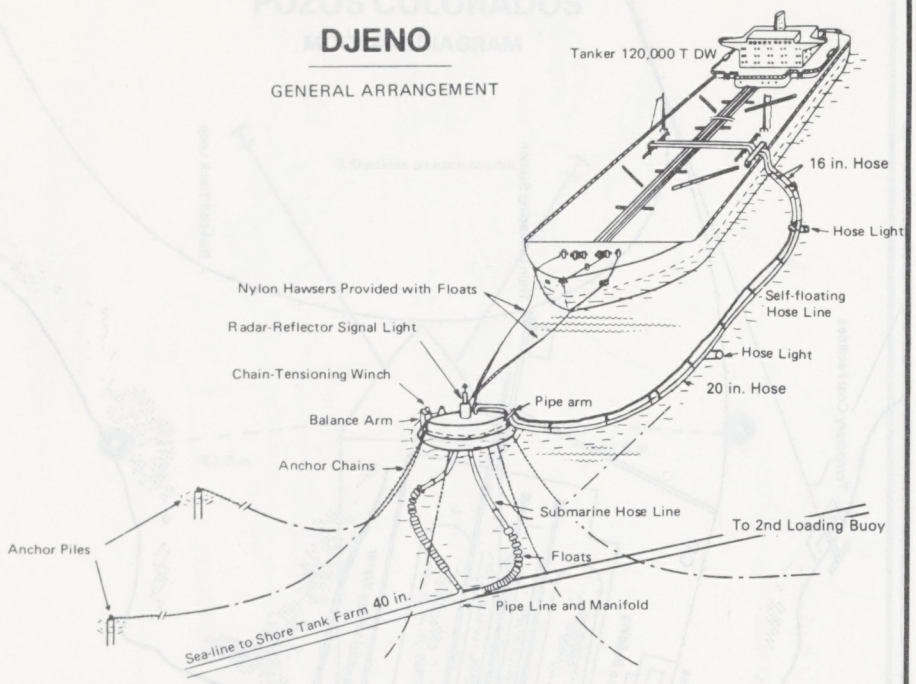
"Plan supplied by Ship's Master


Qk Fl G
Ra Ref
Qk Fl R
Ra Ref
N
POINT COCO
Fl W 3 sec
X band radar transponder
Remote positioning trisponder
Wind/electric power system
ENTRANCE CHANNEL
BAHIA PORTETE
LAT. 12°16'N
LONG. 71°57'W
PUERTO BOLIVAR
MARINE NAVIGATIONAL AIDS
Hazard light FR
GAUGING STATION
Tide gauge and current meter
(magnitude and direction)
mounted on structure.
Radio link to port safety office.
COAL BERTH
Bn (35 m. 30 km.) rotating
Hazard light FR
TURNING BASIN
Hazard light FR
COMMODITIES PIER
Lower Range Light
Qk Fl W
LEGEND
Lighted port side buoys (green)
Lighted starboard side buoys (red)
Light
Light beacon
Bn
0 100 300 metres
SCALE
Upper Range Light
Occ (W)

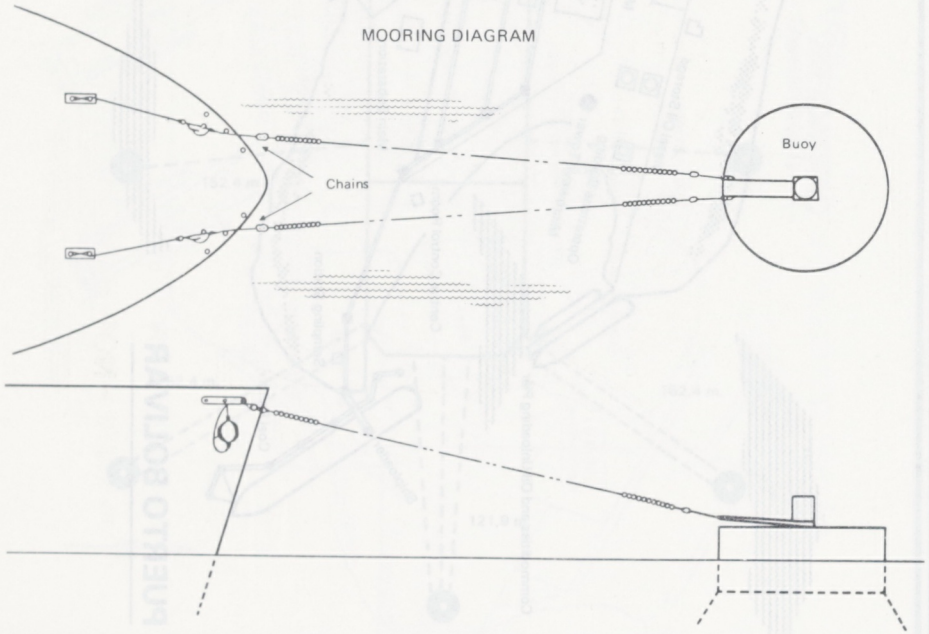

PUERTO BOLIVAR
Coal Berth
Shiploader
Sampling Station
Central Control Room
Commodities and Oil Unloading Pier
Operations Building
Microwave Tower
Diesel Oil Storage
Warehouse
Maintenance Building
Main Substation
Industrial Waste Water
Coal Piles
Temporary Coal Facilities
Train Unloading Station
Railroad Track Loop

DJENO

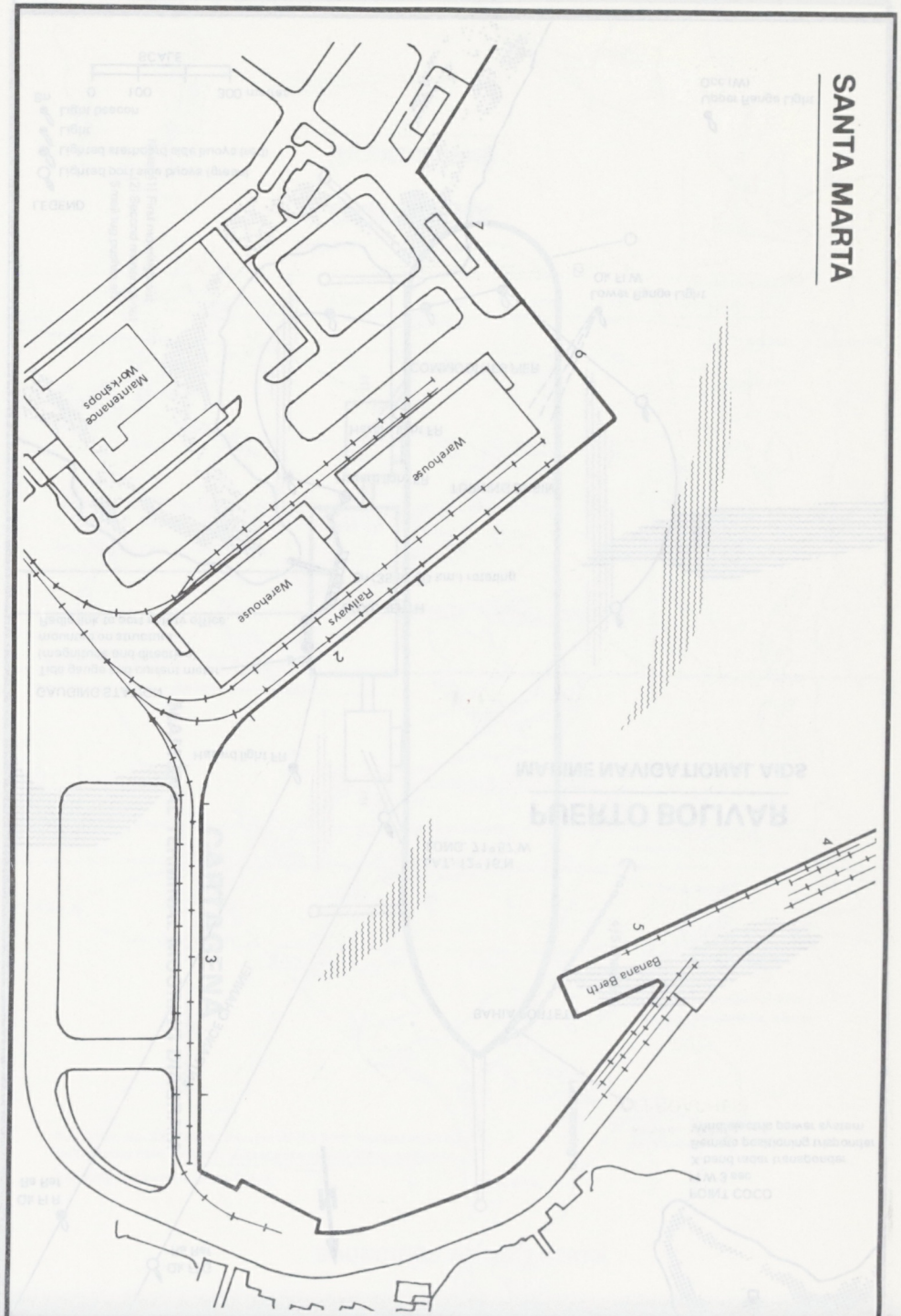
GENERAL ARRANGEMENT

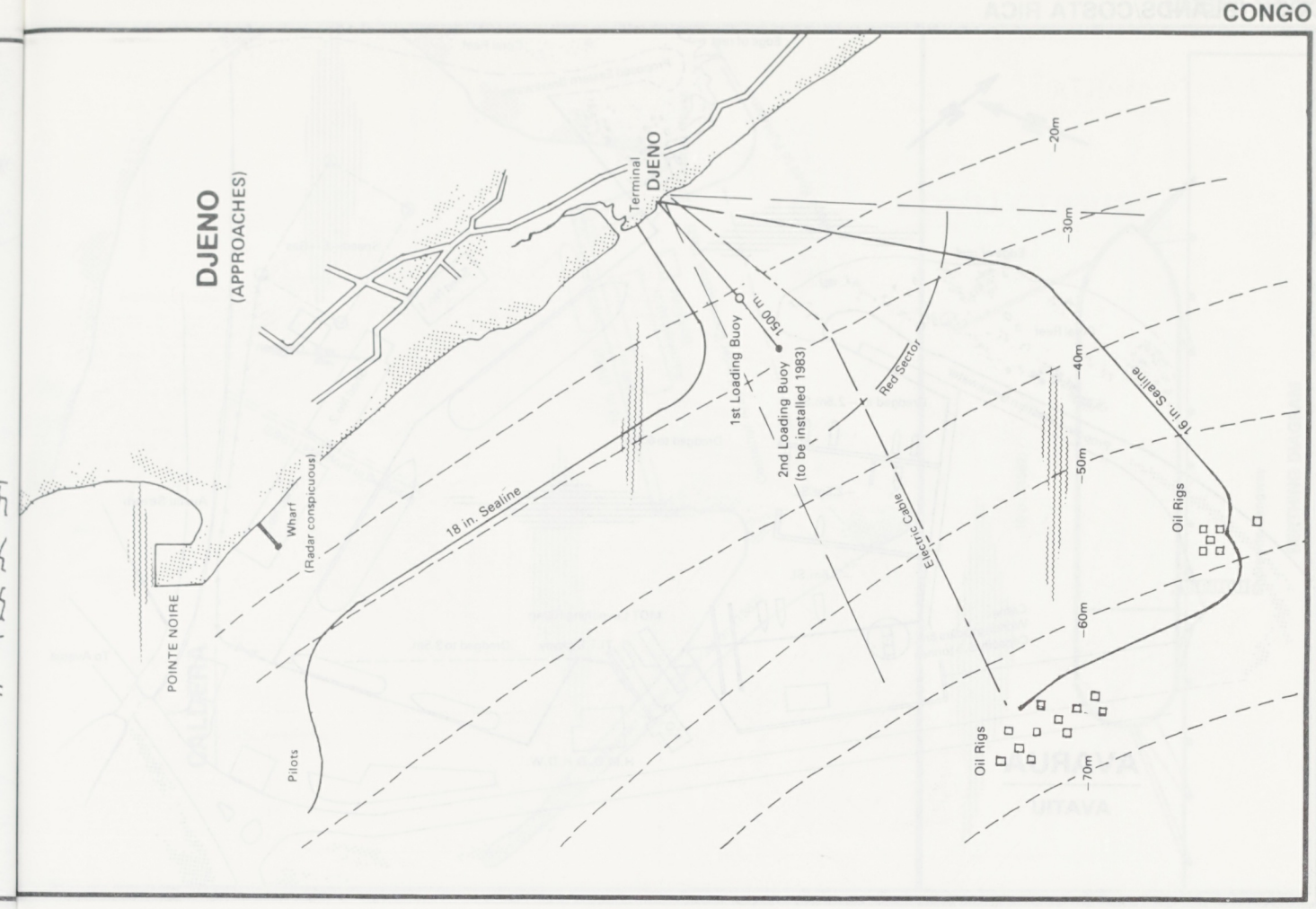


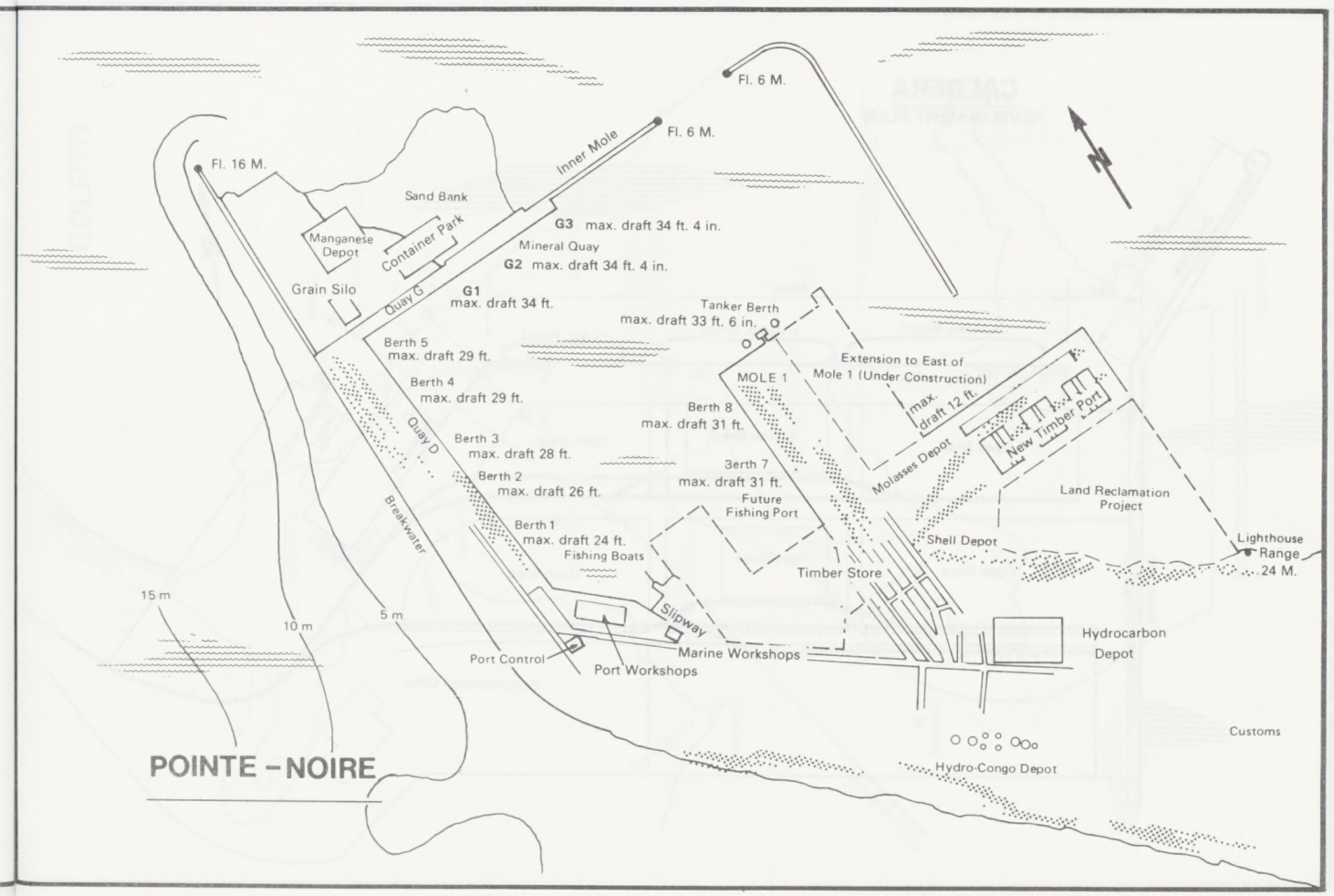
MOORING DIAGRAM

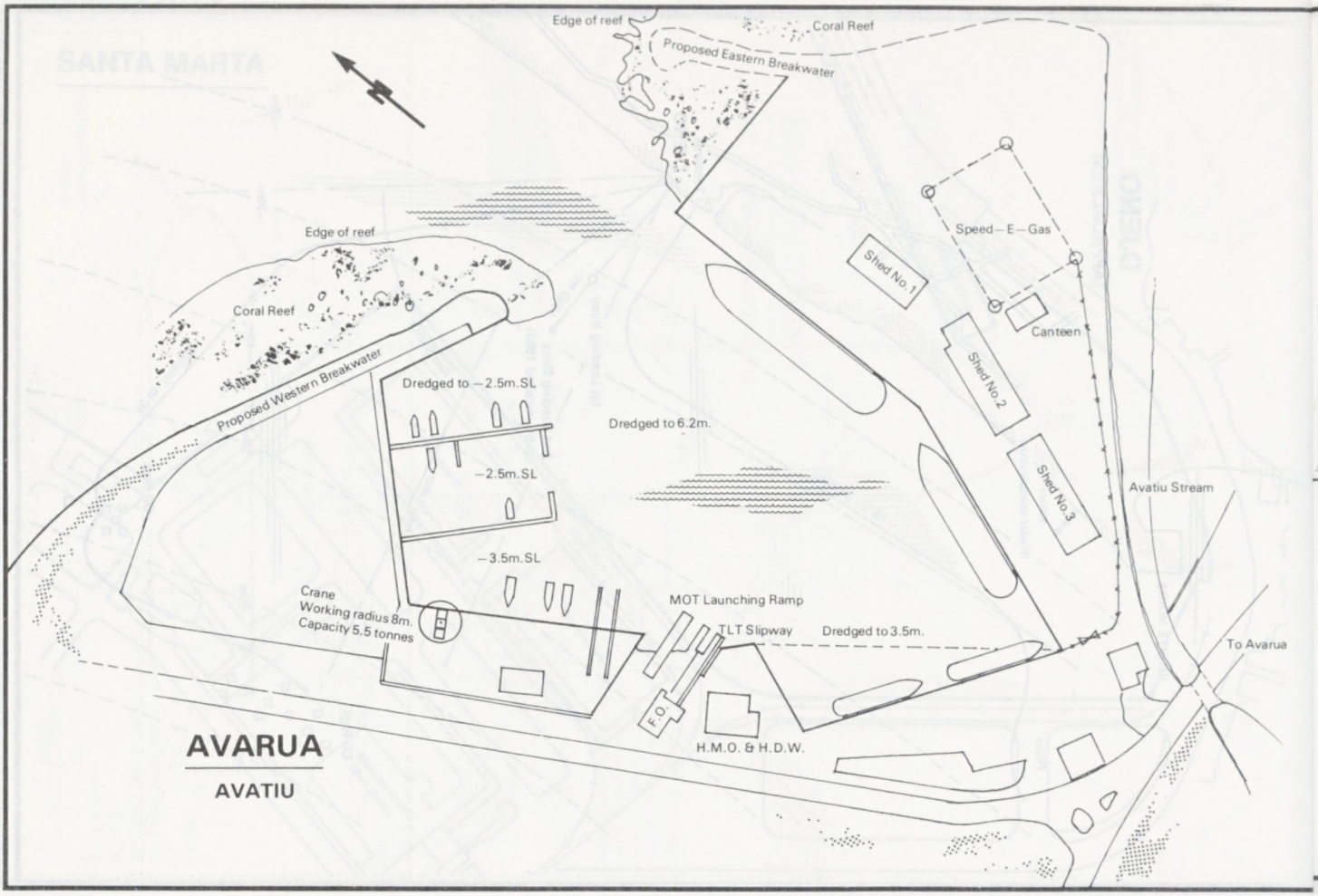


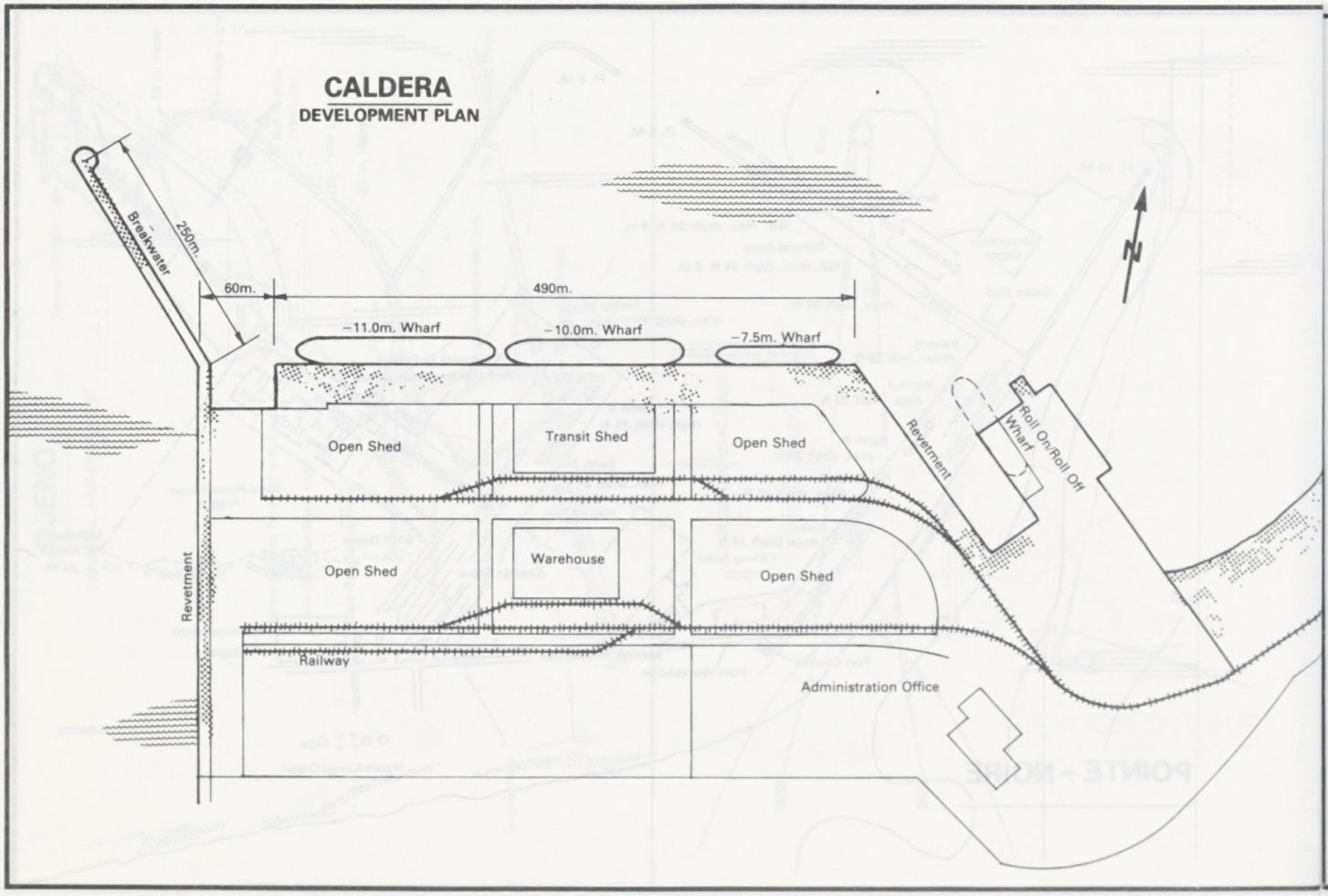
SANTA MARTA



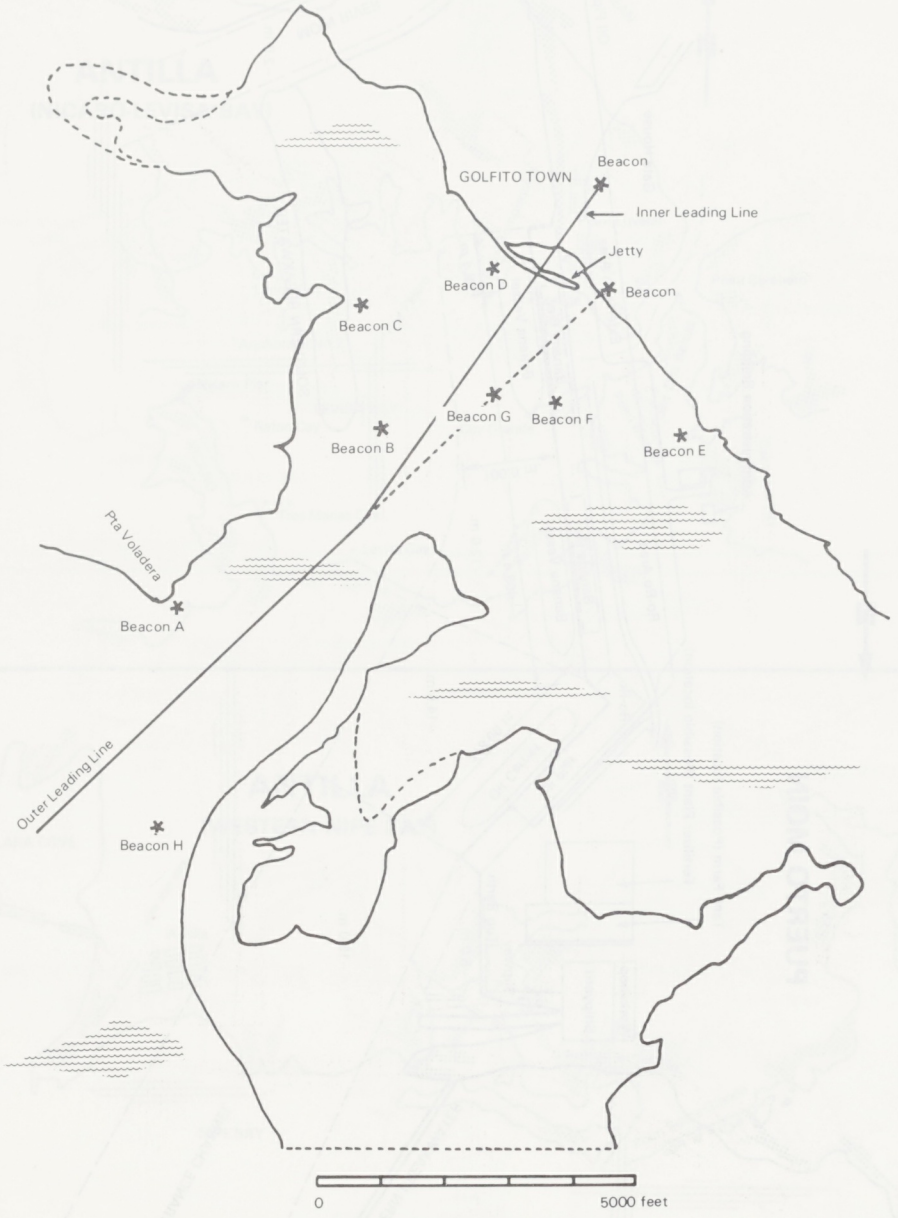

DJENO
(APPROACHES)
Terminal
DJENO
-20m
-30m
-40m
-50m
-60m
-70m
1500 m.
1st Loading Buoy
2nd Loading Buoy
(to be installed 1983)
Red Sector
16 in. Sealine
Electric Cable
Oil Rigs
Oil Rigs
18 in. Sealine
Wharf
(Radar conspicuous)
POINTE NOIRE
Pilots


Fl. 6 M.
Fl. 6 M.
Inner Mole
Fl. 16 M.
Sand Bank
Manganese Depot
Container Park
G3 max. draft 34 ft. 4 in.
Mineral Quay
G2 max. draft 34 ft. 4 in.
Grain Silo
Quay G
G1
max. draft 34 ft.
Tanker Berth
max. draft 33 ft. 6 in.
Berth 5
max. draft 29 ft.
Berth 4
max. draft 29 ft.
Quay D
Berth 3
max. draft 28 ft.
Berth 2
max. draft 26 ft.
Berth 1
max. draft 24 ft.
Fishing Boats
Breakwater
MOLE 1
Extension to East of
Mole 1 (Under Construction)
max.
draft 12 ft.
Berth 8
max. draft 31 ft.
Berth 7
max. draft 31 ft.
Future
Fishing Port
Molasses Depot
New Timber Port
Land Reclamation
Project
Shell Depot
Lighthouse
Range
24 M.
Timber Store
Slipway
Marine Workshops
Port Control
Port Workshops
Hydrocarbon
Depot
Customs
Hydro-Congo Depot
15 m
10 m
5 m
POINTE - NOIRE


Edge of reef
Coral Reef
Proposed Eastern Breakwater
Speed—E—Gas
Shed No.1
Canteen
Shed No.2
Shed No.3
Avatiu Stream
Edge of reef
Coral Reef
Proposed Western Breakwater
Dredged to —2.5m.SL
Dredged to 6.2m.
—2.5m.SL
—3.5m.SL
Crane
Working radius 8m.
Capacity 5.5 tonnes
MOT Launching Ramp
TLT Slipway
Dredged to 3.5m.
To Avarua
F.O.
H.M.O. & H.D.W.
AVARUA
AVATIU

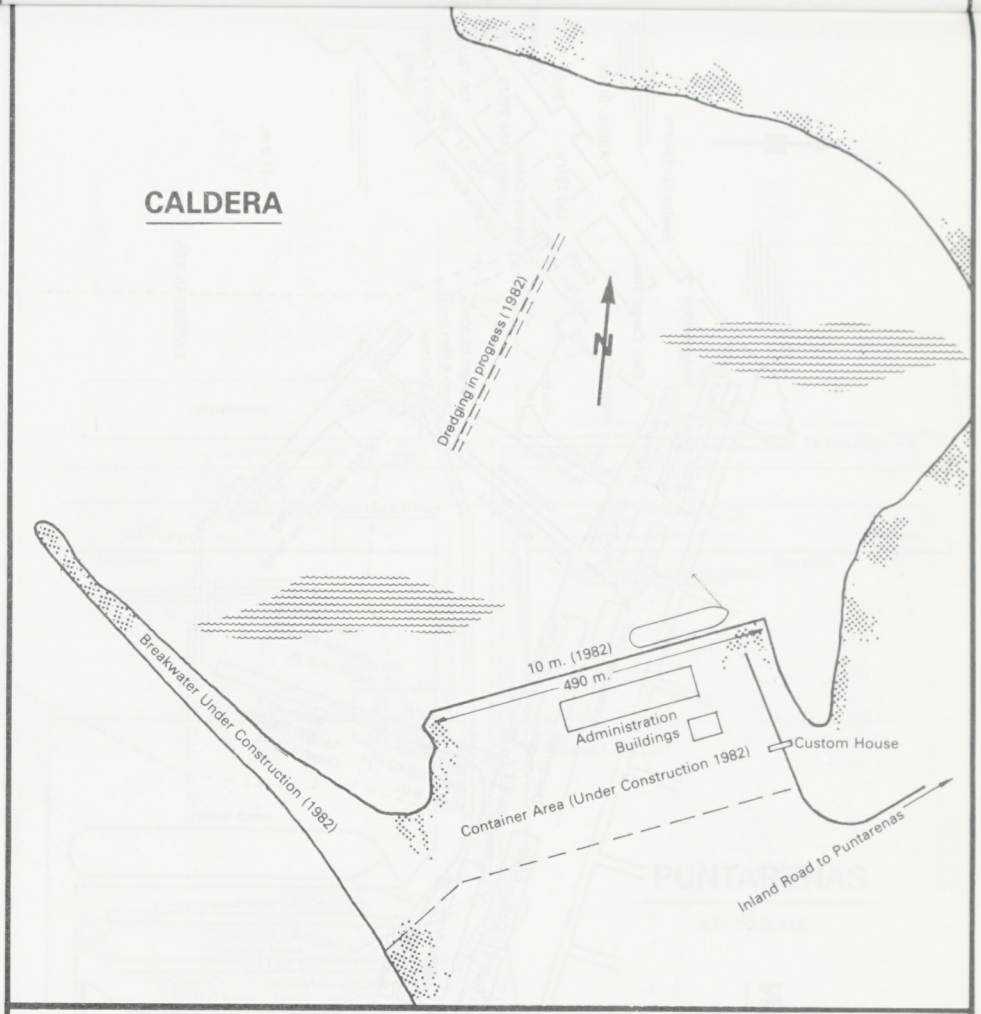

CALDERA
DEVELOPMENT PLAN
Breakwater
250m.
60m.
490m.
—11.0m. Wharf
—10.0m. Wharf
—7.5m. Wharf
Open Shed
Transit Shed
Open Shed
Revetment
Roll On/Roll Off
Wharf
Open Shed
Warehouse
Open Shed
Revetment
Railway
Administration Office

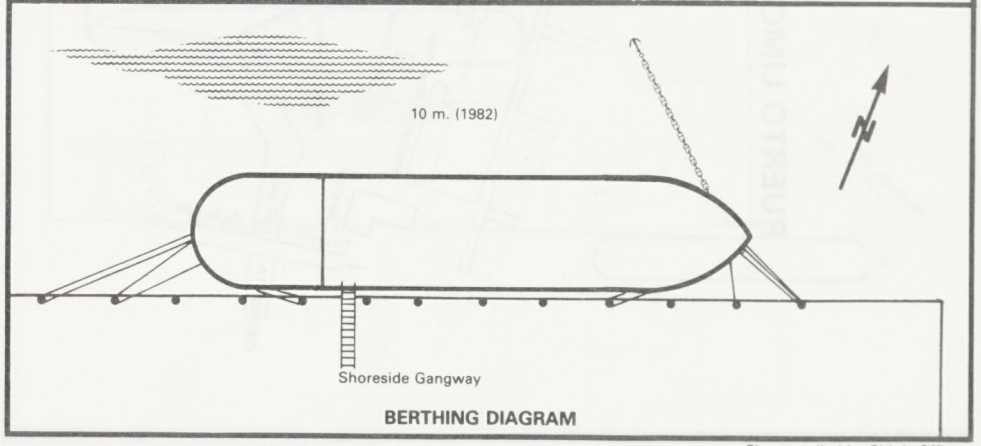
GOLFITO



"Plan supplied by Ship's Master".

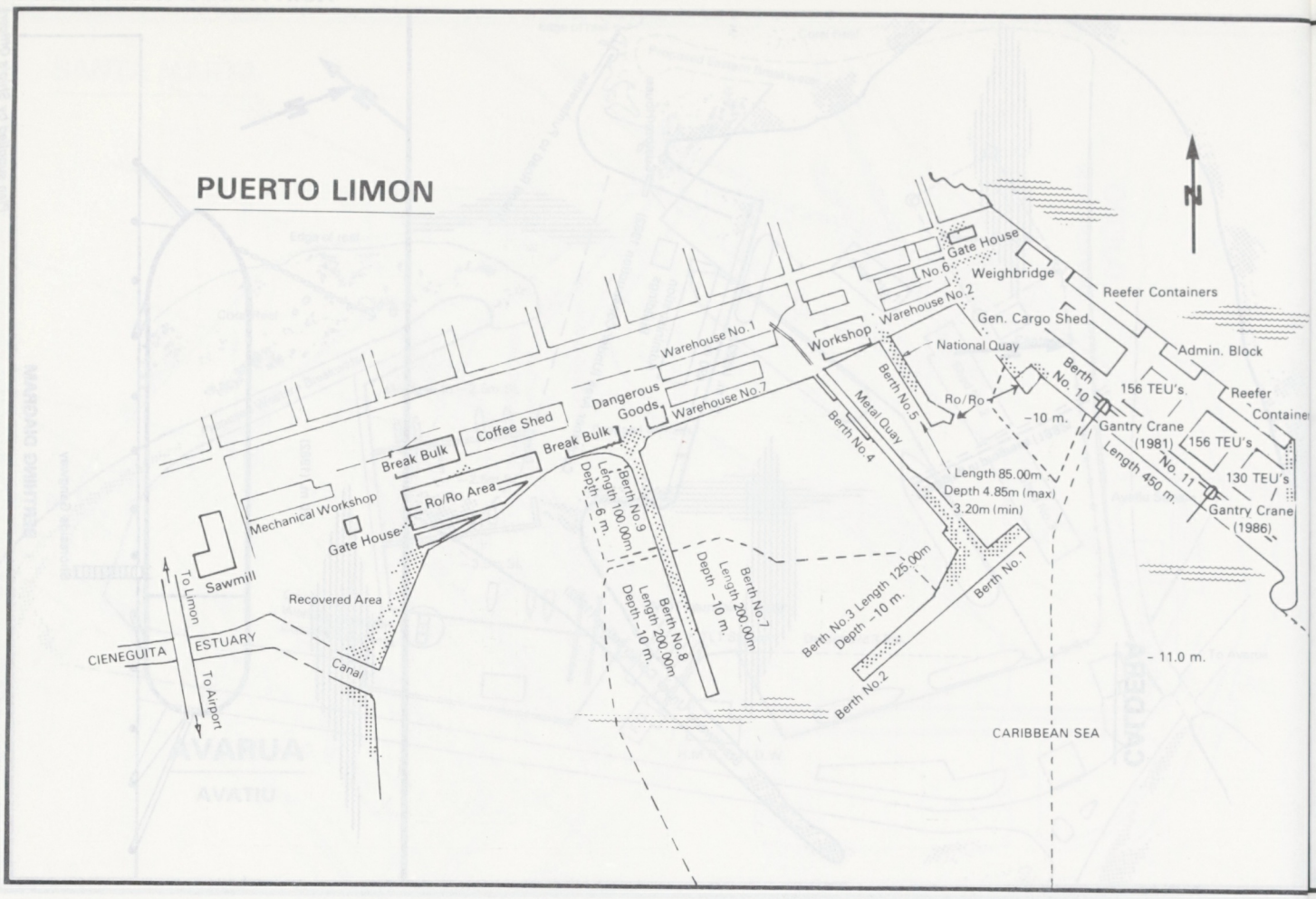
CALDERA

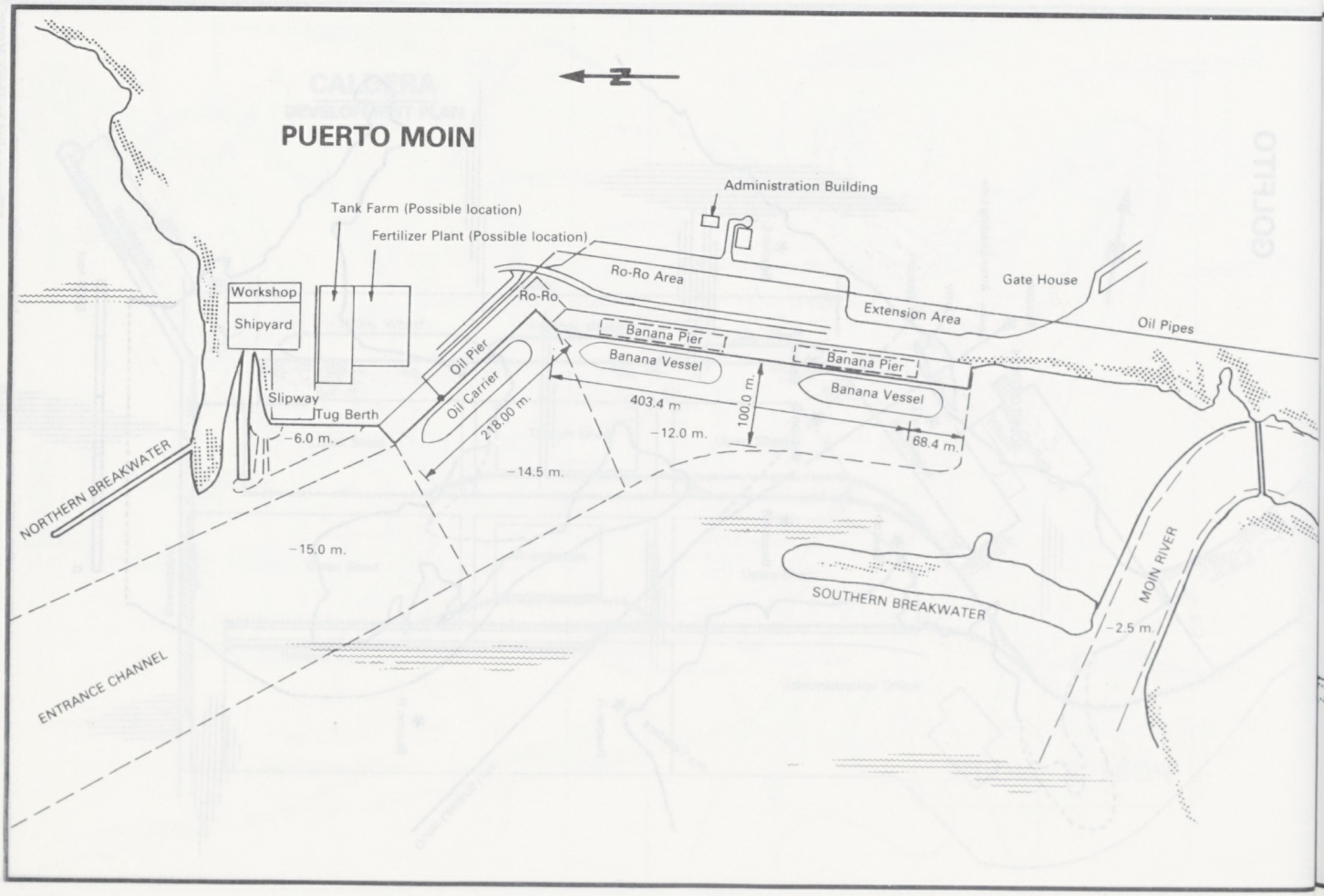


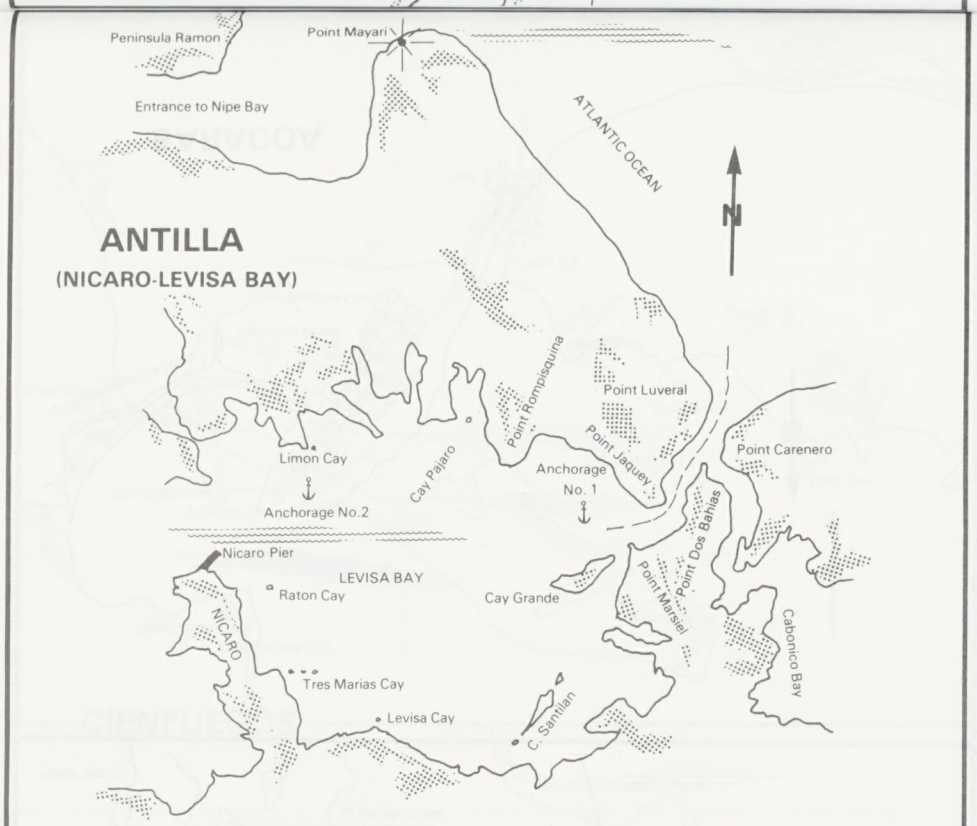


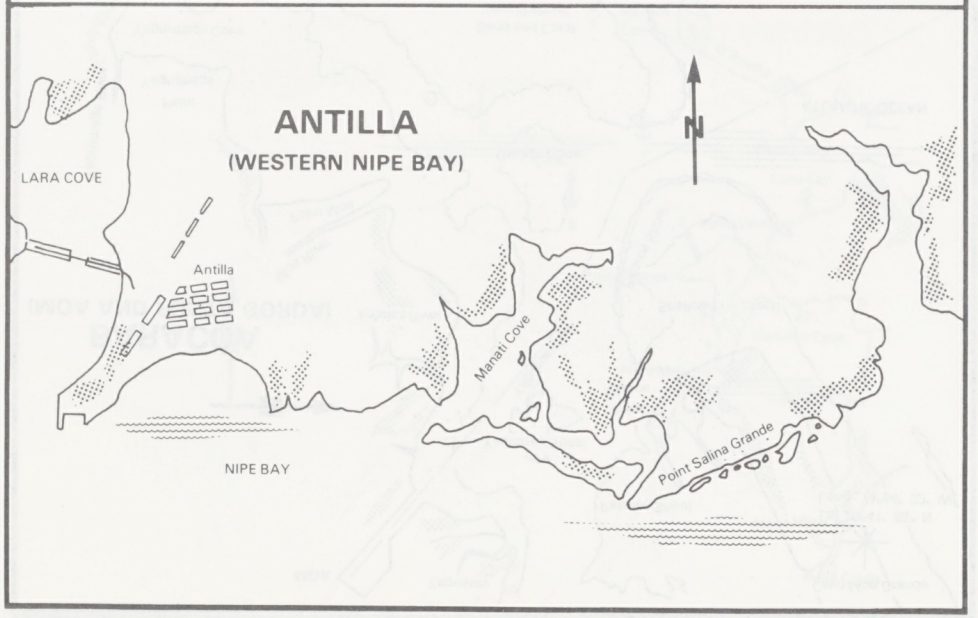
BERTHING DIAGRAM

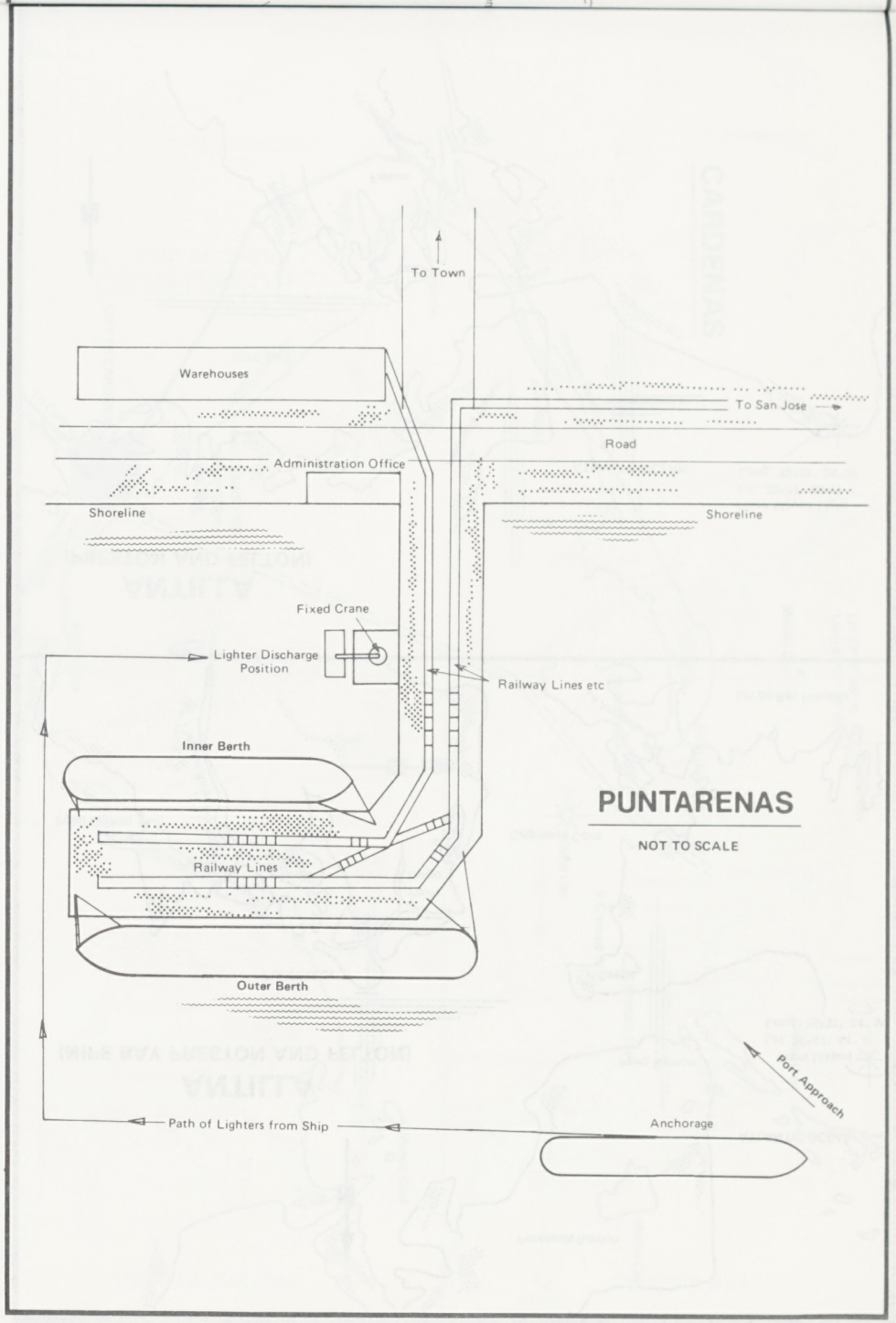
Plan supplied by Ship's Officers


PUERTO LIMON
N
Gate House
No.6
Weighbridge
Reefer Containers
Warehouse No.2
Gen. Cargo Shed
Warehouse No.1
Workshop
National Quay
Admin. Block
Berth No. 10
156 TEU's
Reefer Containe
Dangerous Goods
Warehouse No.7
Ro/Ro
-10 m.
Gantry Crane (1981)
156 TEU's
Coffee Shed
Break Bulk
Break Bulk
Metal Quay
Berth No.5
Length 450 m.
No. 11
130 TEU's
Gantry Crane (1986)
Length 85.00m
Depth 4.85m (max)
3.20m (min)
Mechanical Workshop
Ro/Ro Area
Berth No.4
Length 100.00m
Depth -6 m.
Berth No.9
Gate House
Sawmill
To Limon
Recovered Area
Depth -10 m.
Length 200.00m
Berth No.7
Berth No.3 Length 125.00m
Depth -10 m.
Berth No.1
CIENEGUITA
ESTUARY
Canal
To Airport
Length 200.00m
Depth -10 m.
Berth No.8
- 11.0 m.
Berth No.2
CARIBBEAN SEA

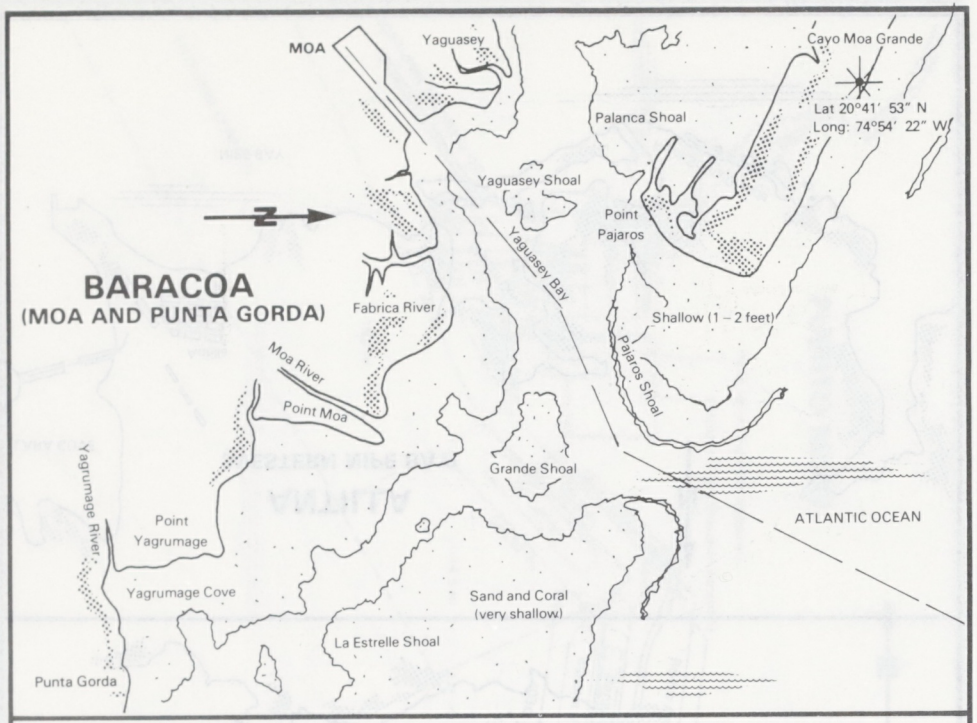

PUERTO MOIN
N
Administration Building
Tank Farm (Possible location)
Fertilizer Plant (Possible location)
Workshop
Shipyard
Ro-Ro Area
Gate House
Ro-Ro
Extension Area
Oil Pipes
Banana Pier
Oil Pier
Banana Vessel
Banana Pier
Slipway
Tug Berth
Oil Carrier
218.00 m.
403.4 m
100.0 m.
Banana Vessel
-6.0 m.
-12.0 m.
68.4 m.
-14.5 m.
NORTHERN BREAKWATER
-15.0 m.
SOUTHERN BREAKWATER
MOIN RIVER
-2.5 m.
ENTRANCE CHANNEL

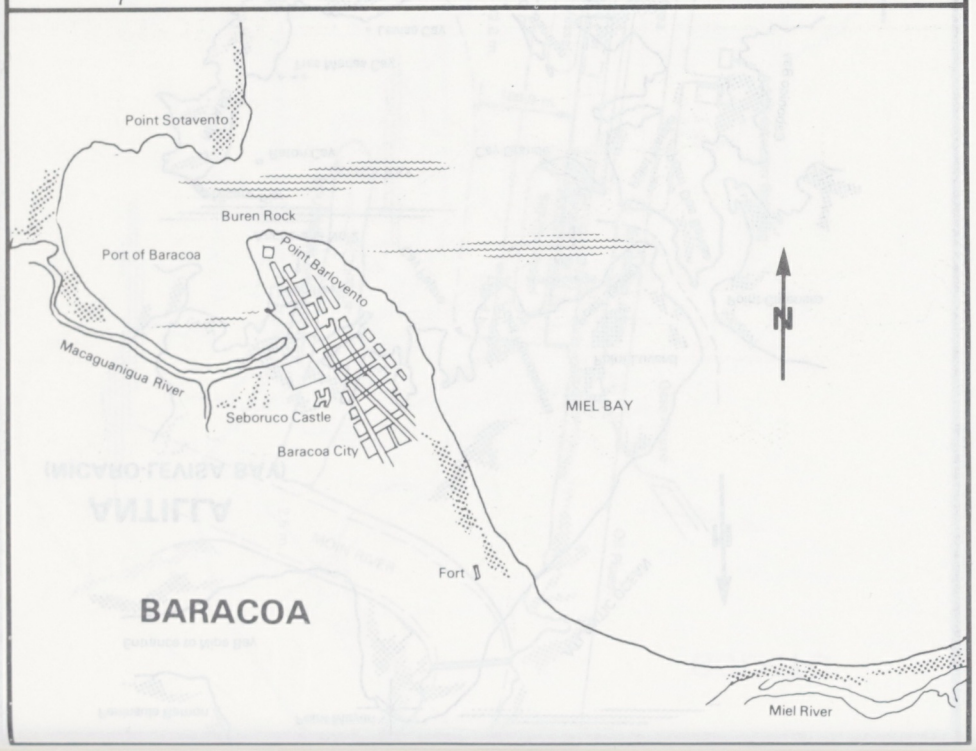


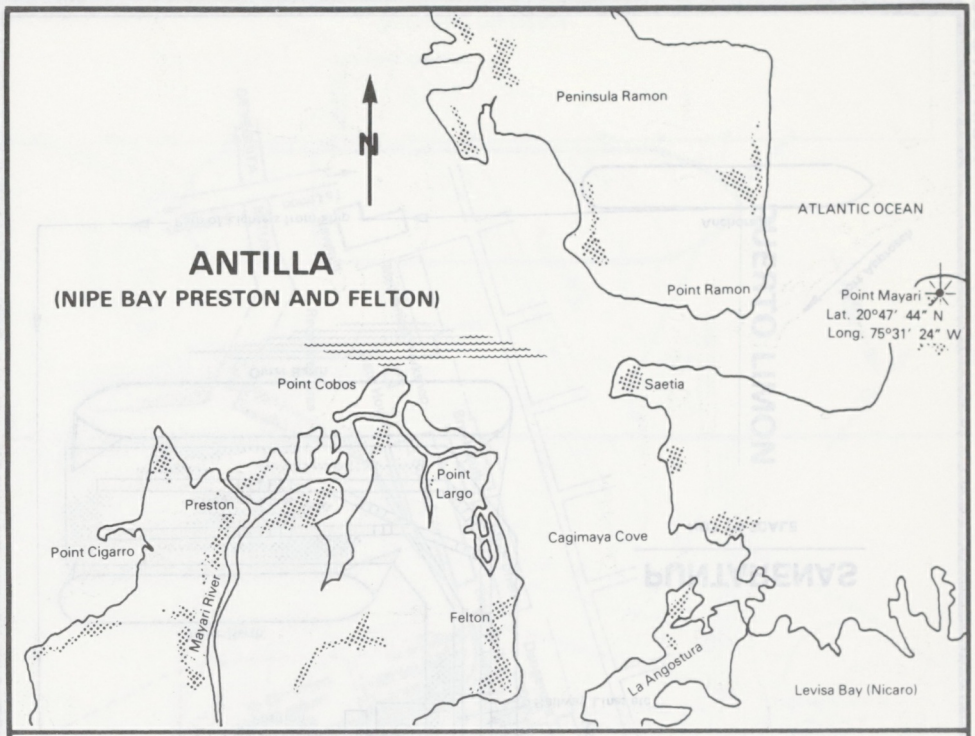


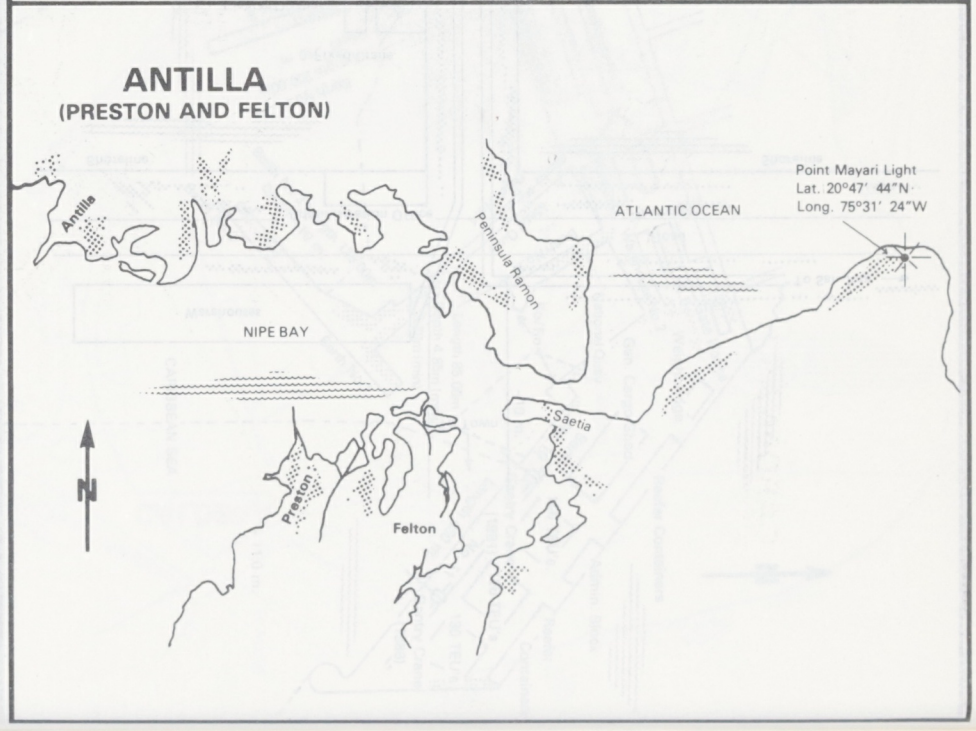


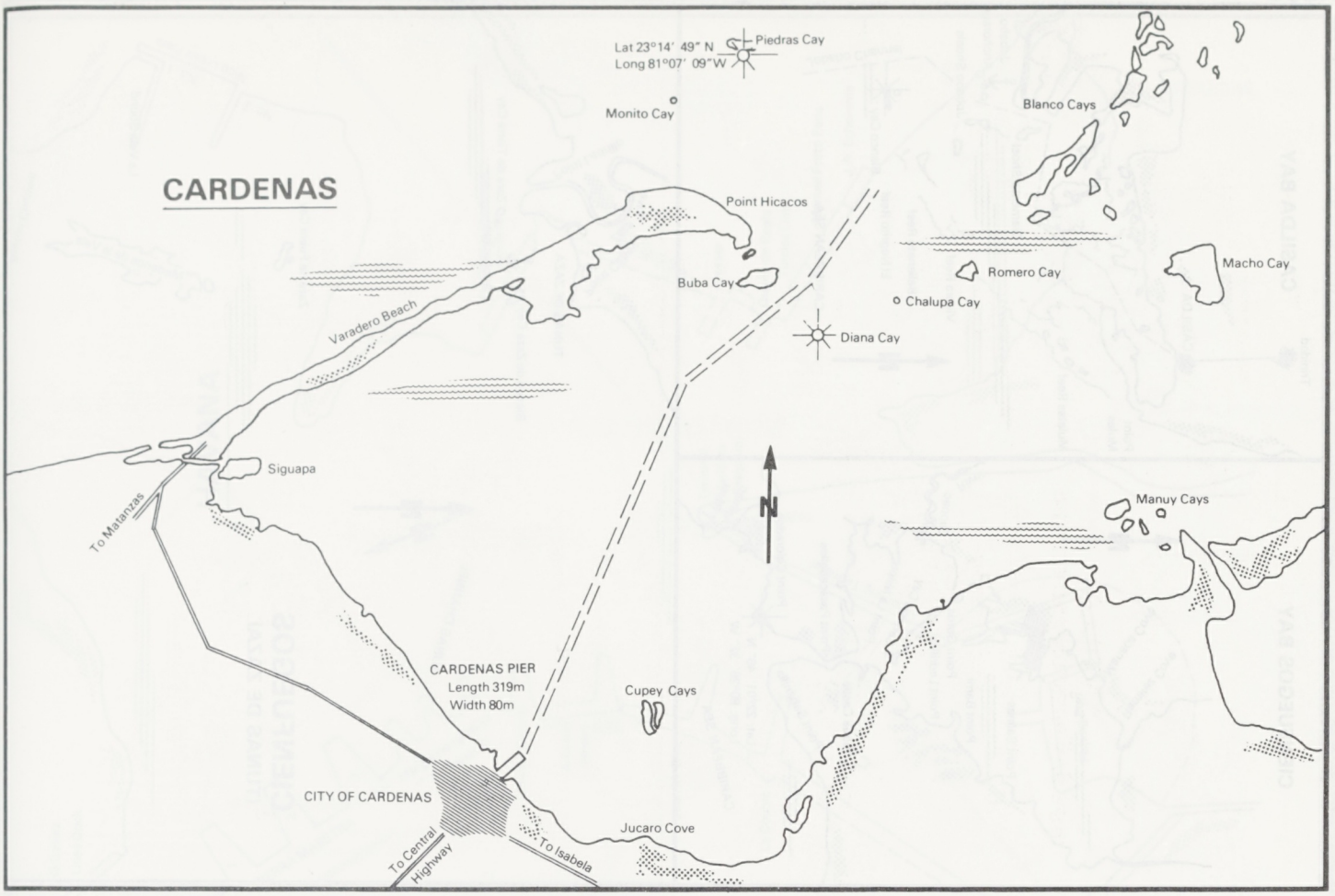
"Plan supplied by Supercargo"

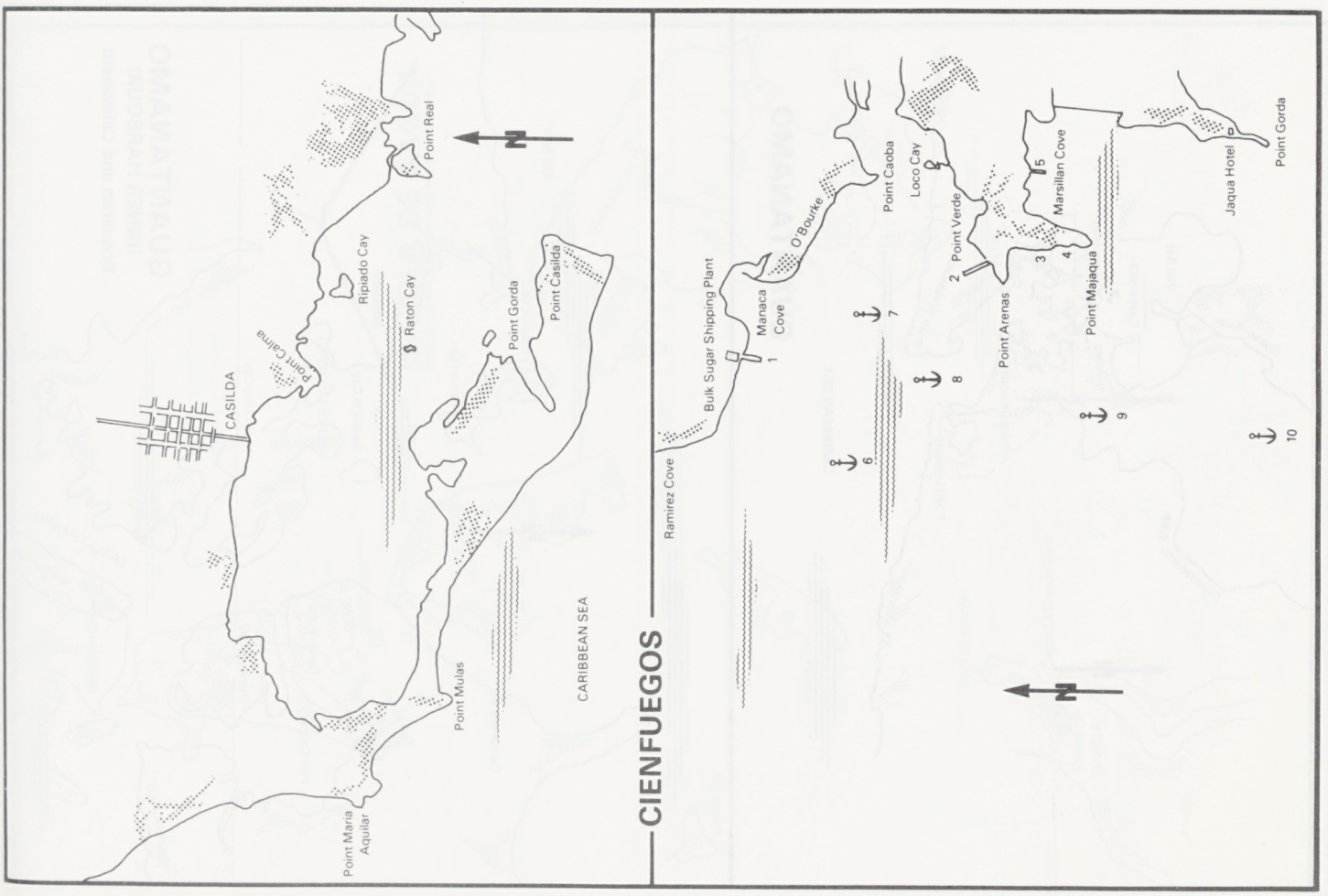

MOA
Yaguasey
Cayo Moa Grande
Lat 20°41′ 53″ N
Long: 74°54′ 22″ W
Palanca Shoal
Yaguasey Shoal
Point Pajaros
Yaguasey Bay
Pajaros Shoal
Shallow (1 – 2 feet)
BARACOA
(MOA AND PUNTA GORDA)
Fabrica River
Moa River
Point Moa
Grande Shoal
ATLANTIC OCEAN
Yagrumage River
Point Yagrumage
Yagrumage Cove
Sand and Coral
(very shallow)
La Estrelle Shoal
Punta Gorda

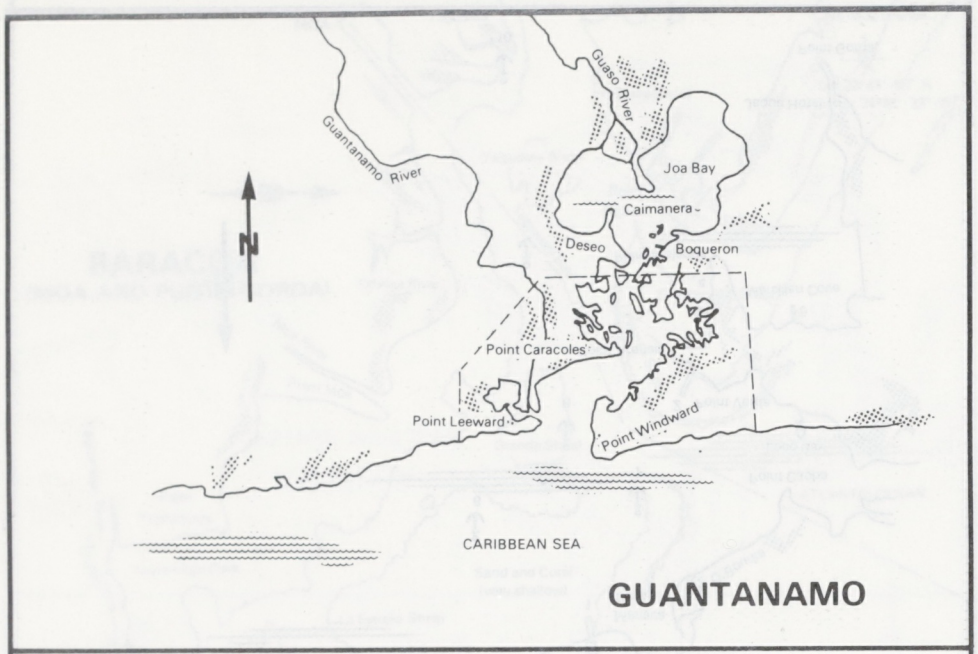

Point Sotavento
Buren Rock
Port of Baracoa
Point Barlovento
Macaguanigua River
Seboruco Castle
Baracoa City
MIEL BAY
Fort
BARACOA
Miel River

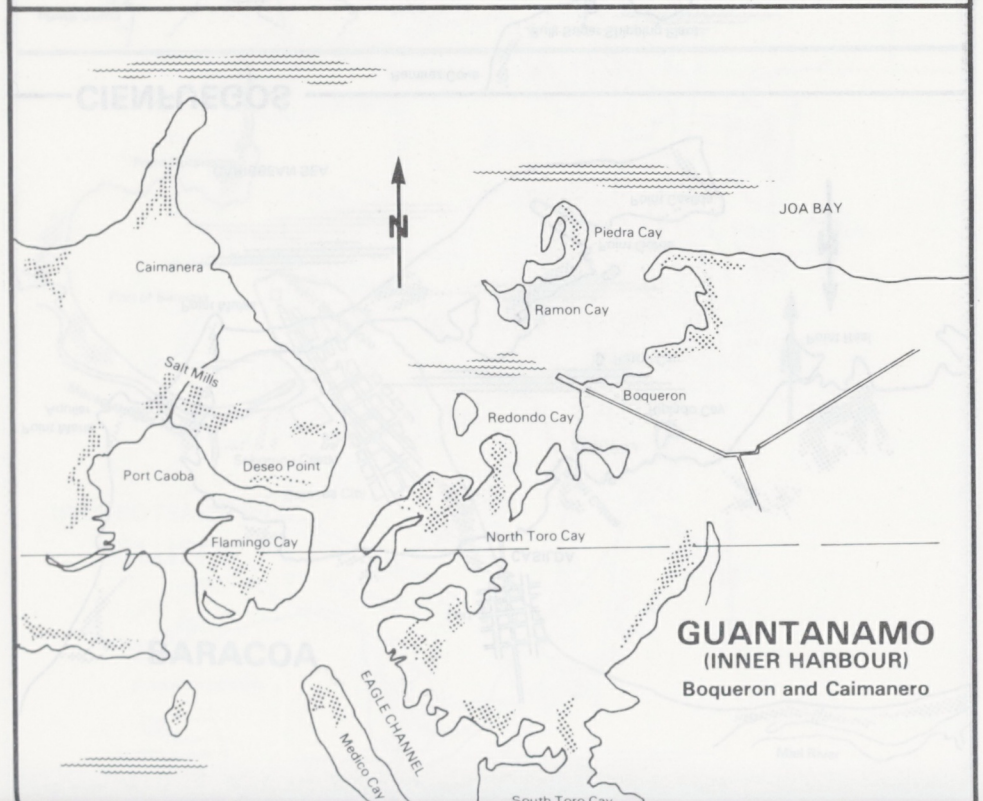

Peninsula Ramon
ATLANTIC OCEAN
ANTILLA
(NIPE BAY PRESTON AND FELTON)
Point Ramon
Point Mayari
Lat. 20°47′ 44″ N
Long. 75°31′ 24″ W
Point Cobos
Saetia
Point Largo
Preston
Cagimaya Cove
Point Cigarro
Mayari River
Felton
La Angostura
Levisa Bay (Nicaro)

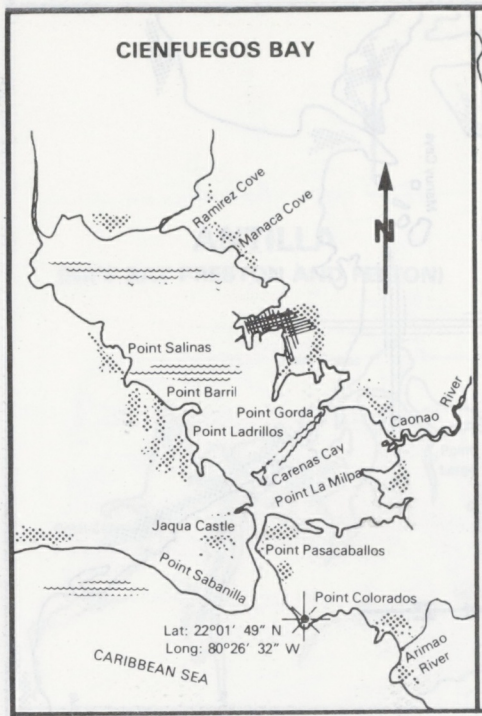

ANTILLA
(PRESTON AND FELTON)
Point Mayari Light
Lat. 20°47′ 44″N
Long. 75°31′ 24″W
Antilla
ATLANTIC OCEAN
Peninsula Ramon
NIPE BAY
Saetia
Preston
Felton


CARDENAS
Lat 23°14' 49" N
Long 81°07' 09"W
Piedras Cay
Monito Cay
Blanco Cays
Point Hicacos
Buba Cay
Varadero Beach
Romero Cay
Macho Cay
Chalupa Cay
Diana Cay
Siguapa
To Matanzas
Manuy Cays
CARDENAS PIER
Length 319m
Width 80m
Cupey Cays
CITY OF CARDENAS
Jucaro Cove
To Central Highway
To Isabela

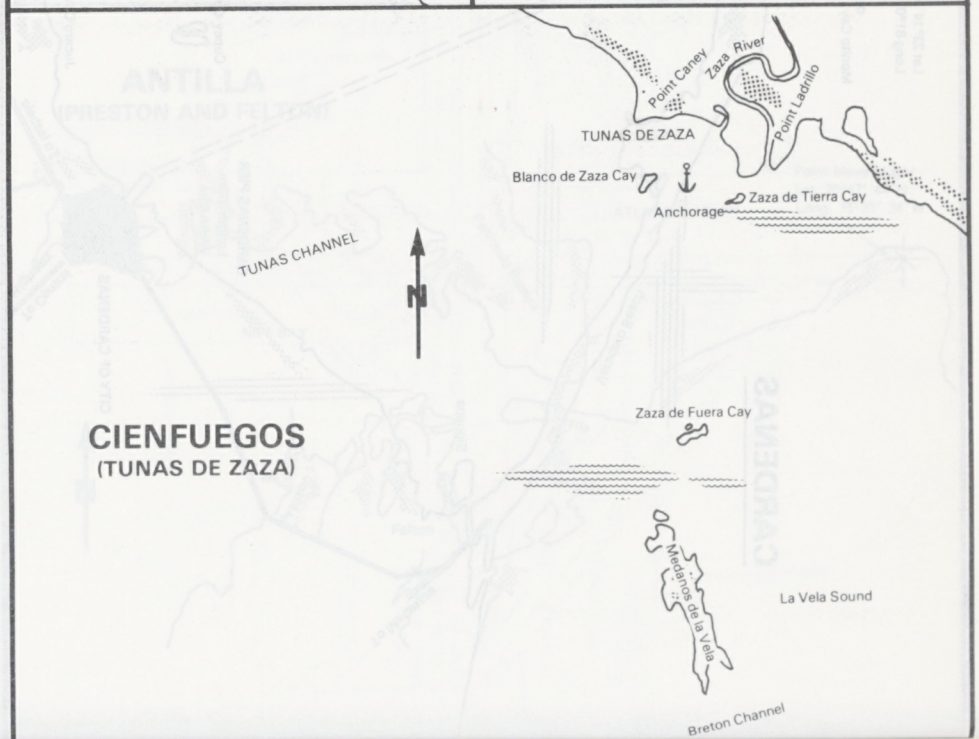

CIENFUEGOS
CASILDA
Point Real
Ripiado Cay
Raton Cay
Point Calma
Point Gorda
Point Casilda
CARIBBEAN SEA
Point Mulas
Point Maria Aquilar
Ramirez Cove
Bulk Sugar Shipping Plant
Manaca Cove
O'Bourke
Point Caoba
Loco Cay
Point Verde
Point Arenas
Marsillan Cove
Point Majaqua
Jaqua Hotel
Point Gorda

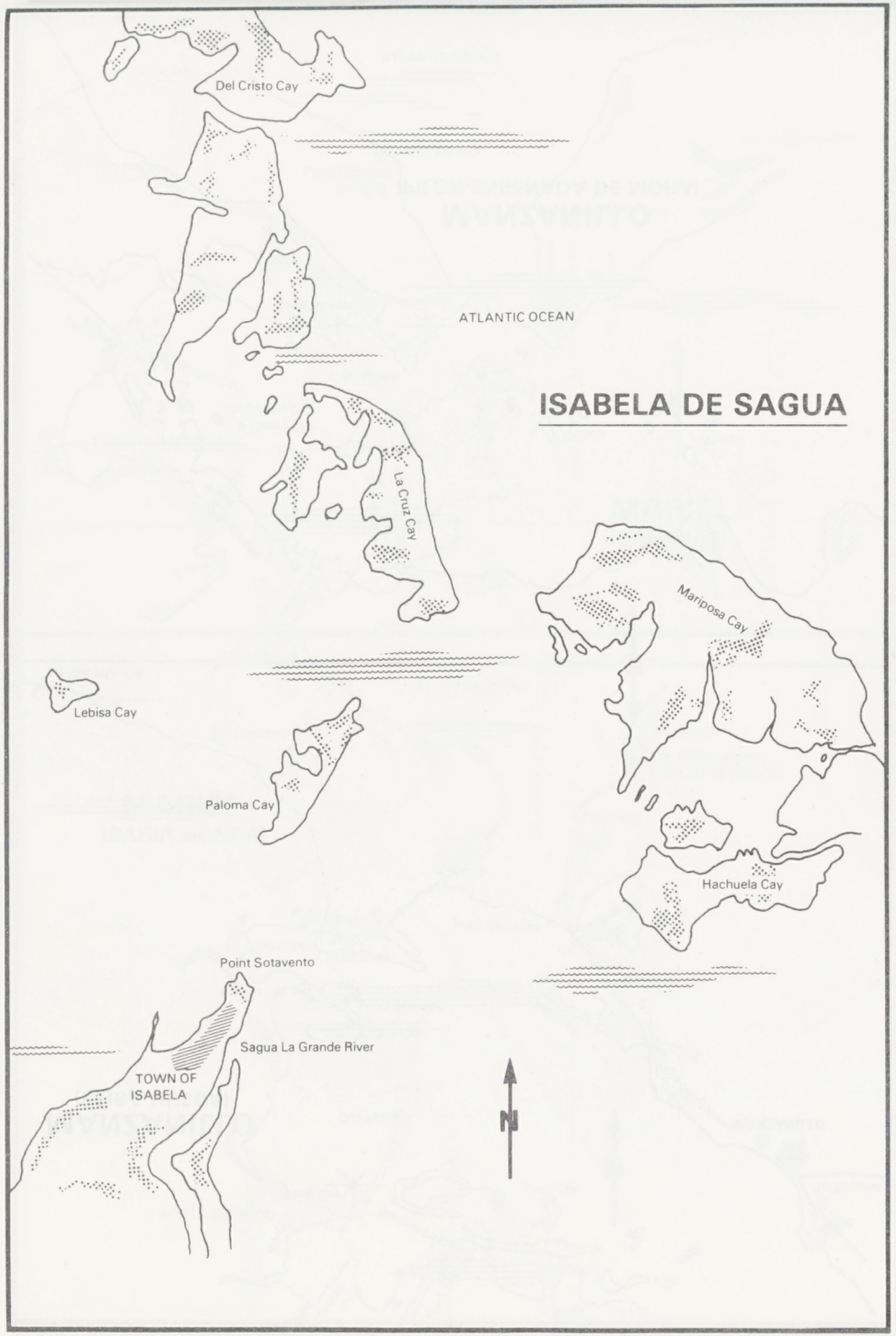

Guantanamo River
Guaso River
Joa Bay
Caimanera
Deseo
Boqueron
Point Caracoles
Point Leeward
Point Windward
CARIBBEAN SEA
GUANTANAMO

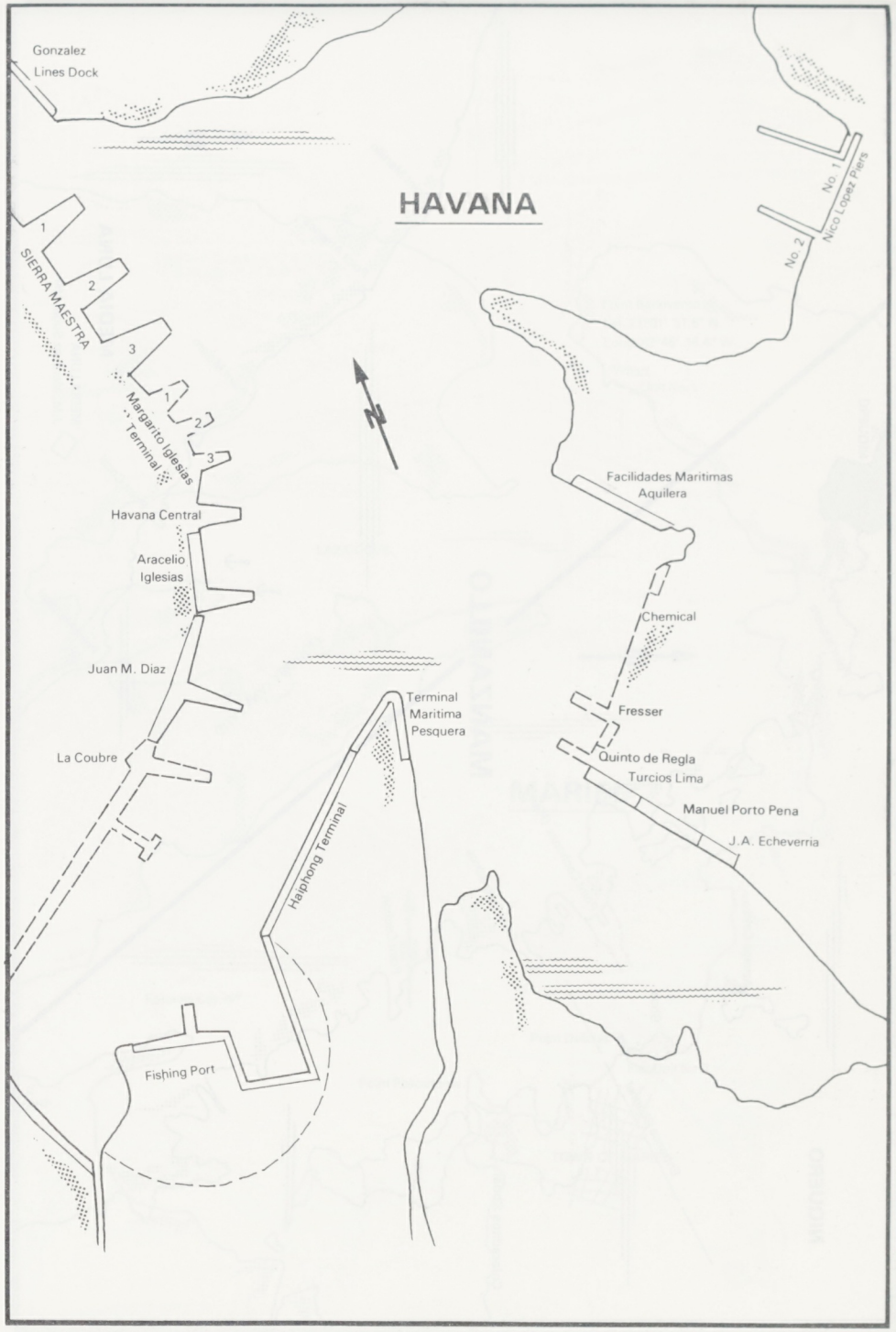

JOA BAY
Caimanera
Piedra Cay
Ramon Cay
Salt Mills
Boqueron
Redondo Cay
Port Caoba
Deseo Point
Flamingo Cay
North Toro Cay
EAGLE CHANNEL
Medico Cay
South Toro Cay
GUANTANAMO
(INNER HARBOUR)
Boqueron and Caimanero

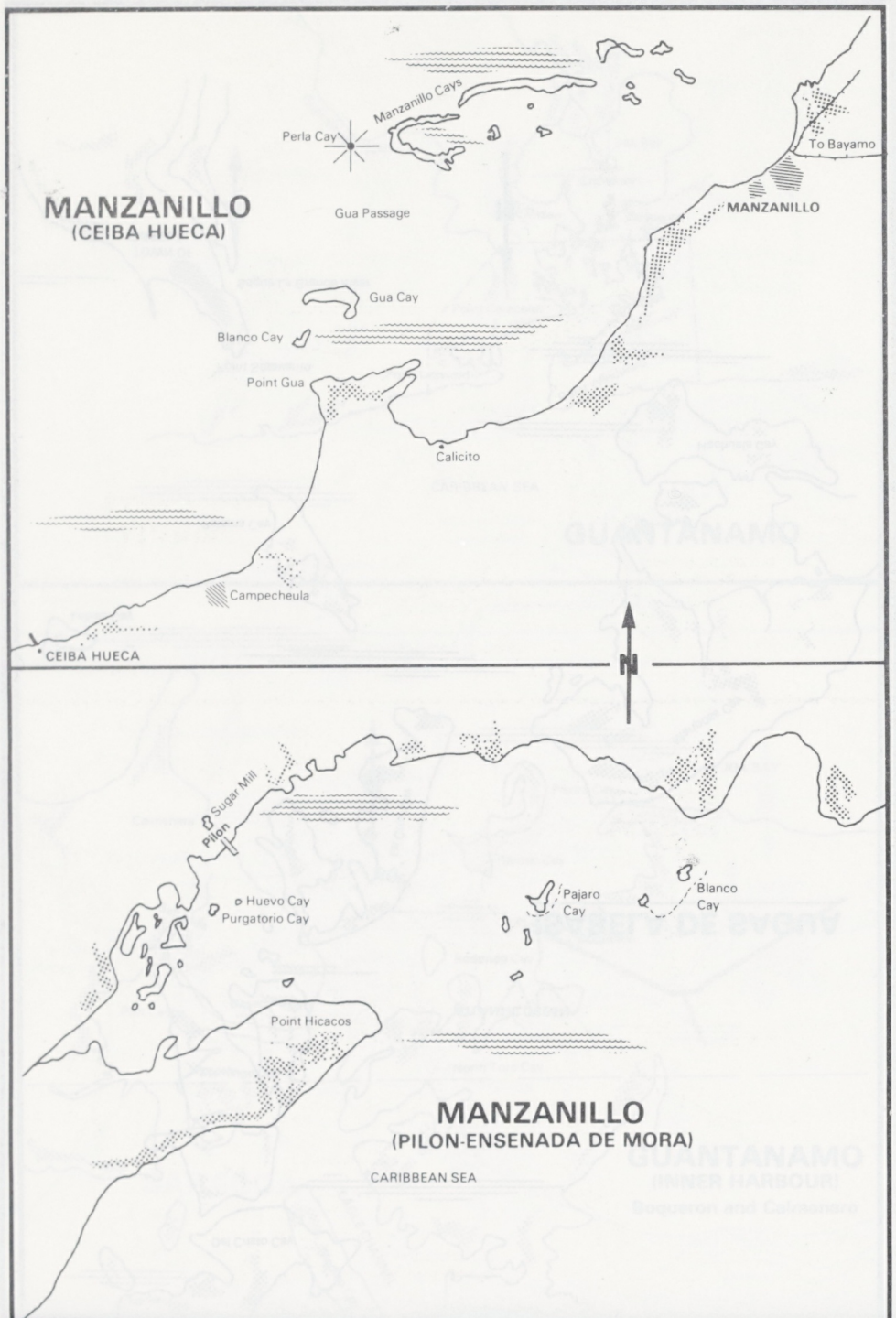

CIENFUEGOS BAY
Ramirez Cove
Manaca Cove
Point Salinas
Point Barril
Point Gorda
Caonao River
Point Ladrillos
Carenas Cay
Point La Milpa
Jaqua Castle
Point Pasacaballos
Point Sabanilla
Point Colorados
Lat: 22°01′ 49″ N
Long: 80°26′ 32″ W
CARIBBEAN SEA
Arimao River

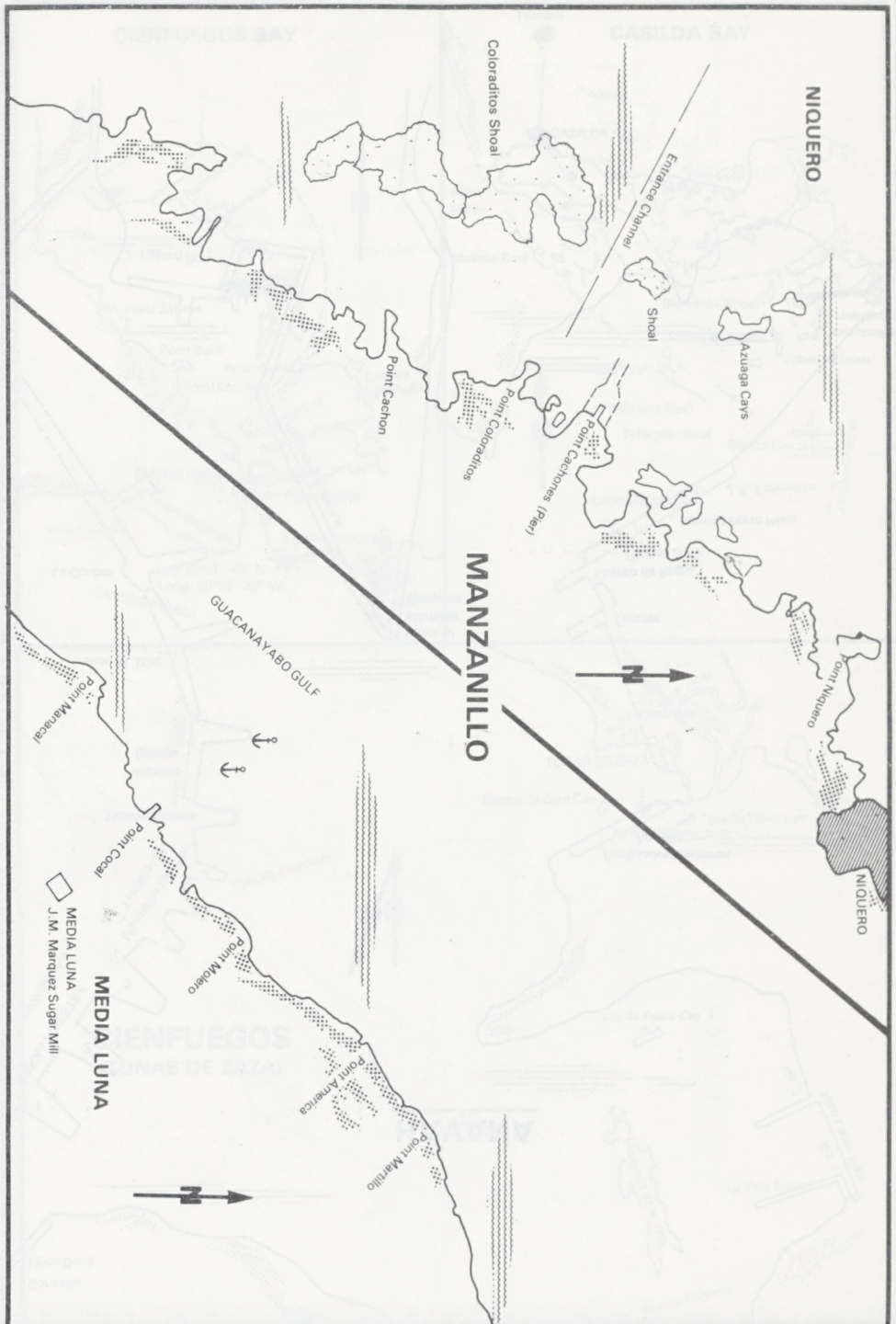
Trinidad
CASILDA BAY
CASILDA
Point Mulas
Mulatas Reef
Diamante Shoal
Jobabo Anchorage
Jobabo Shoals
Vivora Reef
Ballenato Reef
El Negrito Reef
Blanco Cay
Jobabo Channel
CARIBBEAN SEA

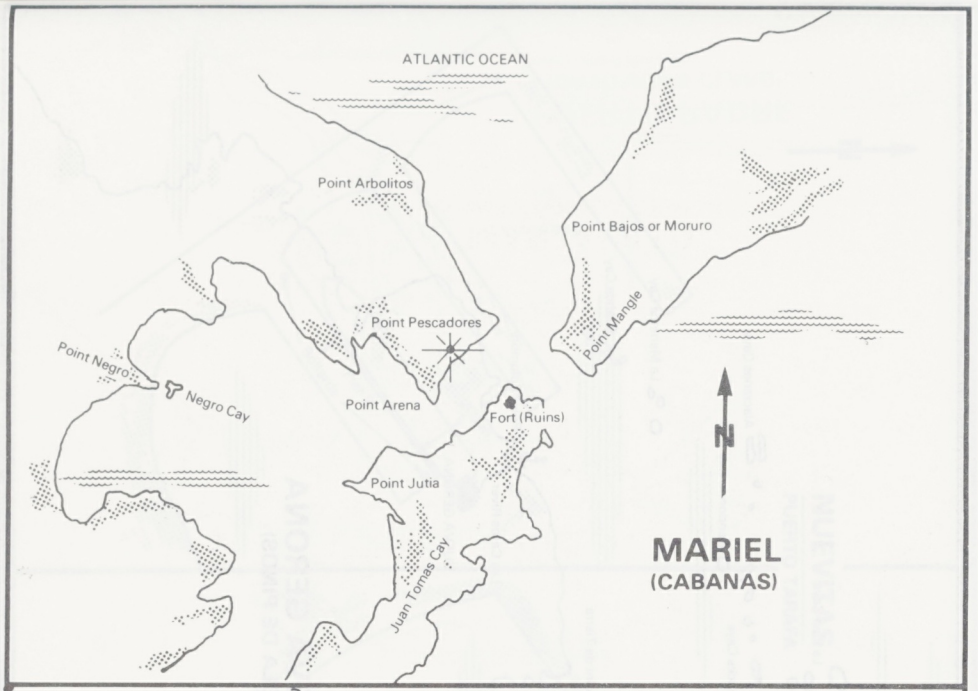

Point Caney
Zaza River
Point Ladrillo
TUNAS DE ZAZA
Blanco de Zaza Cay
Zaza de Tierra Cay
Anchorage
TUNAS CHANNEL
Zaza de Fuera Cay
CIENFUEGOS
(TUNAS DE ZAZA)
Medanos de la Vela
La Vela Sound
Breton Channel

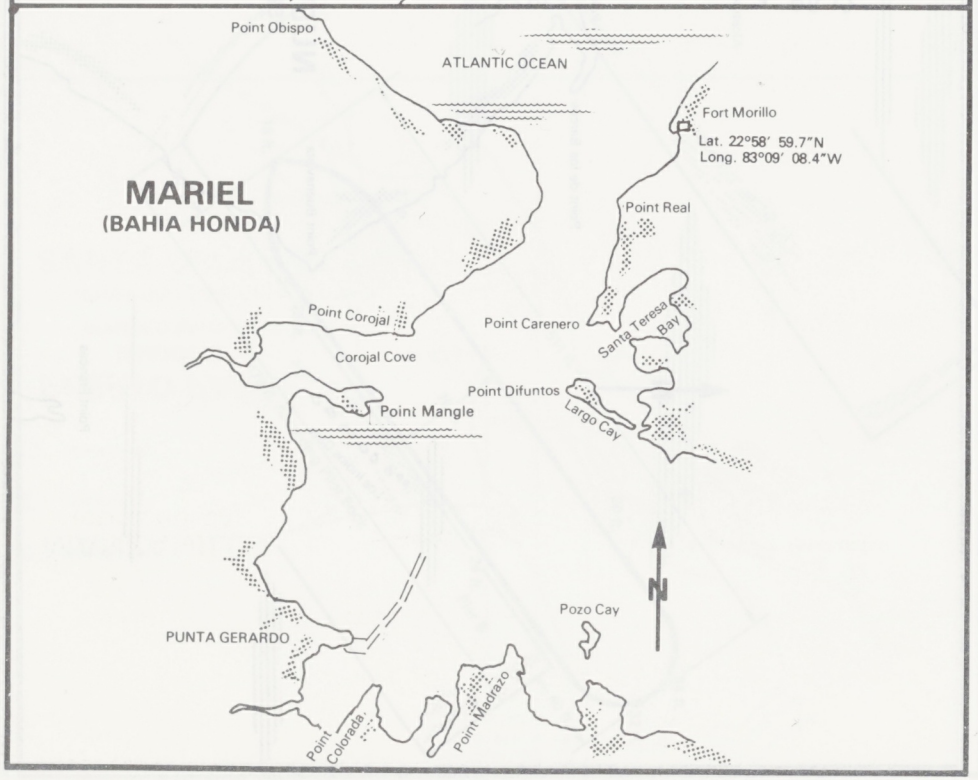

ISABELA DE SAGUA
ATLANTIC OCEAN
Del Cristo Cay
La Cruz Cay
Mariposa Cay
Lebisa Cay
Paloma Cay
Hachuela Cay
Point Sotavento
Sagua La Grande River
TOWN OF ISABELA
N

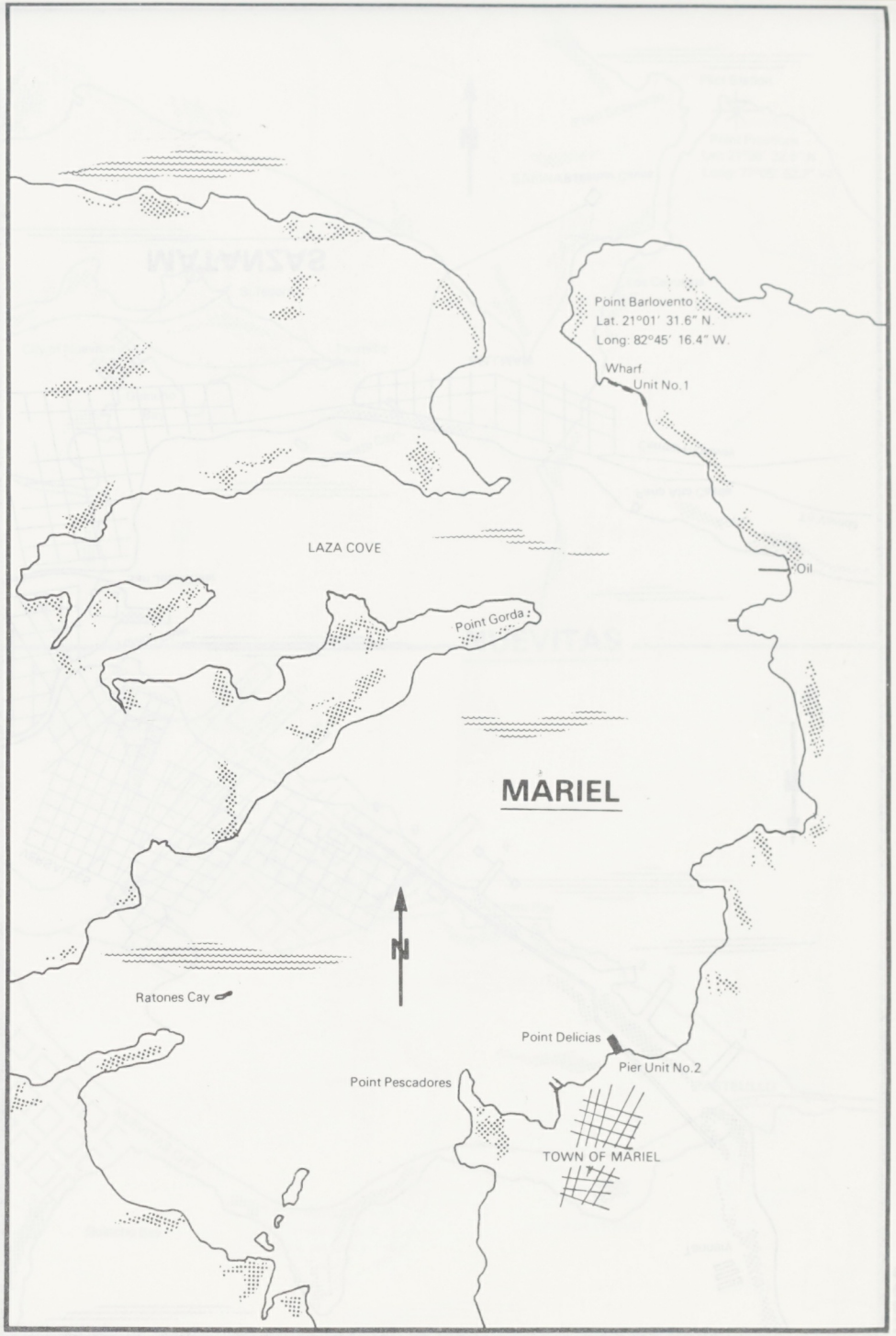

HAVANA
Gonzalez Lines Dock
SIERRA MAESTRA
1
2
3
Margarito Iglesias Terminal
Havana Central
Aracelio Iglesias
Juan M. Diaz
La Coubre
Terminal Maritima Pesquera
Haiphong Terminal
Fishing Port
No. 1
No. 2
Nico Lopez Piers
Facilidades Maritimas Aquilera
Chemical
Fresser
Quinto de Regla
Turcios Lima
Manuel Porto Pena
J.A. Echeverria
N

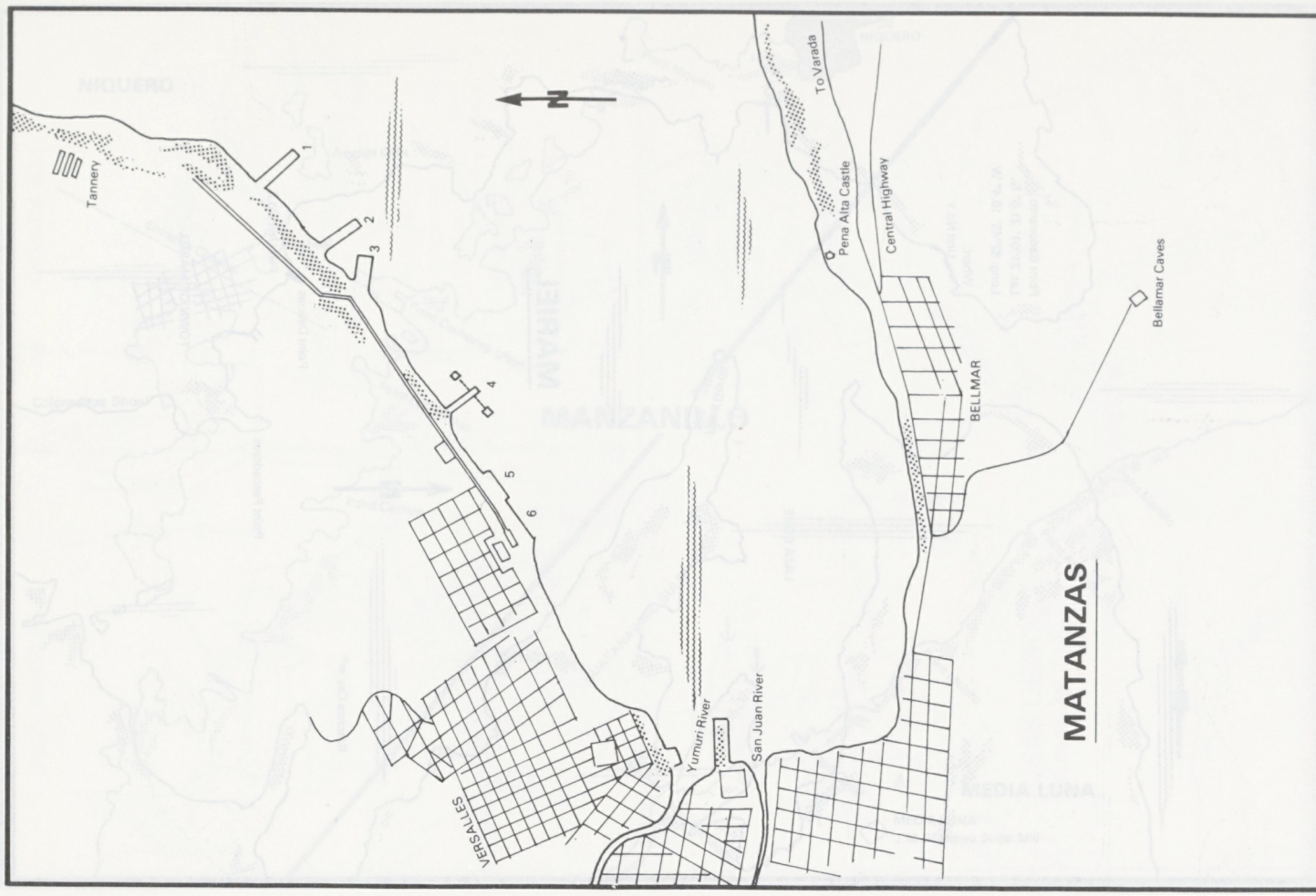

MANZANILLO
(CEIBA HUECA)
Manzanillo Cays
Perla Cay
Gua Passage
To Bayamo
MANZANILLO
Gua Cay
Blanco Cay
Point Gua
Calicito
Campecheula
CEIBA HUECA
N
Sugar Mill
Pilon
Huevo Cay
Purgatorio Cay
Pajaro Cay
Blanco Cay
Point Hicacos
MANZANILLO
(PILON-ENSENADA DE MORA)
CARIBBEAN SEA

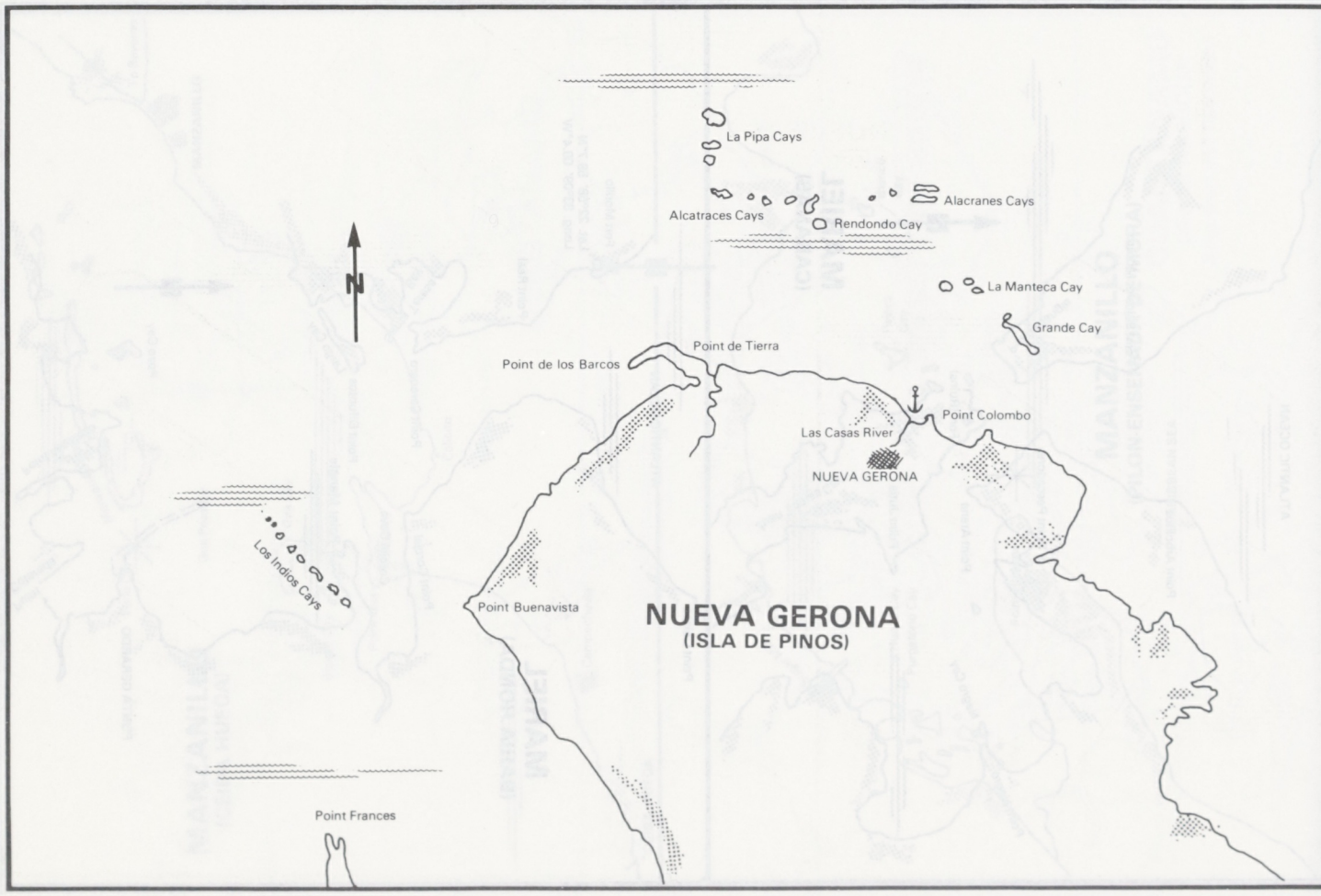

CUBA
NIQUERO
Coloraditos Shoal
Entrance Channel
Shoal
Azuaga Cays
Point Cachon
Point Coloraditos
Point Cachones (Pier)
MANZANILLO
Point Niquero
NIQUERO
GUACANAYABO GULF
Point Manacal
Point Cocal
MEDIA LUNA
J.M. Marquez Sugar Mill
MEDIA LUNA
Point Motero
Point America
Point Martillo

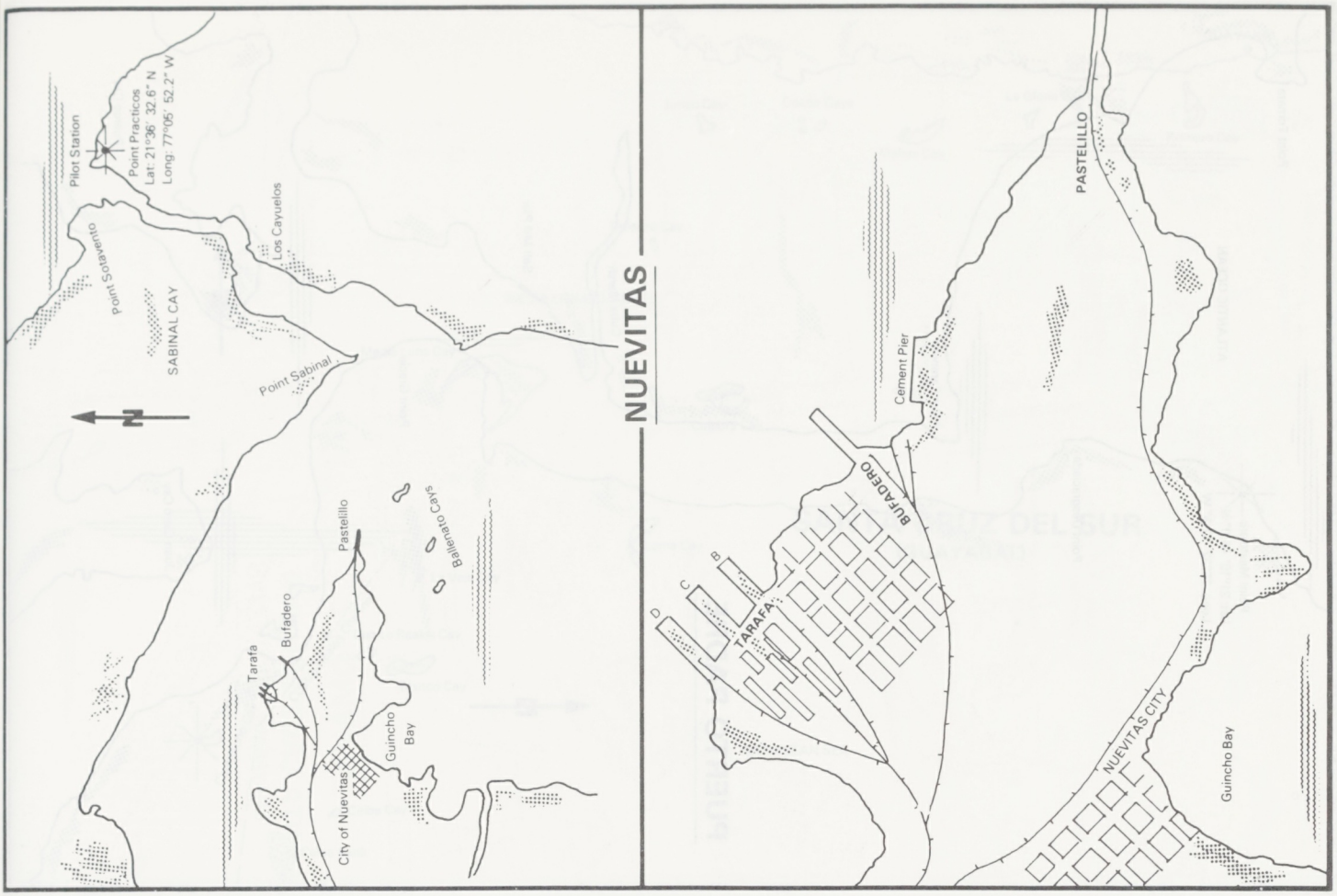

ATLANTIC OCEAN
Point Arbolitos
Point Bajos or Moruro
Point Mangle
Point Pescadores
Point Negro
Negro Cay
Point Arena
Fort (Ruins)
Point Jutia
Juan Tomas Cay
N
MARIEL
(CABANAS)

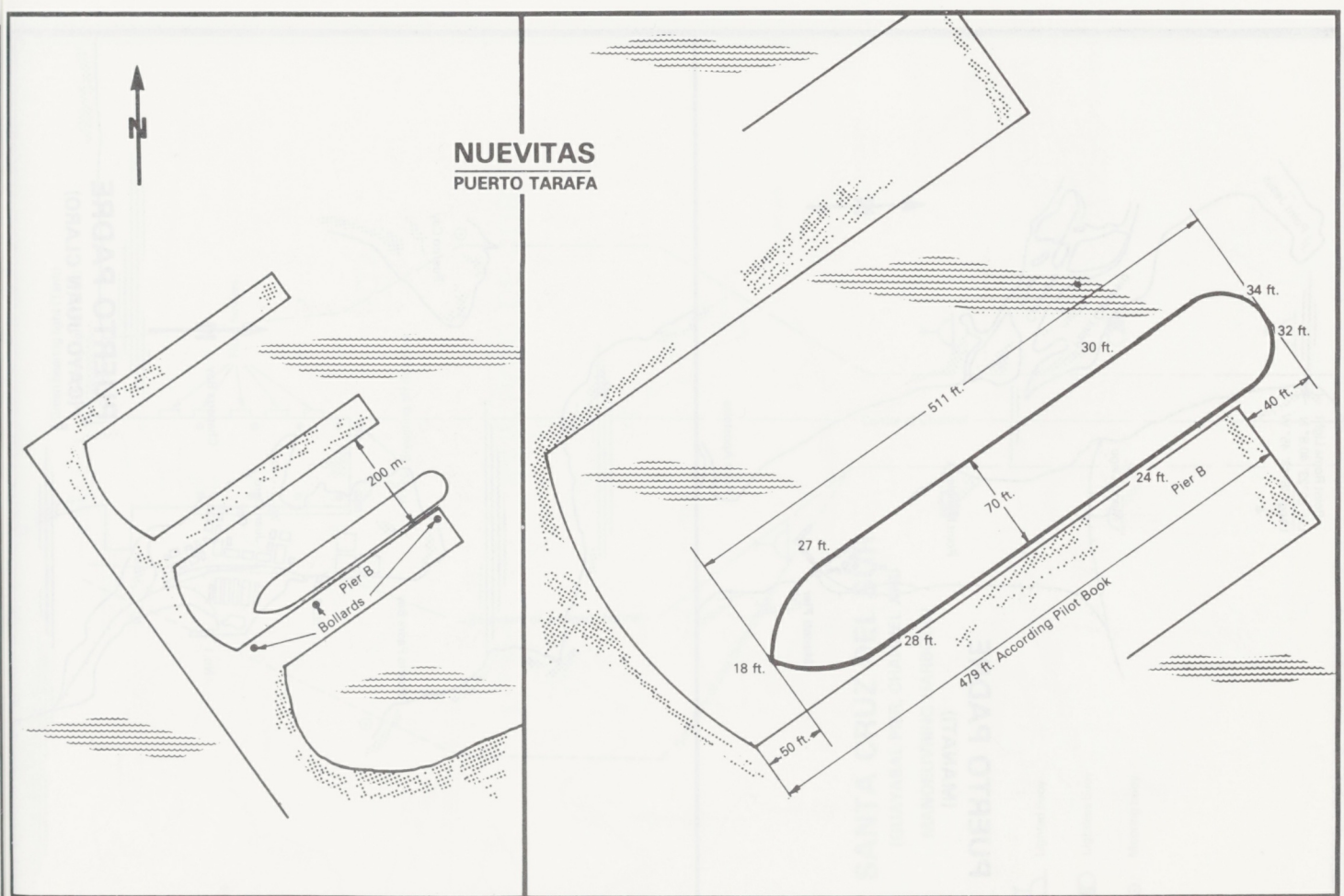

Point Obispo
ATLANTIC OCEAN
Fort Morillo
Lat. 22°58' 59.7"N
Long. 83°09' 08.4"W
MARIEL
(BAHIA HONDA)
Point Real
Point Corojal
Point Carenero
Santa Teresa Bay
Corojal Cove
Point Difuntos
Point Mangle
Largo Cay
N
Pozo Cay
PUNTA GERARDO
Point Colorada
Point Madrazo


Point Barlovento
Lat. 21°01' 31.6" N
Long: 82°45' 16.4" W.
Wharf
Unit No.1
LAZA COVE
Oil
Point Gorda
MARIEL
N
Ratones Cay
Point Delicias
Pier Unit No.2
Point Pescadores
TOWN OF MARIEL

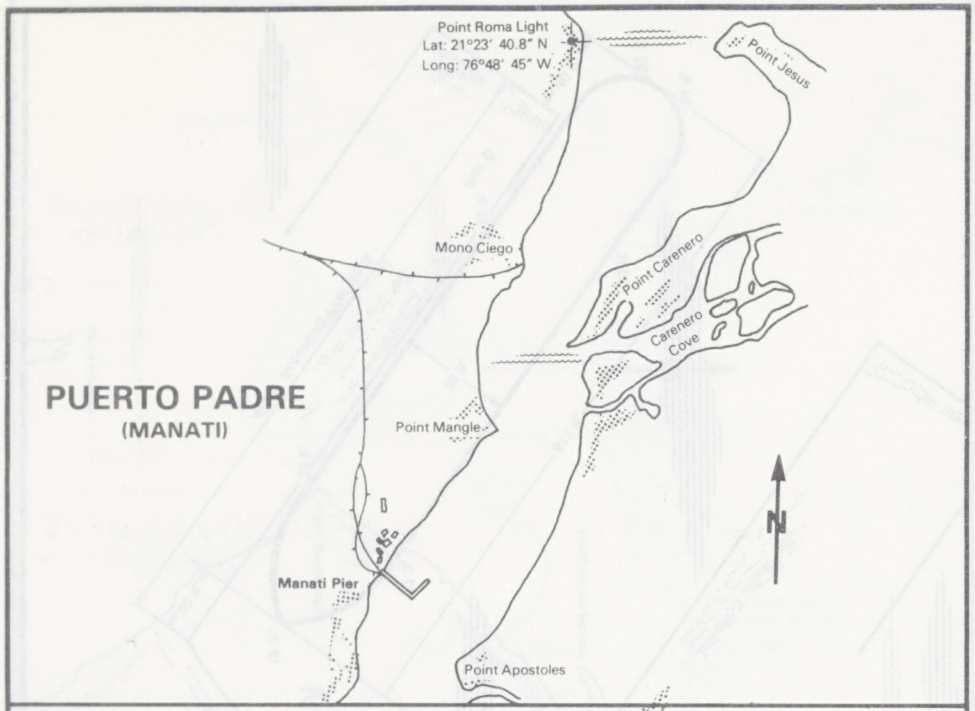

N
Tannery
1
2
3
4
5
6
To Varada
Pena Alta Castle
Central Highway
Bellamar Caves
BELLMAR
MATANZAS
Yumuri River
San Juan River
VERSALLES


N
La Pipa Cays
Alcatraces Cays
Alacranes Cays
Rendondo Cay
La Manteca Cay
Grande Cay
Point de Tierra
Point de los Barcos
Point Colombo
Las Casas River
NUEVA GERONA
Los Indios Cays
Point Buenavista
NUEVA GERONA
(ISLA DE PINOS)
Point Frances

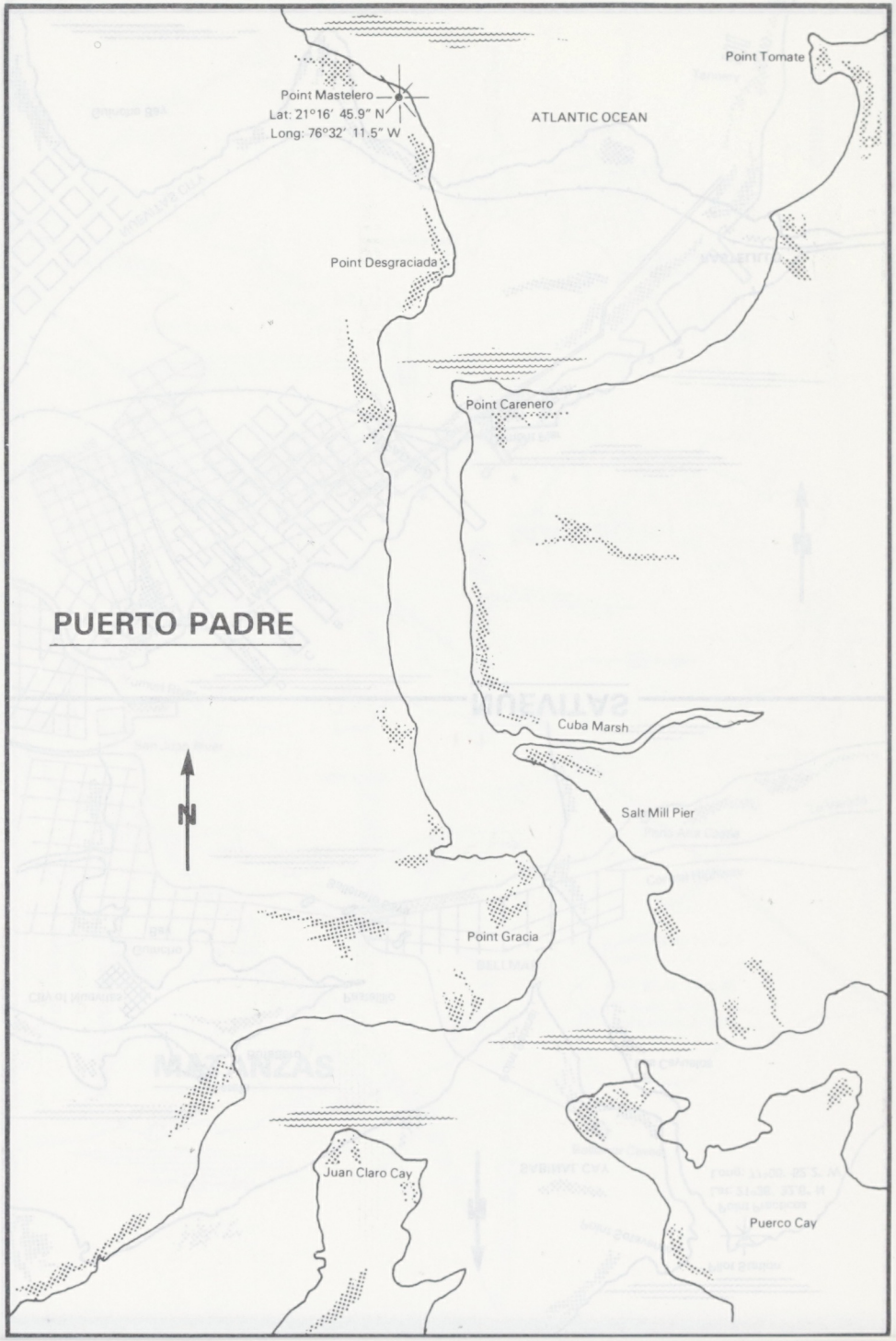


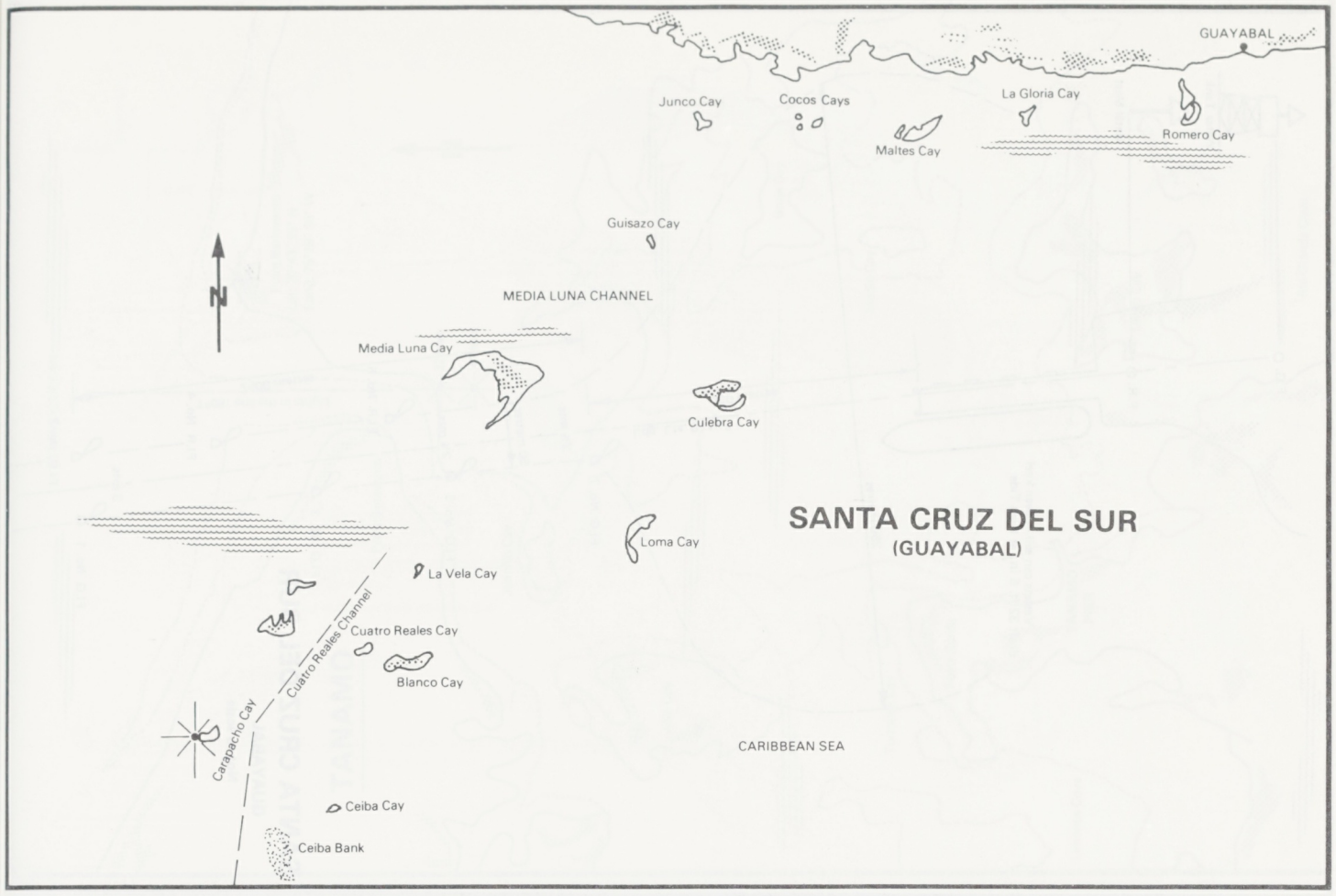


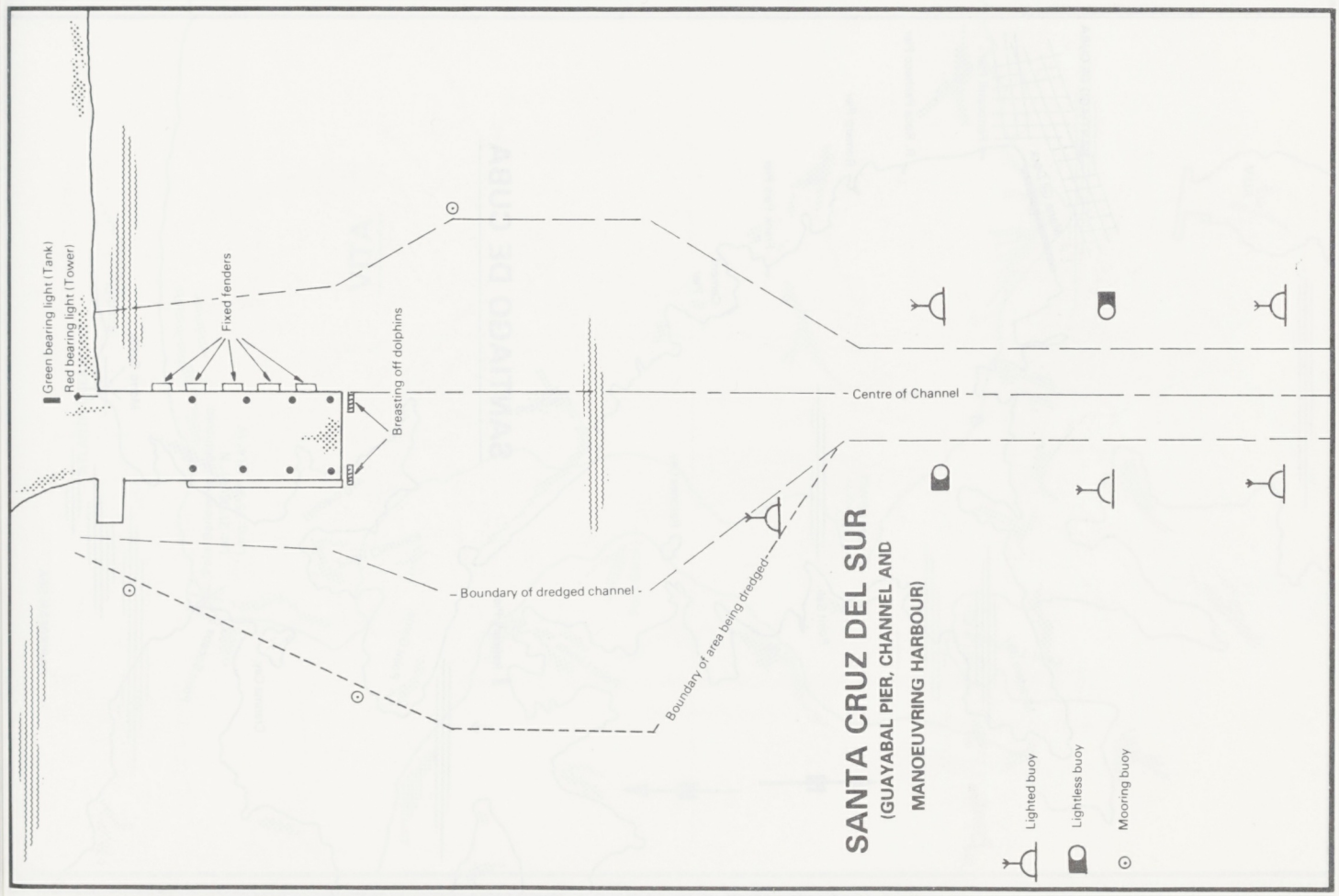
Plan supplied by Ship's Master


Point Roma Light
Lat: 21°23′ 40.8″ N
Long: 76°48′ 45″ W
Point Jesus
Mono Ciego
Point Carenero
Carenero Cove
PUERTO PADRE
(MANATI)
Point Mangle
N
Manati Pier
Point Apostoles

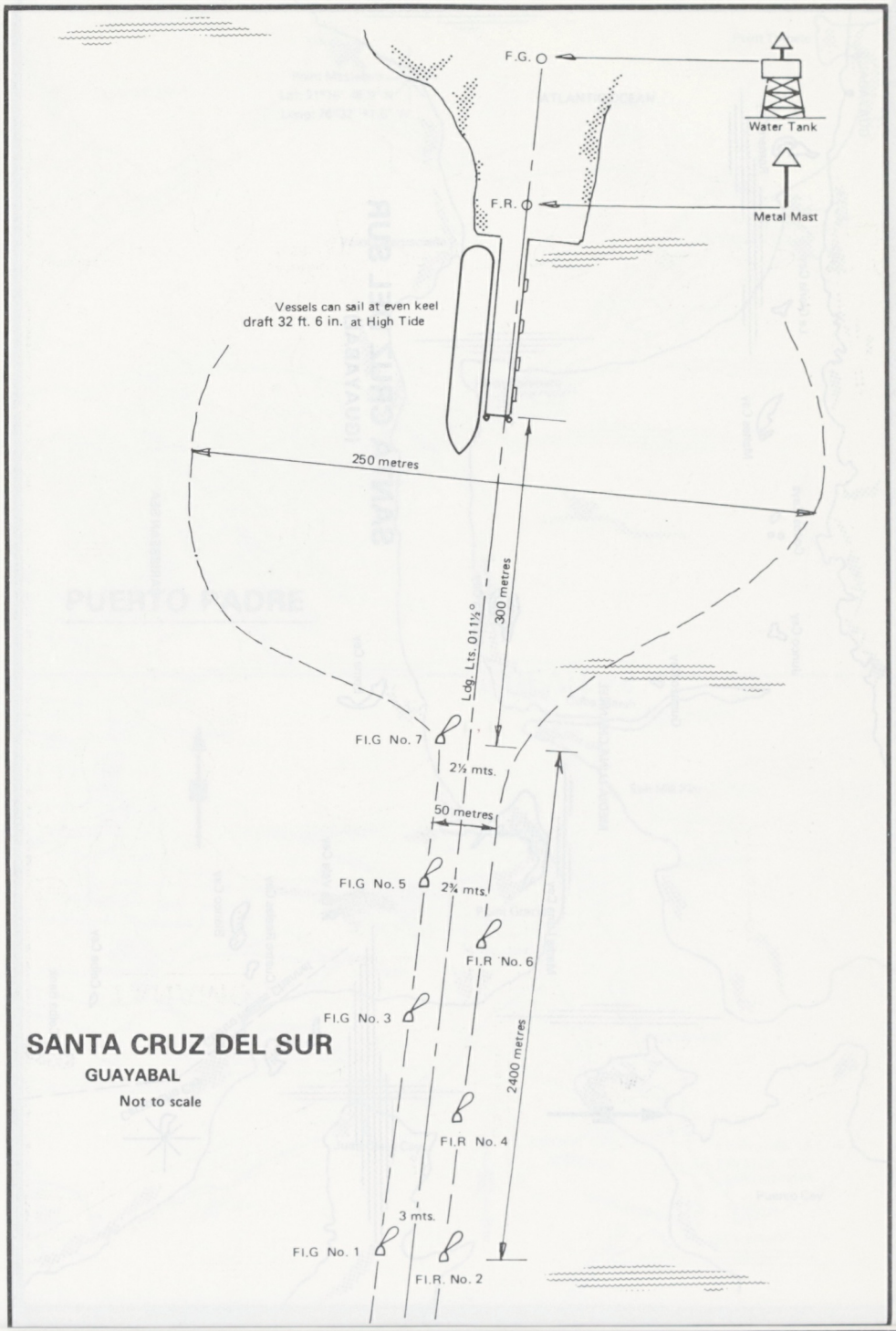
Puerco Cay
Puerto Padre Bay
No.2
Juan Claro Cay
No.1
Chaparra Bay
N
PUERTO PADRE
(CAYO JUAN CLARO)

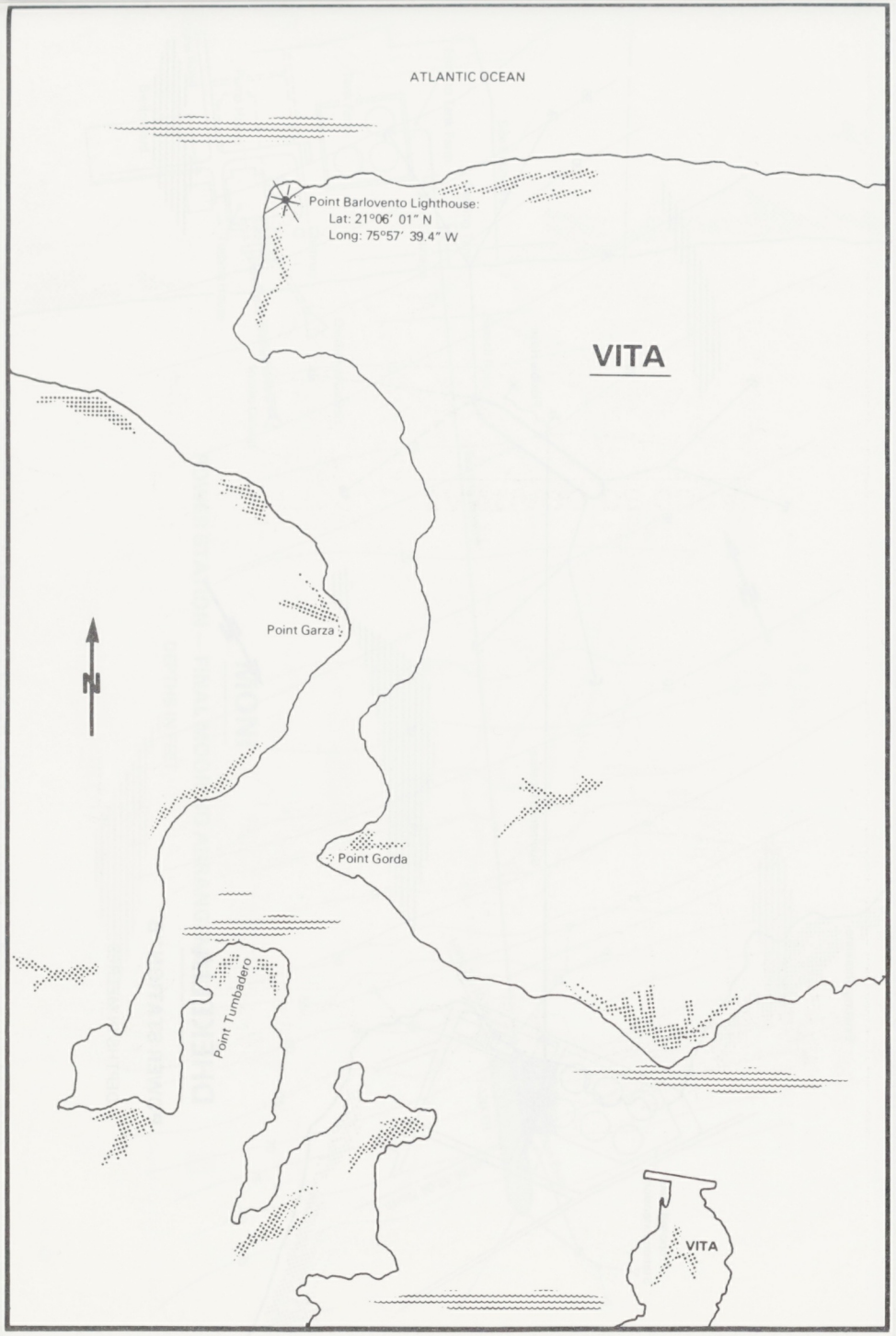

Point Tomate
Point Mastelero
Lat: 21°16′ 45.9″ N
Long: 76°32′ 11.5″ W
ATLANTIC OCEAN
Point Desgraciada
Point Carenero
PUERTO PADRE
Cuba Marsh
N
Salt Mill Pier
Point Gracia
Juan Claro Cay
Puerco Cay

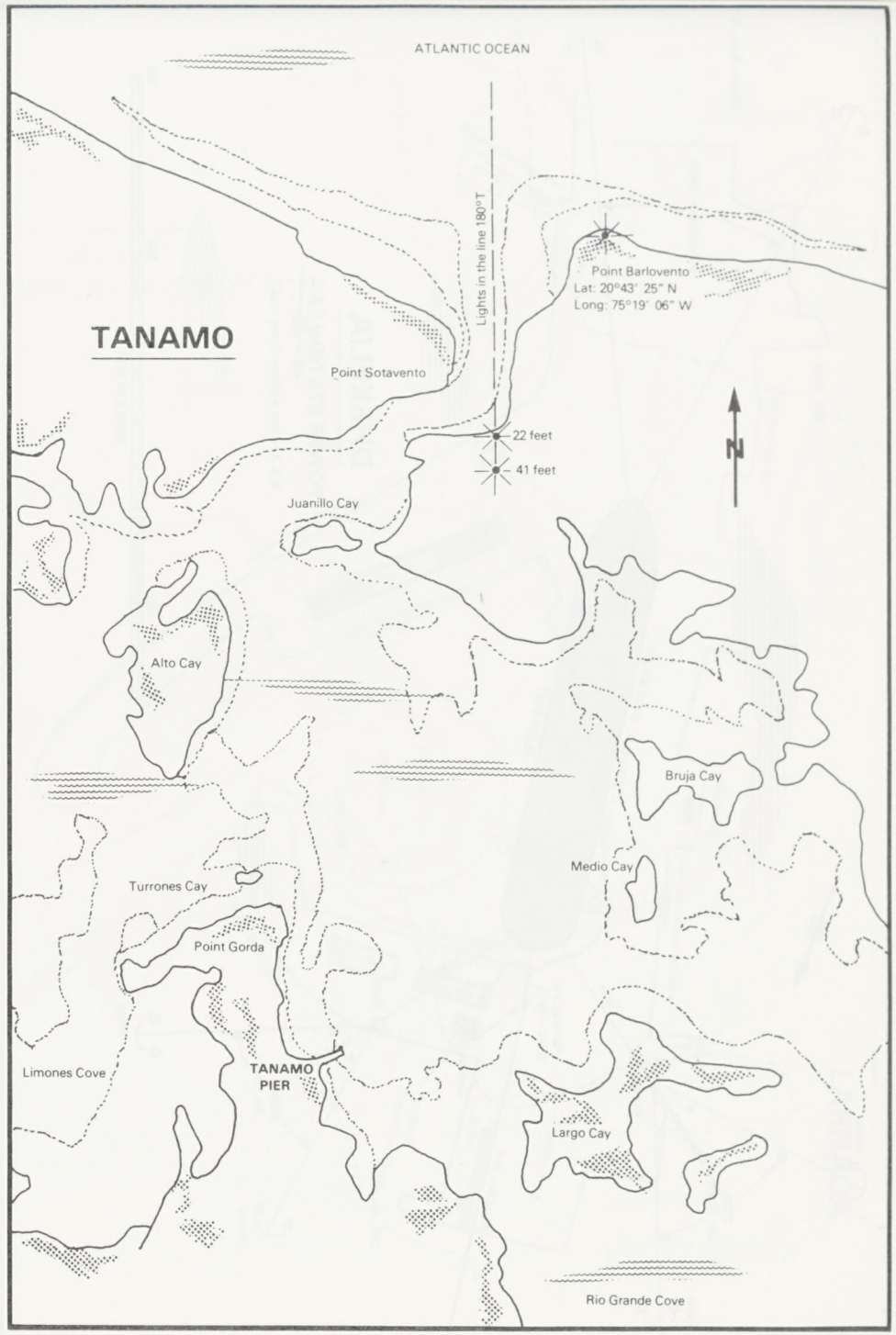

GUAYABAL
Junco Cay
Cocos Cays
La Gloria Cay
Romero Cay
Maltes Cay
Guisazo Cay
N
MEDIA LUNA CHANNEL
Media Luna Cay
Culebra Cay
SANTA CRUZ DEL SUR
(GUAYABAL)
Loma Cay
La Vela Cay
Cuatro Reales Channel
Cuatro Reales Cay
Blanco Cay
Carapacho Cay
CARIBBEAN SEA
Ceiba Cay
Ceiba Bank

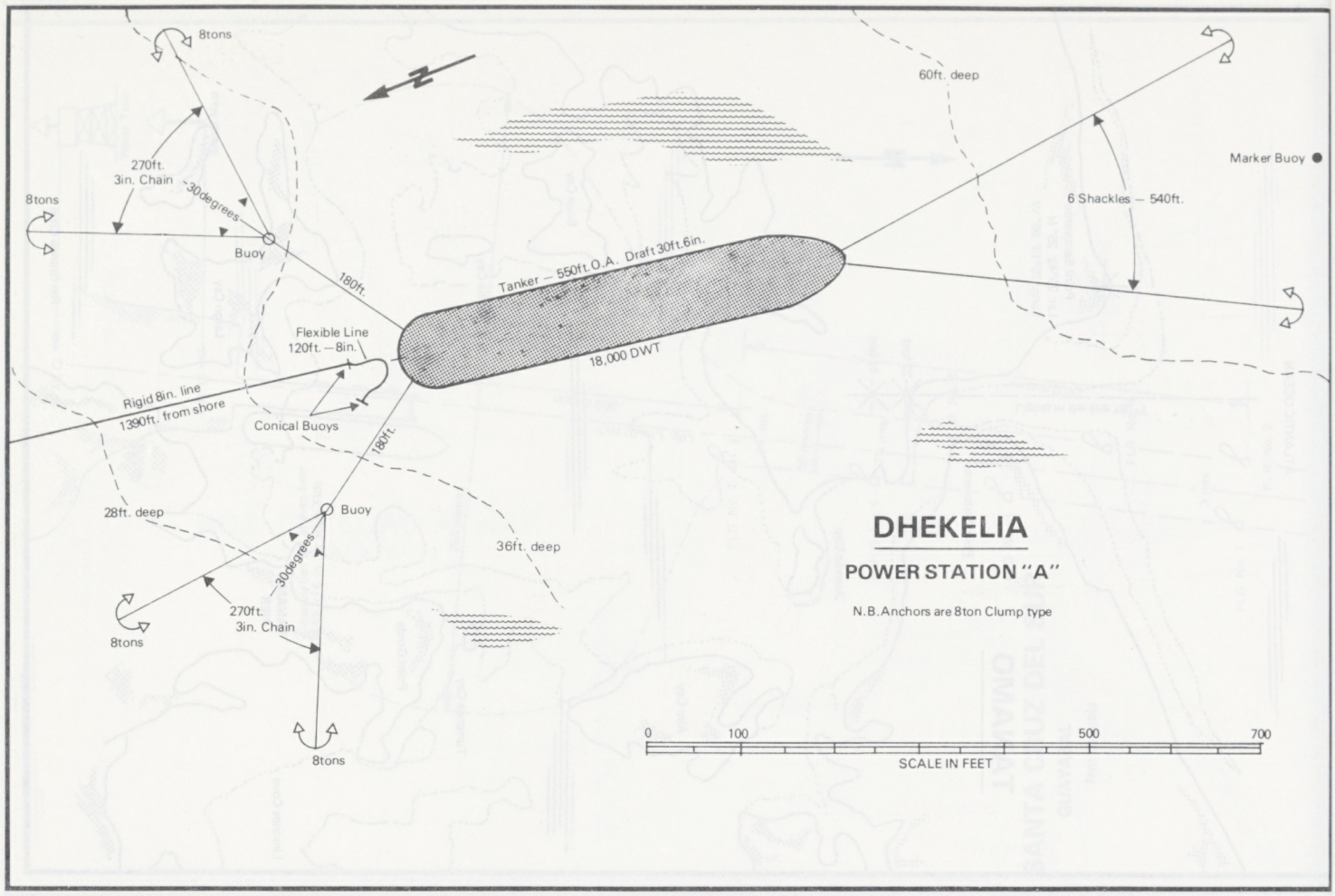

Green bearing light (Tank)
Red bearing light (Tower)
Fixed fenders
Breasting off dolphins
Centre of Channel
Boundary of dredged channel
Boundary of area being dredged
SANTA CRUZ DEL SUR
(GUAYABAL PIER, CHANNEL AND
MANOEUVRING HARBOUR)
Lighted buoy
Lightless buoy
Mooring buoy

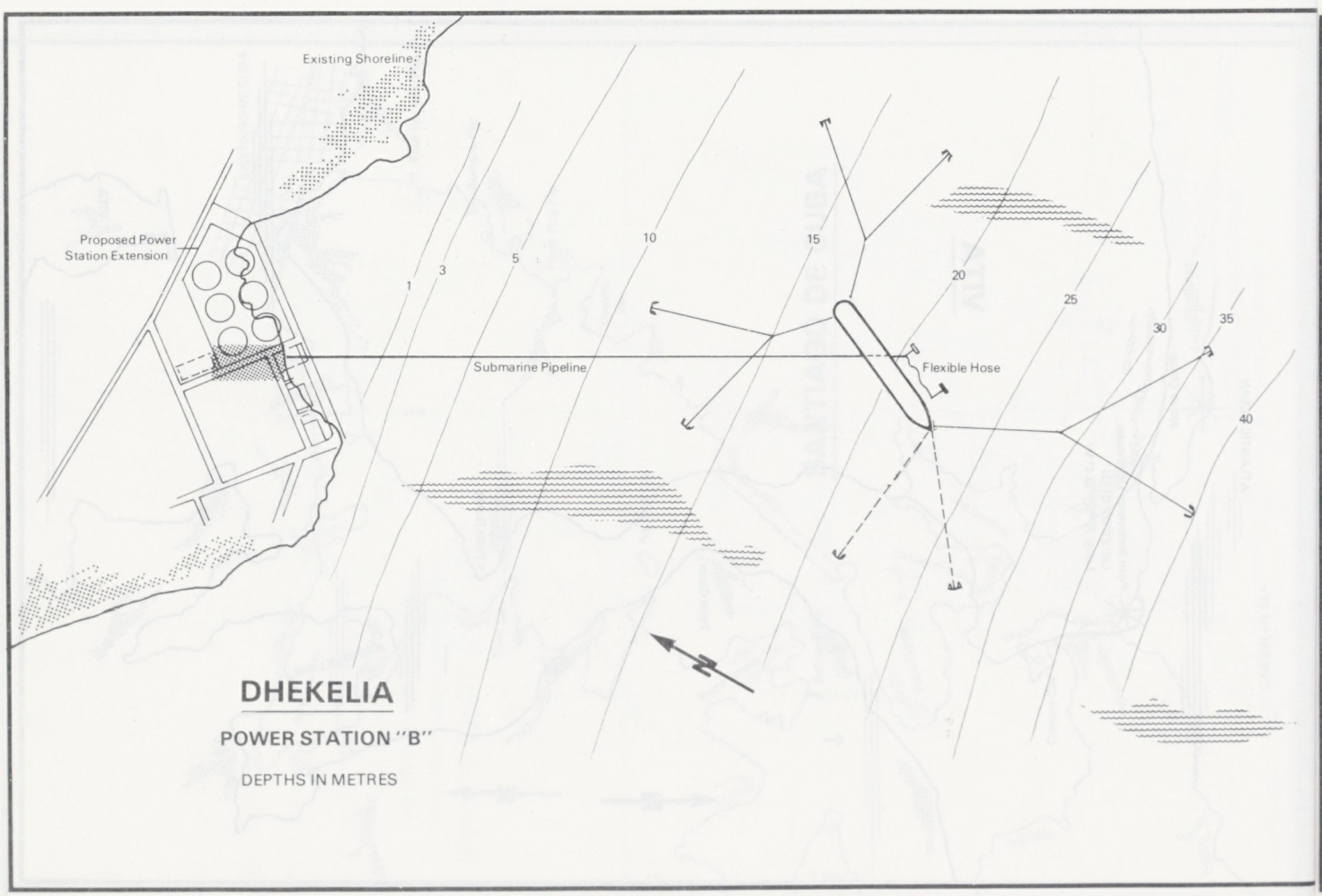
SANTIAGO DE CUBA
L.F. Mena Gil Dock
Miradero Bay
Ferrocarril Pier
R. Roca Pacheco Pier
Romero Pier
Point Sal
N
Frank Pais Pier
Cement Pier
Ratones Cay
Point Limeta
Refinery Pier
SANTIAGO DE CUBA
Point Gorda
Point Churruca
Nispero Bay
Cranma Cay
Point Socapa
Morro Castle
CARIBBEAN SEA

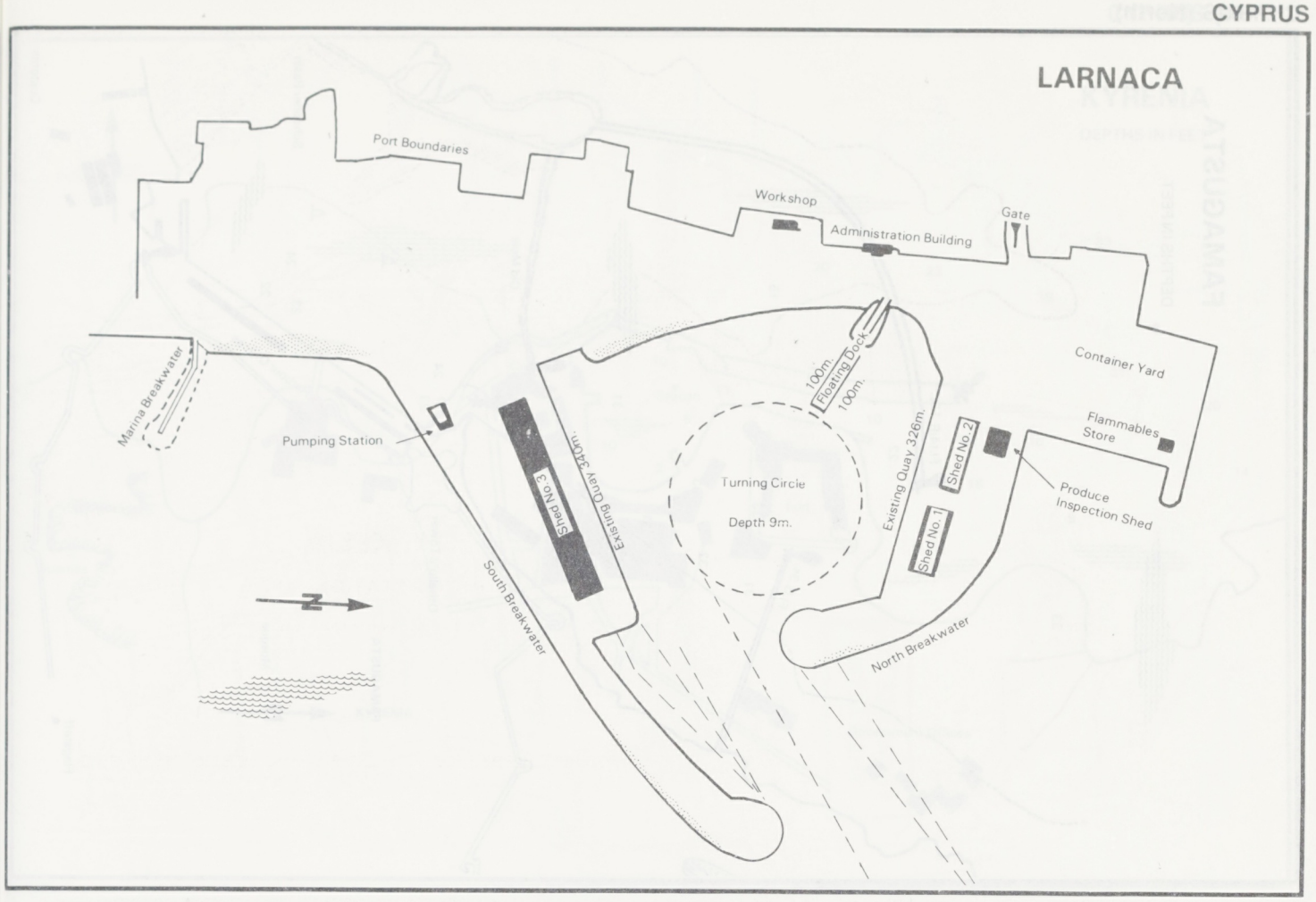

F.G.
Water Tank
F.R.
Metal Mast
Vessels can sail at even keel
draft 32 ft. 6 in. at High Tide
250 metres
Ldg. Lts. 011½°
300 metres
Fl.G No. 7
2½ mts.
50 metres
Fl.G No. 5
2¾ mts.
Fl.R No. 6
Fl.G No. 3
2400 metres
SANTA CRUZ DEL SUR
GUAYABAL
Not to scale
Fl.R No. 4
3 mts.
Fl.G No. 1
Fl.R No. 2

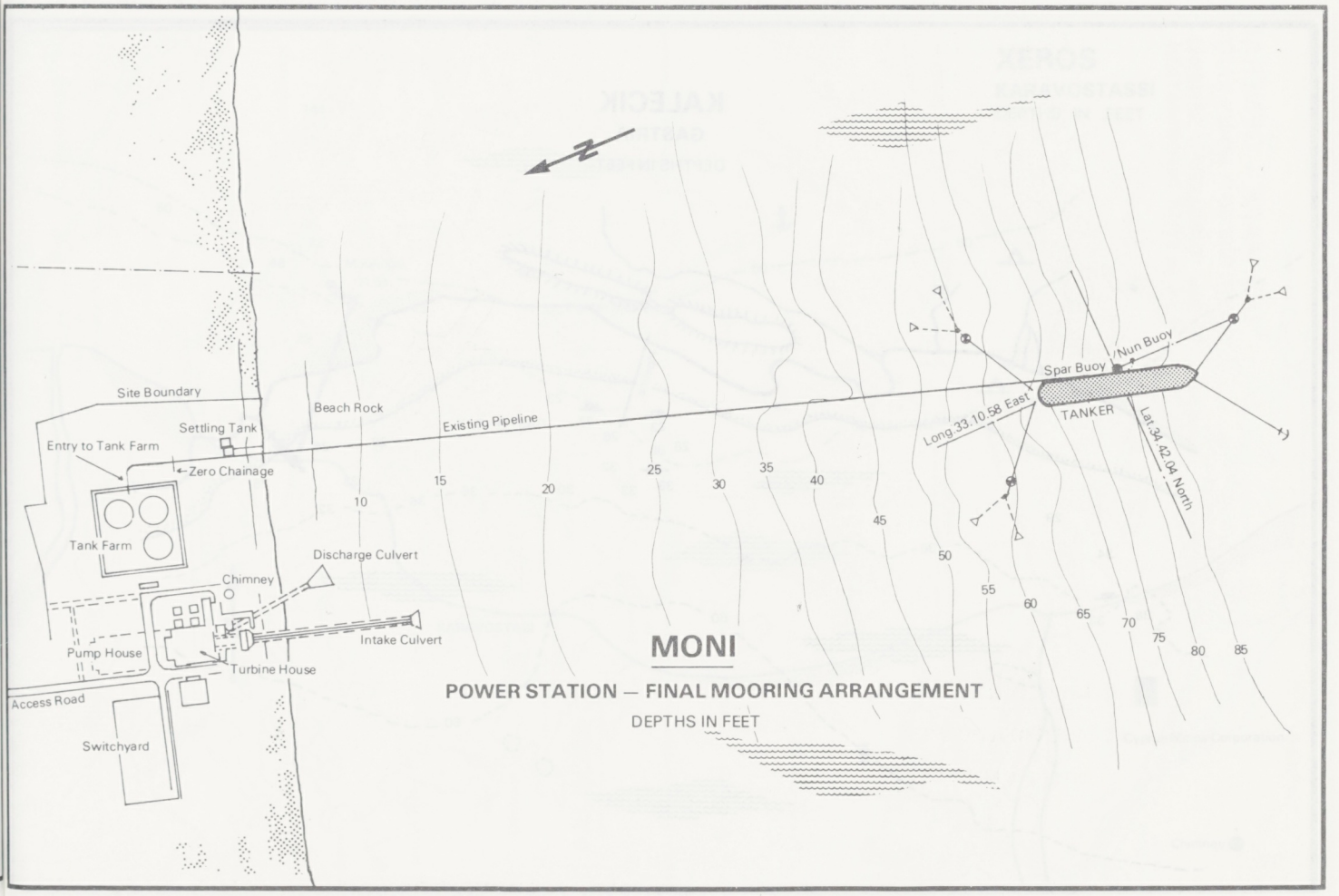

ATLANTIC OCEAN
Point Barlovento Lighthouse:
Lat: 21°06′ 01″ N
Long: 75°57′ 39.4″ W
VITA
N
Point Garza
Point Gorda
Point Tumbadero
VITA


ATLANTIC OCEAN
Lights in the line 180°T
TANAMO
Point Barlovento
Lat: 20°43′ 25″ N
Long: 75°19′ 06″ W
Point Sotavento
22 feet
41 feet
N
Juanillo Cay
Alto Cay
Bruja Cay
Medio Cay
Turrones Cay
Point Gorda
Limones Cove
TANAMO
PIER
Largo Cay
Rio Grande Cove


8tons
60ft. deep
Marker Buoy
270ft.
3in. Chain
30degrees
8tons
Buoy
6 Shackles — 540ft.
180ft.
Tanker — 550ft.O.A. Draft 30ft.6in.
18,000 DWT
Flexible Line
120ft. — 8in.
Rigid 8in. line
1390ft. from shore
Conical Buoys
180ft.
28ft. deep
Buoy
36ft. deep
30degrees
270ft.
3in. Chain
8tons
8tons
DHEKELIA
POWER STATION "A"
N.B. Anchors are 8ton Clump type
0
100
500
700
SCALE IN FEET


Existing Shoreline
Proposed Power
Station Extension
1
3
5
10
15
20
25
30
35
40
Submarine Pipeline
Flexible Hose
DHEKELIA
POWER STATION "B"
DEPTHS IN METRES

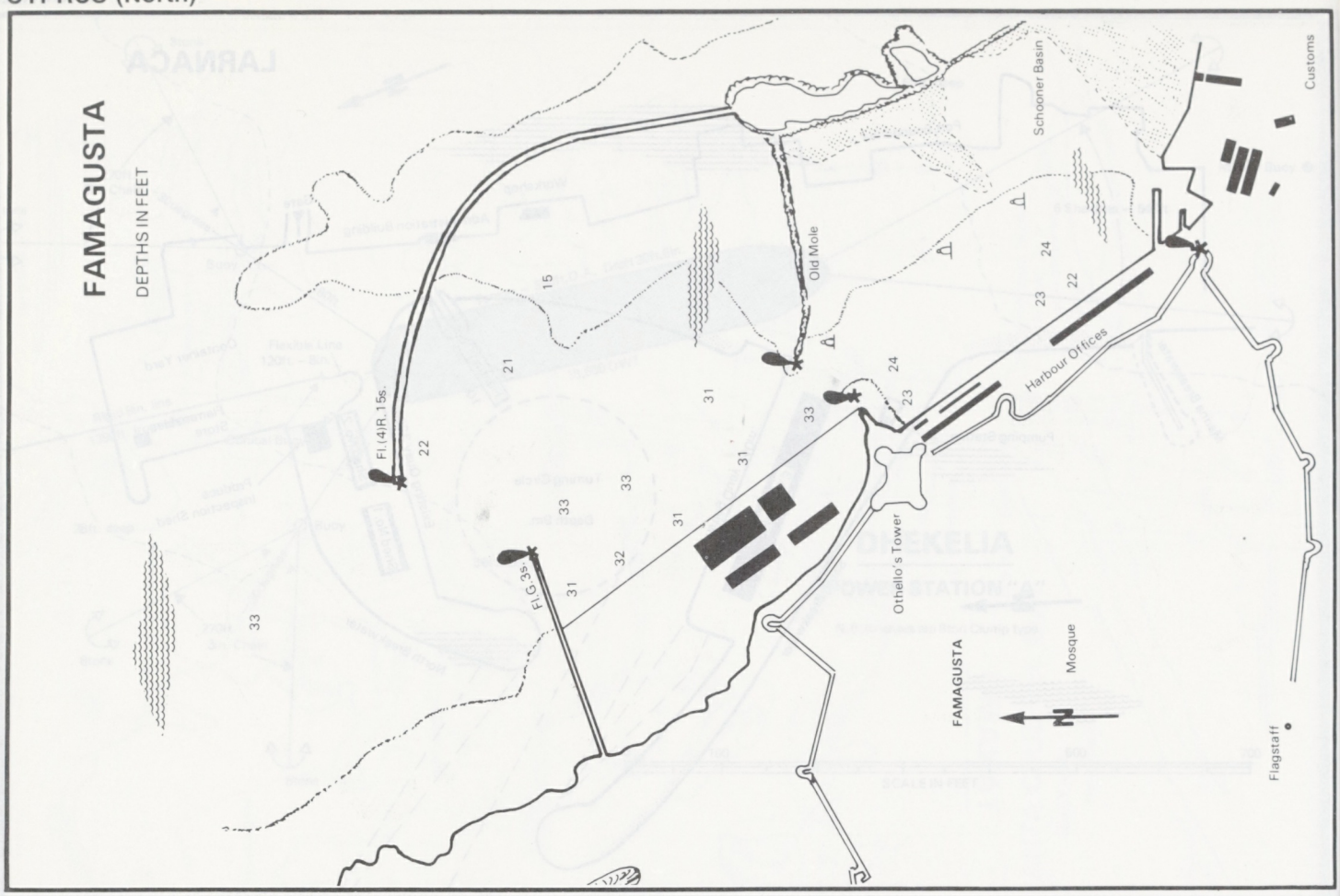


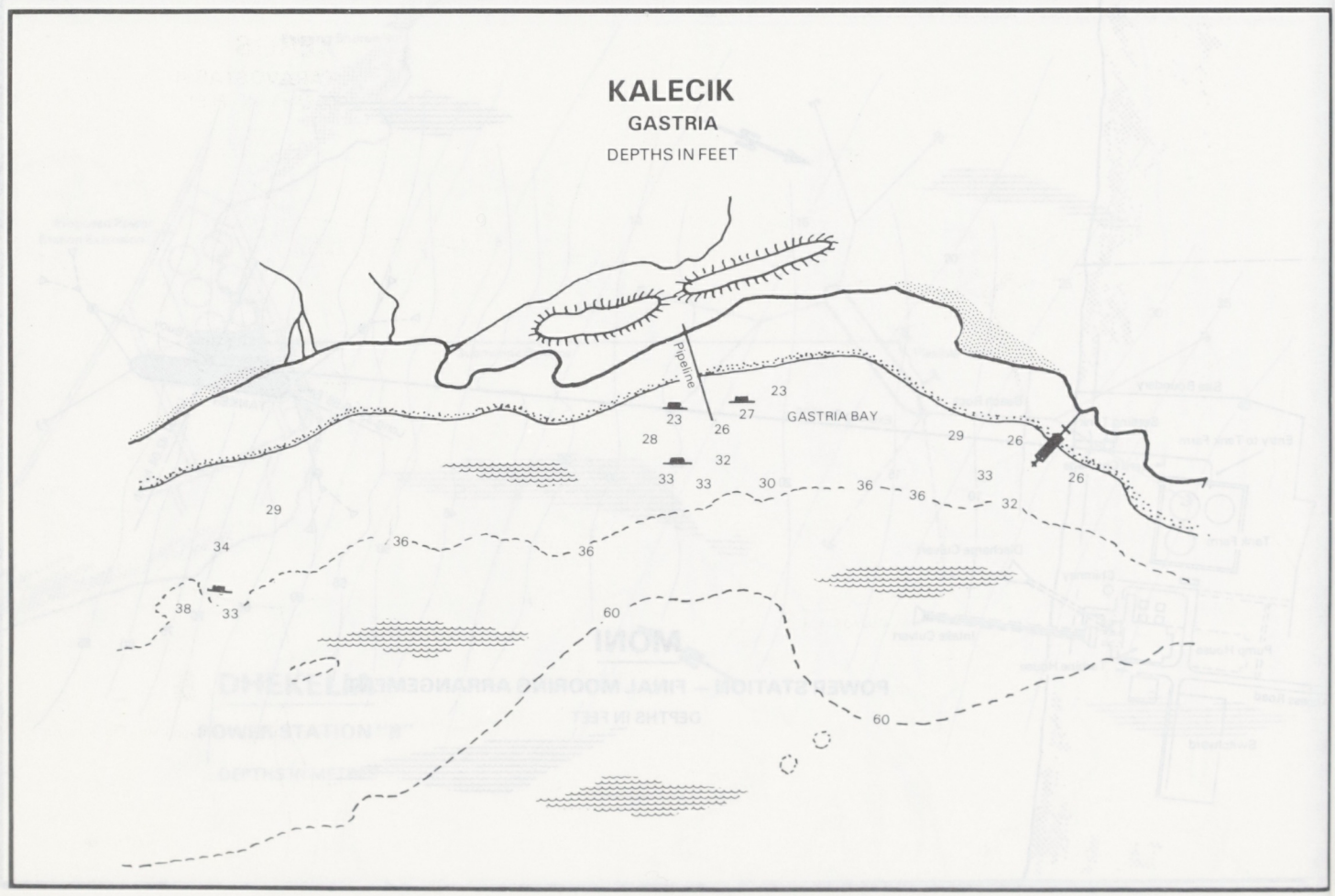


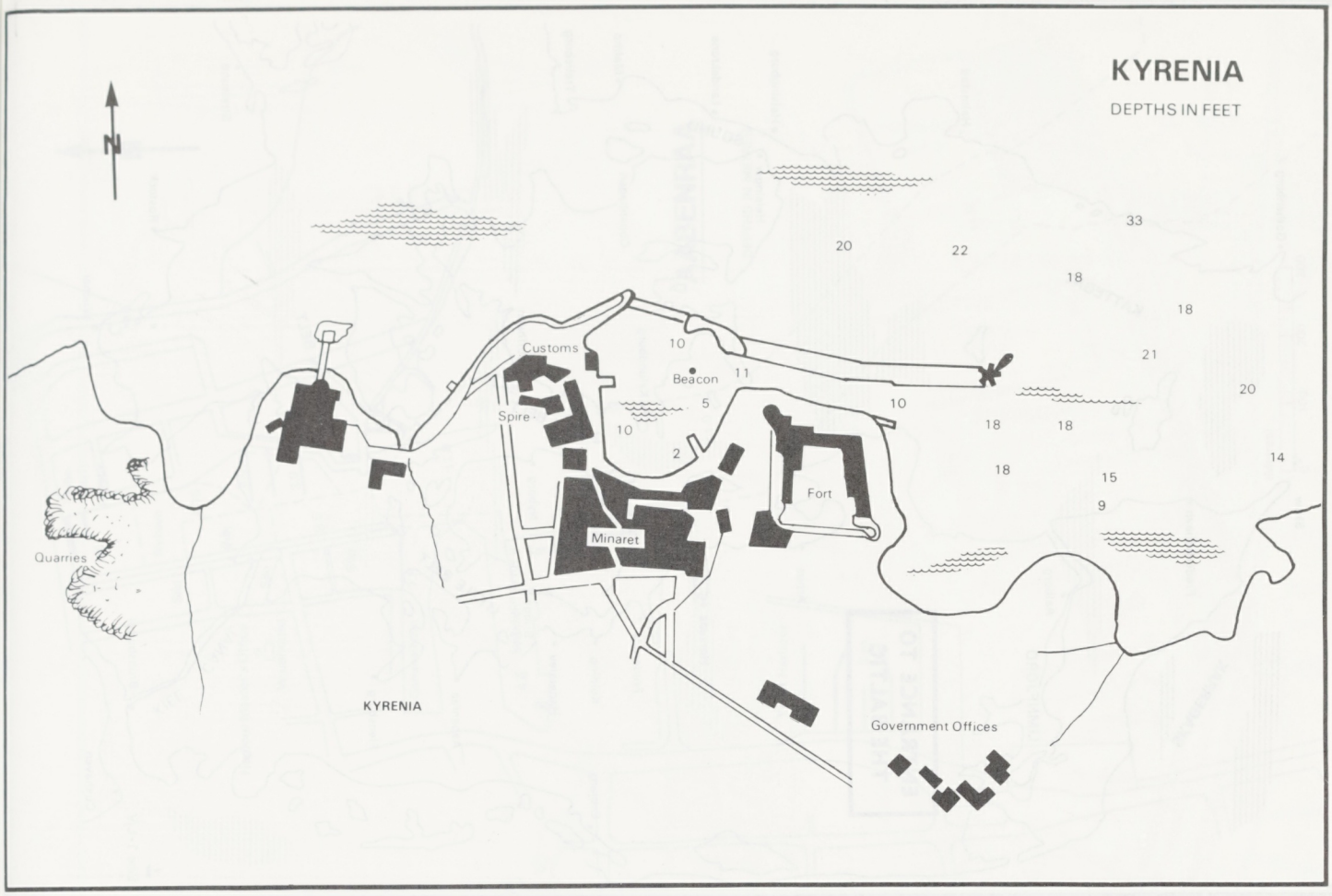
MONI

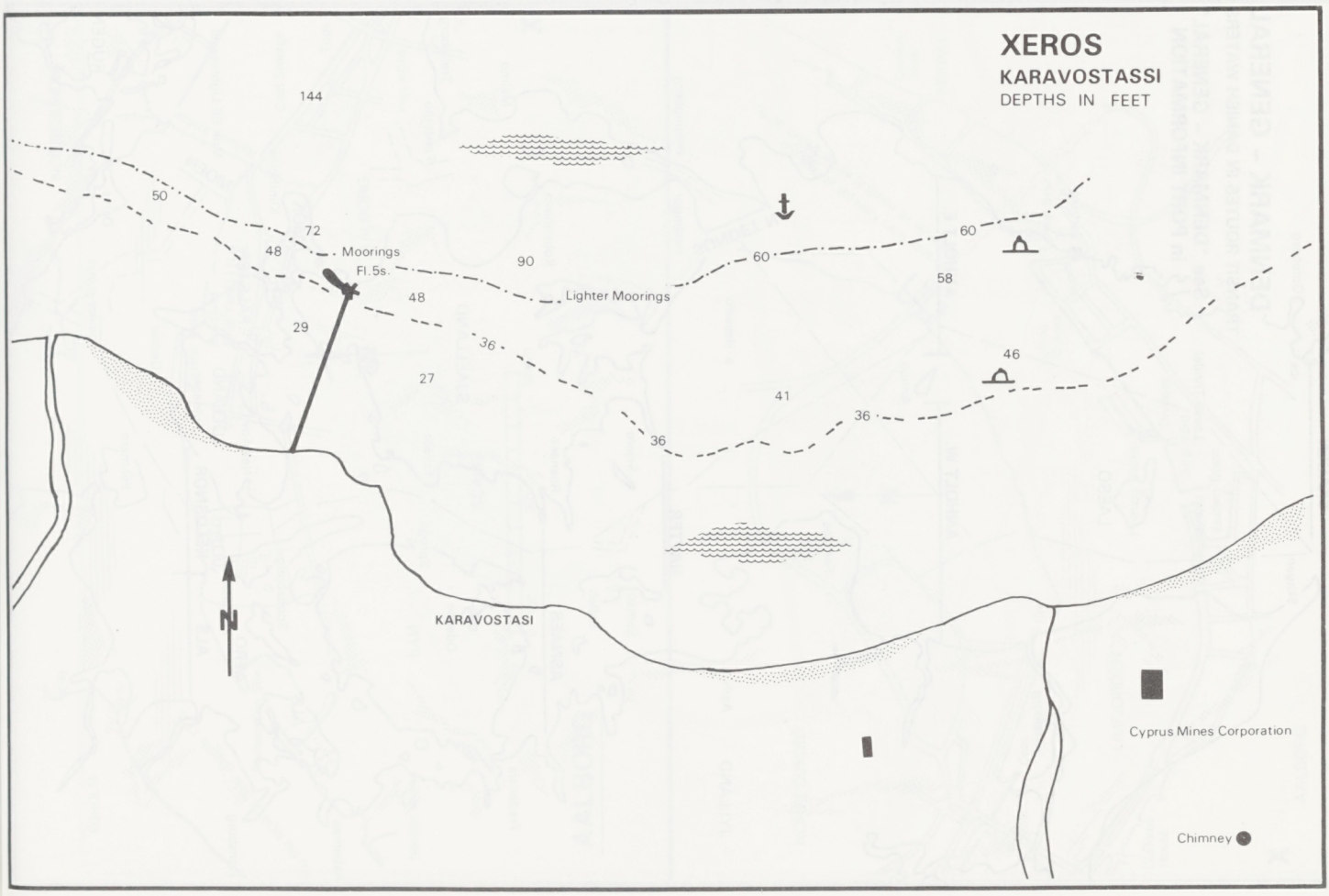
POWER STATION — FINAL MOORING ARRANGEMENT

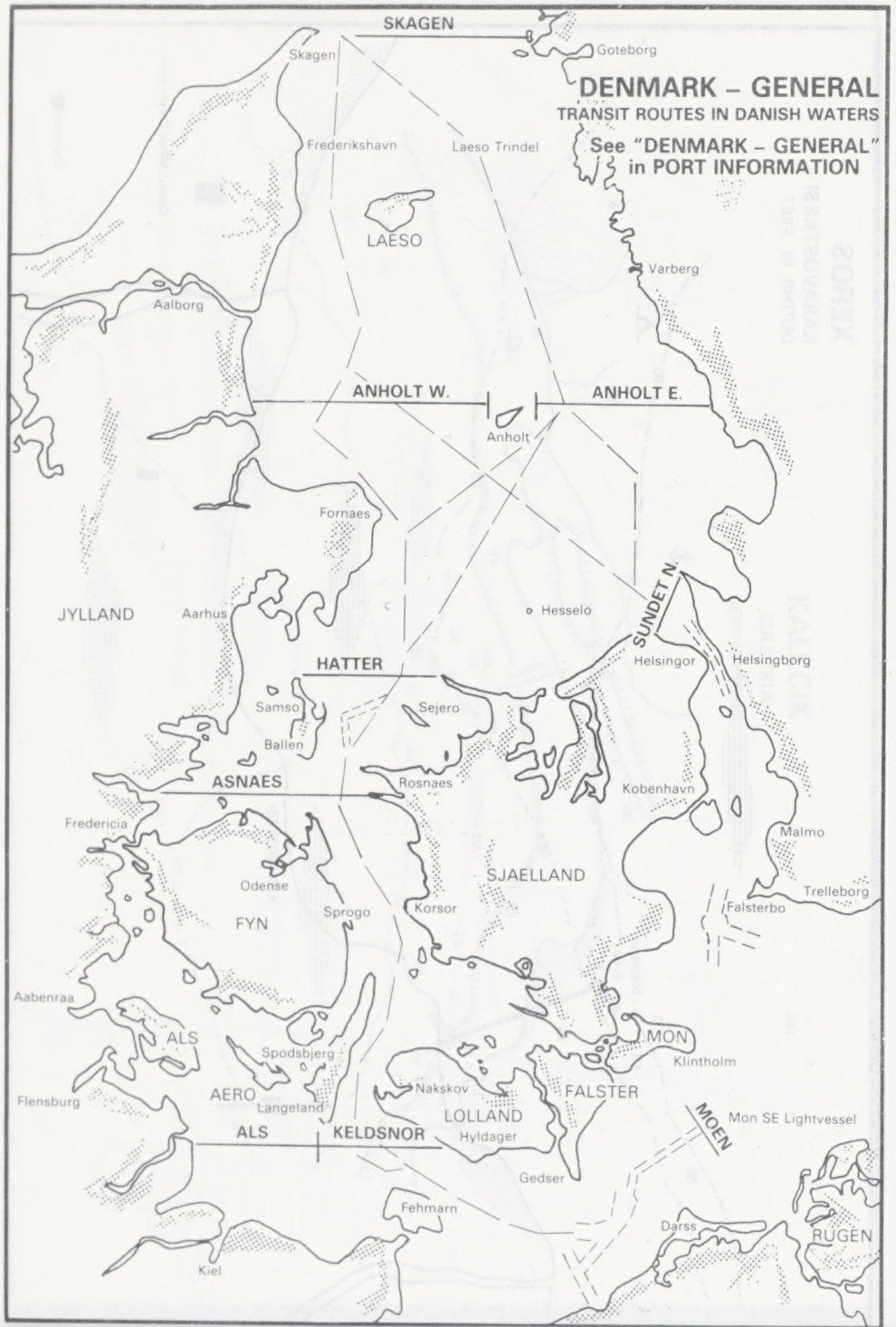
DEPTHS IN FEET

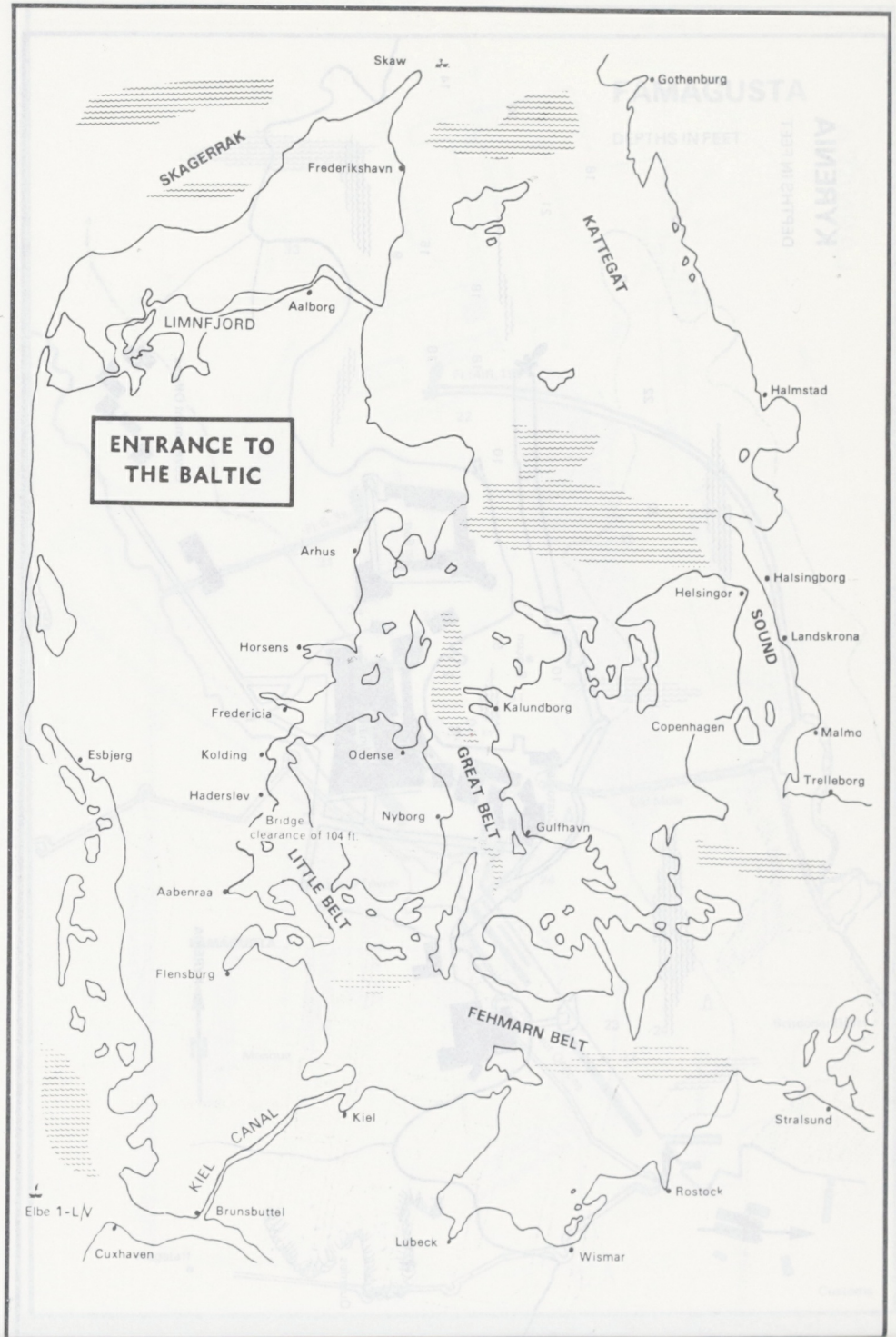

FAMAGUSTA
DEPTHS IN FEET
Schooner Basin
Customs
Old Mole
Harbour Offices
Fl.(4)R.15s.
Fl.G.3s.
Othello's Tower
FAMAGUSTA
Mosque
Flagstaff
N

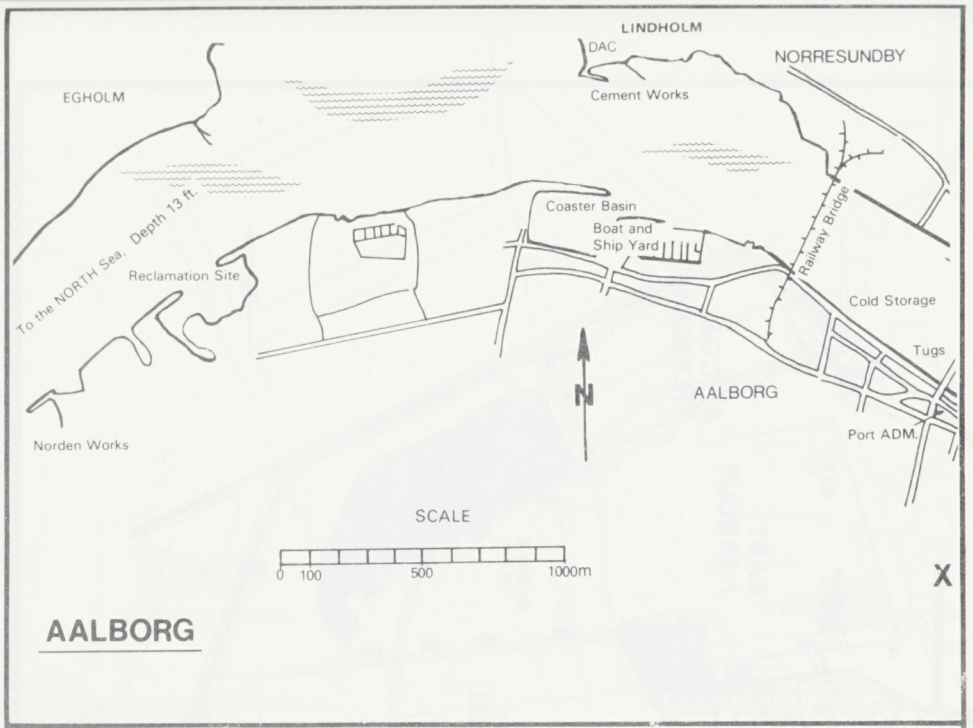

KALECIK
GASTRIA
DEPTHS IN FEET
Pipeline
GASTRIA BAY

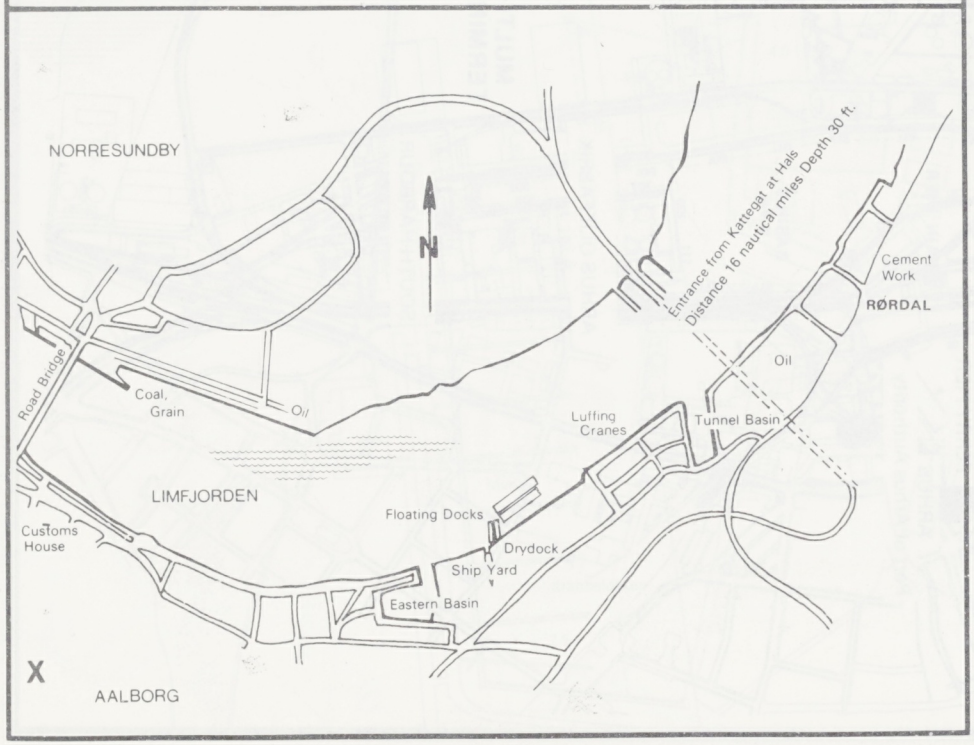

KYRENIA
DEPTHS IN FEET
N
33
20
22
18
18
21
20
14
Customs
Beacon
Spire
Fort
Minaret
Quarries
KYRENIA
Government Offices

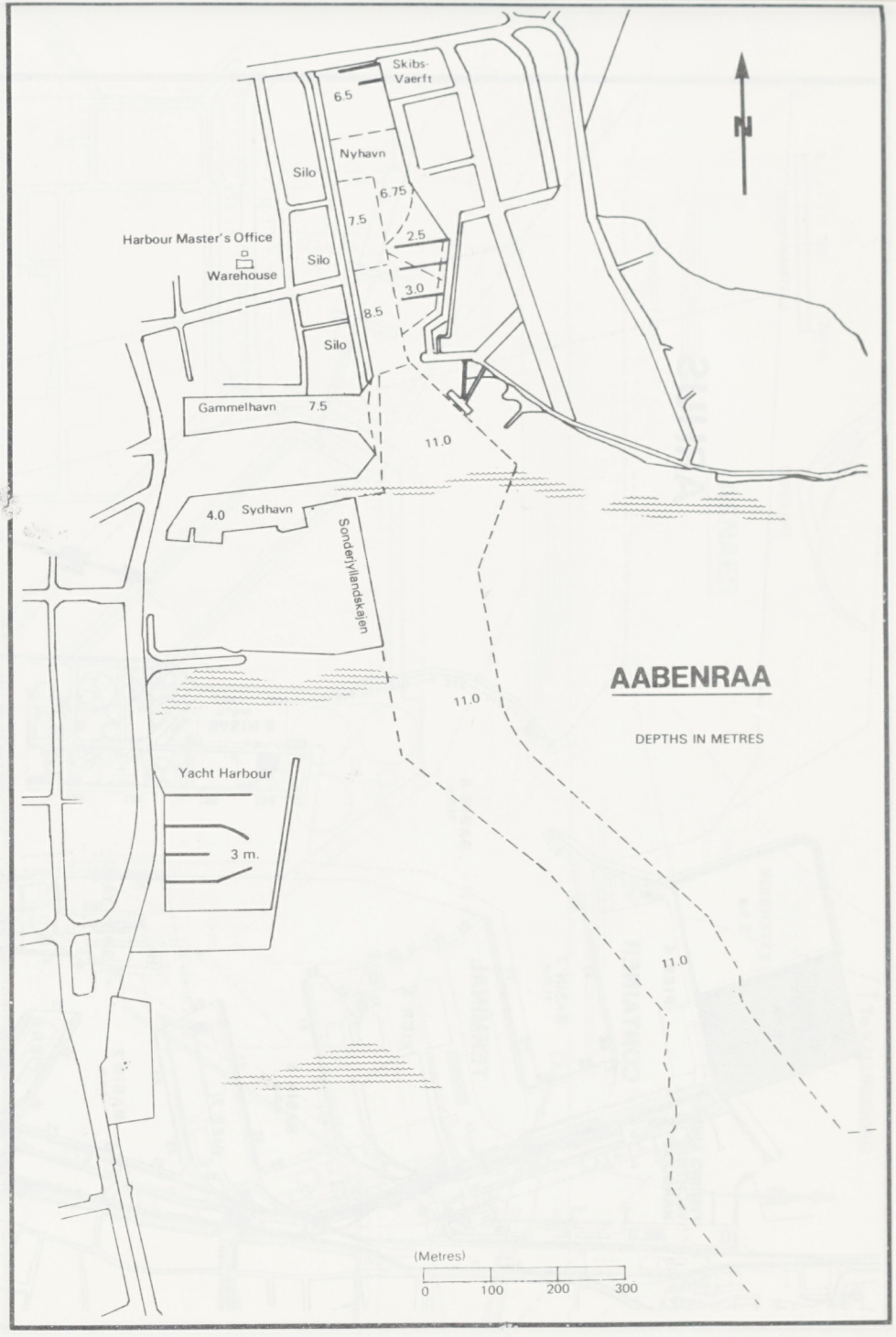

XEROS
KARAVOSTASSI
DEPTHS IN FEET
144
50
72
48
Moorings
Fl.5s.
90
60
60
58
48
Lighter Moorings
29
36
27
41
36
36
46
N
KARAVOSTASI
Cyprus Mines Corporation
Chimney

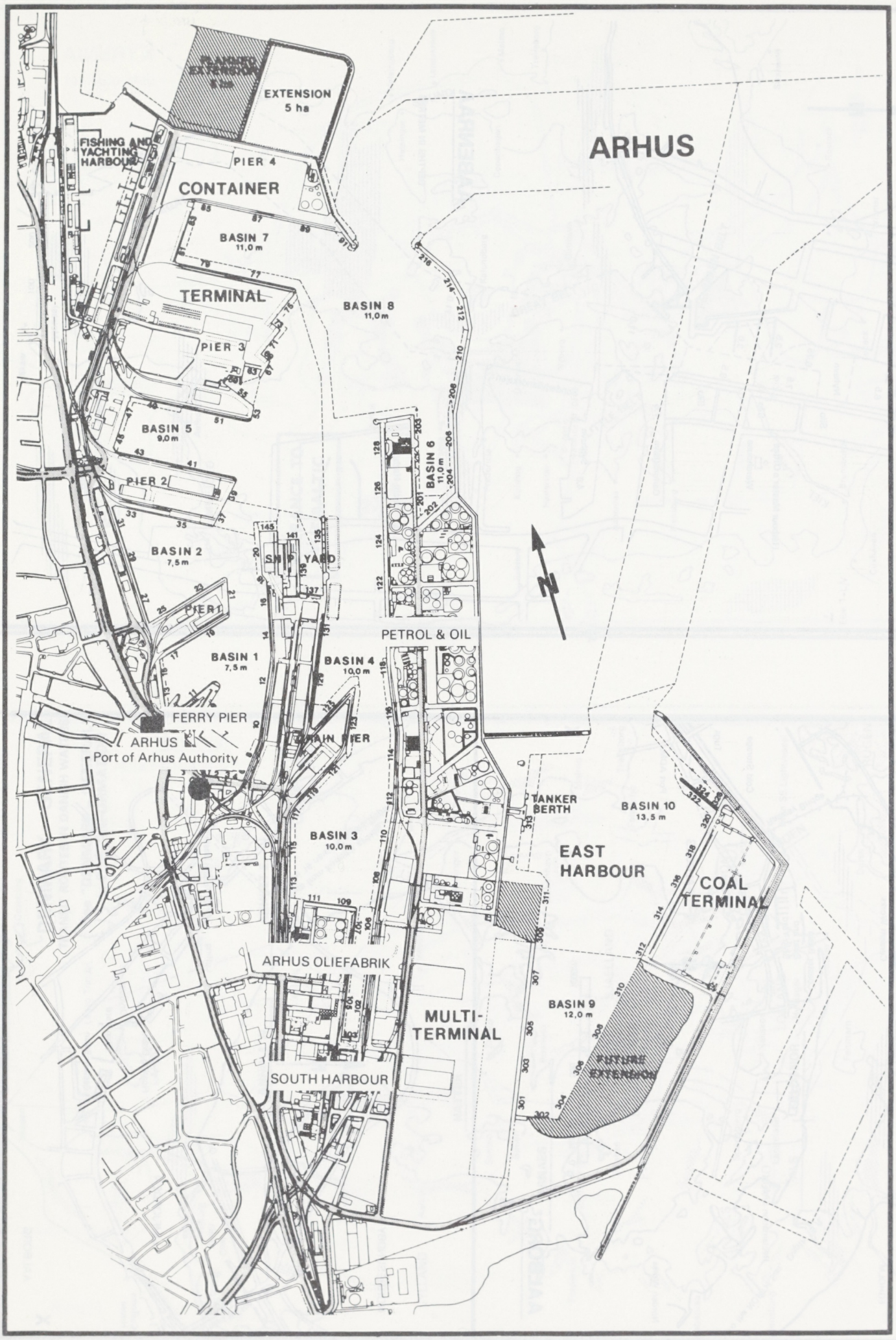

SKAGEN
Skagen
Goteborg
DENMARK – GENERAL
TRANSIT ROUTES IN DANISH WATERS
See "DENMARK – GENERAL" in PORT INFORMATION
Frederikshavn
Laeso Trindel
LAESO
Varberg
Aalborg
ANHOLT W.
ANHOLT E.
Anholt
Fornaes
JYLLAND
Aarhus
Hesselo
SUNDET N
Helsingor
Helsingborg
HATTER
Samso
Sejero
Ballen
ASNAES
Rosnaes
Kobenhavn
Fredericia
Malmo
Odense
SJAELLAND
Trelleborg
Sprogo
Korsor
Falsterbo
FYN
Aabenraa
ALS
Spodsbjerg
MON
Klintholm
Flensburg
AERO
Langeland
Nakskov
FALSTER
LOLLAND
Hyldager
Mon SE Lightvessel
MOEN
ALS
KELDSNOR
Gedser
Fehmarn
Darss
RUGEN
Kiel

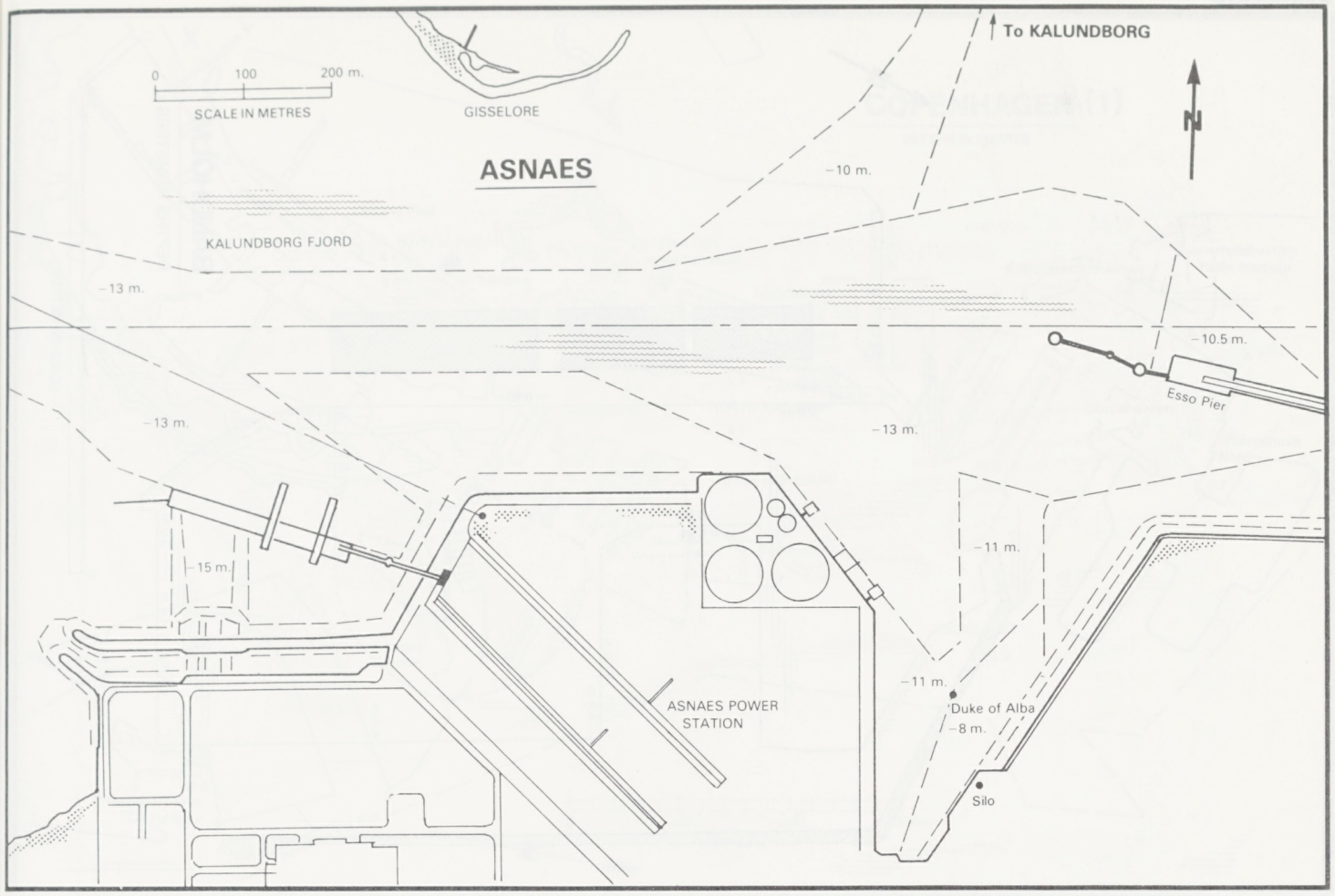

Skaw
Gothenburg
SKAGERRAK
Frederikshavn
KATTEGAT
LIMNFJORD
Aalborg
Halmstad
ENTRANCE TO THE BALTIC
Arhus
Halsingborg
Helsingor
SOUND
Landskrona
Horsens
Kalundborg
Fredericia
Copenhagen
Malmo
Esbjerg
Kolding
Odense
GREAT BELT
Trelleborg
Haderslev
Bridge clearance of 104 ft
Nyborg
Gulfhavn
LITTLE BELT
Aabenraa
Flensburg
FEHMARN BELT
Stralsund
Kiel
KIEL CANAL
Elbe 1-L/V
Brunsbuttel
Rostock
Cuxhaven
Lubeck
Wismar

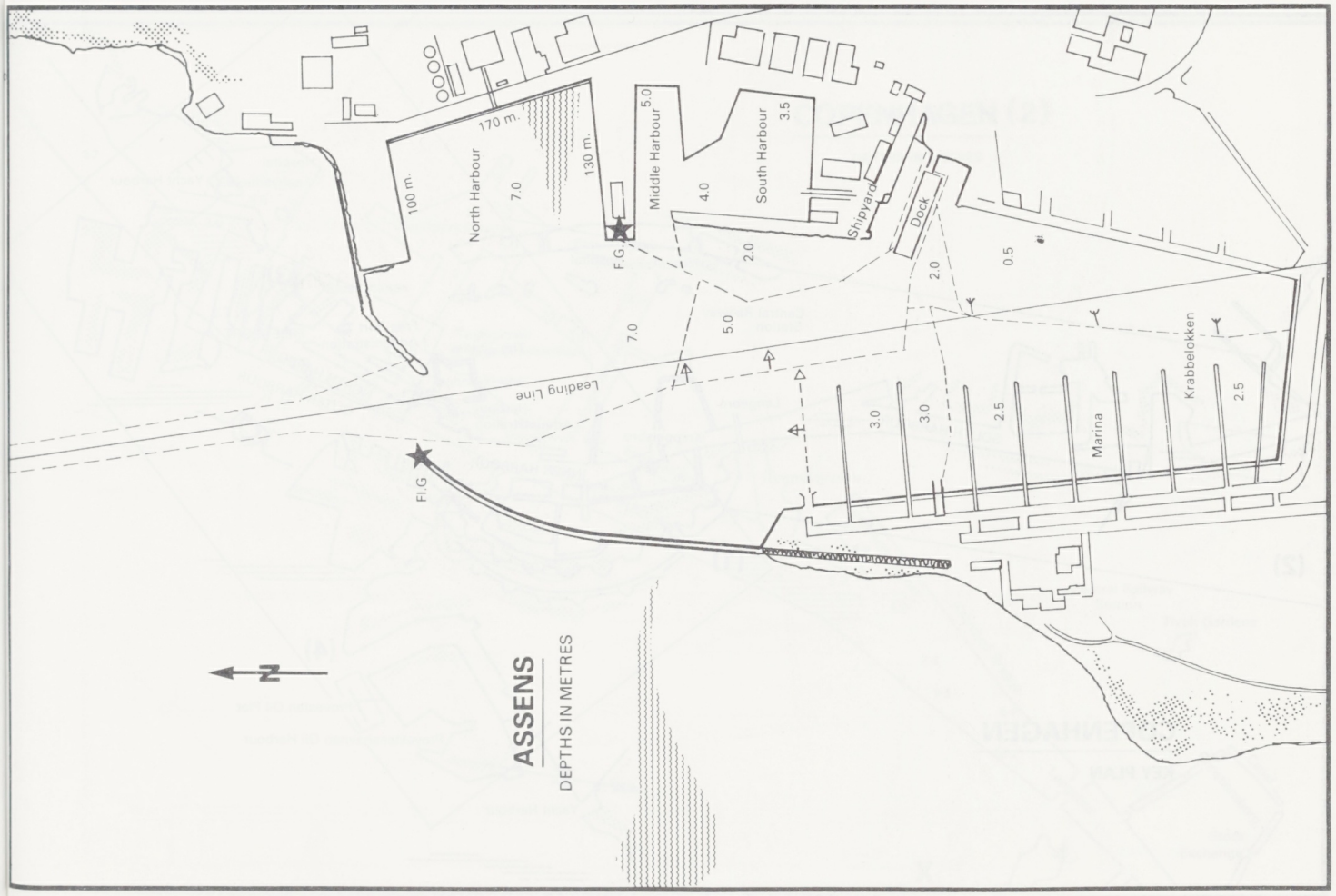

LINDHOLM
DAC
NORRESUNDBY
EGHOLM
Cement Works
Coaster Basin
Boat and
Ship Yard
Railway Bridge
To the NORTH Sea, Depth 13 ft.
Reclamation Site
Cold Storage
Tugs
N
AALBORG
Norden Works
Port ADM.
SCALE
0 100 500 1000m
X
AALBORG

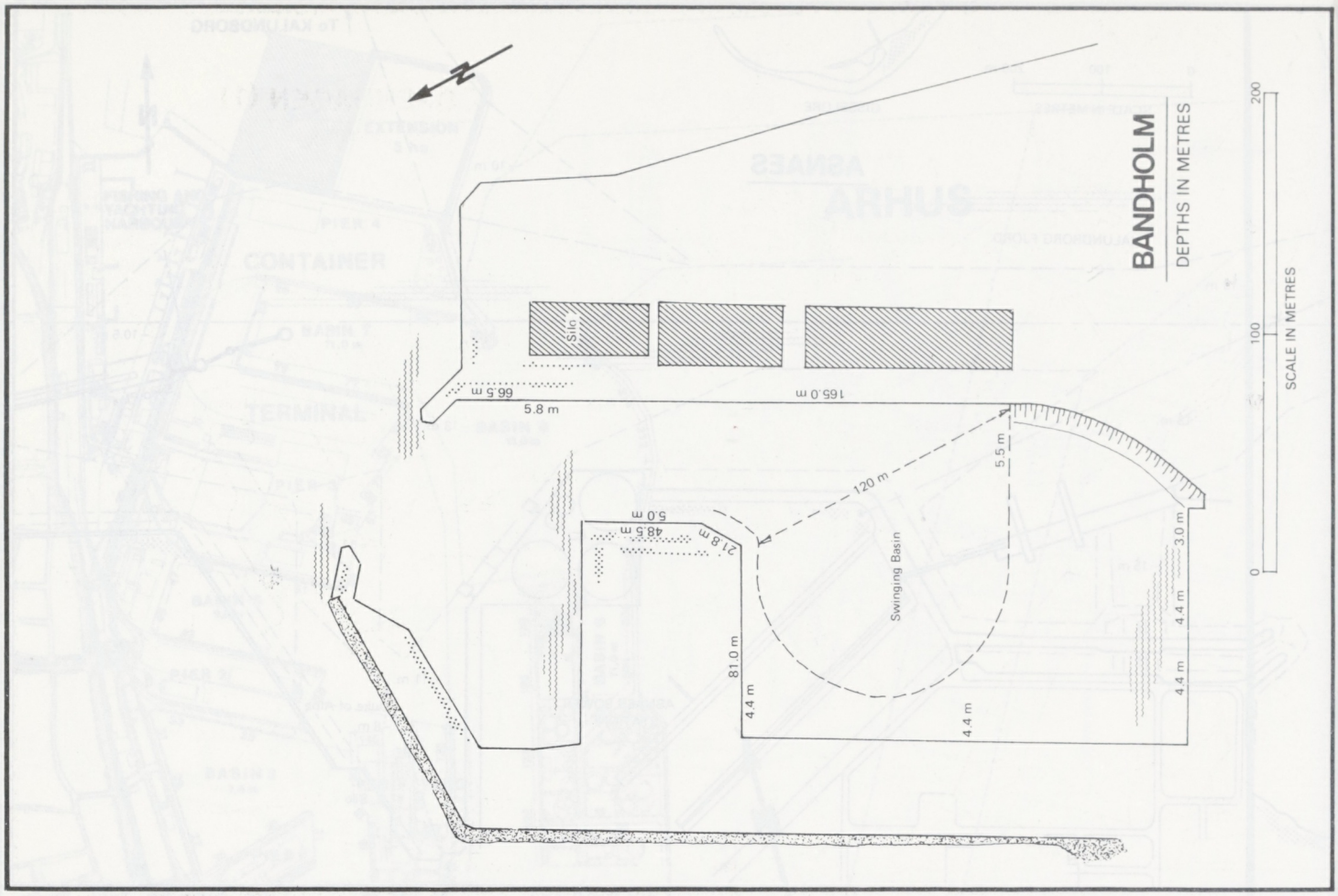

NORRESUNDBY
N
Entrance from Kattegat at Hals
Distance 16 nautical miles Depth 30 ft.
Cement
Work
RØRDAL
Oil
Road Bridge
Coal,
Grain
Oil
Luffing
Cranes
Tunnel Basin
LIMFJORDEN
Floating Docks
Customs
House
Drydock
Ship Yard
Eastern Basin
X
AALBORG

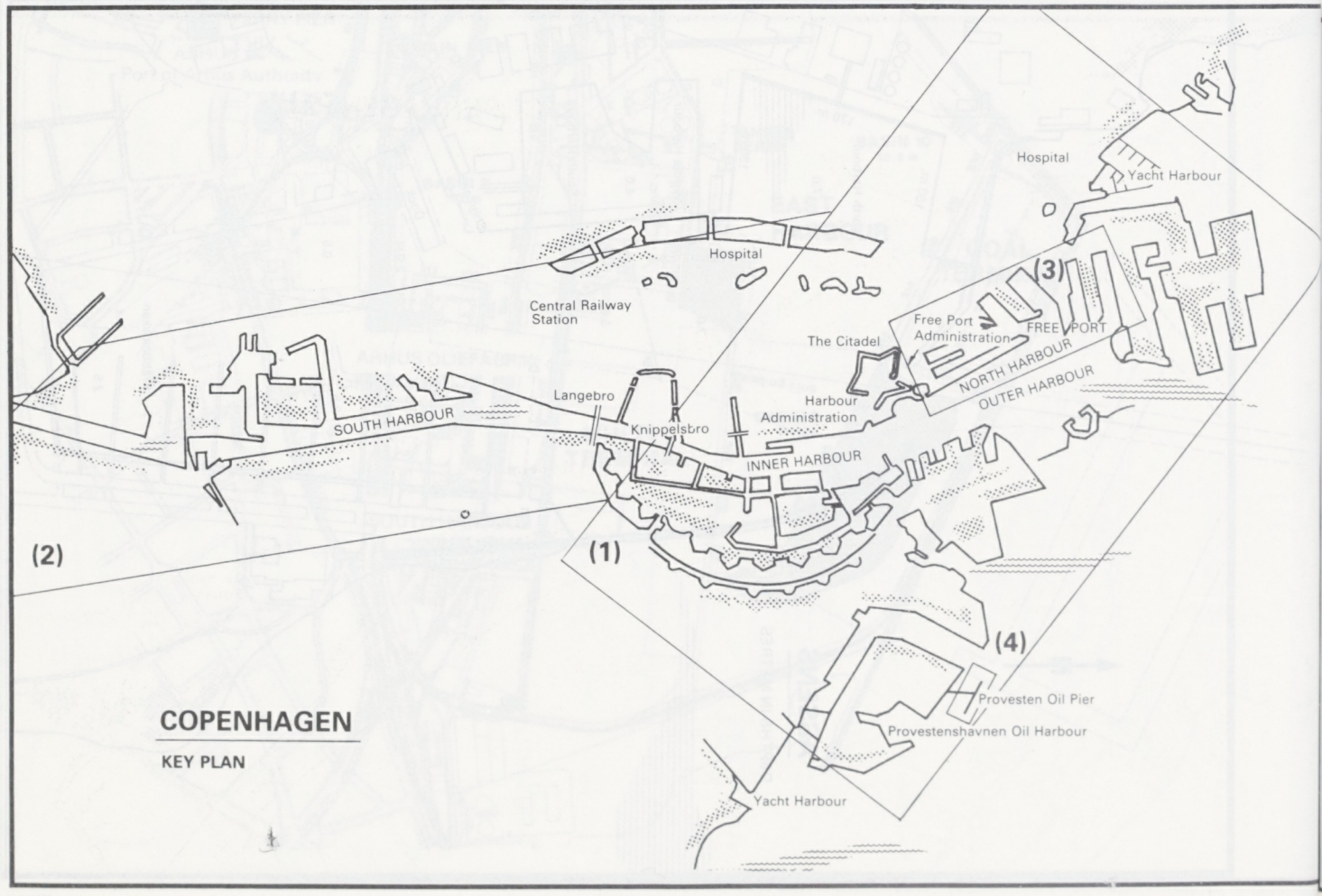

Skibs-
Vaerft
6.5
Nyhavn
Silo
6.75
7.5
2.5
Harbour Master's Office
Warehouse
Silo
3.0
8.5
Silo
N
Gammelhavn
7.5
11.0
4.0
Sydhavn
Sonderjyllandskajen
AABENRAA
11.0
DEPTHS IN METRES
Yacht Harbour
3 m.
11.0
(Metres)
0 100 200 300
DENMARK


ARHUS
EXTENSION
5 ha
FISHING AND YACHTING HARBOUR
PIER 4
CONTAINER
BASIN 7
11,0 m
TERMINAL
PIER 3
BASIN 8
11,0 m
BASIN 5
9,0 m
PIER 2
BASIN 6
11,0 m
BASIN 2
7,5 m
SHIP YARD
PIER 1
PETROL & OIL
BASIN 1
7,5 m
BASIN 4
10,0 m
FERRY PIER
ARHUS
Port of Arhus Authority
TRAIN PIER
TANKER BERTH
BASIN 10
13,5 m
BASIN 3
10,0 m
EAST HARBOUR
COAL TERMINAL
ARHUS OLIEFABRIK
BASIN 9
12,0 m
MULTI-TERMINAL
FUTURE EXTENSION
SOUTH HARBOUR


To KALUNDBORG
0 100 200 m.
SCALE IN METRES
GISSELORE
ASNAES
KALUNDBORG FJORD
−10 m.
−13 m.
−10.5 m.
Esso Pier
−13 m.
−13 m.
−15 m.
−11 m.
−11 m.
ASNAES POWER STATION
Duke of Alba
−8 m.
Silo

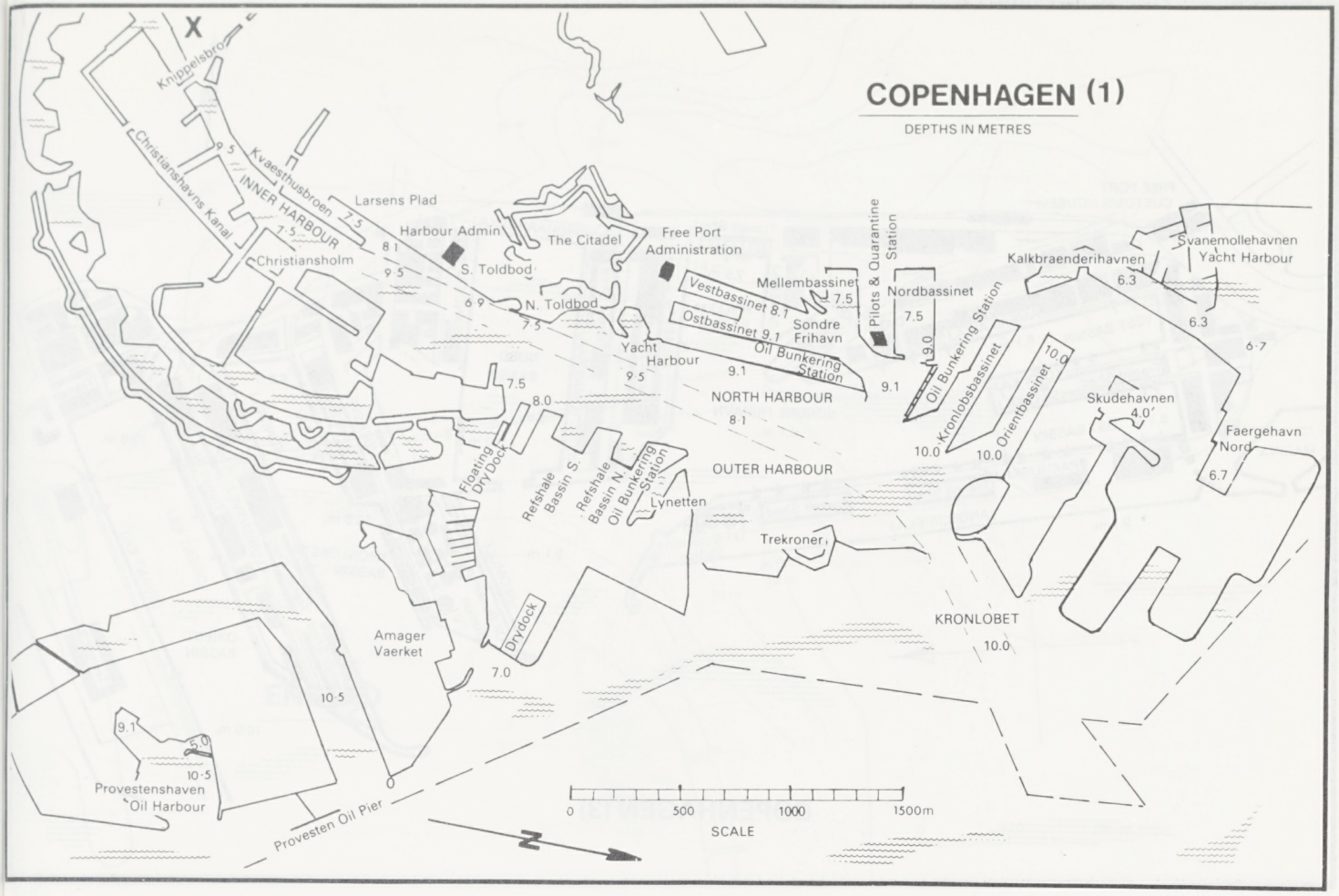

170 m.
100 m.
North Harbour
7.0
130 m.
Middle Harbour
5.0
4.0
South Harbour
3.5
Shipyard
Dock
2.0
0.5
F.G.
2.0
7.0
5.0
Leading Line
Fl.G.
3.0
3.0
2.5
Marina
Krabbelokken
2.5
ASSENS
DEPTHS IN METRES

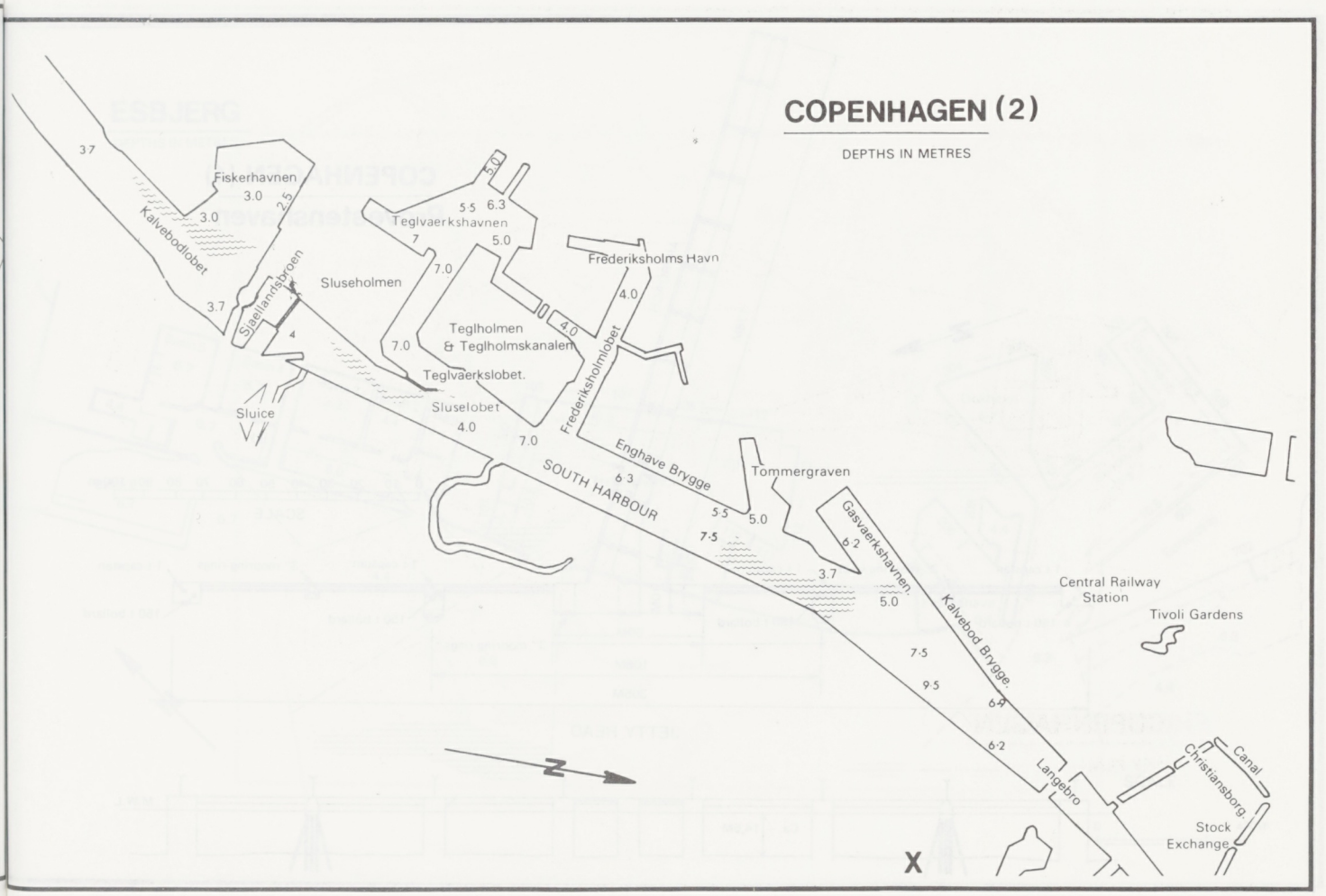


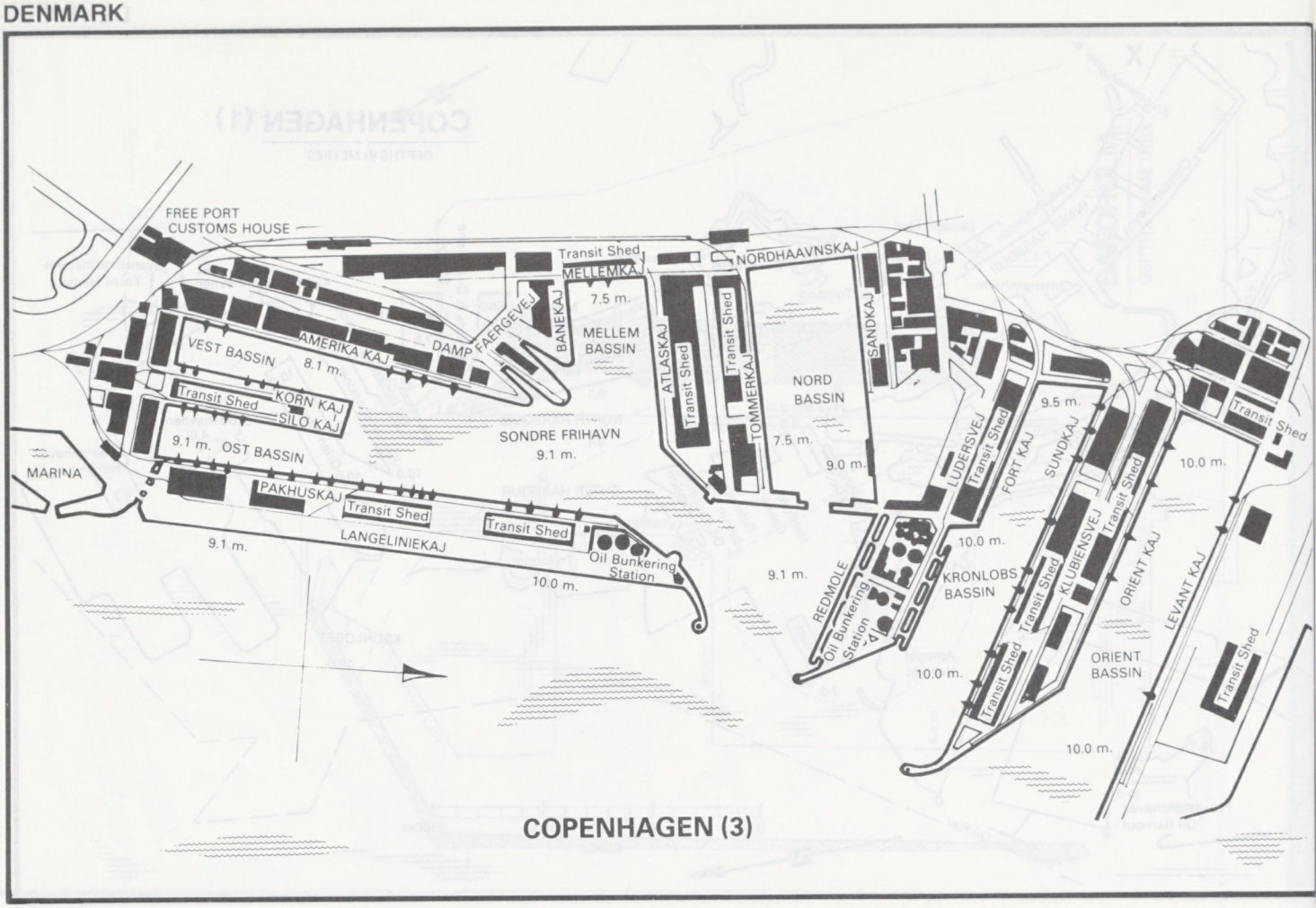


COPENHAGEN

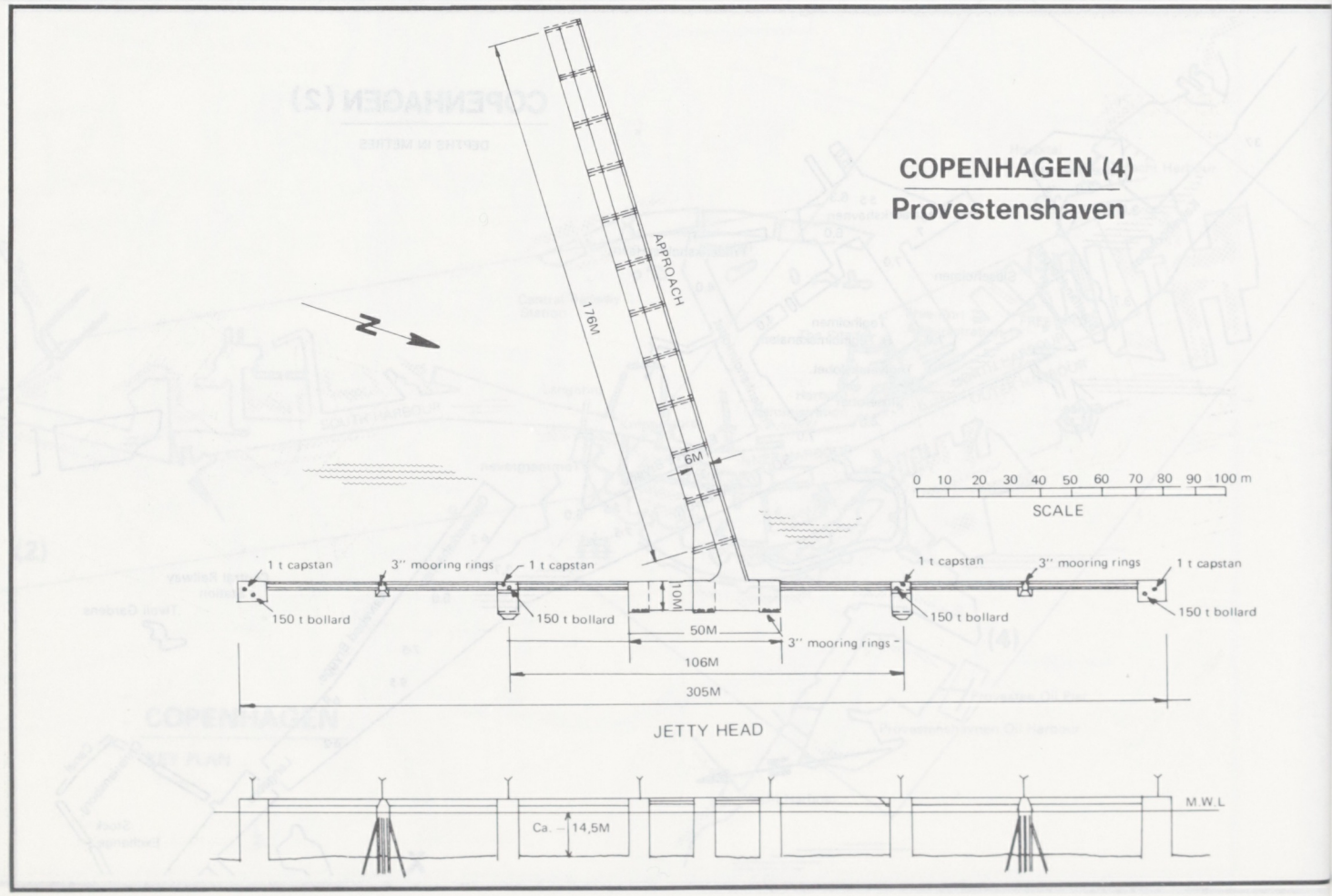
KEY PLAN


COPENHAGEN (1)
DEPTHS IN METRES
X
Knippelsbro
Christianshavns Kanal
INNER HARBOUR
Kvaesthusbroen
Larsens Plad
Harbour Admin
The Citadel
Free Port Administration
Christiansholm
S. Toldbod
N. Toldbod
Vestbassinet 8.1
Ostbassinet 9.1
Mellembassinet
Nordbassinet
Sondre Frihavn
Pilots & Quarantine Station
Oil Bunkering Station
Yacht Harbour
NORTH HARBOUR
OUTER HARBOUR
Kalkbraenderihavnen
Svanemollehavnen Yacht Harbour
Kronlobsbassinet
Orientbassinet
Skudehavnen
Faergehavn Nord
Floating Dry Dock
Refshale Bassin S.
Refshale Bassin N.
Oil Bunkering Station
Lynetten
Trekroner
Drydock
KRONLOBET
Amager Vaerket
Provestenshaven Oil Harbour
Provesten Oil Pier
0 500 1000 1500m
SCALE
N

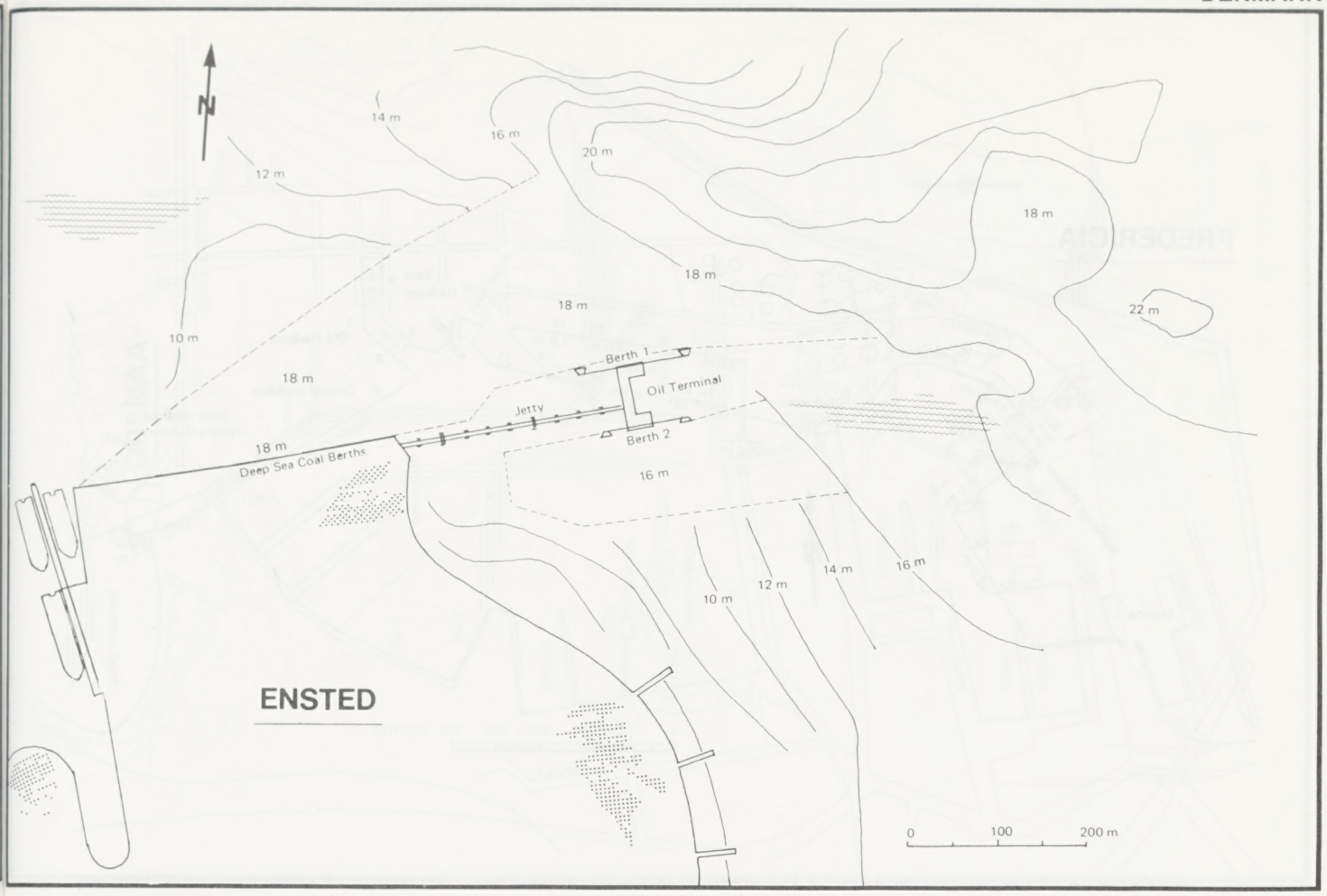

COPENHAGEN (2)
DEPTHS IN METRES
Fiskerhavnen
Kalvebodlobet
Sjaellandsbroen
Sluseholmen
Teglvaerkshavnen
Frederiksholms Havn
Teglholmen & Teglholmskanalen
Teglvaerkslobet.
Sluselobet
Sluice
Frederiksholmlobet
Enghave Brygge
SOUTH HARBOUR
Tommergraven
Gasvaerkshavnen
Kalvebod Brygge
Central Railway Station
Tivoli Gardens
Langebro
Christiansborg Canal
Stock Exchange
X
N



COPENHAGEN (3)

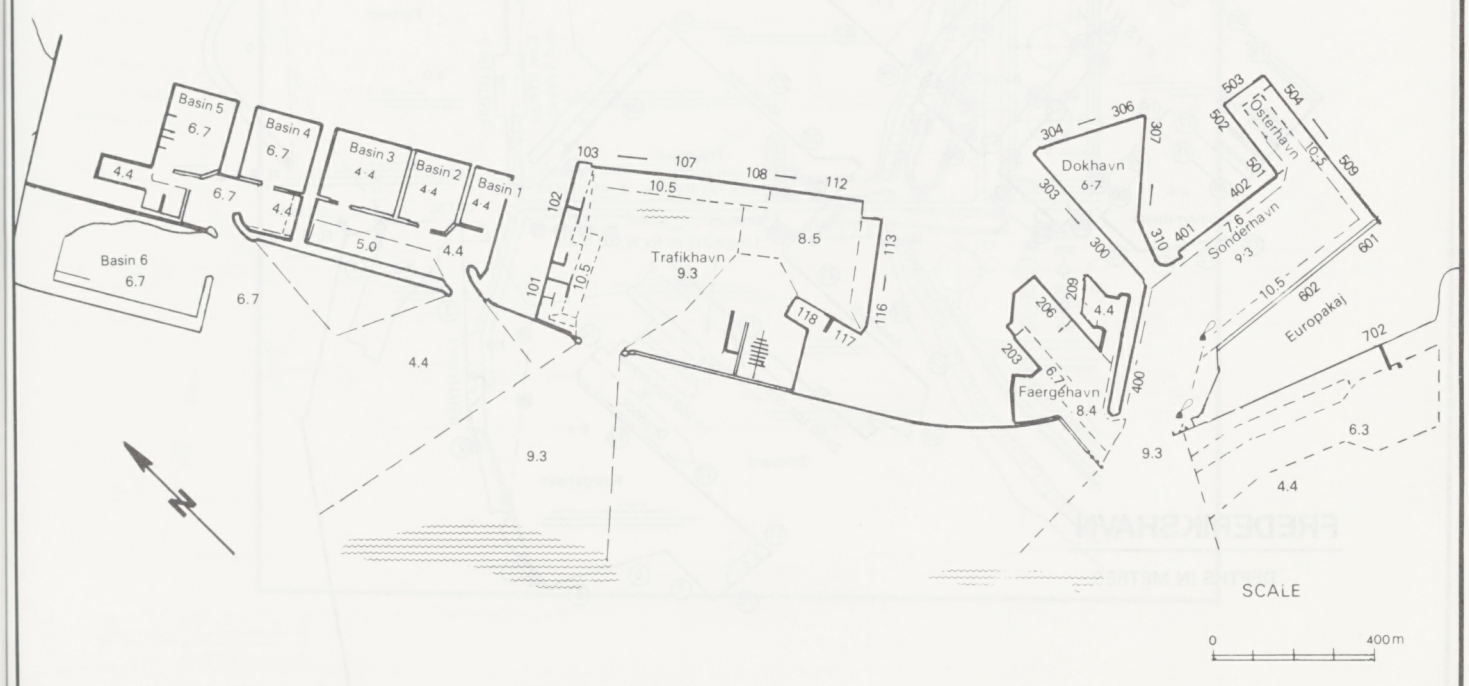


COPENHAGEN (4)
Provestenshaven

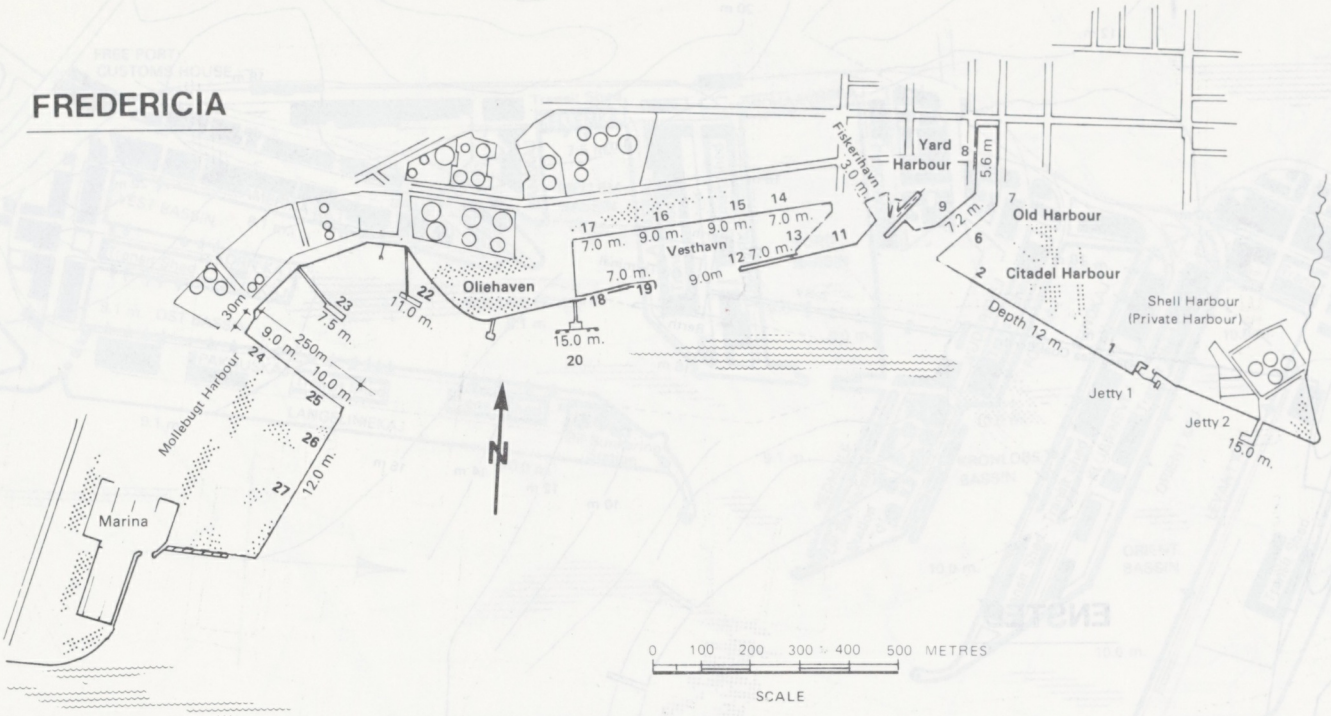


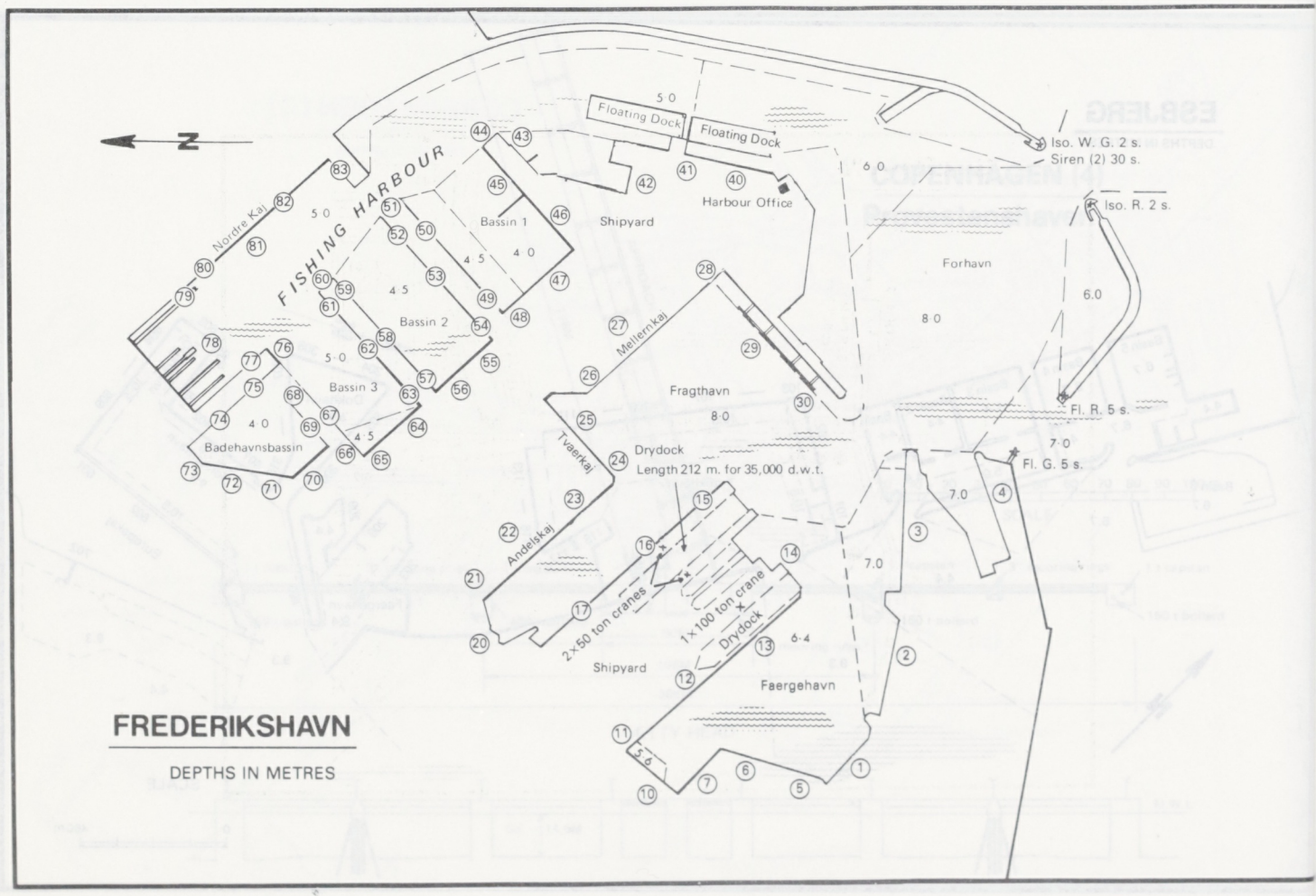
ESBJERG

DEPTHS IN METRES



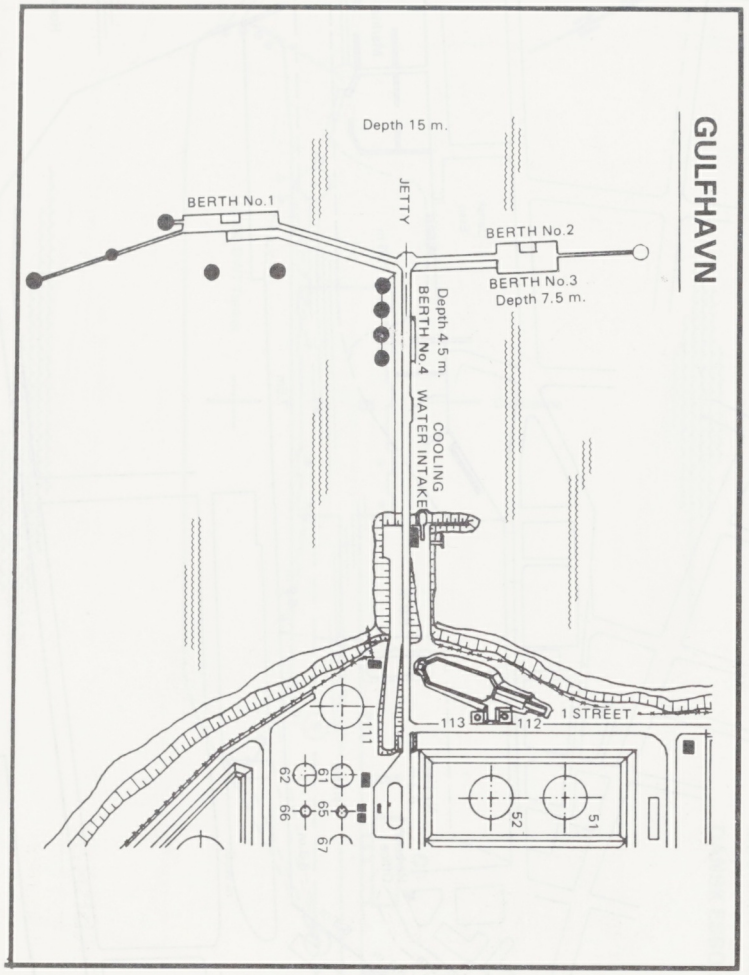
FREDERICIA

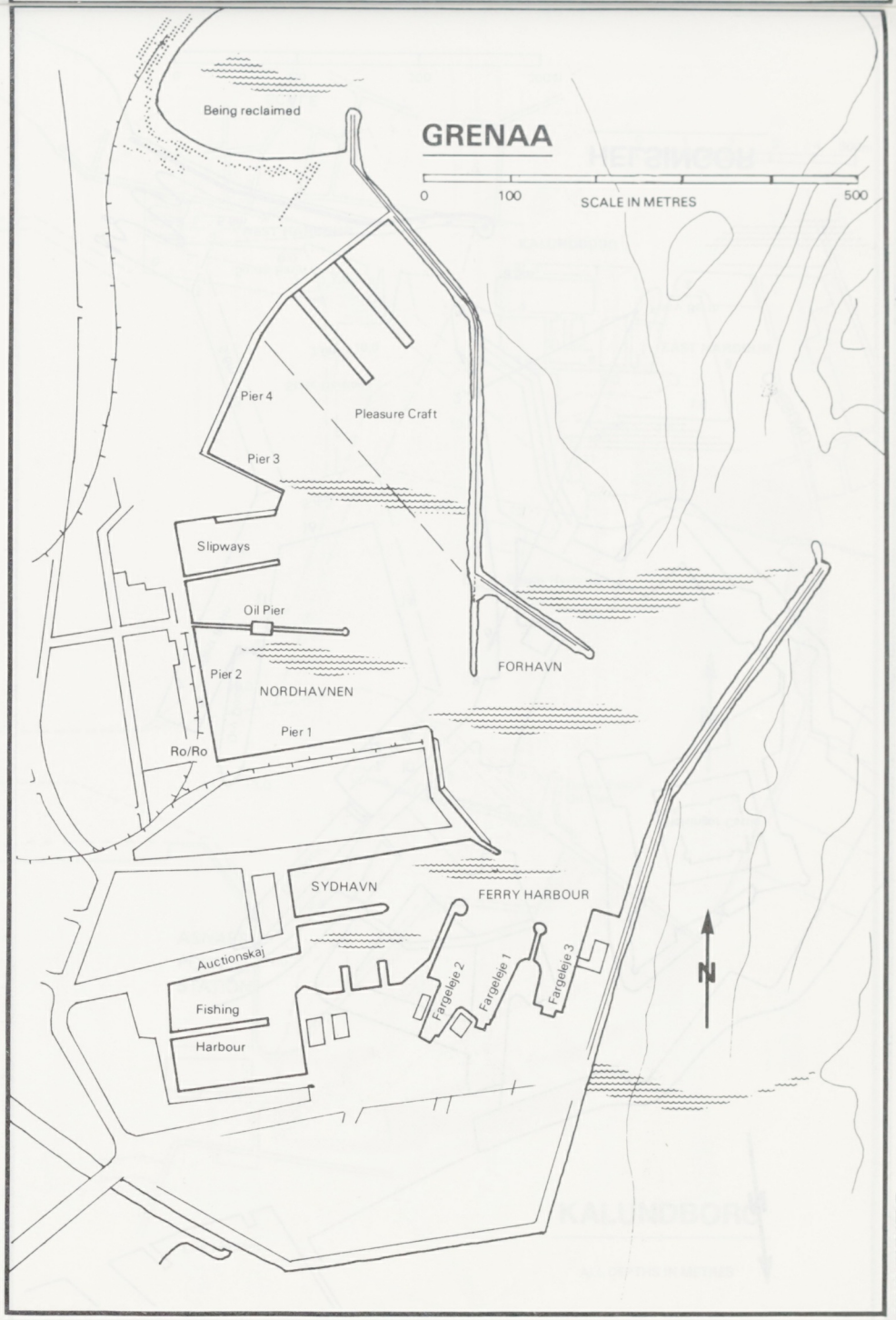


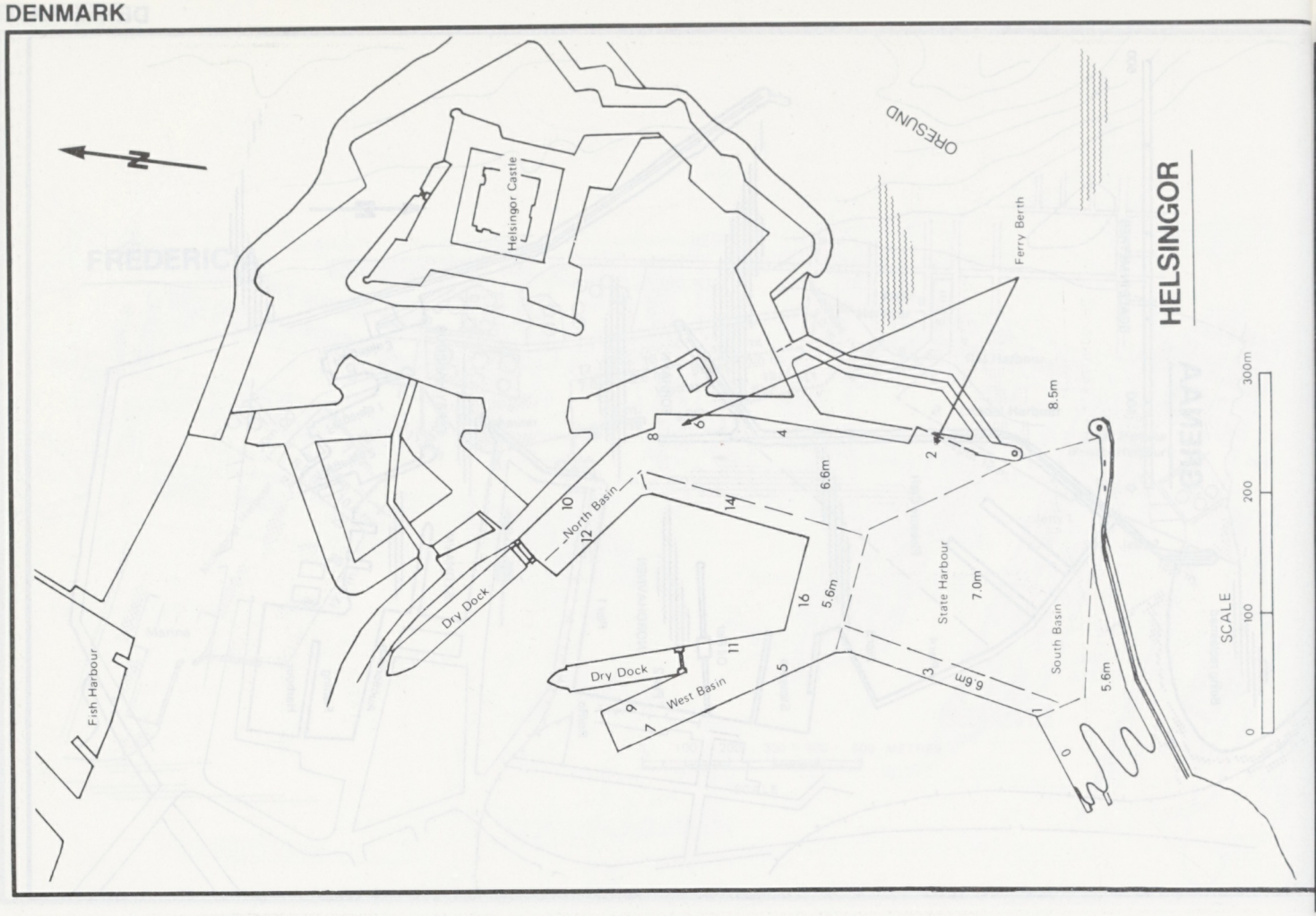


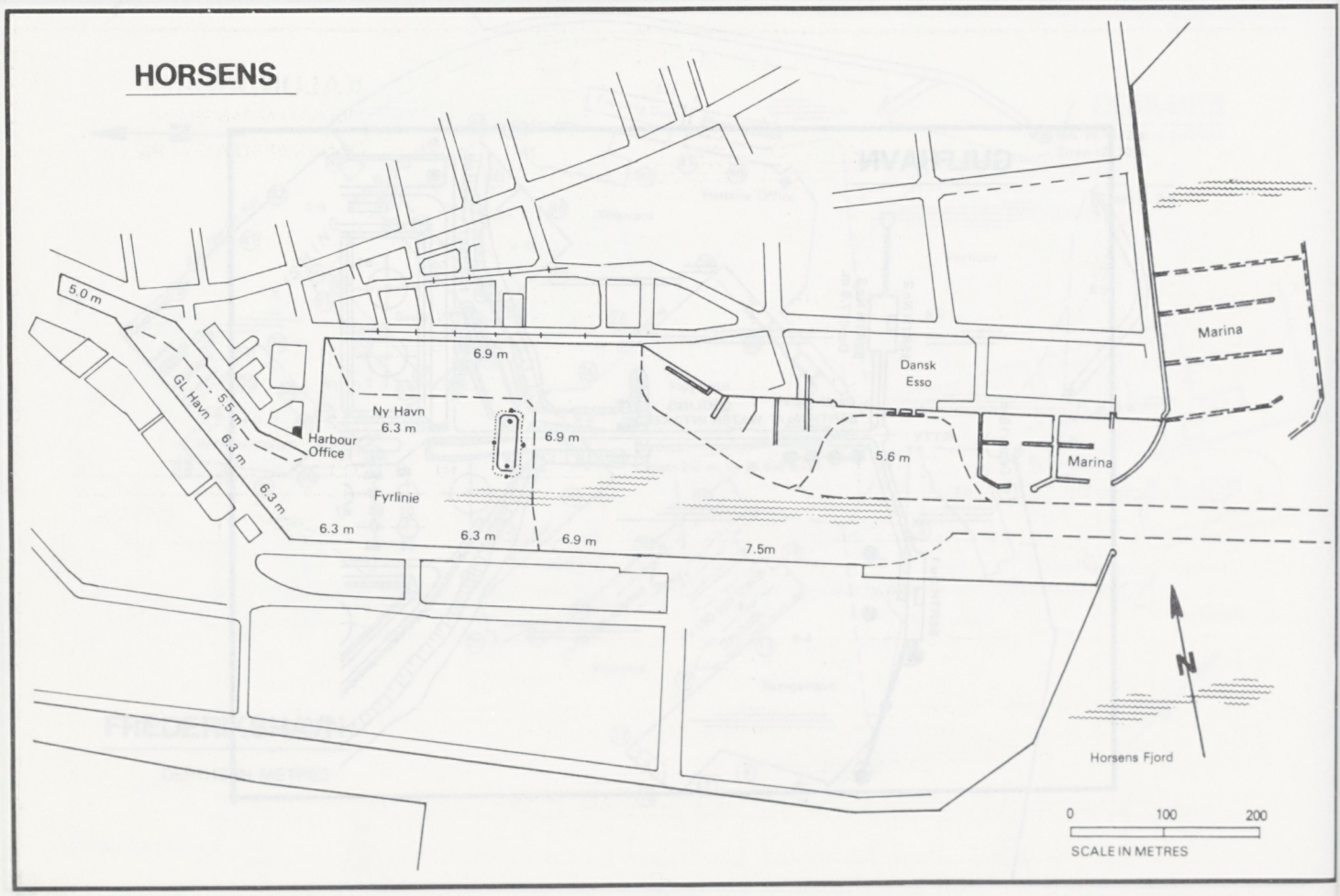
FREDERIKSHAVN

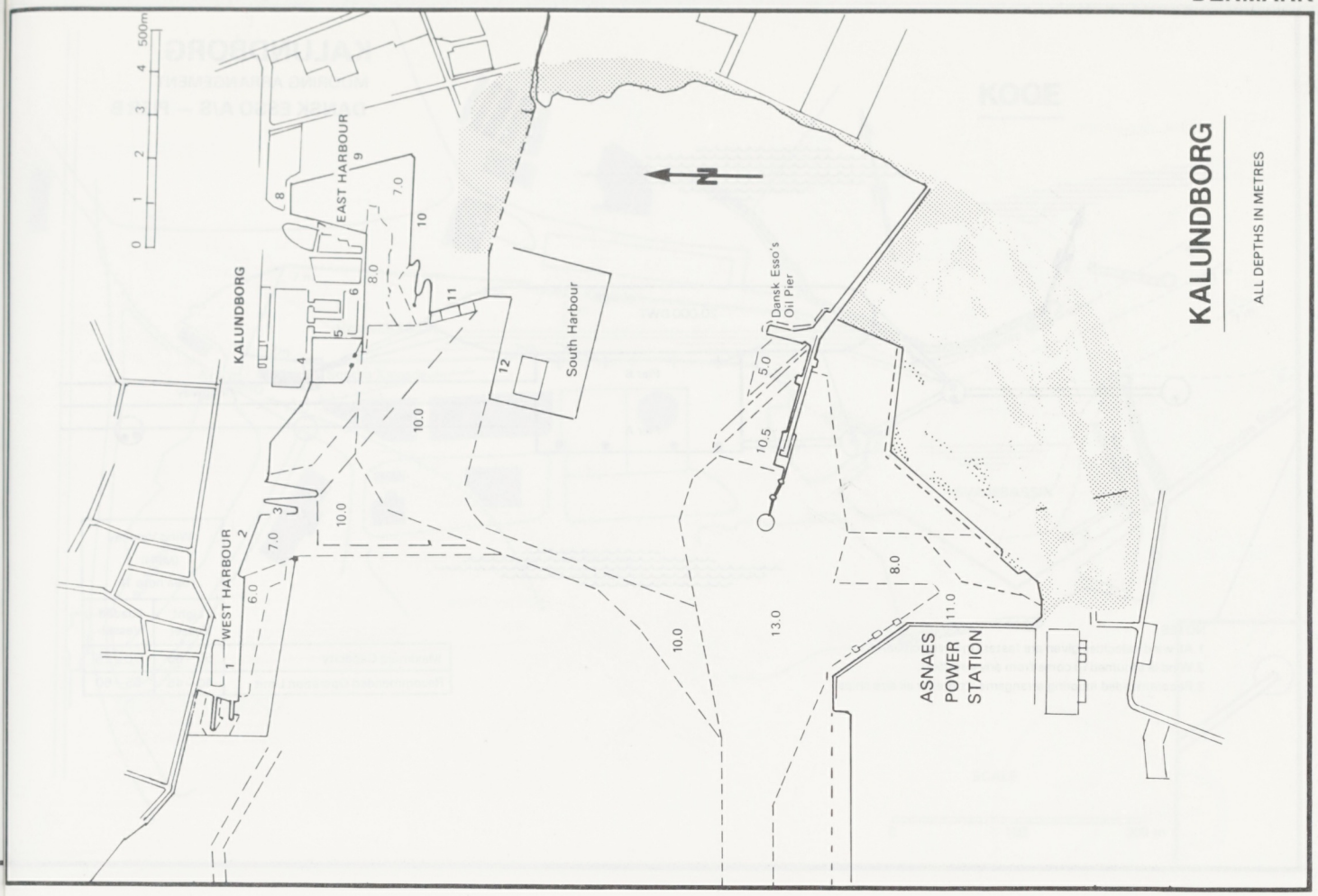
DEPTHS IN METRES


GULFHAVN
Depth 15 m.
JETTY
BERTH No.1
BERTH No.2
BERTH No.3
Depth 7.5 m.
Depth 4.5 m.
BERTH No.4
COOLING WATER INTAKE
1 STREET
111
113
112
62
61
65
66
67
52
51


GRENAA
Being reclaimed
0
100
SCALE IN METRES
500
Pier 4
Pleasure Craft
Pier 3
Slipways
Oil Pier
Pier 2
NORDHAVNEN
FORHAVN
Pier 1
Ro/Ro
SYDHAVN
FERRY HARBOUR
Auctionskaj
Fishing
Harbour
Fargelejе 2
Fargelejе 1
Fargelejе 3
N
DENMARK


HELSINGOR
N
Helsingor Castle
ORESUND
Ferry Berth
8.5m
Fish Harbour
Dry Dock
North Basin
Dry Dock
West Basin
State Harbour
7.0m
South Basin
6.6m
5.6m
6.6m
5.6m
SCALE
0
100
200
300m

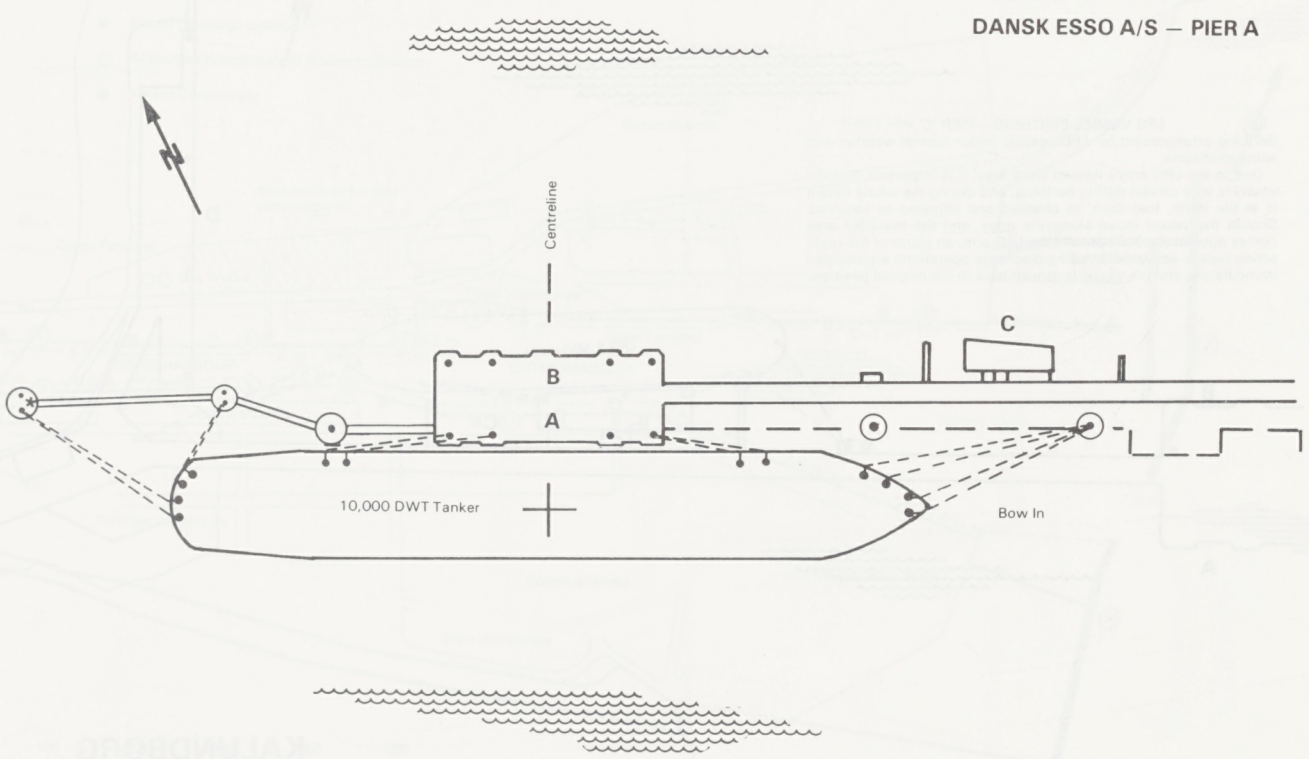

HORSENS
5.0 m
GL Havn
5.5 m
6.3 m
6.3 m
Harbour Office
Ny Havn
6.3 m
Fyrlinie
6.9 m
6.3 m
6.3 m
6.9 m
6.9 m
7.5m
Dansk Esso
5.6 m
Marina
Marina
N
Horsens Fjord
0
100
200
SCALE IN METRES



KALUNDBORG

MOORING ARRANGEMENT

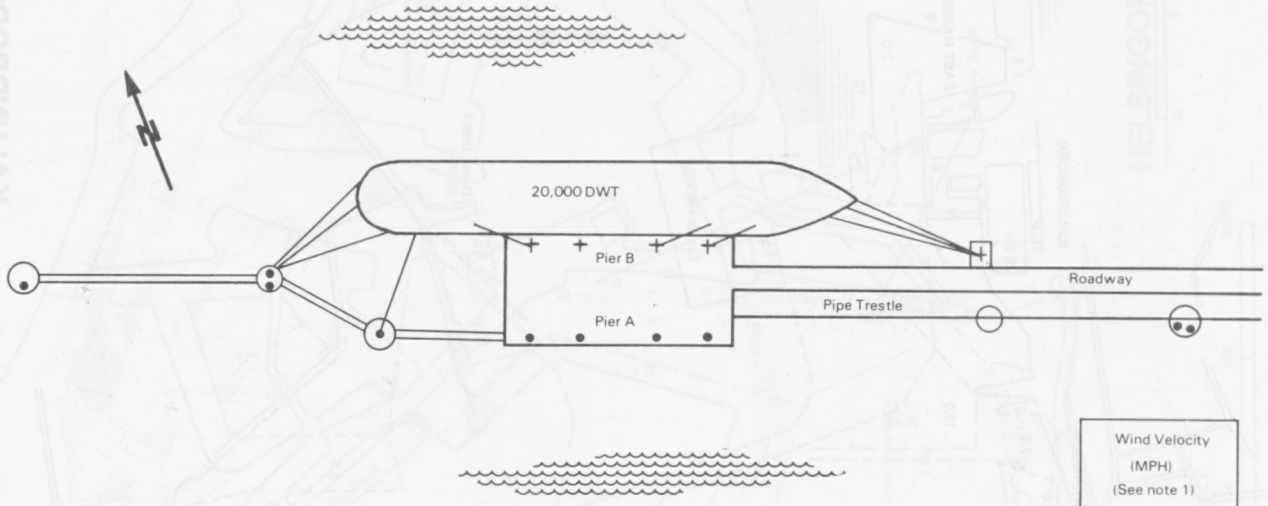
DANSK ESSO A/S — PIER A



KALUNDBORG

MOORING ARRANGEMENT

DANSK ESSO A/S — PIER B



NOTES:

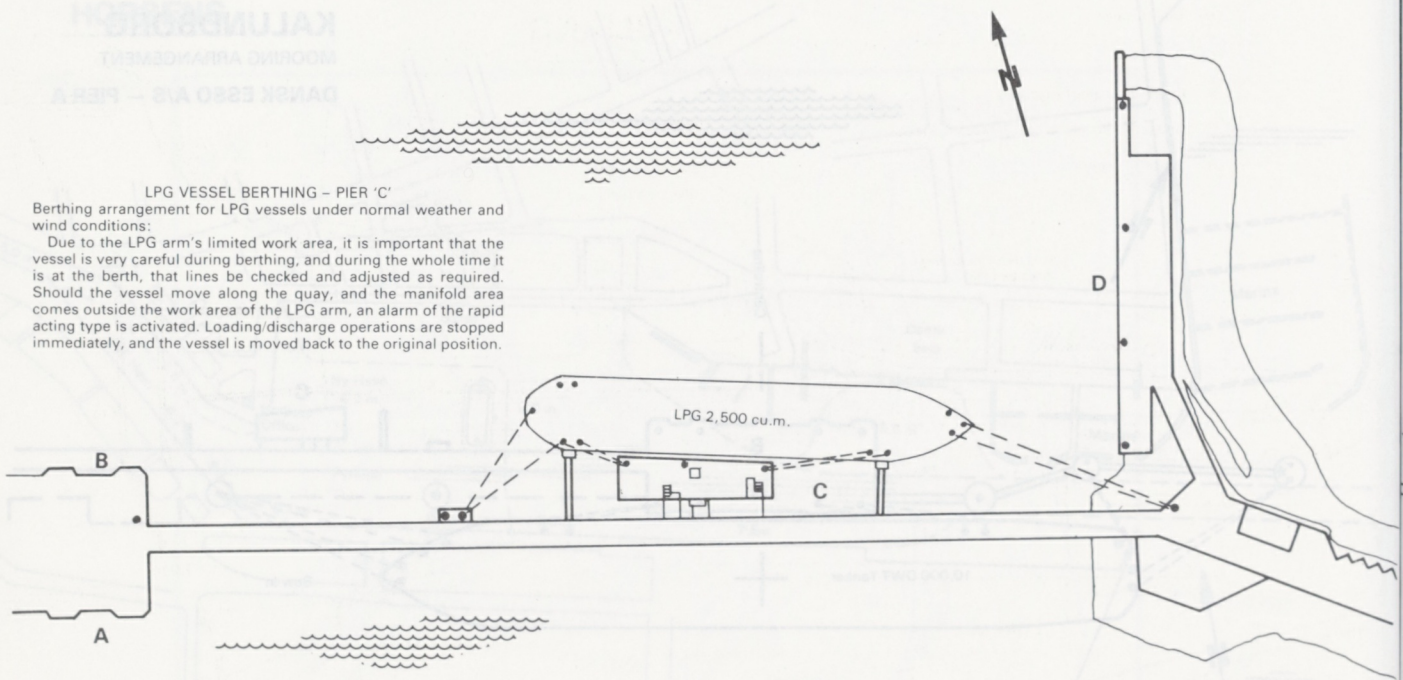
1. All wind velocities given are fastest mile velocities.
2. Wind is assumed to come from any direction.
3. Recommended mooring arrangements are for all size ships.

	Wind Velocity (MPH) (See note 1)	
	Light Vessel	Loaded Vessel
Maximum Capacity	50—55	70—75
Recommended Operation Limit	40—45	55—60

LPG VESSEL BERTHING – PIER 'C'

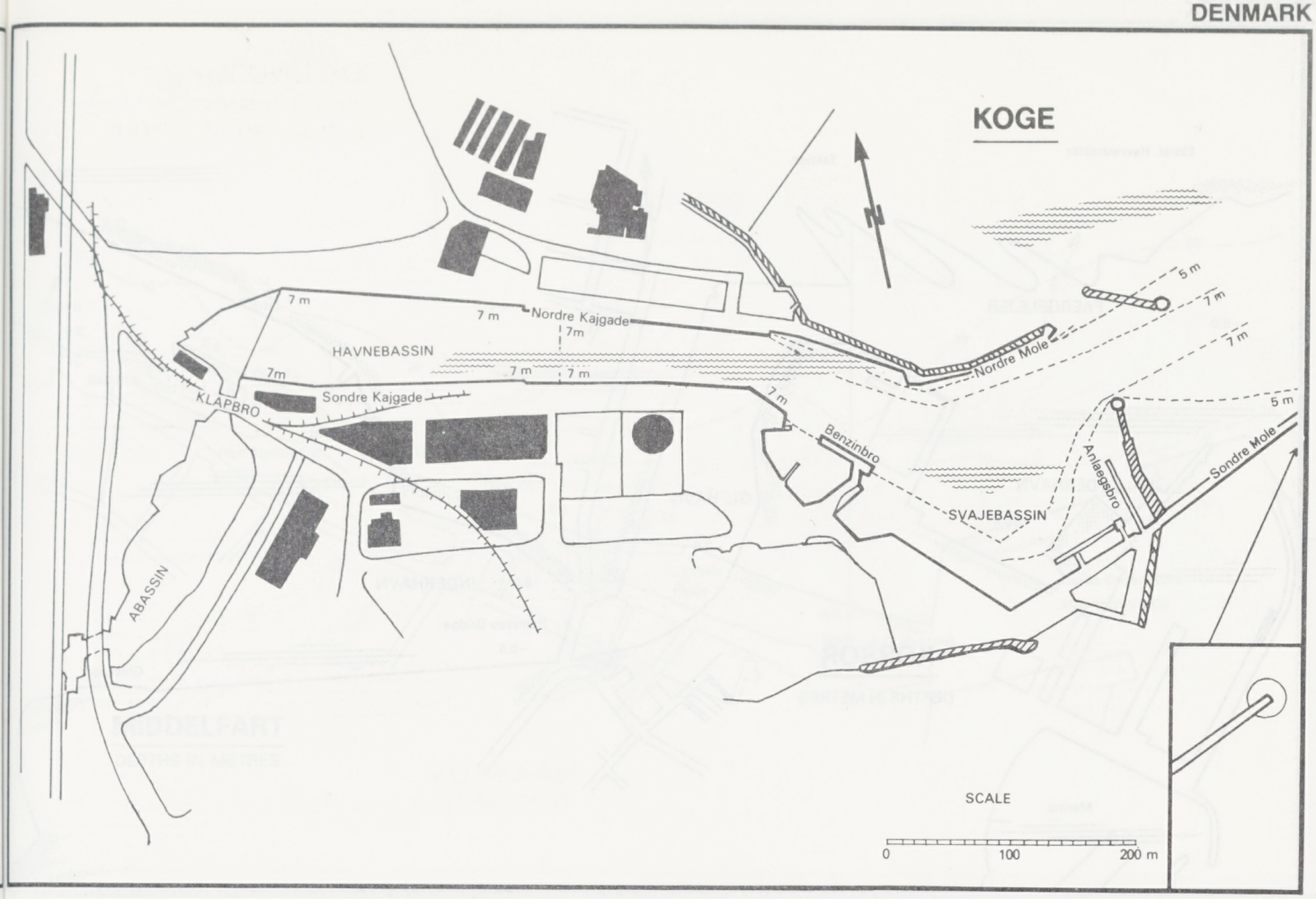
Berthing arrangement for LPG vessels under normal weather and wind conditions:

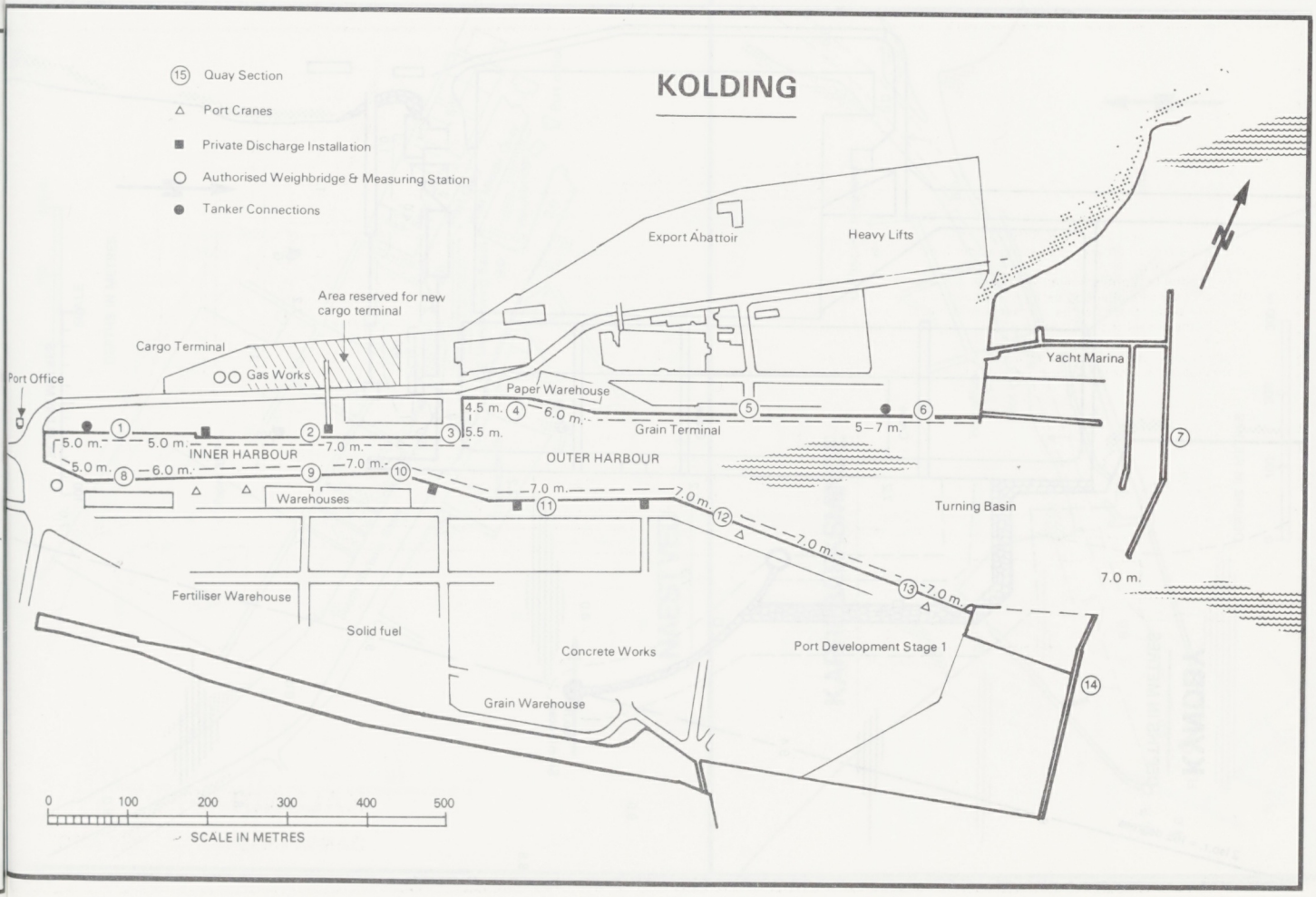
Due to the LPG arm's limited work area, it is important that the vessel is very careful during berthing, and during the whole time it is at the berth, that lines be checked and adjusted as required. Should the vessel move along the quay, and the manifold area comes outside the work area of the LPG arm, an alarm of the rapid acting type is activated. Loading/discharge operations are stopped immediately, and the vessel is moved back to the original position.

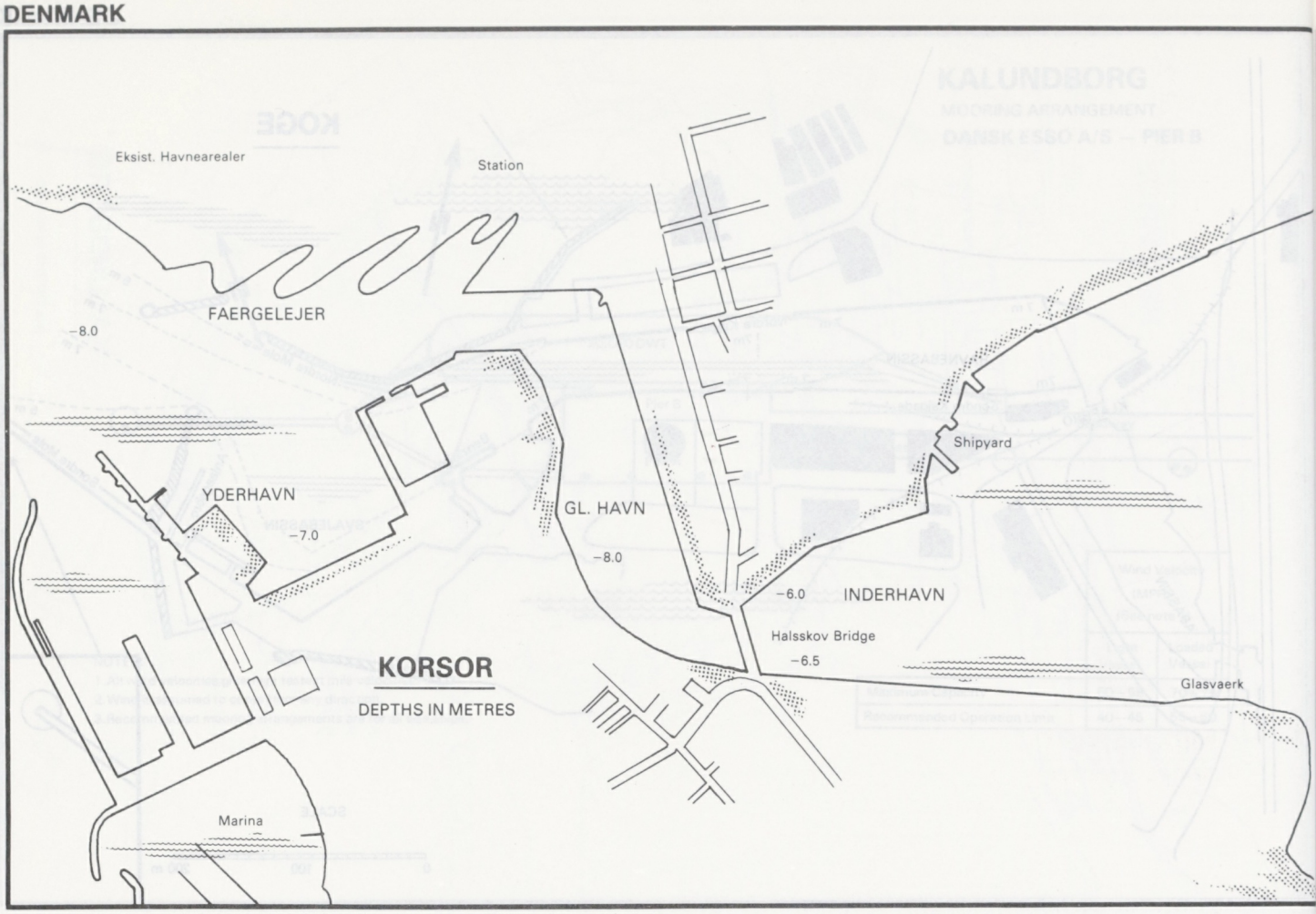


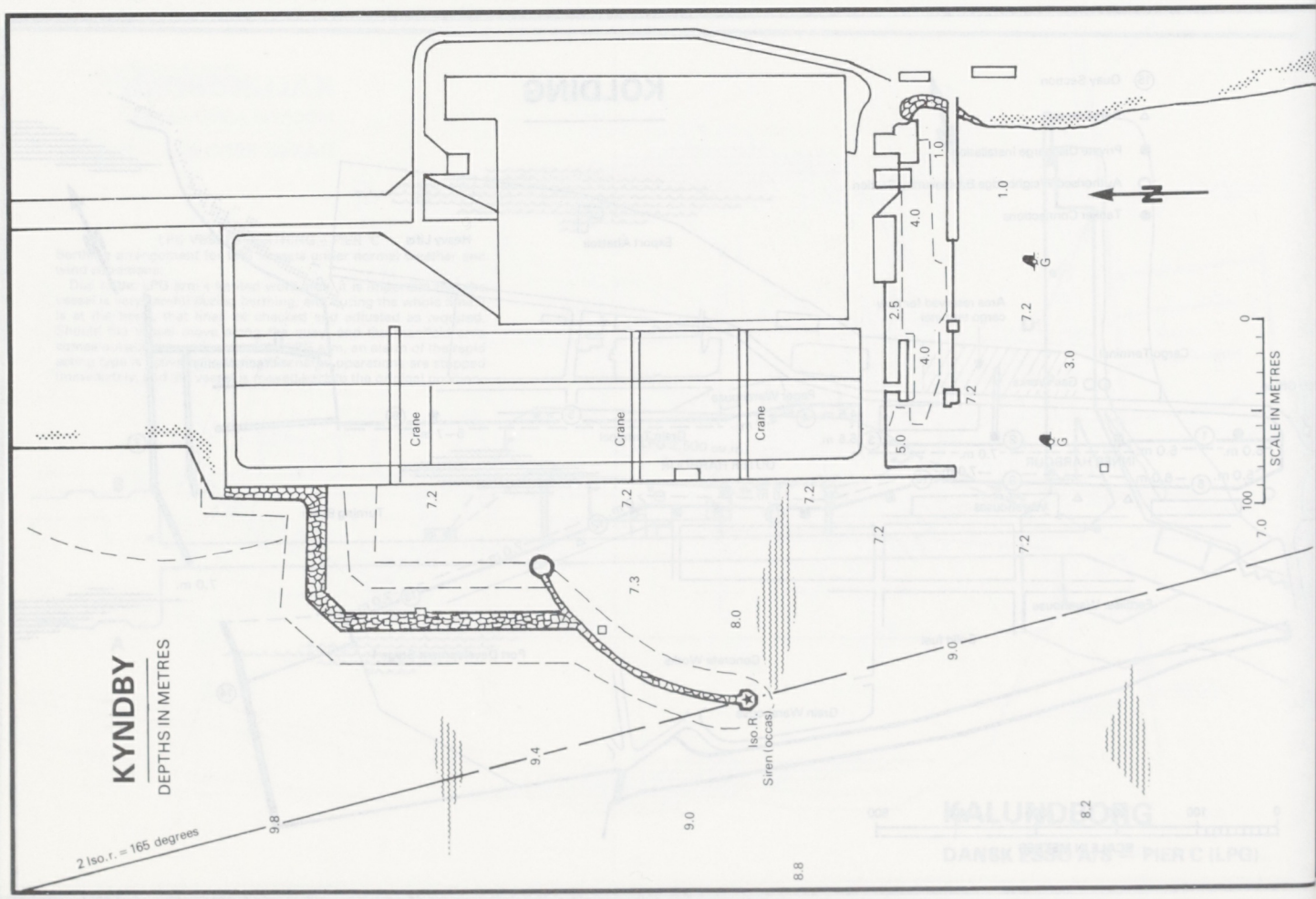
KALUNDBORG

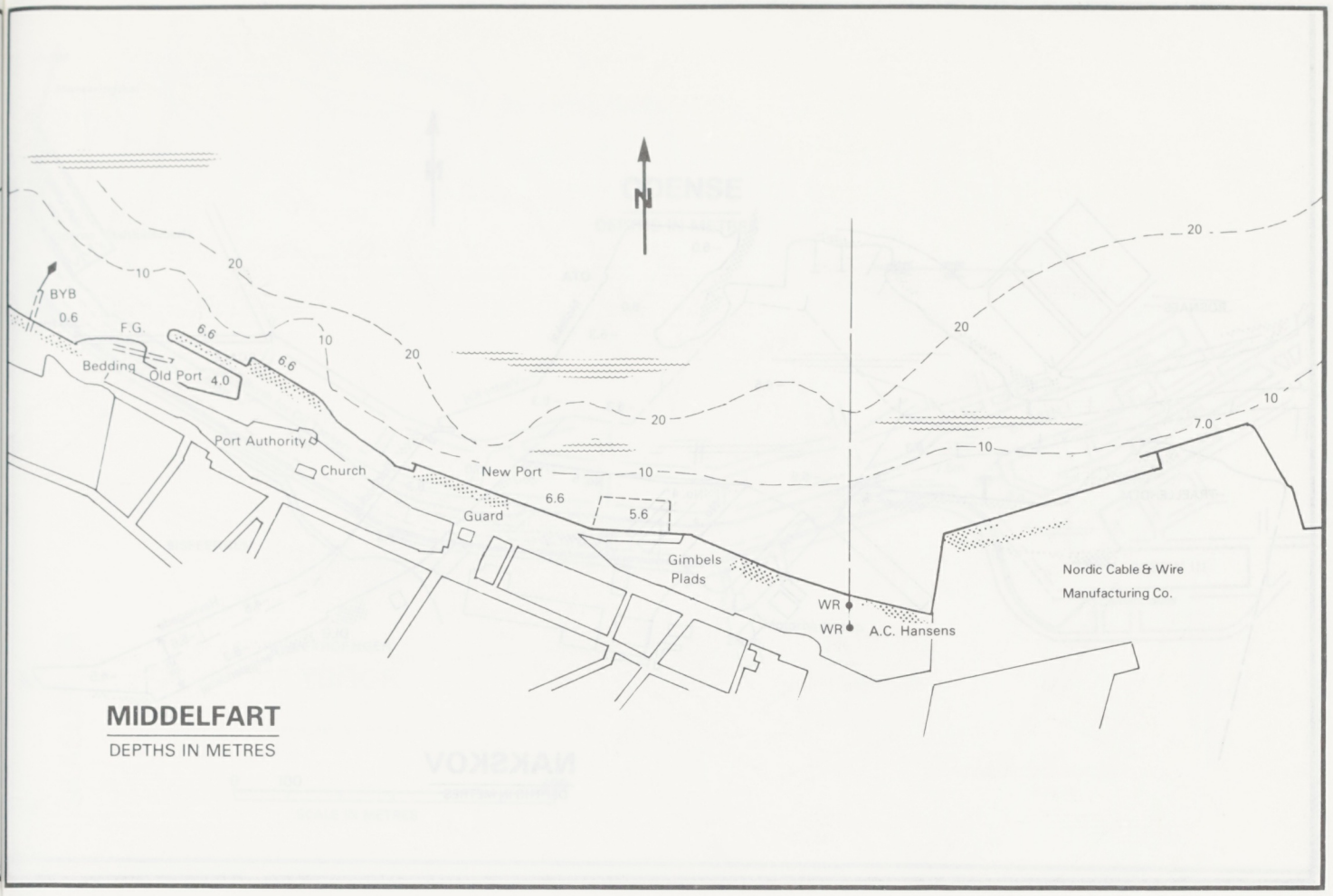
DANSK ESSO A/S — PIER C (LPG)


KOGE
HAVNEBASSIN
Nordre Kajgade
Sondre Kajgade
KLAPBRO
ABASSIN
Nordre Mole
Sondre Mole
Benzinbro
Anlægsbro
SVAJEBASSIN
7 m
5 m
SCALE
0
100
200 m


KOLDING
15 Quay Section
Port Cranes
Private Discharge Installation
Authorised Weighbridge & Measuring Station
Tanker Connections
Export Abattoir
Heavy Lifts
Area reserved for new cargo terminal
Cargo Terminal
Gas Works
Port Office
Paper Warehouse
Grain Terminal
Yacht Marina
INNER HARBOUR
OUTER HARBOUR
Turning Basin
Warehouses
Fertiliser Warehouse
Solid fuel
Concrete Works
Port Development Stage 1
Grain Warehouse
5.0 m.
6.0 m.
7.0 m.
4.5 m.
5.5 m.
5—7 m.
0
100
200
300
400
500
SCALE IN METRES

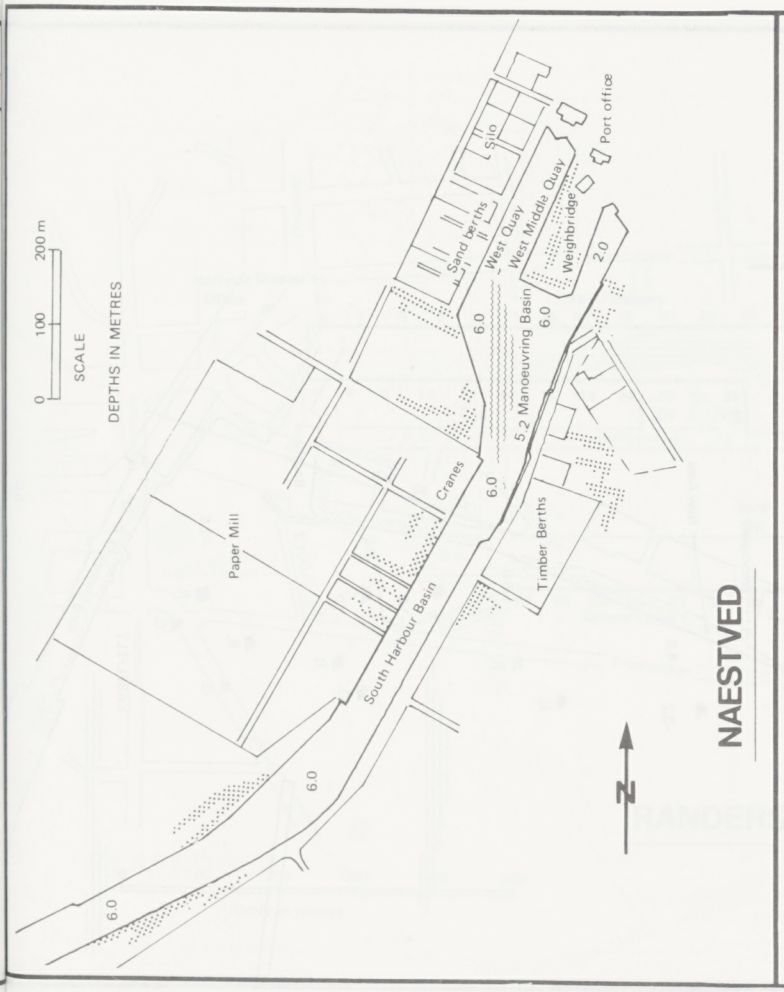

Eksist. Havnearealer
Station
FAERGELEJER
−8.0
YDERHAVN
−7.0
GL. HAVN
−8.0
Shipyard
−6.0
INDERHAVN
Halsskov Bridge
−6.5
Glasvaerk
KORSOR
DEPTHS IN METRES
Marina


KYNDBY
DEPTHS IN METRES
Crane
Crane
Crane
N
SCALE IN METRES
0
100
Iso.R.
Siren (occas)
2 Iso.r. = 165 degrees

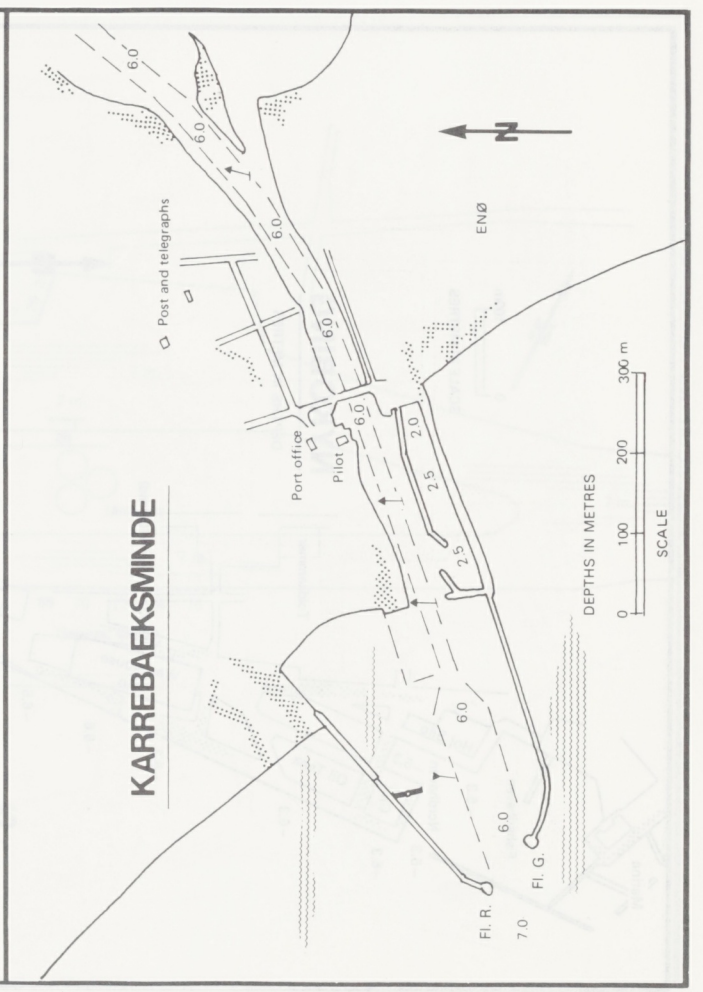


MIDDELFART

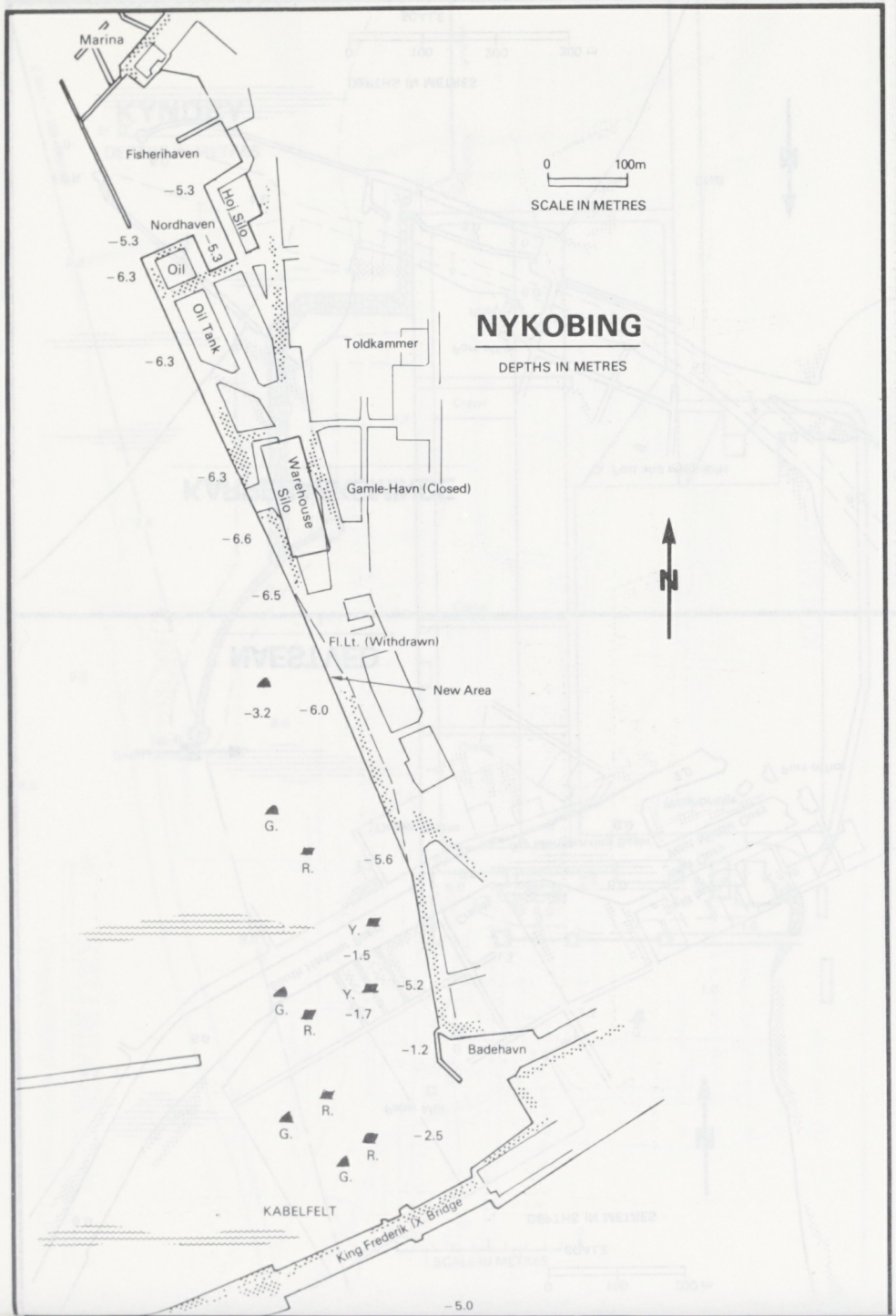
DEPTHS IN METRES

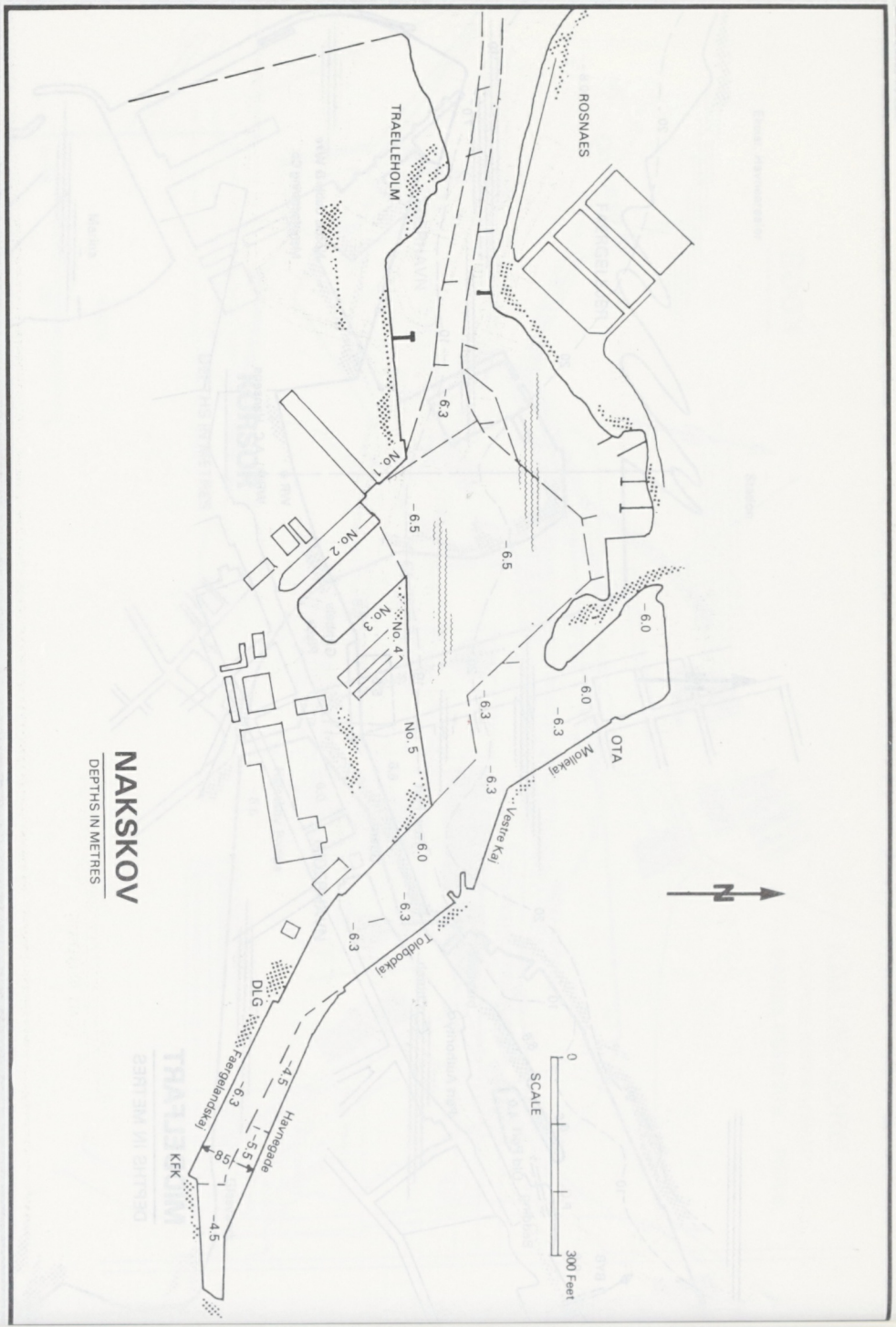


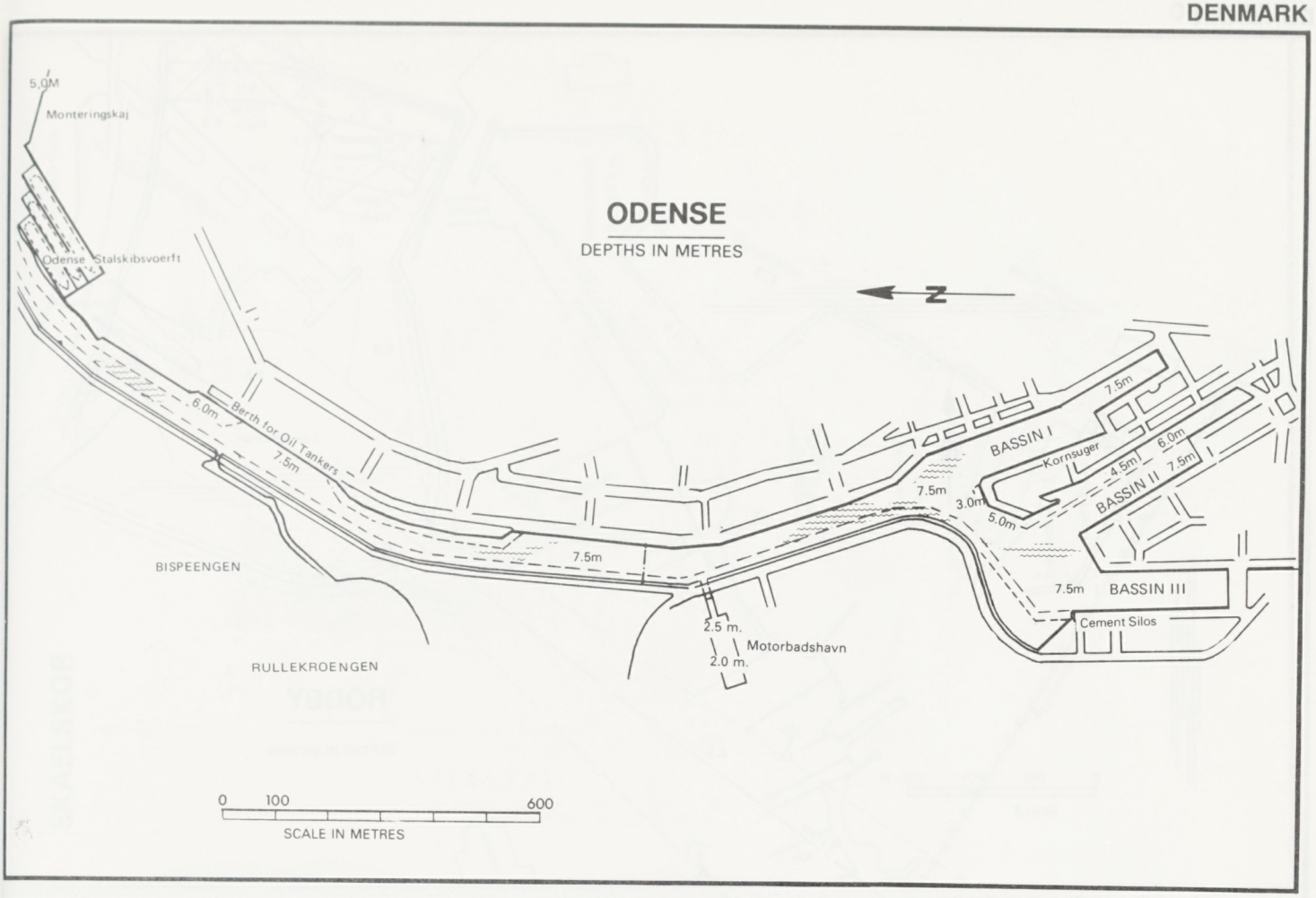
NAESTVED

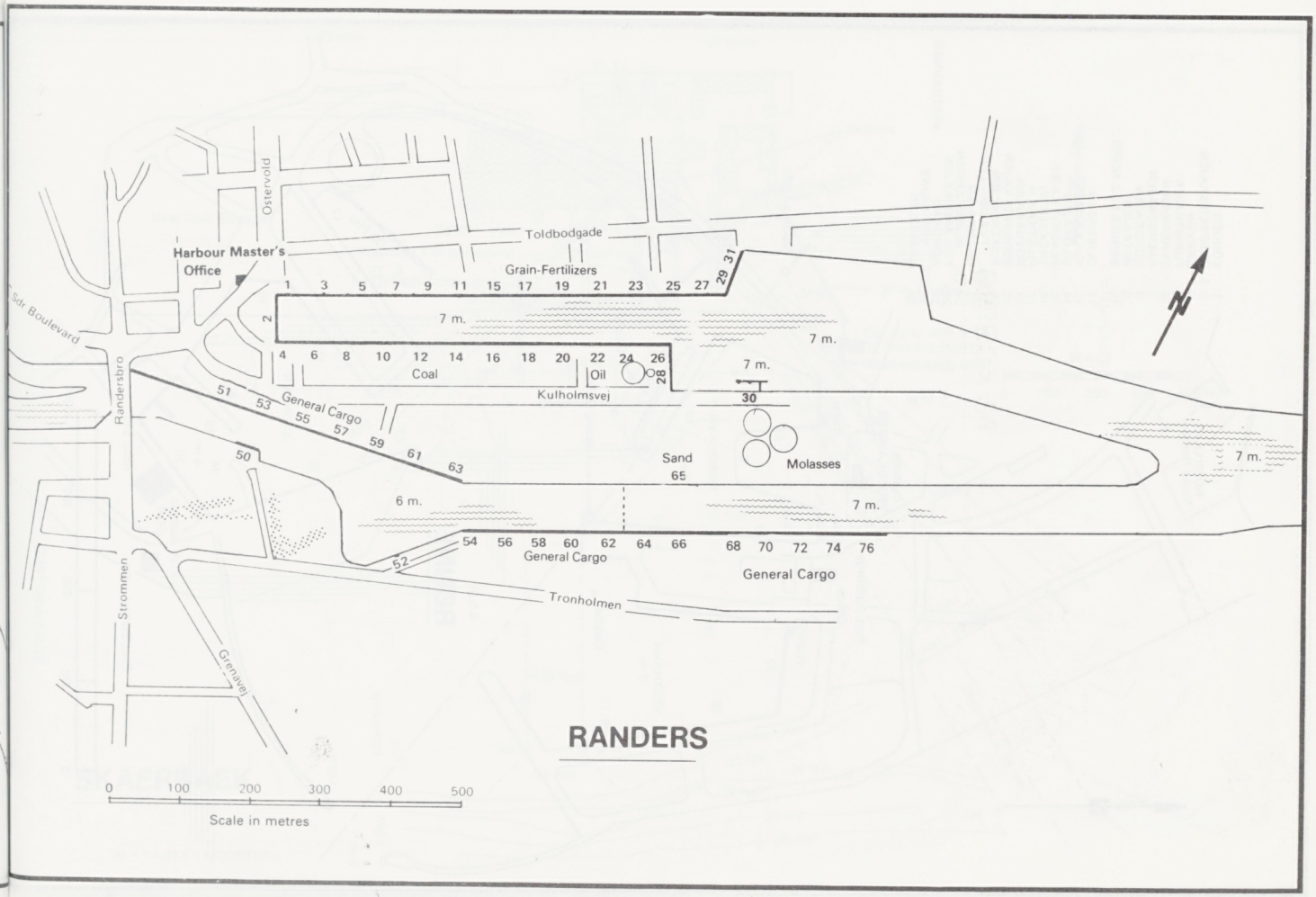


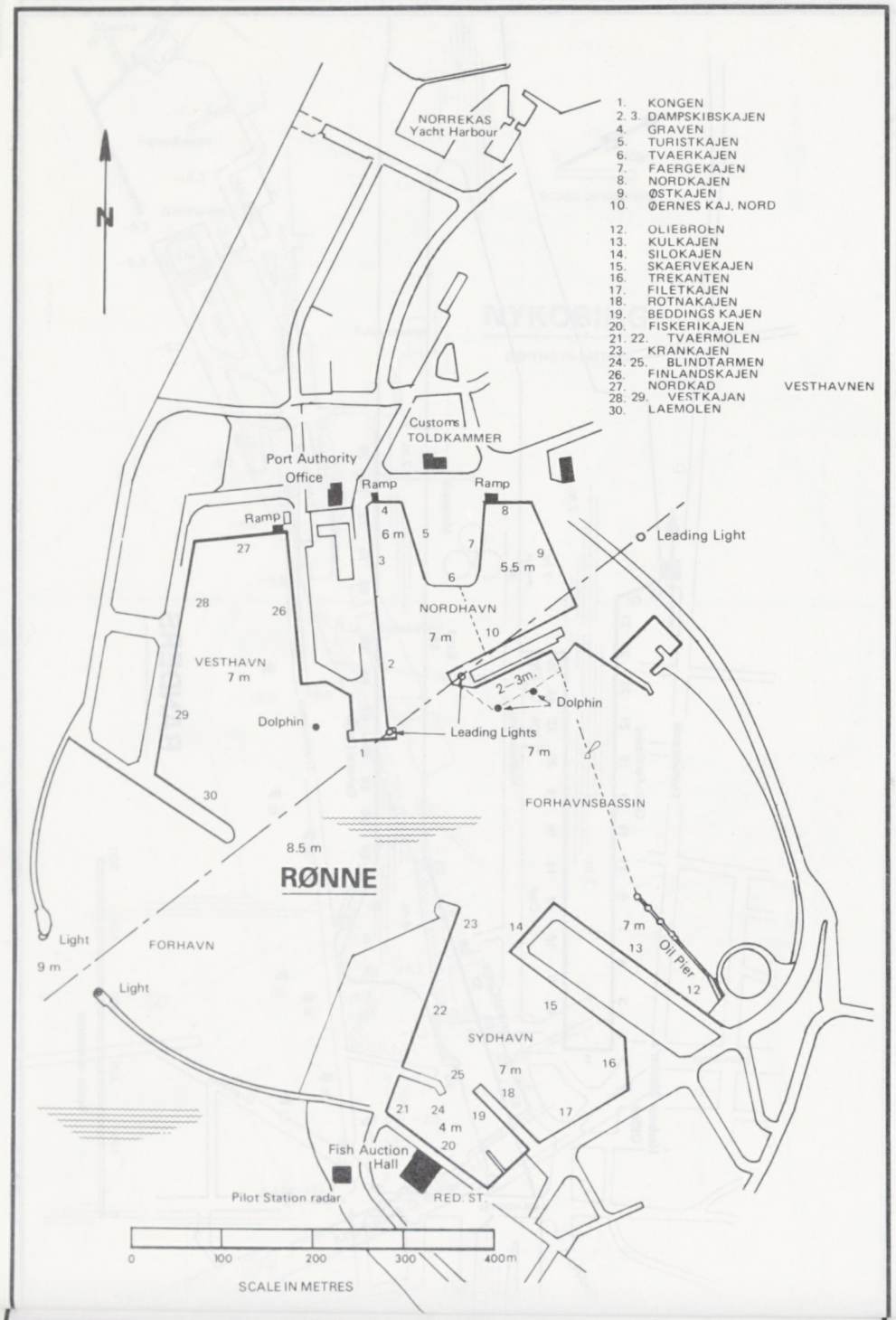
KARREBAEKSMINDE

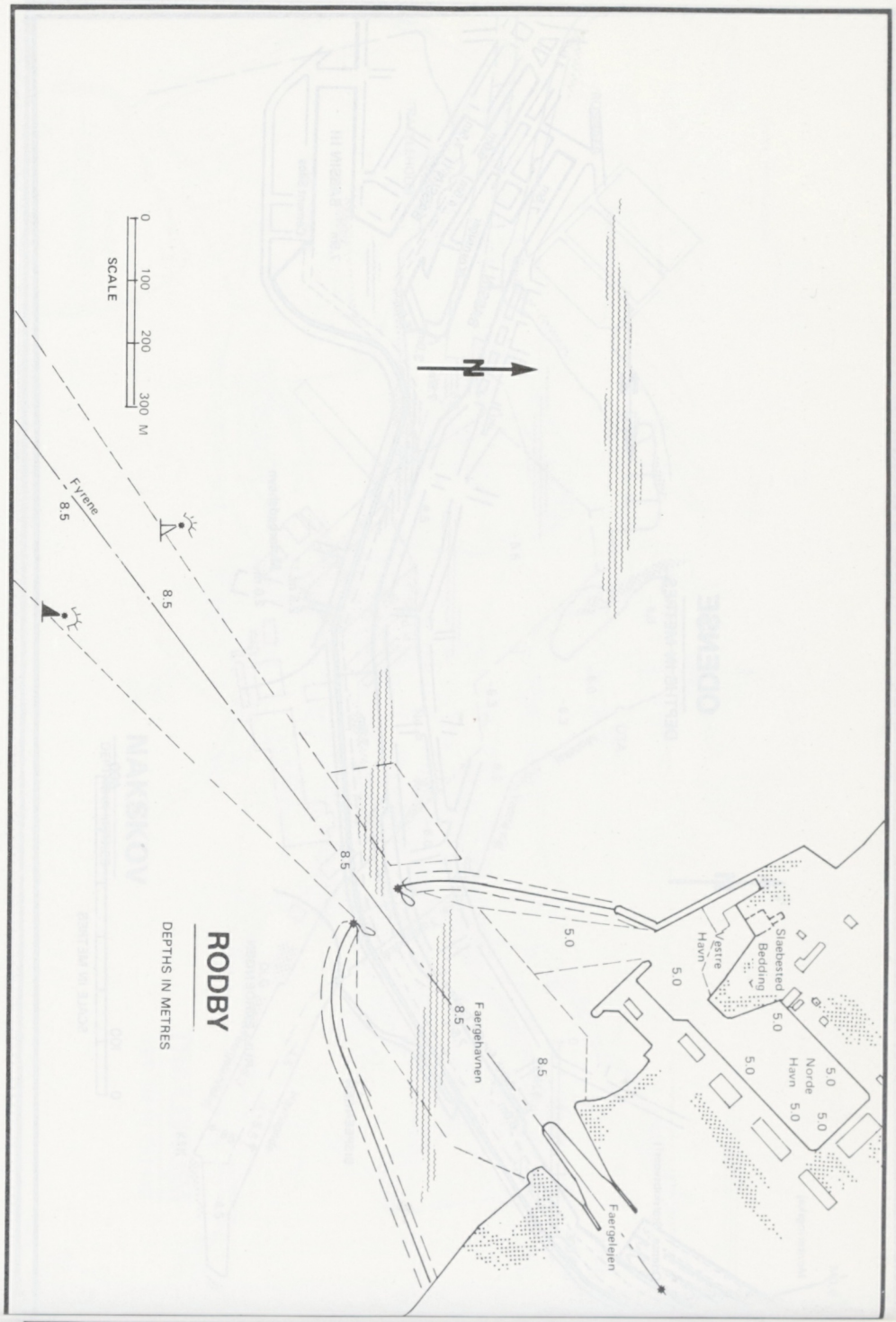

Marina
Fisherihaven
Nordhaven
Hoj Silo
Oil
Oil Tank
Toldkammer
Warehouse Silo
Gamle-Havn (Closed)
Fl.Lt. (Withdrawn)
New Area
Badehavn
KABELFELT
King Frederik IX Bridge
0 100m
SCALE IN METRES
NYKOBING
DEPTHS IN METRES
N
-5.3
-6.3
-6.6
-6.5
-3.2
-6.0
-5.6
-1.5
-5.2
-1.7
-1.2
-2.5
-5.0
G.
R.
Y.

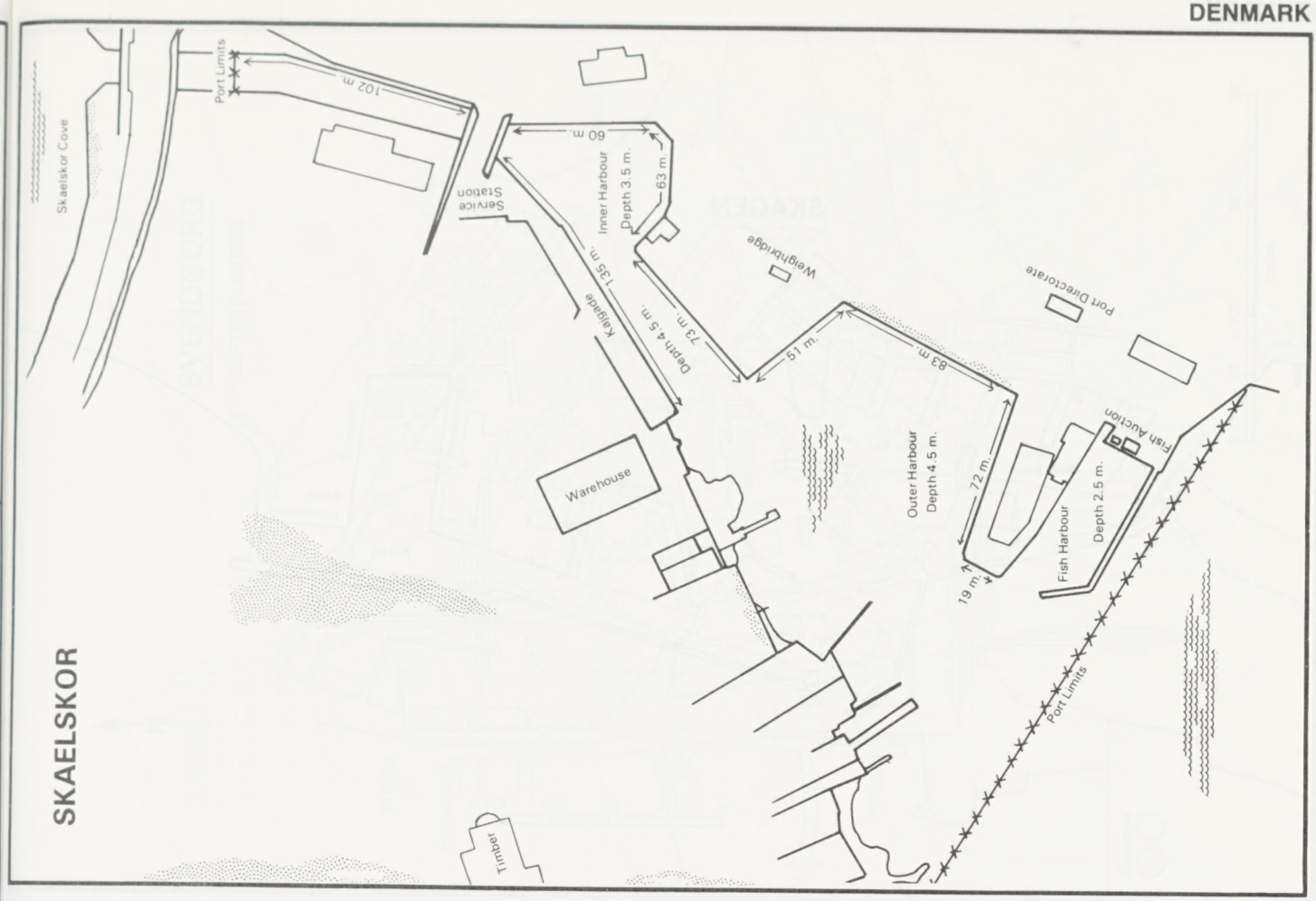

ROSNAES
TRAELLEHOLM
No. 1
No. 2
No. 3
No. 4
No. 5
OTA
Molleka
Vestre Kaj
Toldbodkaj
Havnegade
Faergebrandskaj
DLG
KFK
SCALE
0
300 Feet
N
NAKSKOV
DEPTHS IN METRES
-6.3
-6.5
-6.0
-4.5
-5.5
-5.8

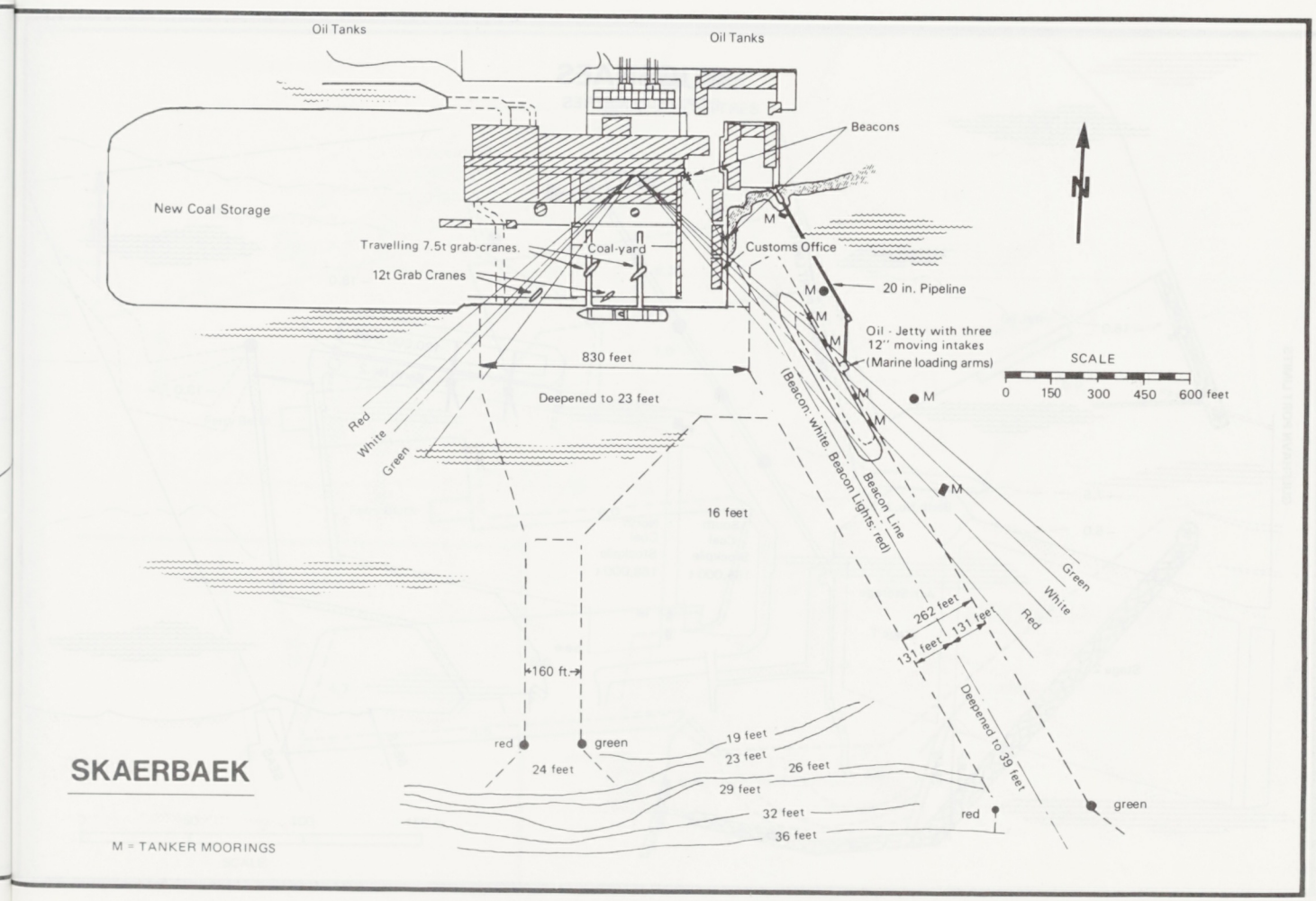

5.0M
Monteringskaj
Odense Stalskibsvoerft
ODENSE
DEPTHS IN METRES
N
6.0m
Berth for Oil Tankers
7.5m
BISPEENGEN
RULLEKROENGEN
7.5m
2.5 m.
2.0 m.
Motorbadshavn
7.5m
BASSIN I
Kornsuger
4.5m
6.0m
7.5m
BASSIN II
7.5m
3.0m
5.0m
7.5m
BASSIN III
Cement Silos
0 100 600
SCALE IN METRES


Ostervold
Toldbodgade
Harbour Master's Office
Grain-Fertilizers
1 3 5 7 9 11 15 17 19 21 23 25 27 29 31
2
7 m.
7 m.
4 6 8 10 12 14 16 18 20 22 24 26 28
Coal
Oil
7 m.
30
Kulholmsvej
Sdr Boulevard
Randersbro
51 53 55 57 59 61 63
General Cargo
50
Sand
65
Molasses
7 m.
6 m.
7 m.
54 56 58 60 62 64 66 68 70 72 74 76
General Cargo
General Cargo
52
Tronholmen
Strommen
Grenavej
N
RANDERS
0 100 200 300 400 500
Scale in metres

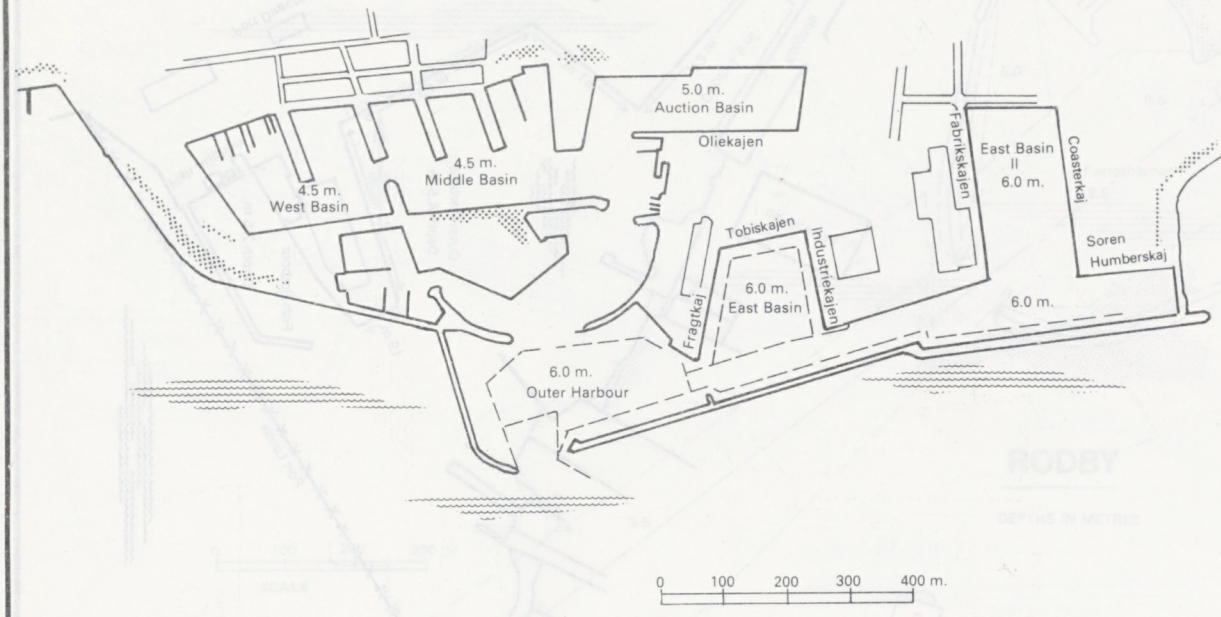

N
NORREKAS
Yacht Harbour
1. KONGEN
2. 3. DAMPSKIBSKAJEN
4. GRAVEN
5. TURISTKAJEN
6. TVAERKAJEN
7. FAERGEKAJEN
8. NORDKAJEN
9. ØSTKAJEN
10. ØERNES KAJ, NORD
12. OLIEBROEN
13. KULKAJEN
14. SILOKAJEN
15. SKAERVEKAJEN
16. TREKANTEN
17. FILETKAJEN
18. ROTNAKAJEN
19. BEDDINGS KAJEN
20. FISKERIKAJEN
21. 22. TVAERMOLEN
23. KRANKAJEN
24. 25. BLINDTARMEN
26. FINLANDSKAJEN
27. NORDKAD
28. 29. VESTKAJAN
30. LAEMOLEN
VESTHAVNEN
Customs
TOLDKAMMER
Port Authority
Office
Ramp
Ramp
Ramp
Leading Light
6 m
5.5 m
NORDHAVN
7 m
VESTHAVN
7 m
Dolphin
Dolphin
2–3m.
Leading Lights
7 m
FORHAVNSBASSIN
8.5 m
RØNNE
Light
9 m
FORHAVN
Light
SYDHAVN
7 m
4 m
Oil Pier
7 m
Fish Auction
Hall
Pilot Station radar
RED. ST.
0
100
200
300
400m
SCALE IN METRES


SCALE
0
100
200
300 M
N
Fyrente
8.5
8.5
8.5
RODBY
DEPTHS IN METRES
Vestre
Havn
Slaebested
Bedding
Nordre
Havn
Faergehavnen
8.5
Faergelejen
5.0
8.5


SKAELSKOR
Skaelskor Cove
Port Limits
102 m.
60 m.
Service Station
Inner Harbour
Depth 3.5 m.
63 m.
Kaigade
135 m.
Depth 4.5 m.
73 m.
Weighbridge
51 m.
Port Directorate
83 m.
Warehouse
Outer Harbour
Depth 4.5 m.
72 m.
Fish Auction
Fish Harbour
Depth 2.5 m.
19 m.
Port Limits
Tanker

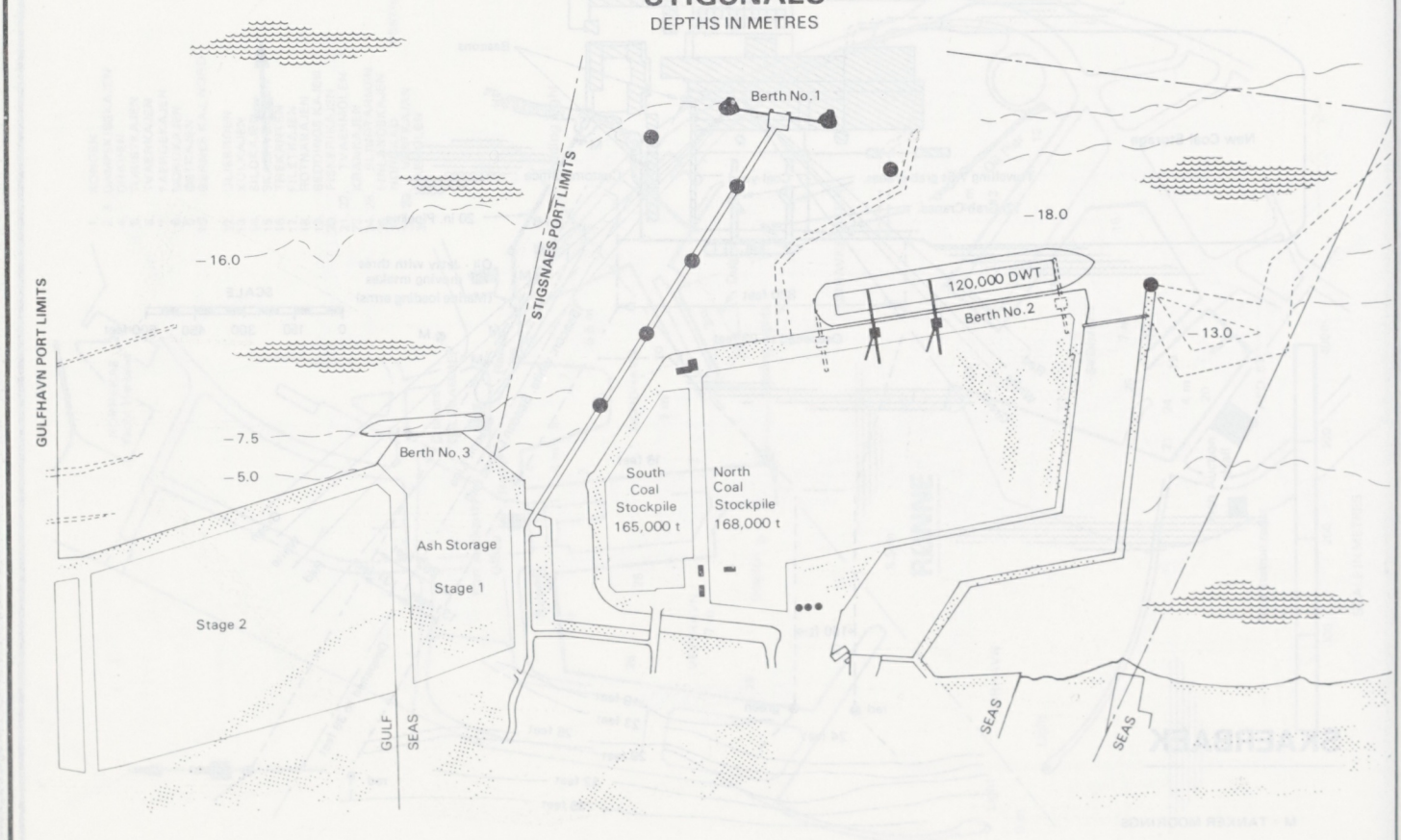

SKAERBAEK
Oil Tanks
Oil Tanks
Beacons
New Coal Storage
Travelling 7.5t grab-cranes.
12t Grab Cranes
Coal-yard
Customs Office
20 in. Pipeline
Oil - Jetty with three 12" moving intakes (Marine loading arms)
830 feet
Deepened to 23 feet
Red
White
Green
16 feet
(Beacon: white. Beacon Lights: red)
Beacon Line
Green
White
Red
262 feet
131 feet
131 feet
160 ft.
red
green
19 feet
23 feet
24 feet
26 feet
29 feet
32 feet
36 feet
Deepened to 39 feet
red
green
N
SCALE
0 150 300 450 600 feet
M = TANKER MOORINGS

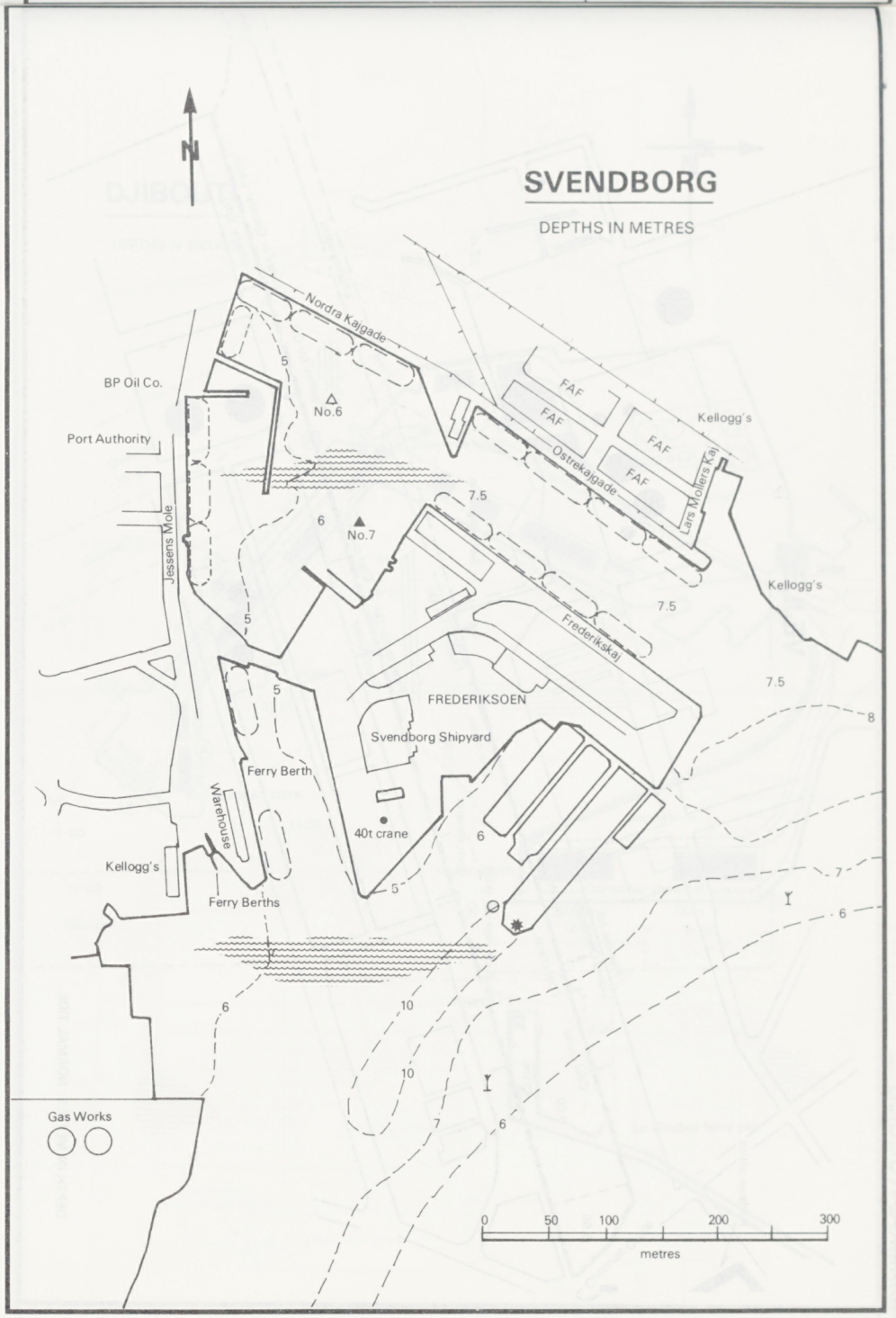
SKAGEN

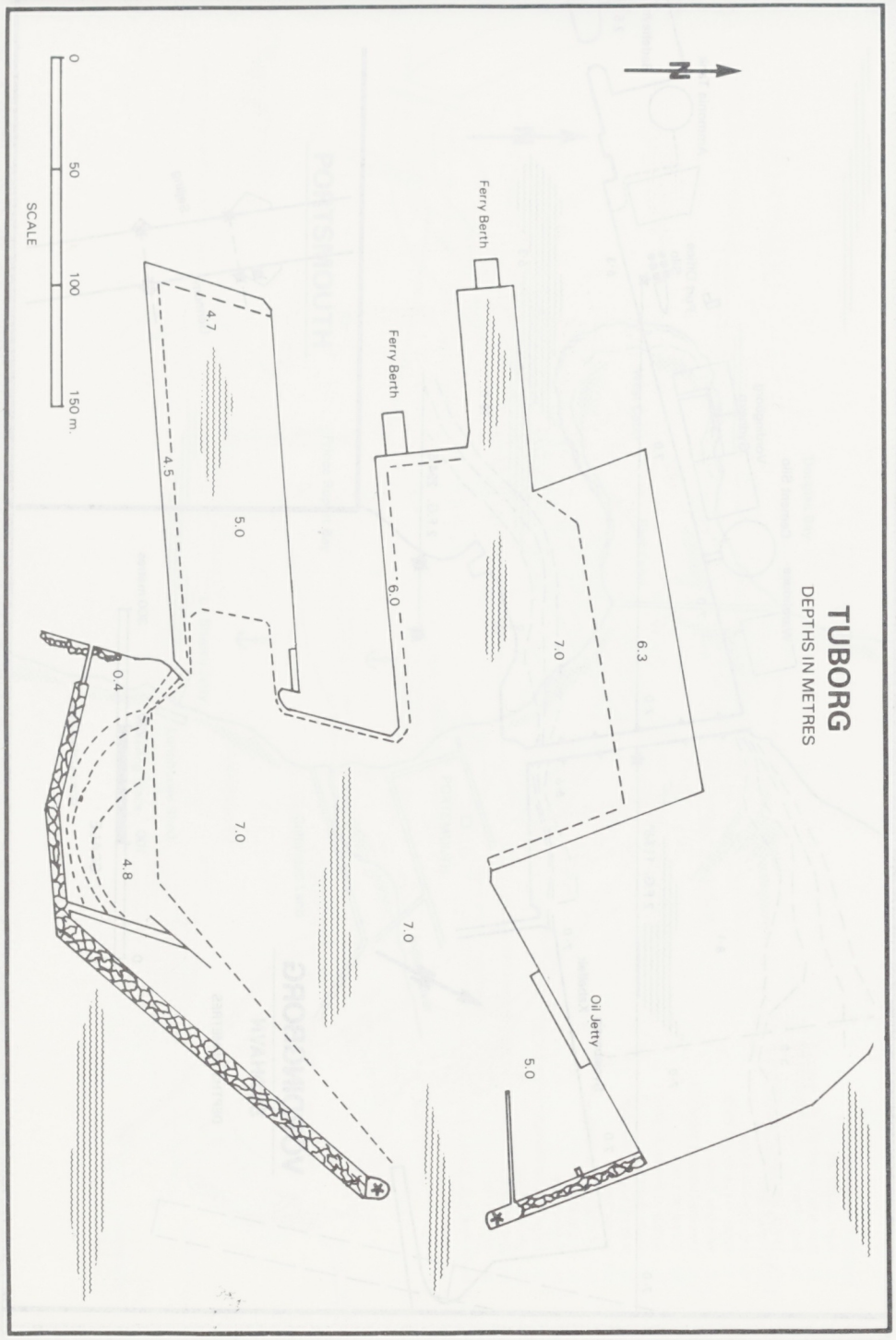


STIGSNAES

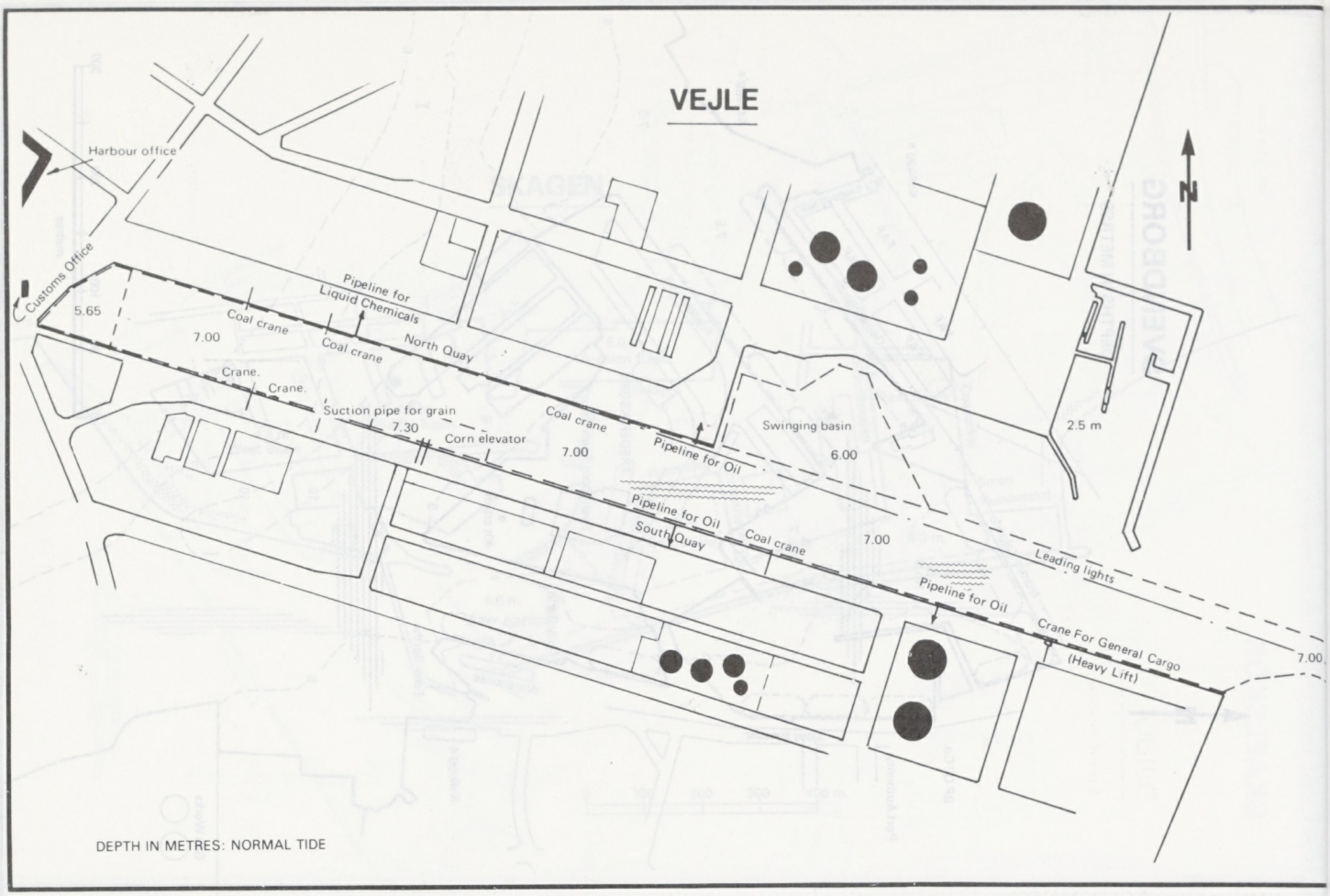
DEPTHS IN METRES

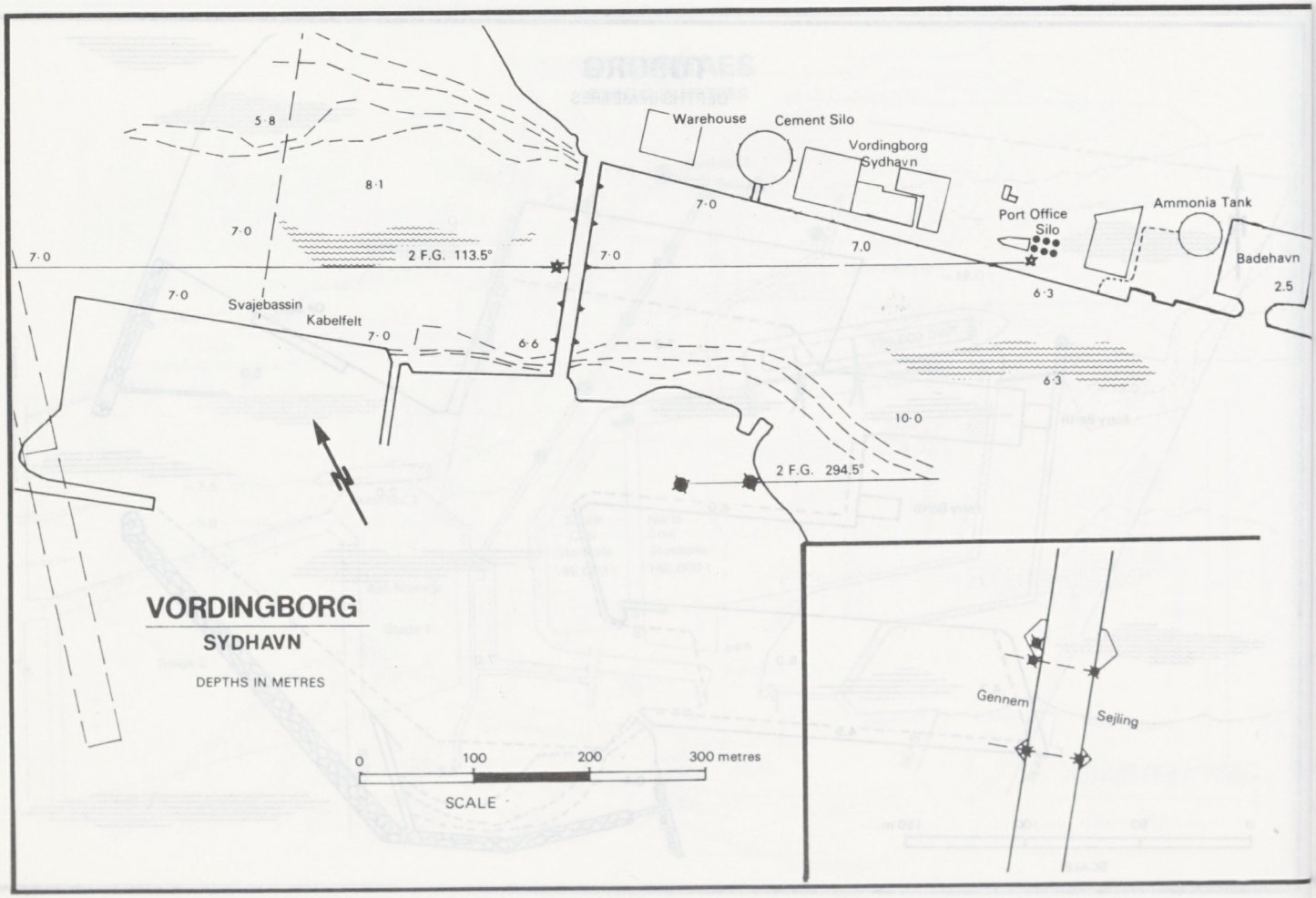


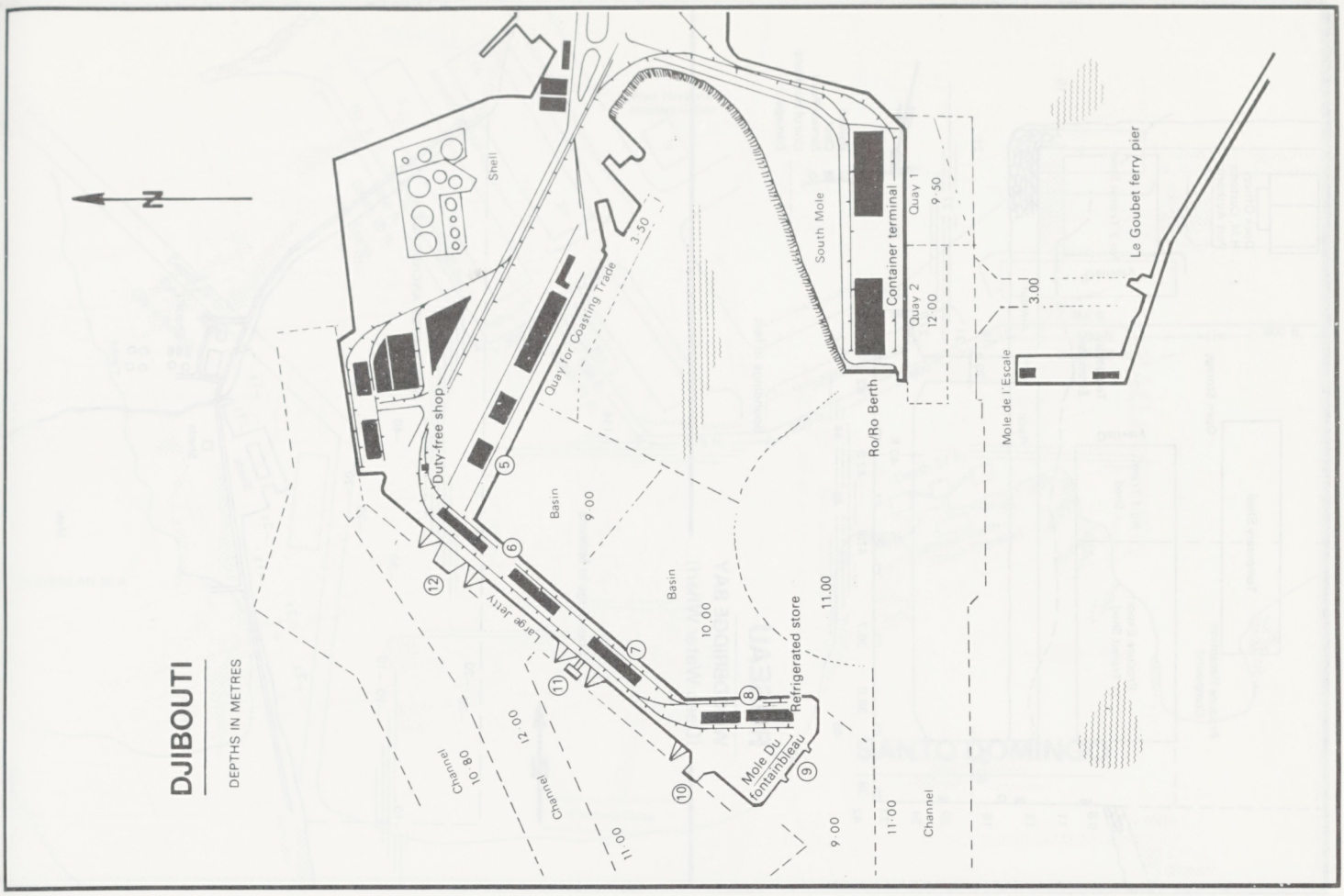

SVENDBORG
DEPTHS IN METRES
N
Nordra Kajgade
BP Oil Co.
No.6
Port Authority
Jessens Mole
No.7
FAF
FAF
FAF
FAF
Kellogg's
Ostrekajgade
Lars Kollers Kaj
Kellogg's
Frederikskaj
FREDERIKSOEN
Svendborg Shipyard
Ferry Berth
Warehouse
40t crane
Kellogg's
Ferry Berths
Gas Works
5
6
7.5
8
10
7
0
50
100
200
300
metres

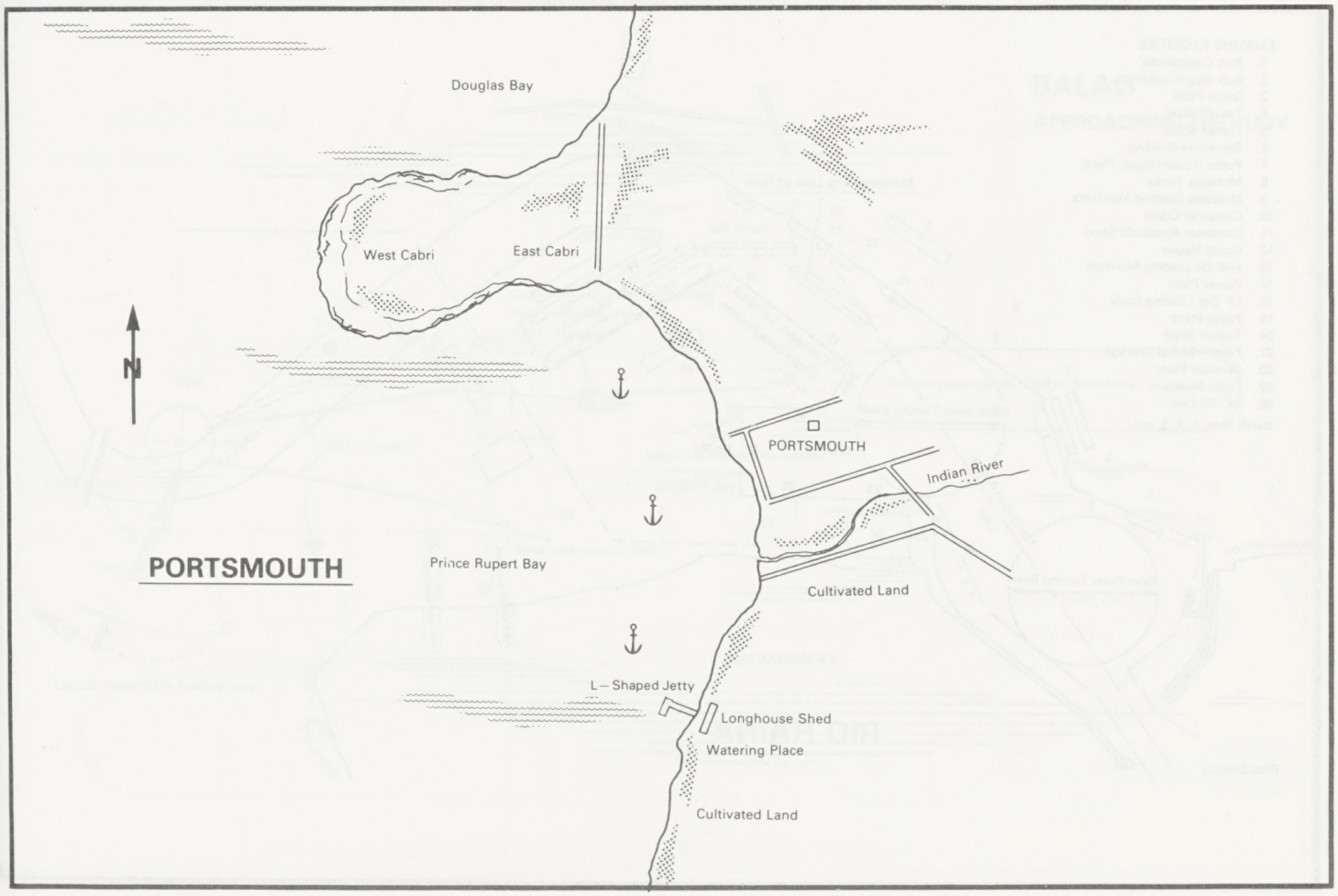

TUBORG
DEPTHS IN METRES
N
SCALE
0
50
100
150 m.
Ferry Berth
Ferry Berth
Oil Jetty
4.7
4.5
5.0
6.0
7.0
6.3
7.0
0.4
4.8
7.0
5.0

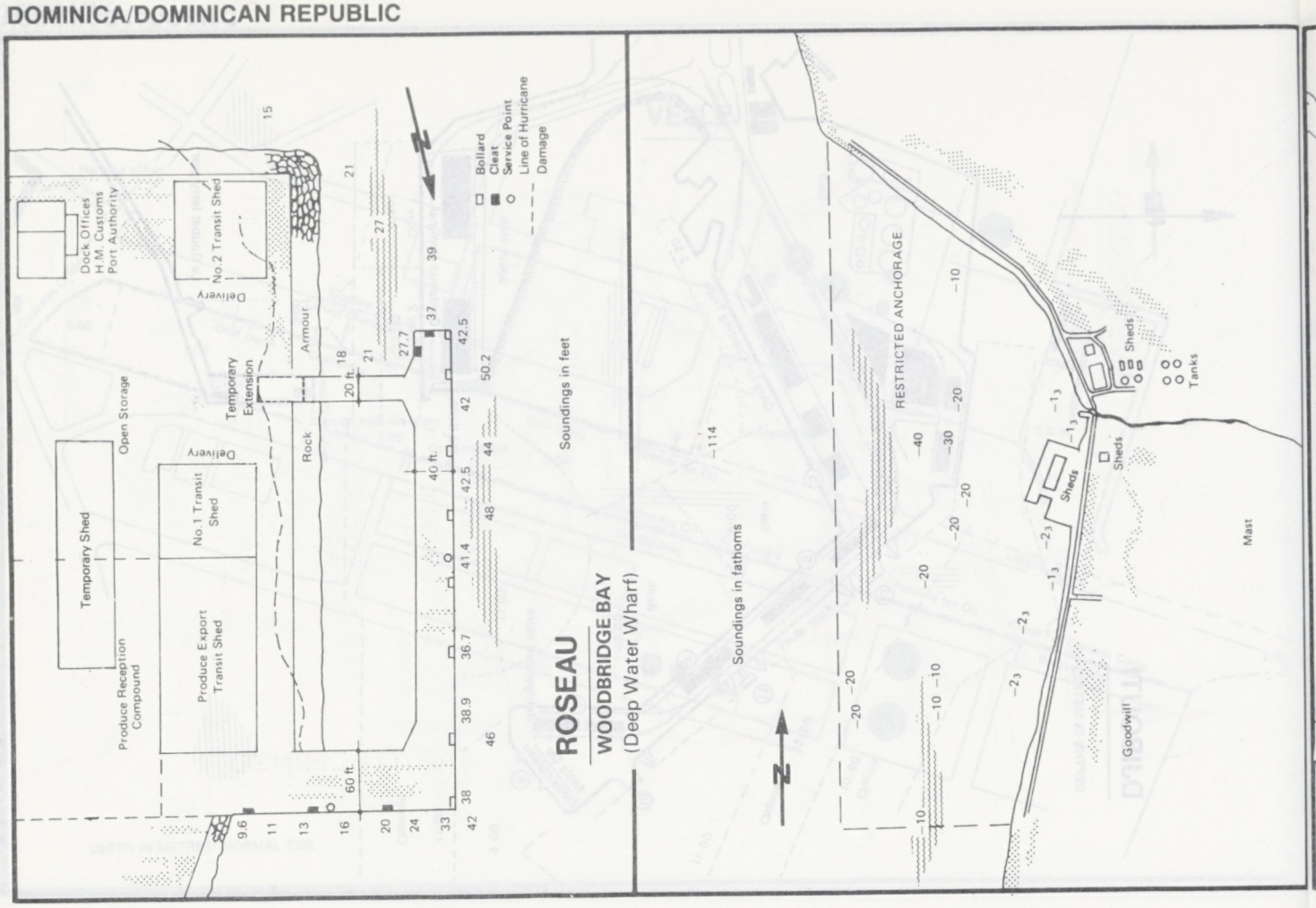
DENMARK

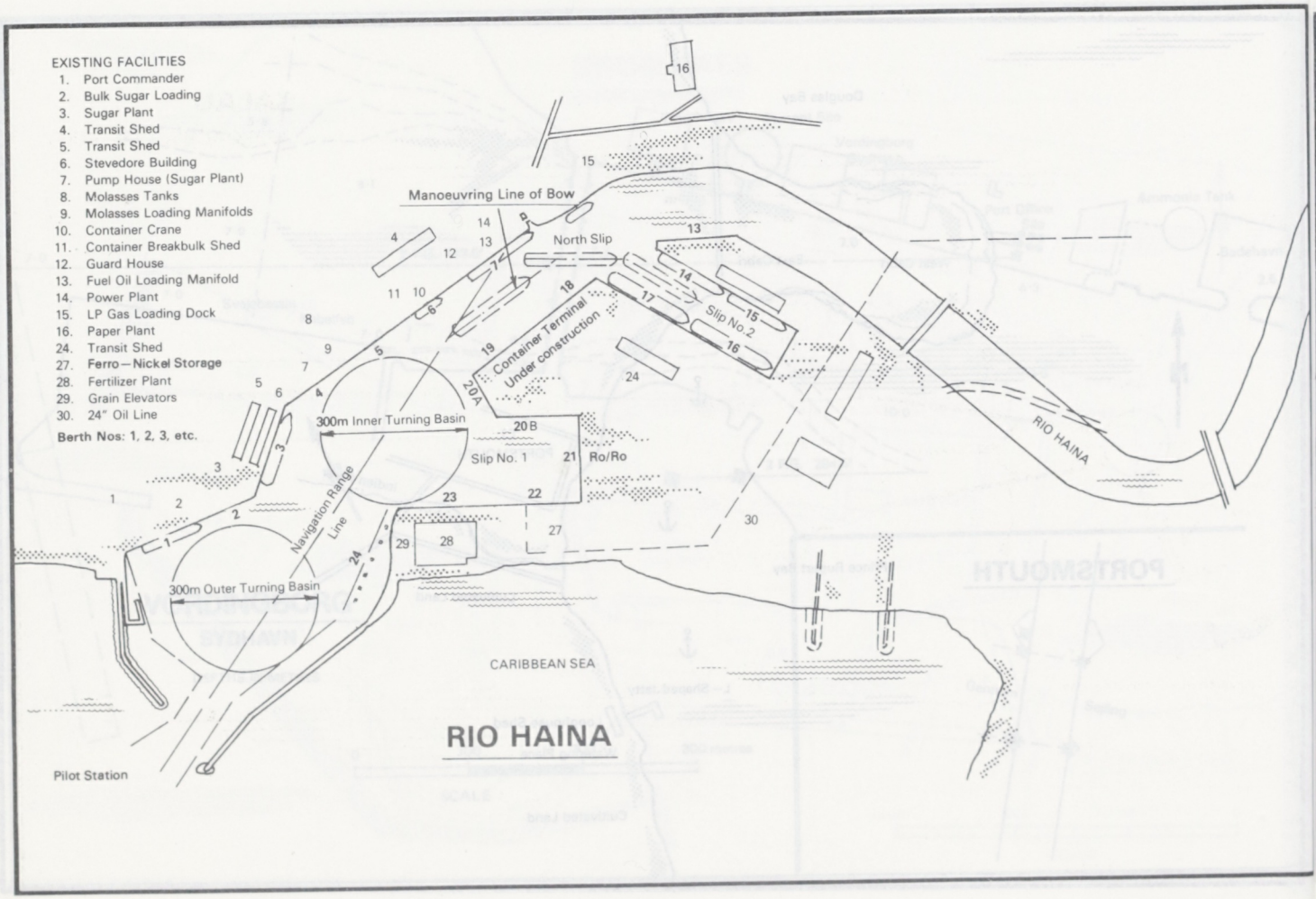

VEJLE
Harbour office
Customs Office
5.65
Coal crane
7.00
Coal crane
Pipeline for Liquid Chemicals
North Quay
Crane.
Crane.
Suction pipe for grain
7.30
Corn elevator
Coal crane
7.00
Pipeline for Oil
Swinging basin
6.00
2.5 m
Pipeline for Oil
South Quay
Coal crane
7.00
Leading lights
Pipeline for Oil
Crane For General Cargo
(Heavy Lift)
7.00
DEPTH IN METRES: NORMAL TIDE

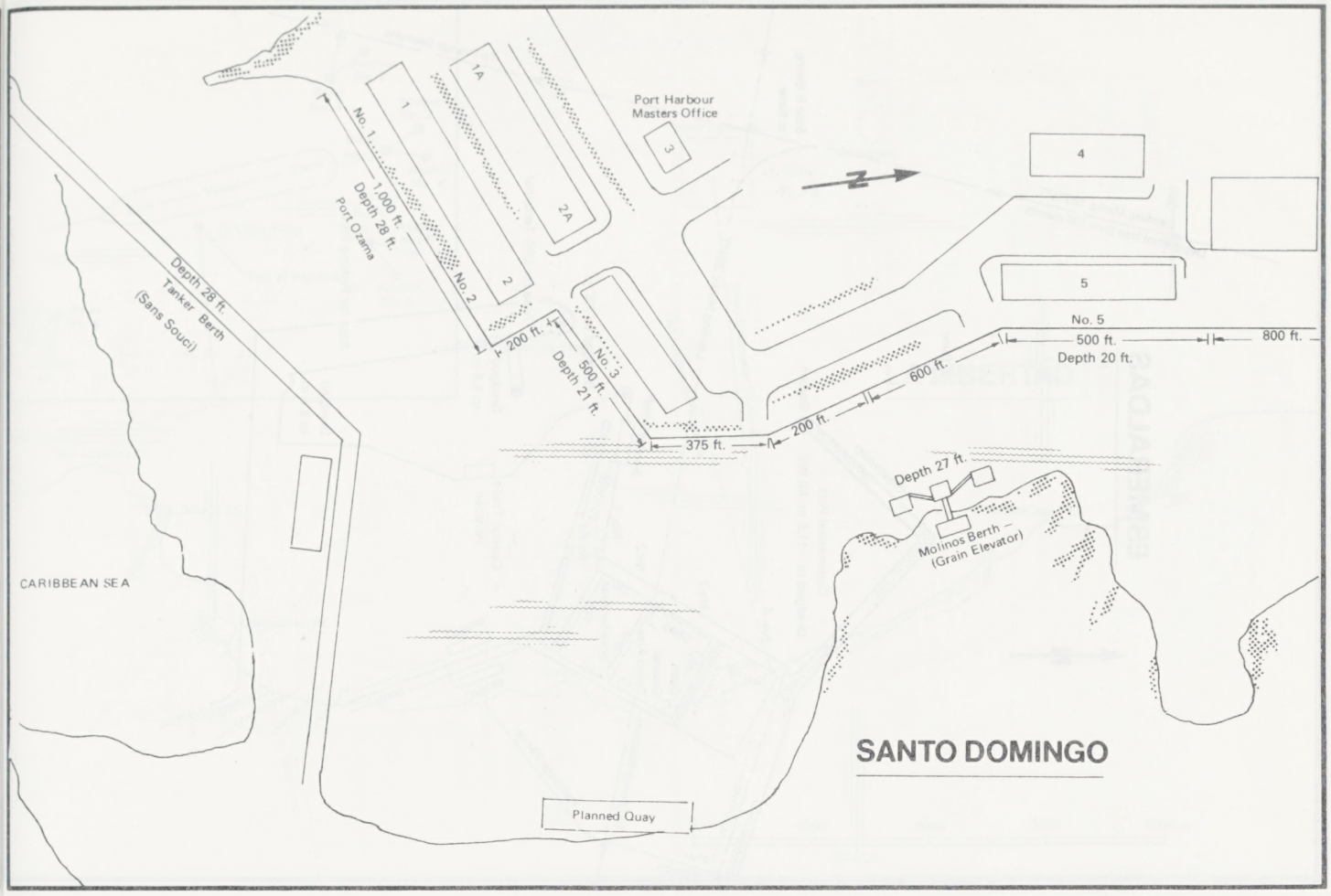

5·8
8·1
7·0
7·0
2 F.G. 113.5°
7·0
7·0
Svajebassin
Kabelfelt
7·0
6·6
Warehouse
Cement Silo
Vordingborg Sydhavn
7·0
7.0
Port Office Silo
Ammonia Tank
Badehavn
2.5
6·3
6·3
10·0
2 F.G. 294.5°
VORDINGBORG
SYDHAVN
DEPTHS IN METRES
0
100
200
300 metres
SCALE
Gennem
Sejling


DJIBOUTI
DEPTHS IN METRES
N
Shell
Duty-free shop
Quay for Coasting Trade
3.50
South Mole
Container terminal
Quay 1
9.50
Quay 2
12.00
Ro/Ro Berth
Mole de l'Escale
3.00
Le Goubet ferry pier
Basin
9.00
Basin
10.00
Large Jetty
Refrigerated store
11.00
Mole Du Containbleau
Channel
Channel
12.00
10.00
8.00
11.00
9.00
11.00
5
6
7
8
9
10
11
12


PORTSMOUTH
N
Douglas Bay
West Cabri
East Cabri
PORTSMOUTH
Indian River
Prince Rupert Bay
Cultivated Land
L—Shaped Jetty
Longhouse Shed
Watering Place
Cultivated Land

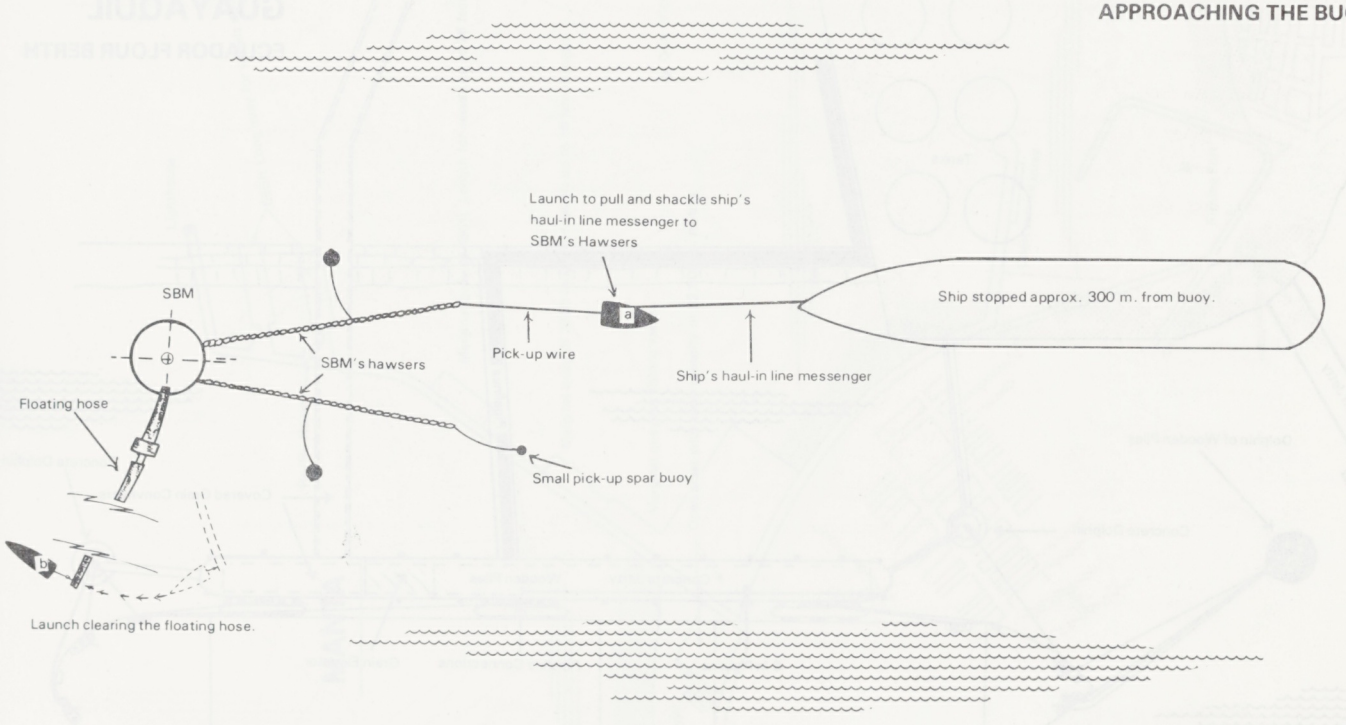

ROSEAU
WOODBRIDGE BAY
(Deep Water Wharf)
Soundings in feet
Soundings in fathoms
Dock Offices
H.M. Customs
Port Authority
No.2 Transit Shed
Delivery
Armour
Rock
Temporary Extension
Open Storage
Temporary Shed
No.1 Transit Shed
Produce Export Transit Shed
Produce Reception Compound
Bollard
Cleat
Service Point
Line of Hurricane Damage
RESTRICTED ANCHORAGE
Sheds
Tanks
Mast
Goodwill
N

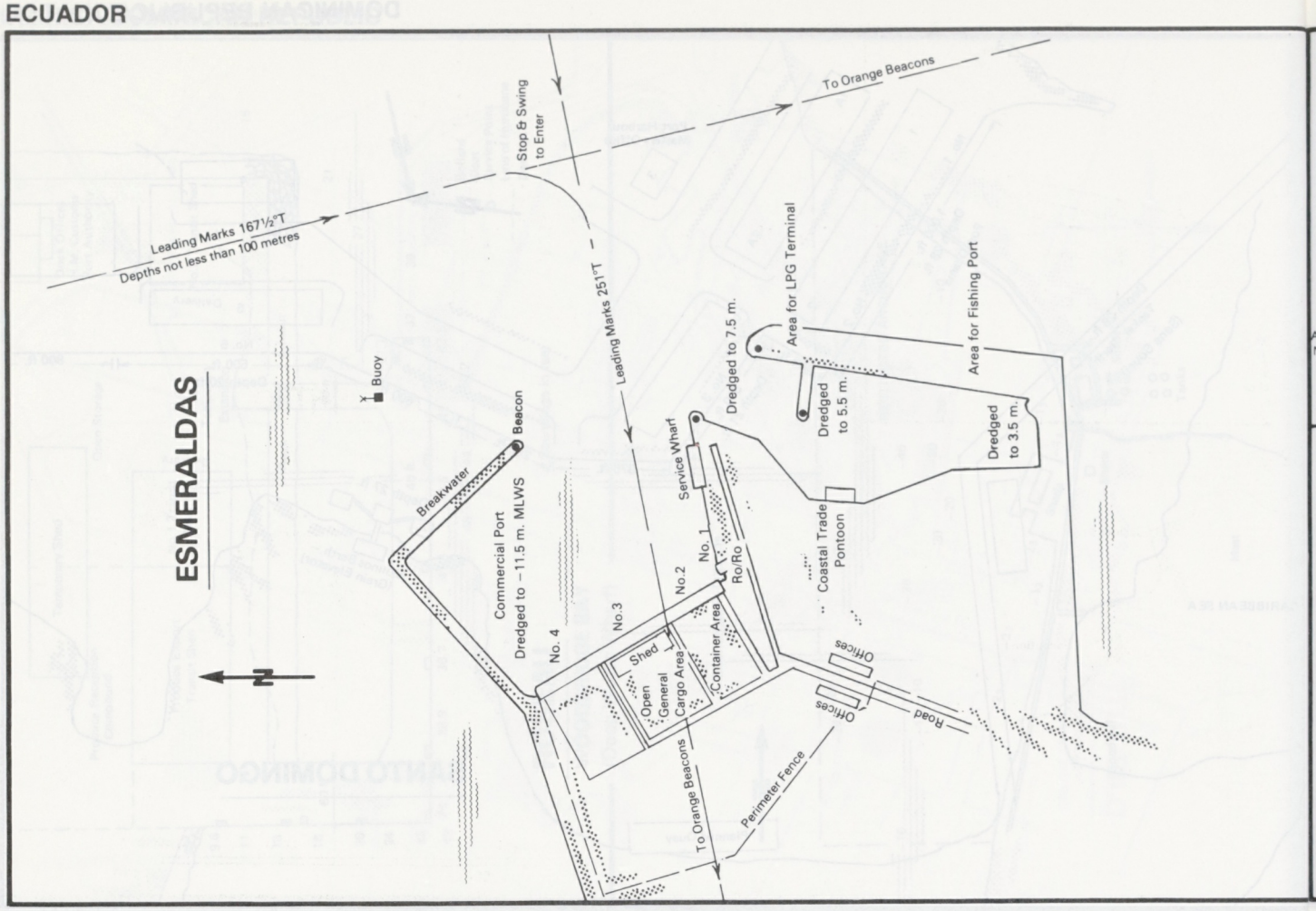

EXISTING FACILITIES
1. Port Commander
2. Bulk Sugar Loading
3. Sugar Plant
4. Transit Shed
5. Transit Shed
6. Stevedore Building
7. Pump House (Sugar Plant)
8. Molasses Tanks
9. Molasses Loading Manifolds
10. Container Crane
11. Container Breakbulk Shed
12. Guard House
13. Fuel Oil Loading Manifold
14. Power Plant
15. LP Gas Loading Dock
16. Paper Plant
24. Transit Shed
27. Ferro—Nickel Storage
28. Fertilizer Plant
29. Grain Elevators
30. 24" Oil Line
Berth Nos: 1, 2, 3, etc.
Manoeuvring Line of Bow
North Slip
Container Terminal Under construction
Slip No. 2
Slip No. 1
Ro/Ro
300m Inner Turning Basin
300m Outer Turning Basin
Navigation Range Line
RIO HAINA
CARIBBEAN SEA
Pilot Station

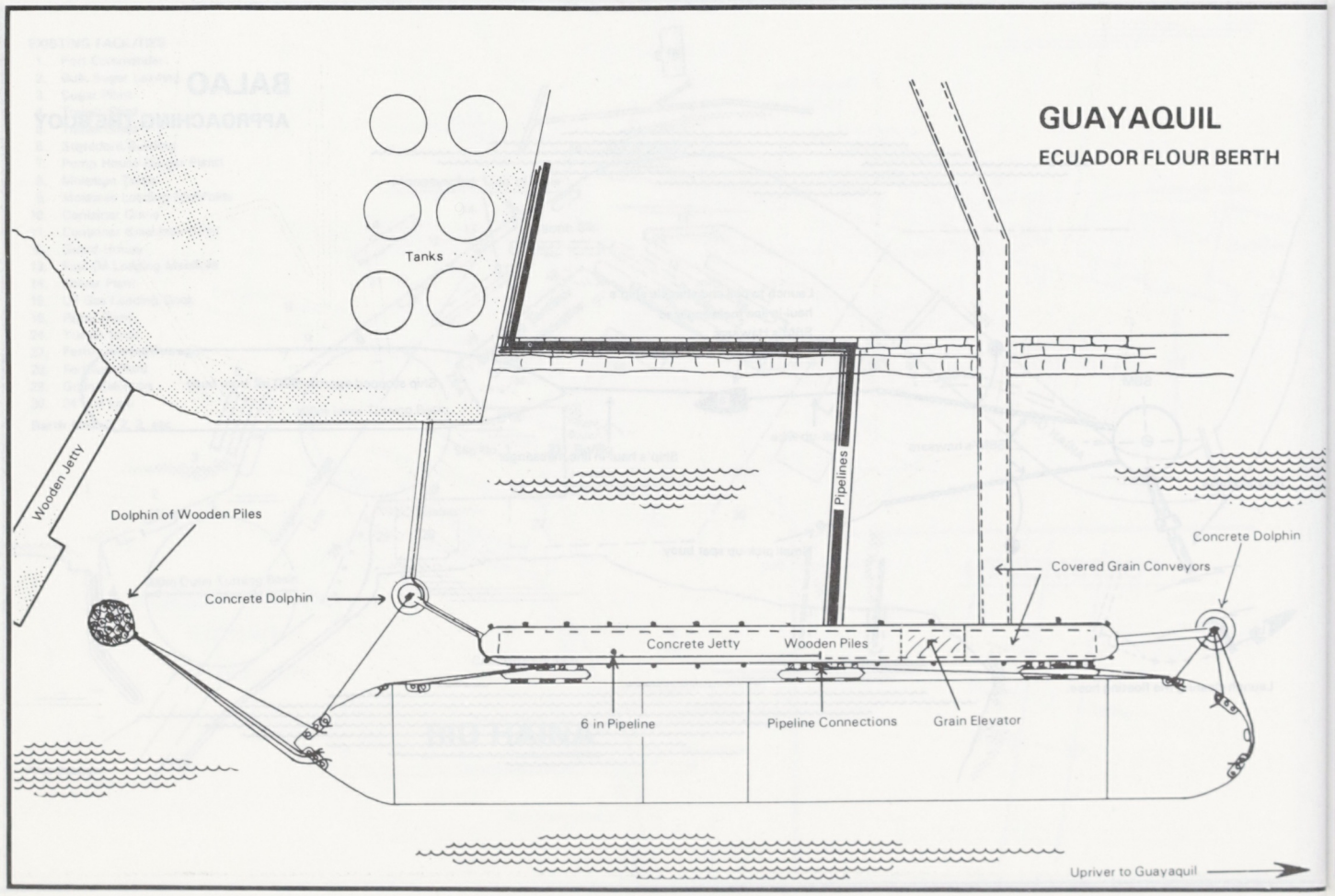


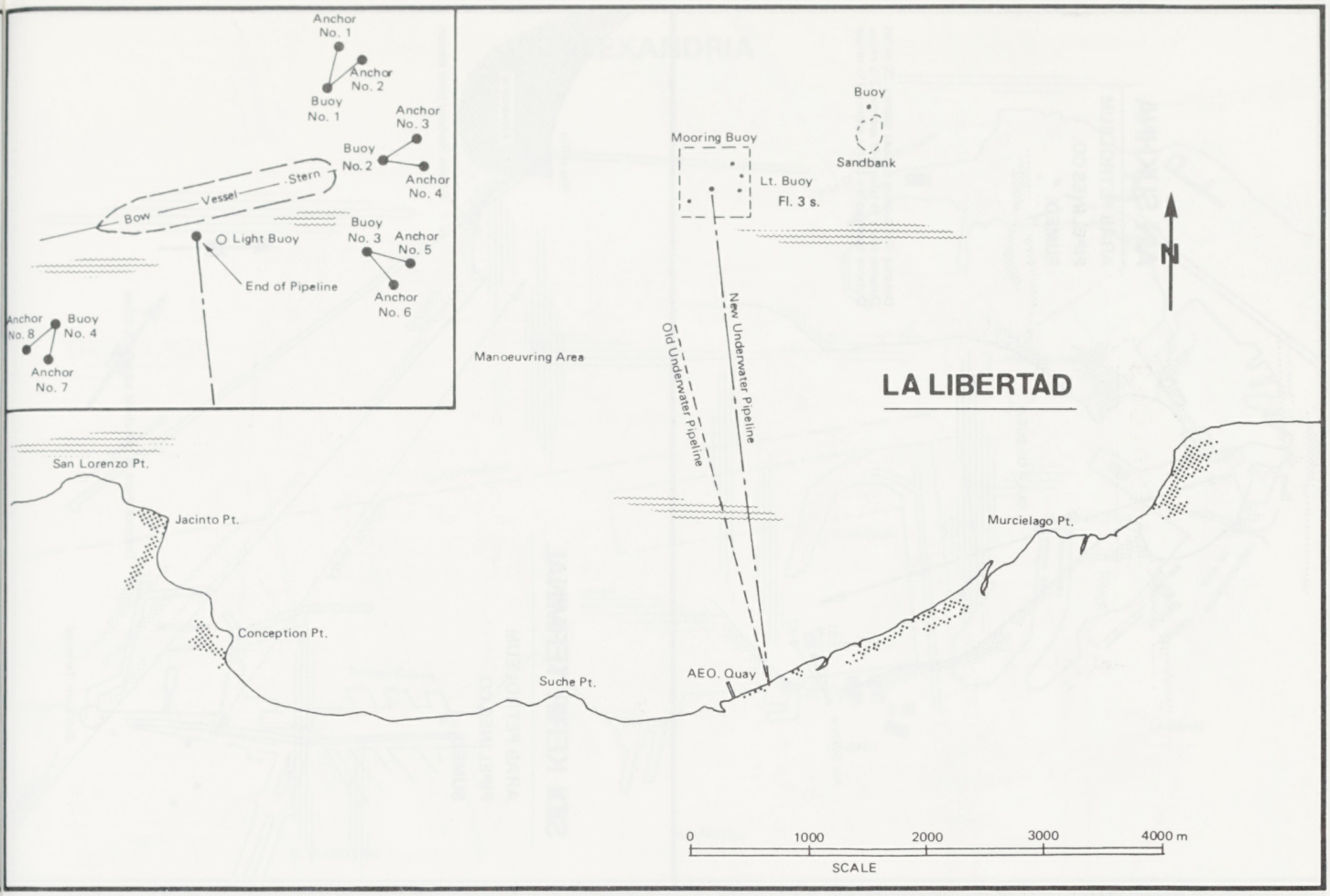
BALAO

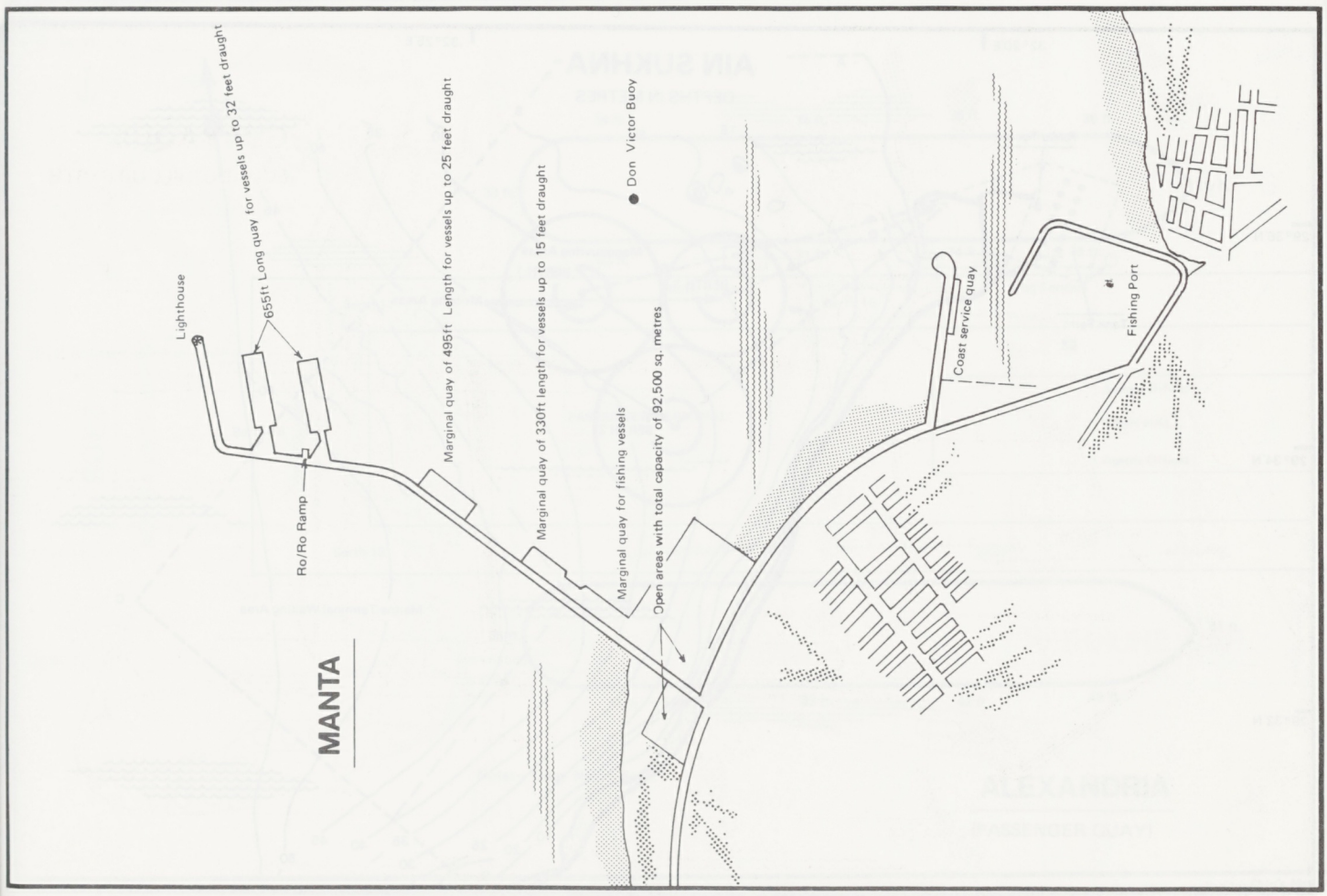
APPROACHING THE BUOY

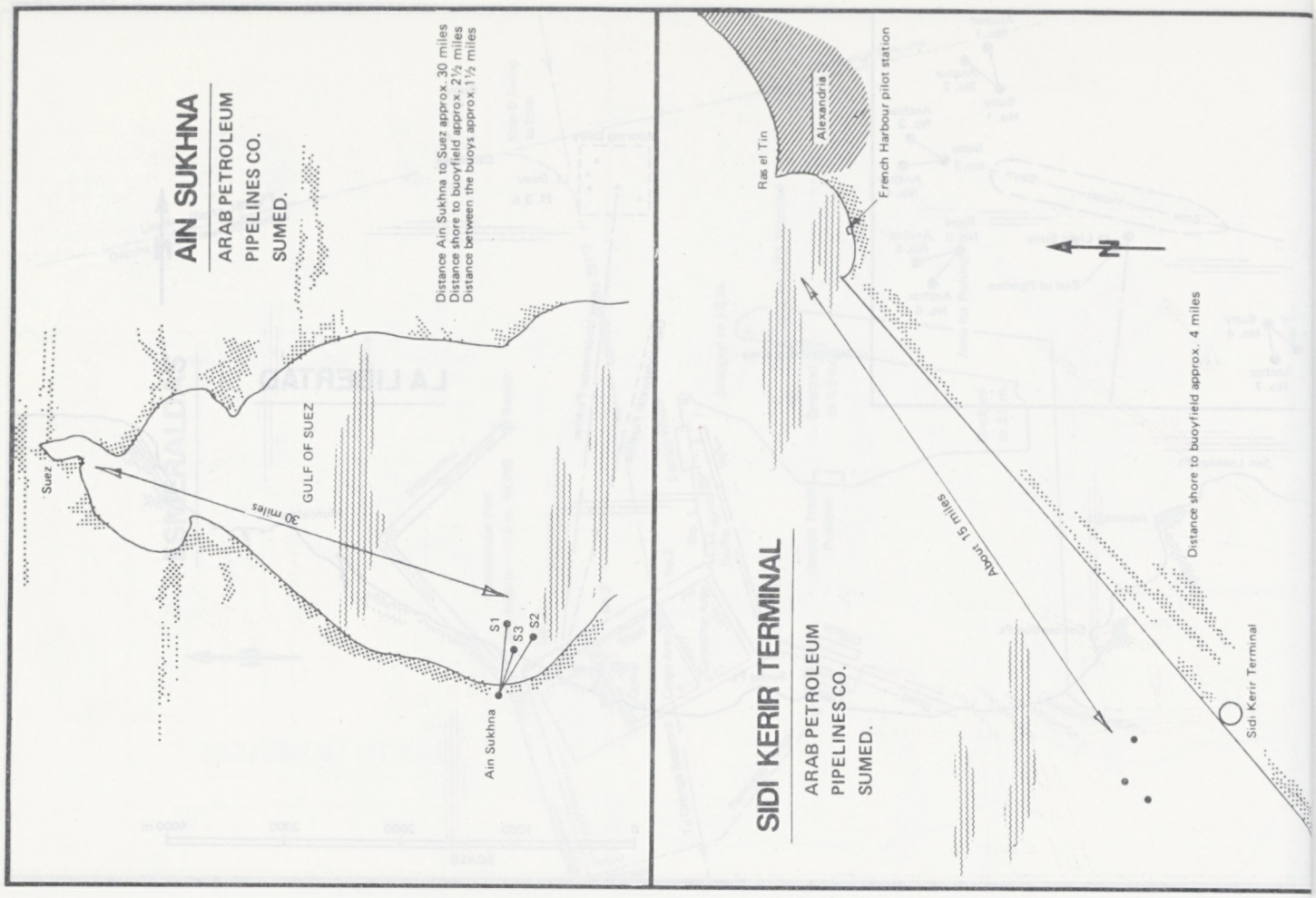


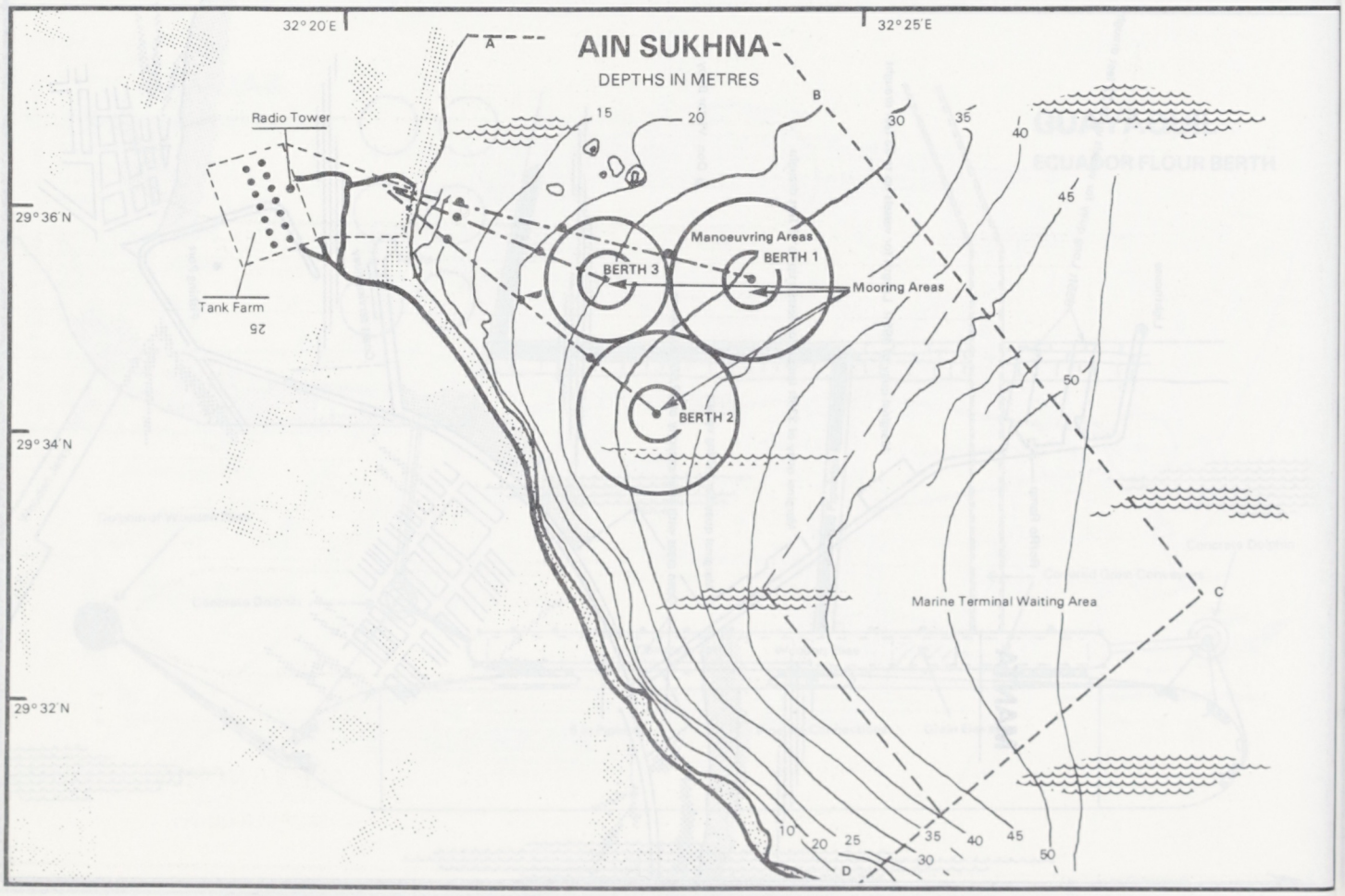

ESMERALDAS
To Orange Beacons
Stop & Swing to Enter
Leading Marks 167½°T
Depths not less than 100 metres
Leading Marks 251°T
Buoy
Beacon
Breakwater
Commercial Port
Dredged to −11.5 m. MLWS
Area for LPG Terminal
Dredged to 7.5 m.
Area for Fishing Port
Dredged to 5.5 m.
Dredged to 3.5 m.
Service Wharf
Coastal Trade Pontoon
No. 1
Ro/Ro
No. 2
No. 3
No. 4
Shed
Open General Cargo Area
Container Area
Offices
Offices
Road
To Orange Beacons
Perimeter Fence
N


GUAYAQUIL
ECUADOR FLOUR BERTH
Tanks
Wooden Jetty
Dolphin of Wooden Piles
Concrete Dolphin
Pipelines
Concrete Dolphin
Covered Grain Conveyors
Concrete Jetty
Wooden Piles
6 in Pipeline
Pipeline Connections
Grain Elevator
Upriver to Guayaquil

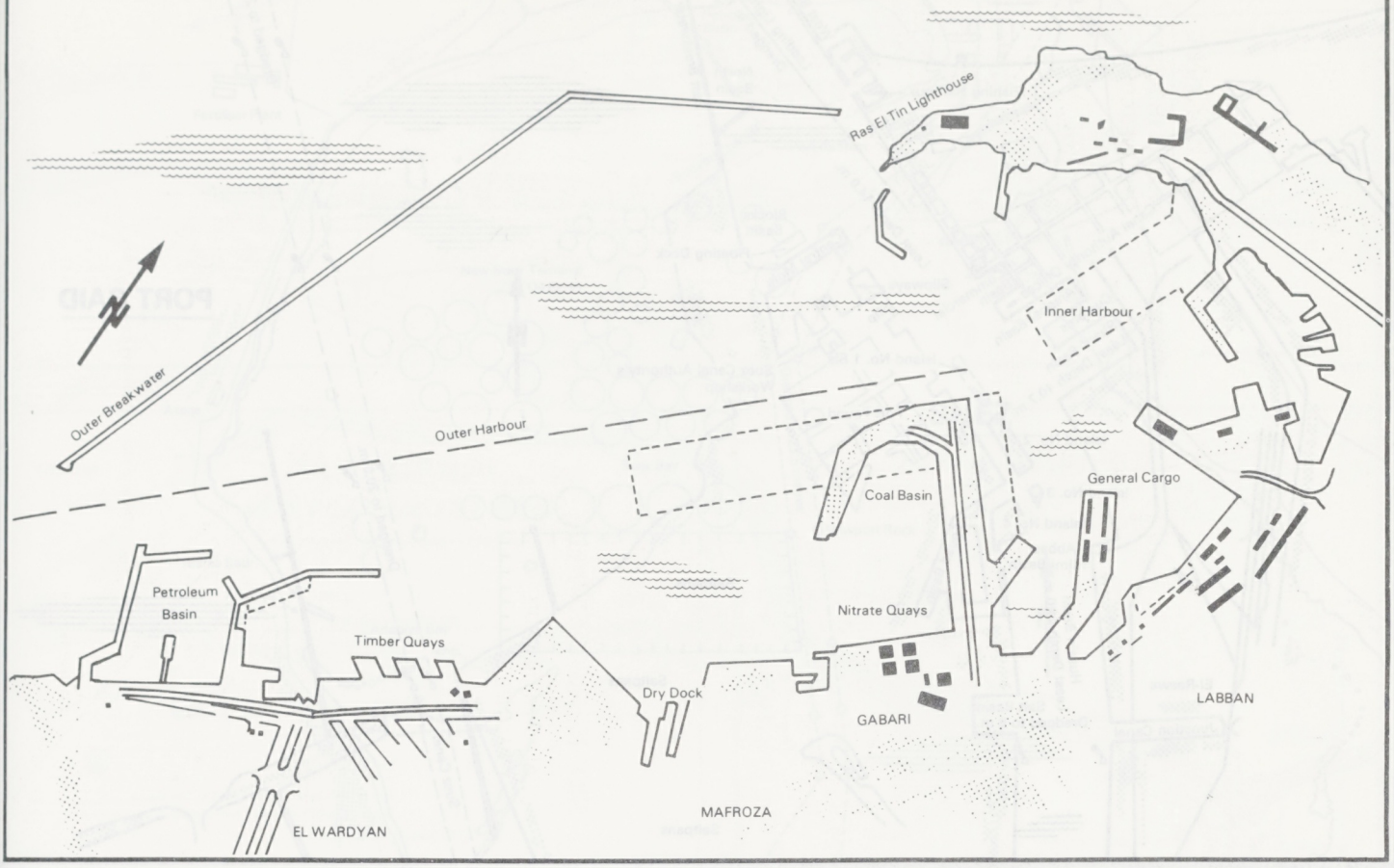

Anchor No. 1
Anchor No. 2
Buoy No. 1
Anchor No. 3
Buoy No. 2
Anchor No. 4
Vessel
Stern
Bow
Buoy No. 3
Anchor No. 5
Light Buoy
End of Pipeline
Anchor No. 6
Anchor No. 8
Buoy No. 4
Anchor No. 7
Buoy
Mooring Buoy
Sandbank
Lt. Buoy
Fl. 3 s.
N
Manoeuvring Area
New Underwater Pipeline
Old Underwater Pipeline
LA LIBERTAD
San Lorenzo Pt.
Jacinto Pt.
Murcielago Pt.
Conception Pt.
Suche Pt.
AEO. Quay
0
1000
2000
3000
4000 m
SCALE

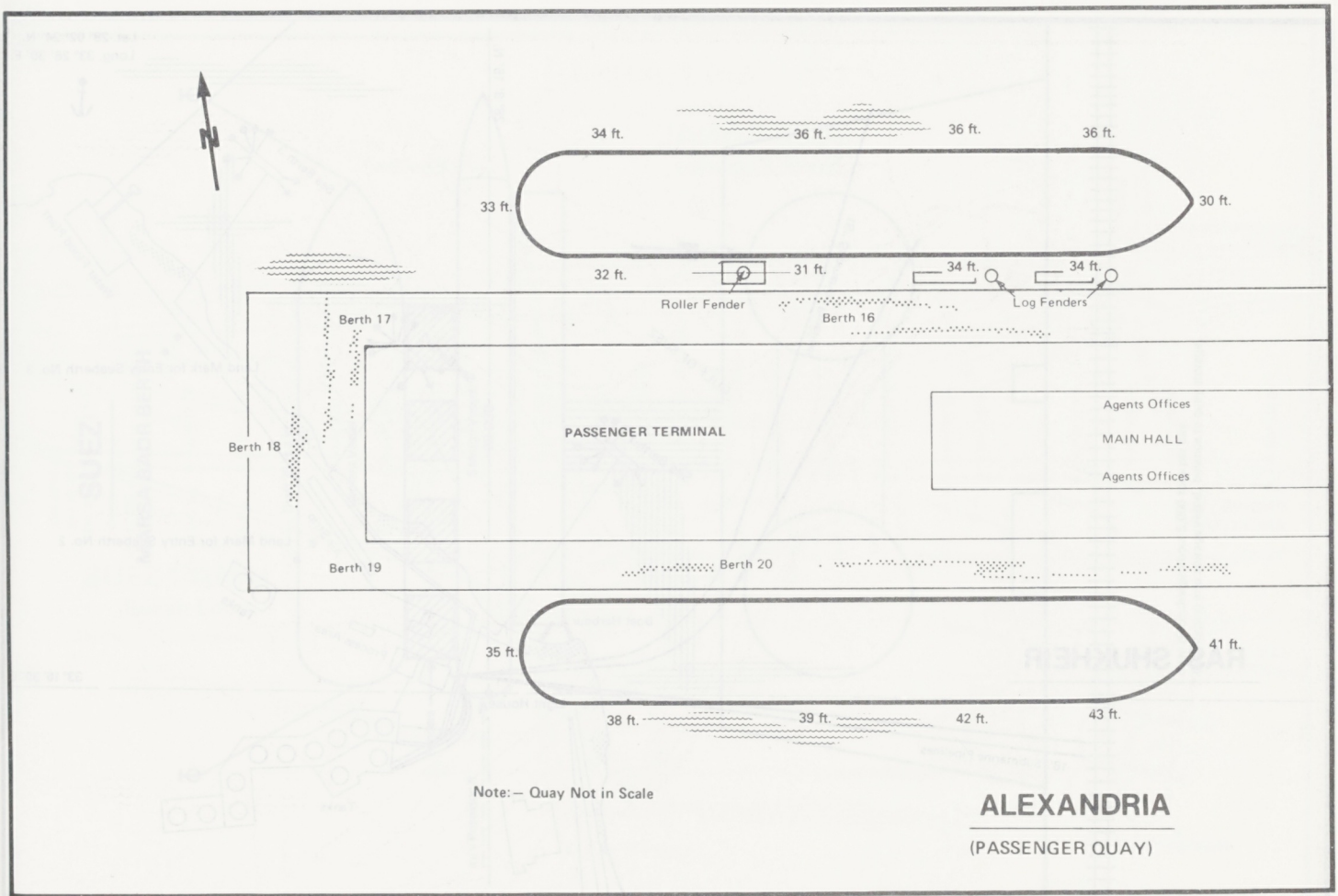

Lighthouse
655ft Long quay for vessels up to 32 feet draught
Ro/Ro Ramp
Marginal quay of 495ft Length for vessels up to 25 feet draught
Marginal quay of 330ft length for vessels up to 15 feet draught
Marginal quay for fishing vessels
Don Victor Buoy
Open areas with total capacity of 92,500 sq. metres
Coast service quay
Fishing Port
MANTA


AIN SUKHNA
ARAB PETROLEUM
PIPELINES CO.
SUMED.
Distance Ain Sukhna to Suez approx. 30 miles
Distance shore to buoyfield approx. 2½ miles
Distance between the buoys approx. 1½ miles
GULF OF SUEZ
Suez
30 miles
S1
S3
S2
Ain Sukhna
SIDI KERIR TERMINAL
ARAB PETROLEUM
PIPELINES CO.
SUMED.
Ras el Tin
Alexandria
French Harbour pilot station
N
About 15 miles
Distance shore to buoyfield approx. 4 miles
Sidi Kerir Terminal


AIN SUKHNA
DEPTHS IN METRES
32°20'E
32°25'E
29°36'N
29°34'N
29°32'N
A
B
C
D
Radio Tower
Tank Farm
25
15
20
30
35
40
45
50
Manoeuvring Areas
BERTH 1
BERTH 3
BERTH 2
Mooring Areas
Marine Terminal Waiting Area
10
20
25
30
35
40
45
50

ALEXANDRIA



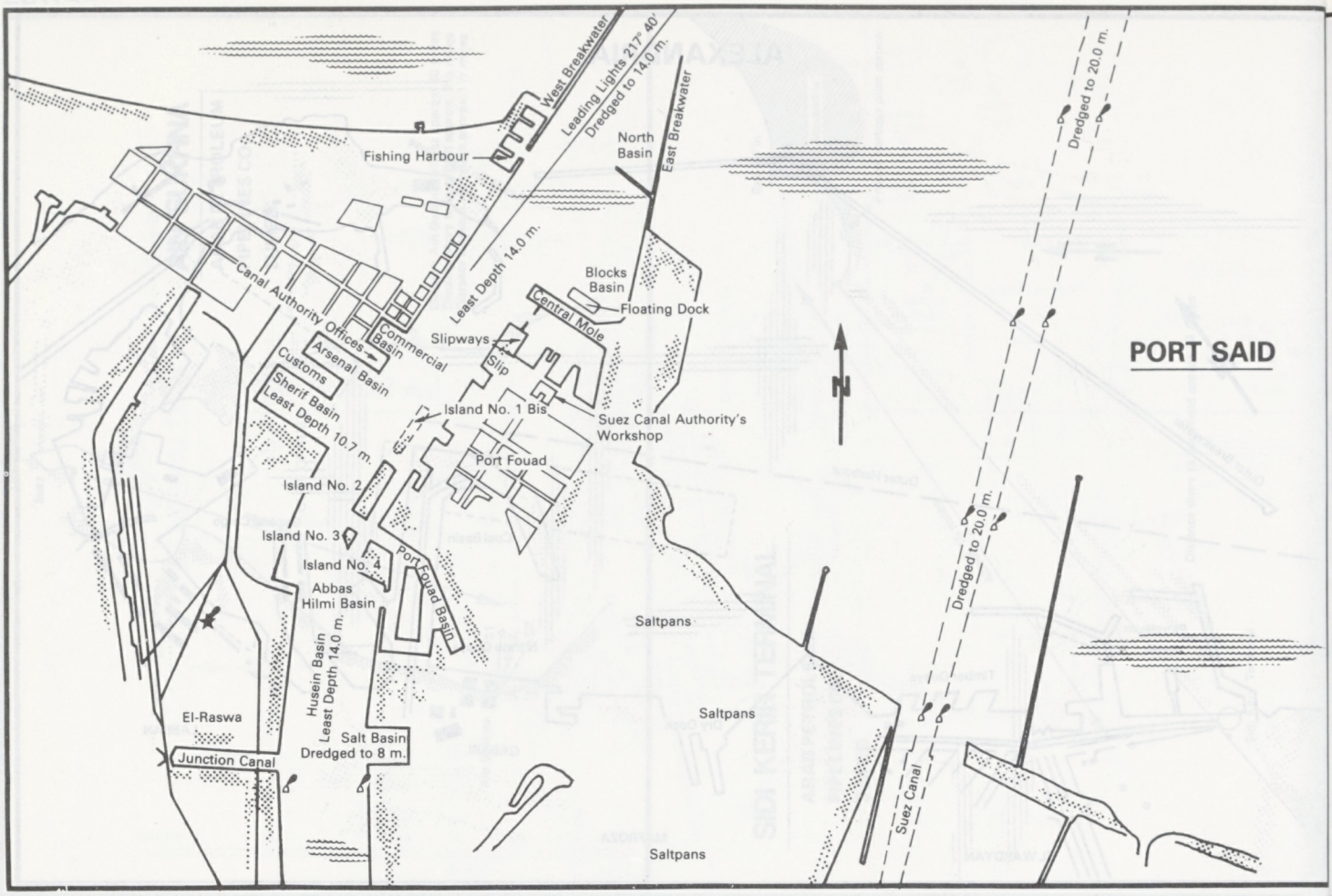


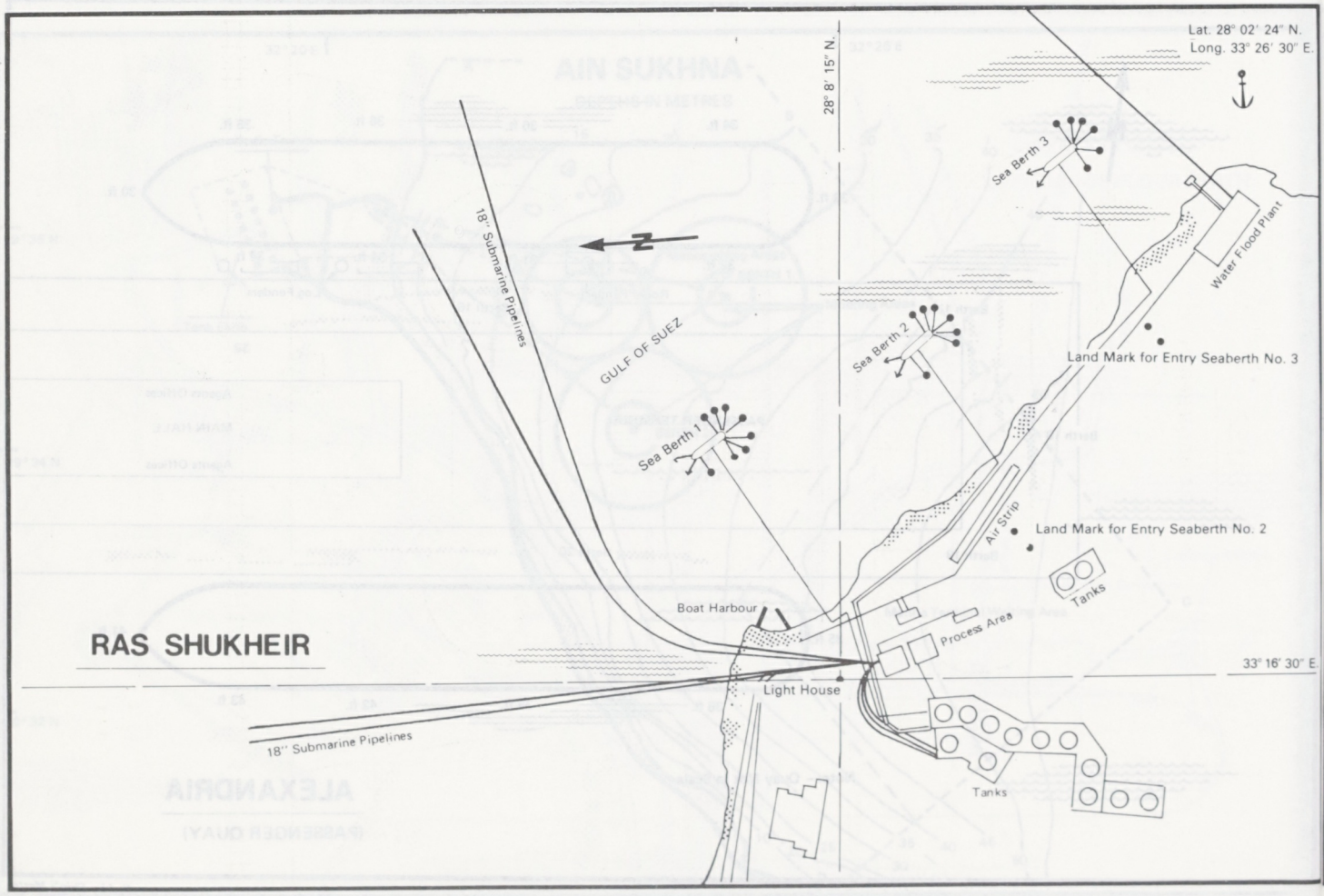
Note:– Quay Not in Scale

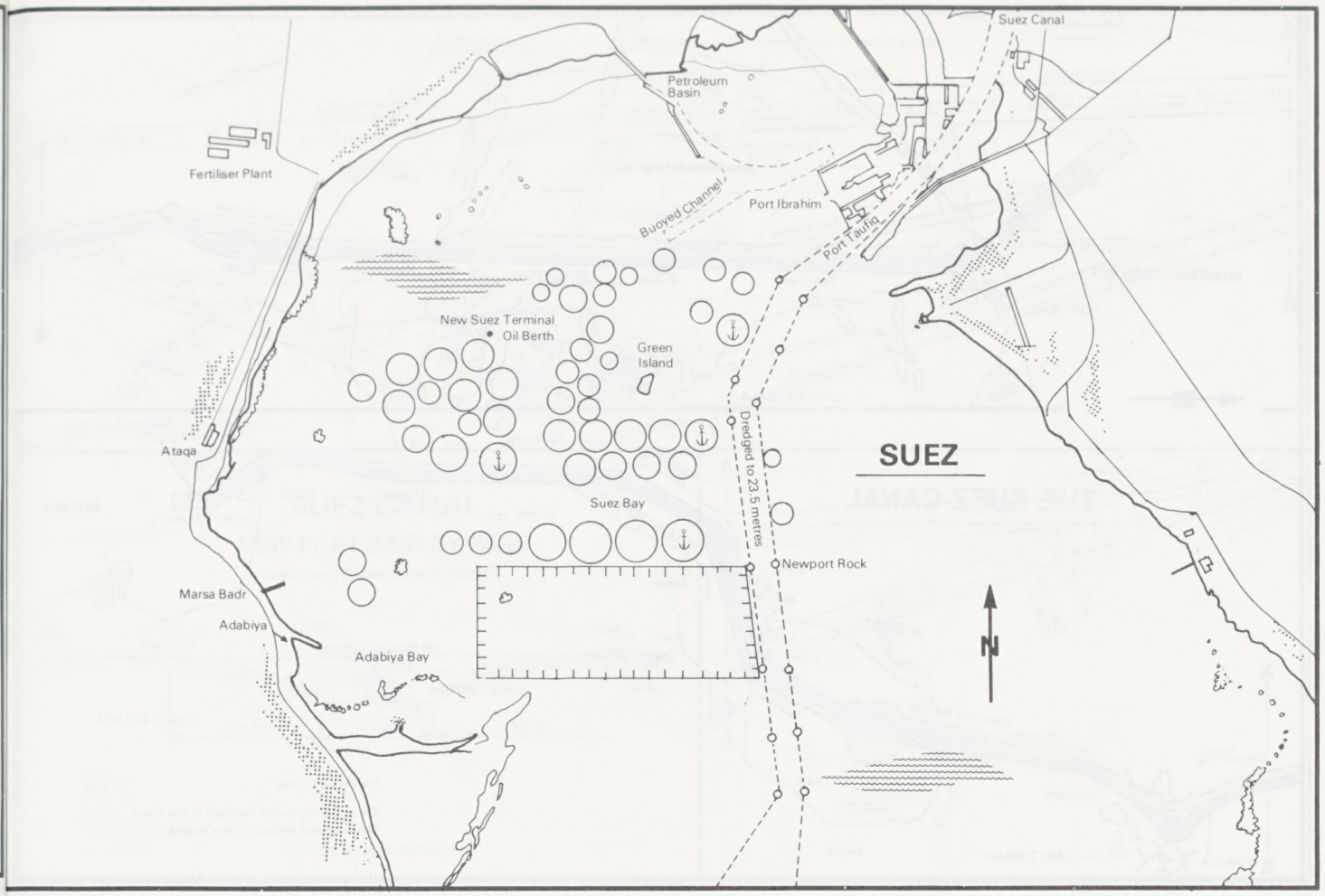
ALEXANDRIA

(PASSENGER QUAY)

"Plan supplied by Ship's Master

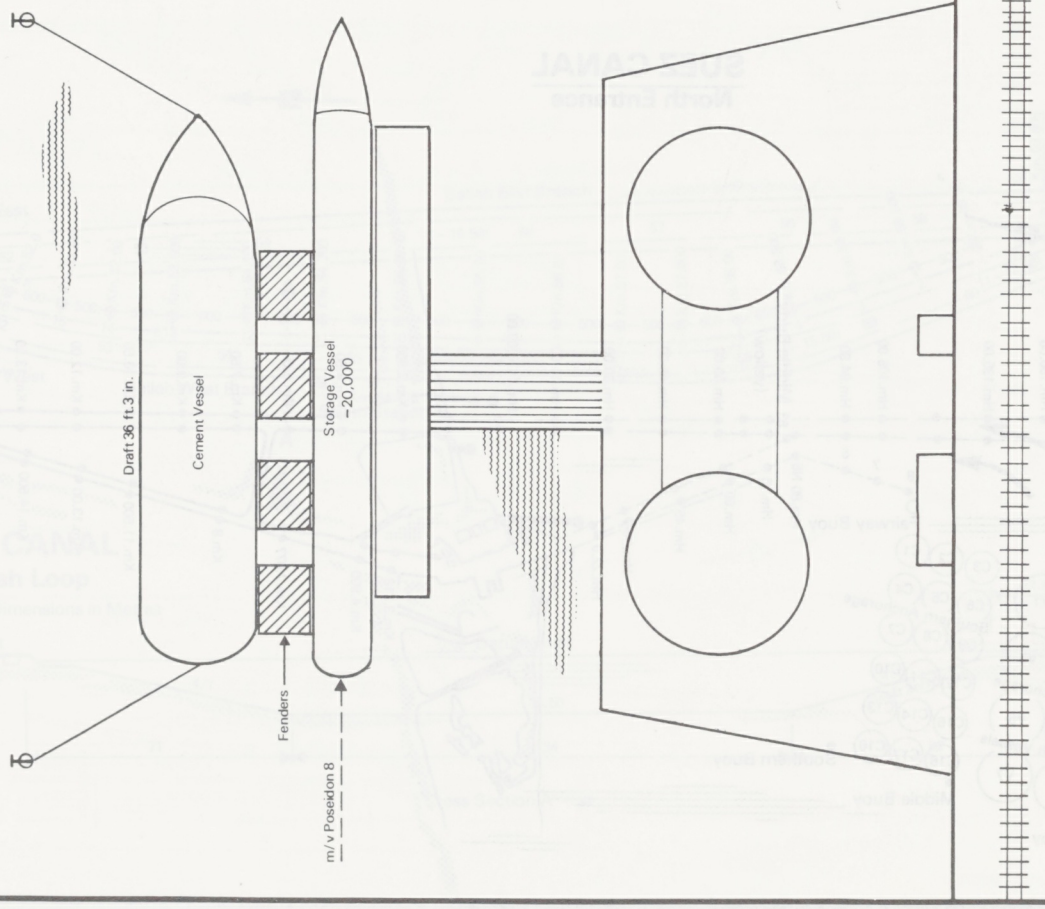

PORT SAID
West Breakwater
Leading Lights 217° 40'
Dredged to 14.0 m.
Fishing Harbour
North Basin
East Breakwater
Dredged to 20.0 m.
Canal Authority Offices
Least Depth 14.0 m.
Blocks Basin
Floating Dock
Central Mole
Commercial Basin
Slipways
Slip
Arsenal Basin
Customs
Sherif Basin
Least Depth 10.7 m.
Island No. 1 Bis
Suez Canal Authority's Workshop
Port Fouad
Island No. 2
Island No. 3
Island No. 4
Port Fouad Basin
Abbas Hilmi Basin
Husein Basin
Least Depth 14.0 m.
Saltpans
El-Raswa
Salt Basin
Dredged to 8 m.
Junction Canal
Suez Canal
N


RAS SHUKHEIR
Lat. 28° 02' 24" N.
Long. 33° 26' 30" E.
28° 8' 15" N.
33° 16' 30" E.
18" Submarine Pipelines
GULF OF SUEZ
Sea Berth 3
Sea Berth 2
Sea Berth 1
Water Flood Plant
Land Mark for Entry Seaberth No. 3
Land Mark for Entry Seaberth No. 2
Air Strip
Tanks
Boat Harbour
Process Area
Light House
Tanks
18" Submarine Pipelines

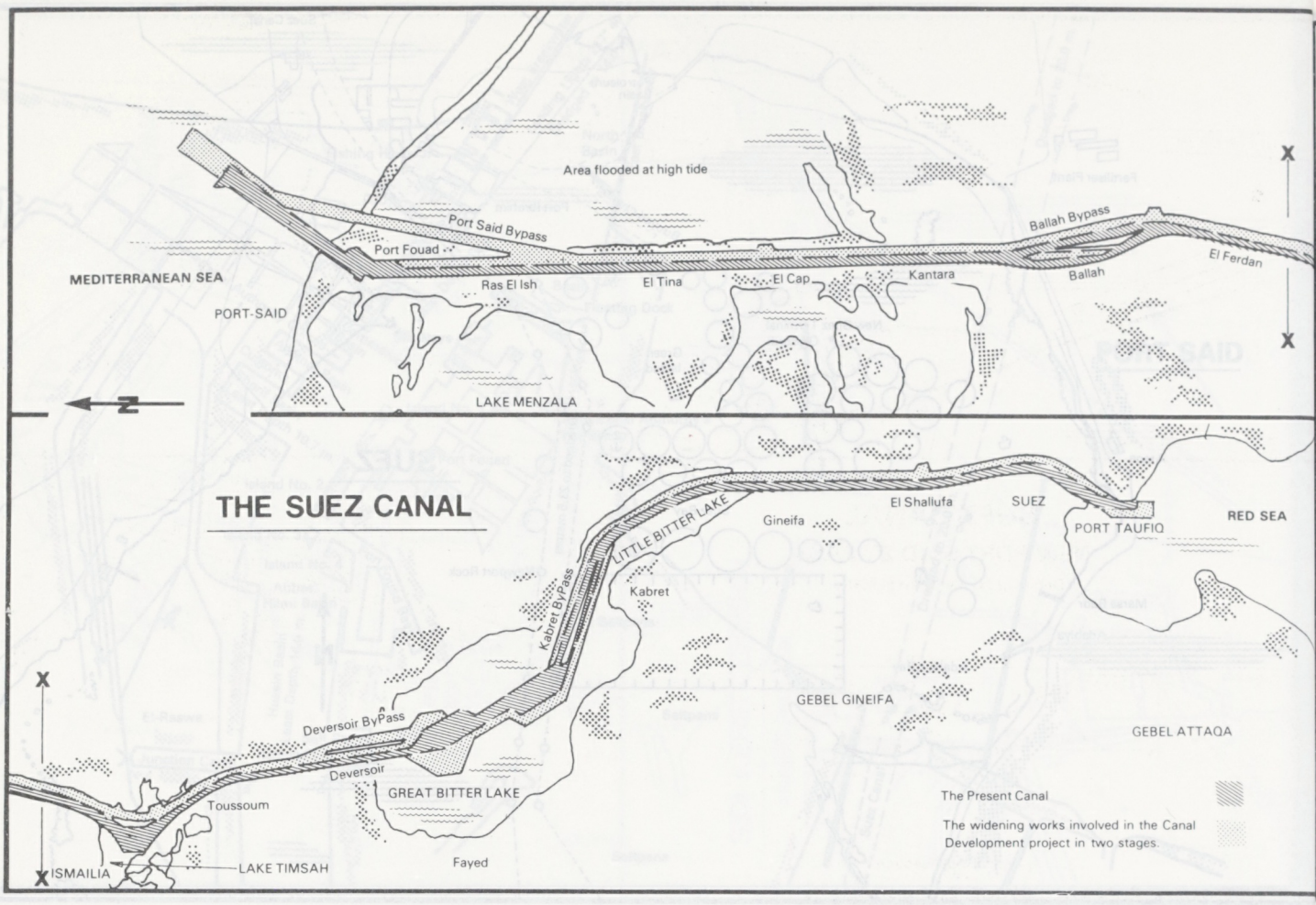


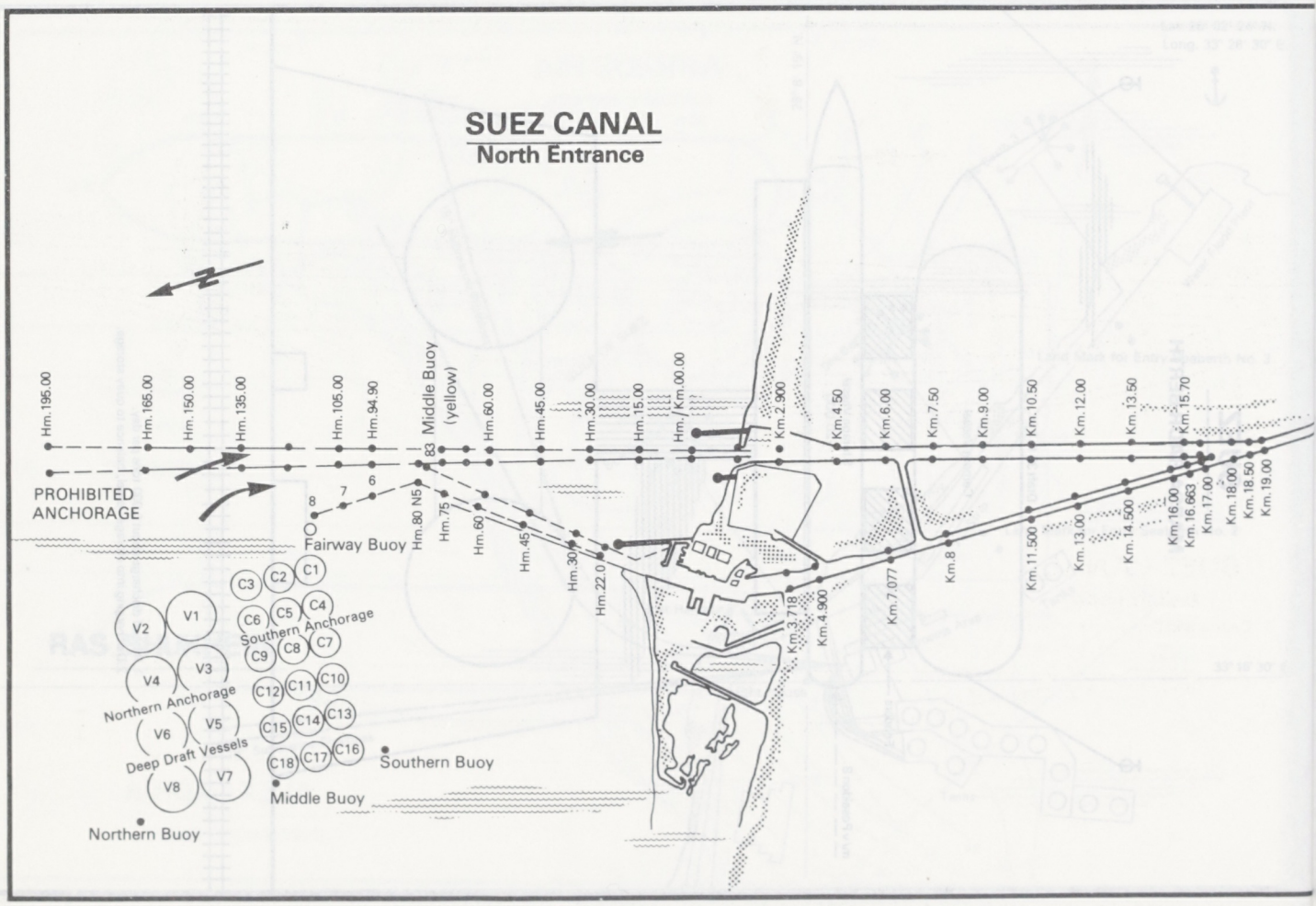
SUEZ

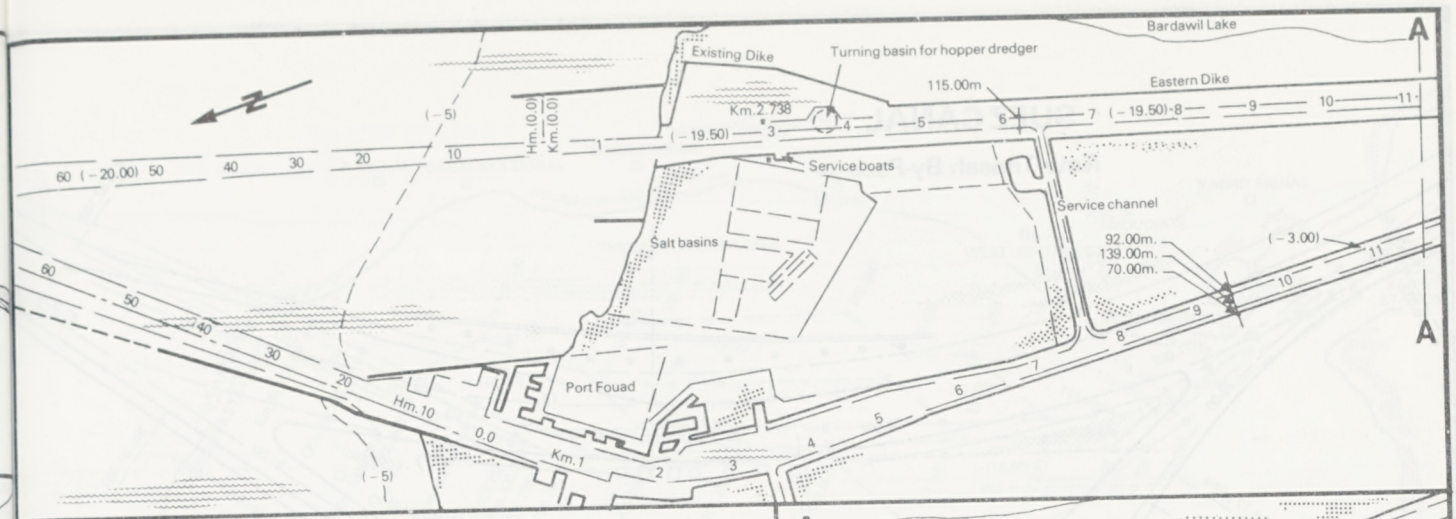
MARSA BADR BERTH



1. Rate of discharge about 5,000 tons per day.
2. Discharging into storage vessel, balance to quay storage.


THE SUEZ CANAL
MEDITERRANEAN SEA
PORT-SAID
Area flooded at high tide
Port Said Bypass
Port Fouad
Ras El Ish
El Tina
El Cap
Kantara
Ballah
Ballah Bypass
El Ferdan
LAKE MENZALA
LITTLE BITTER LAKE
Gineifa
El Shallufa
SUEZ
PORT TAUFIQ
RED SEA
Kabret
Kabret ByPass
GEBEL GINEIFA
GEBEL ATTAQA
Deversoir ByPass
Deversoir
GREAT BITTER LAKE
Toussoum
ISMAILIA
LAKE TIMSAH
Fayed
The Present Canal
The widening works involved in the Canal Development project in two stages.

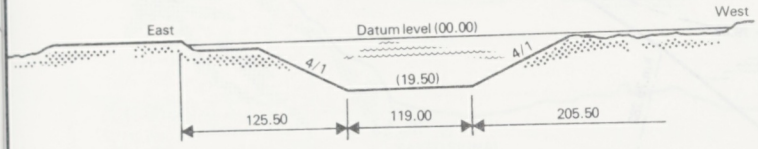

SUEZ CANAL
North Entrance
Hm.195.00
Hm.165.00
Hm.150.00
Hm.135.00
Hm.105.00
Hm.94.90
Middle Buoy (yellow)
Hm.60.00
Hm.45.00
Hm.30.00
Hm.15.00
Hm./Km.00.00
Km.2.900
Km.4.50
Km.6.00
Km.7.50
Km.9.00
Km.10.50
Km.12.00
Km.13.50
Km.15.70
PROHIBITED ANCHORAGE
Fairway Buoy
Hm.80 N5
Hm.75
Hm.60
Hm.45
Hm.30
Hm.22.0
Km.3.718
Km.4.900
Km.7.077
Km.8
Km.11.500
Km.13.00
Km.14.500
Km.16.00
Km.16.663
Km.17.00
Km.18.00
Km.18.50
Km.19.00
Southern Anchorage
Northern Anchorage
Deep Draft Vessels
Southern Buoy
Middle Buoy
Northern Buoy



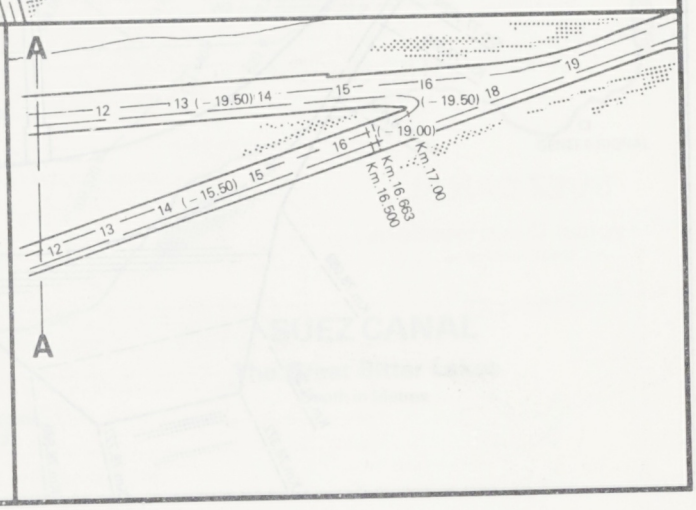
SUEZ CANAL

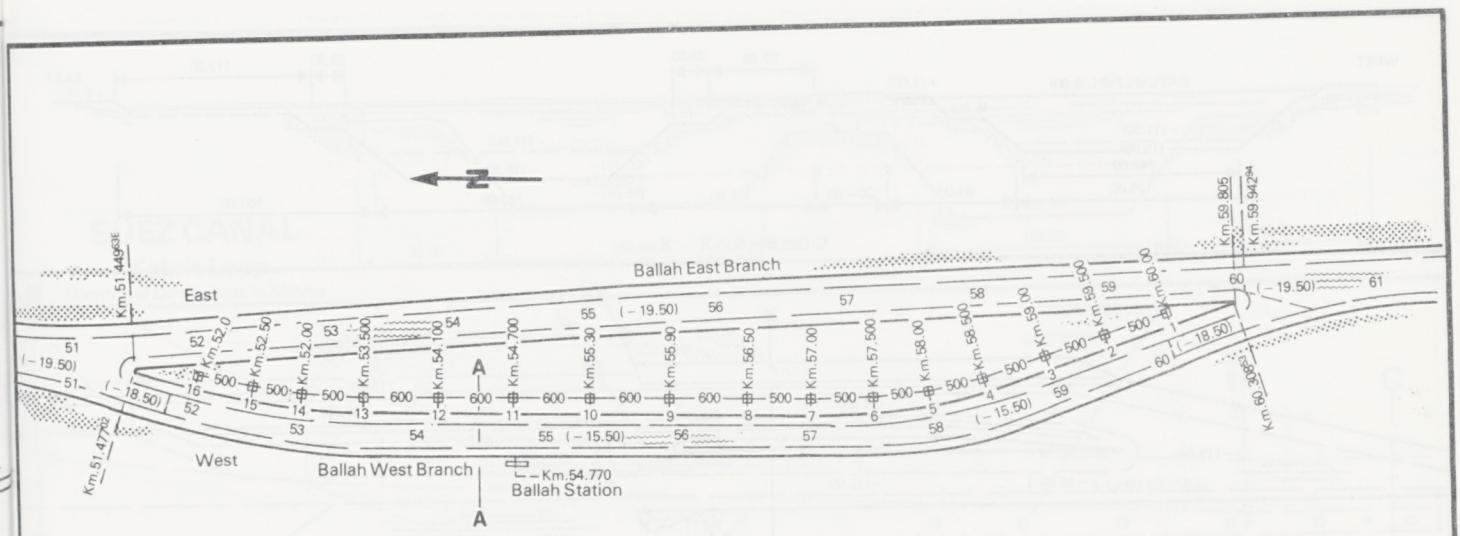
NEW PORT SAID BY-PASS

Depth and Dimensions in Metres



Typical cross section

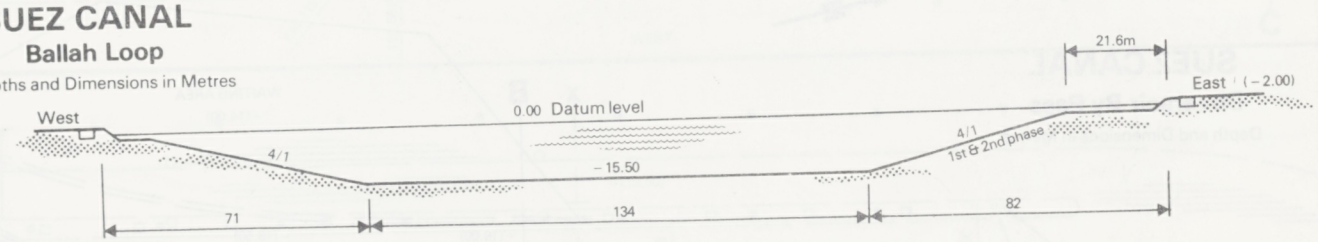




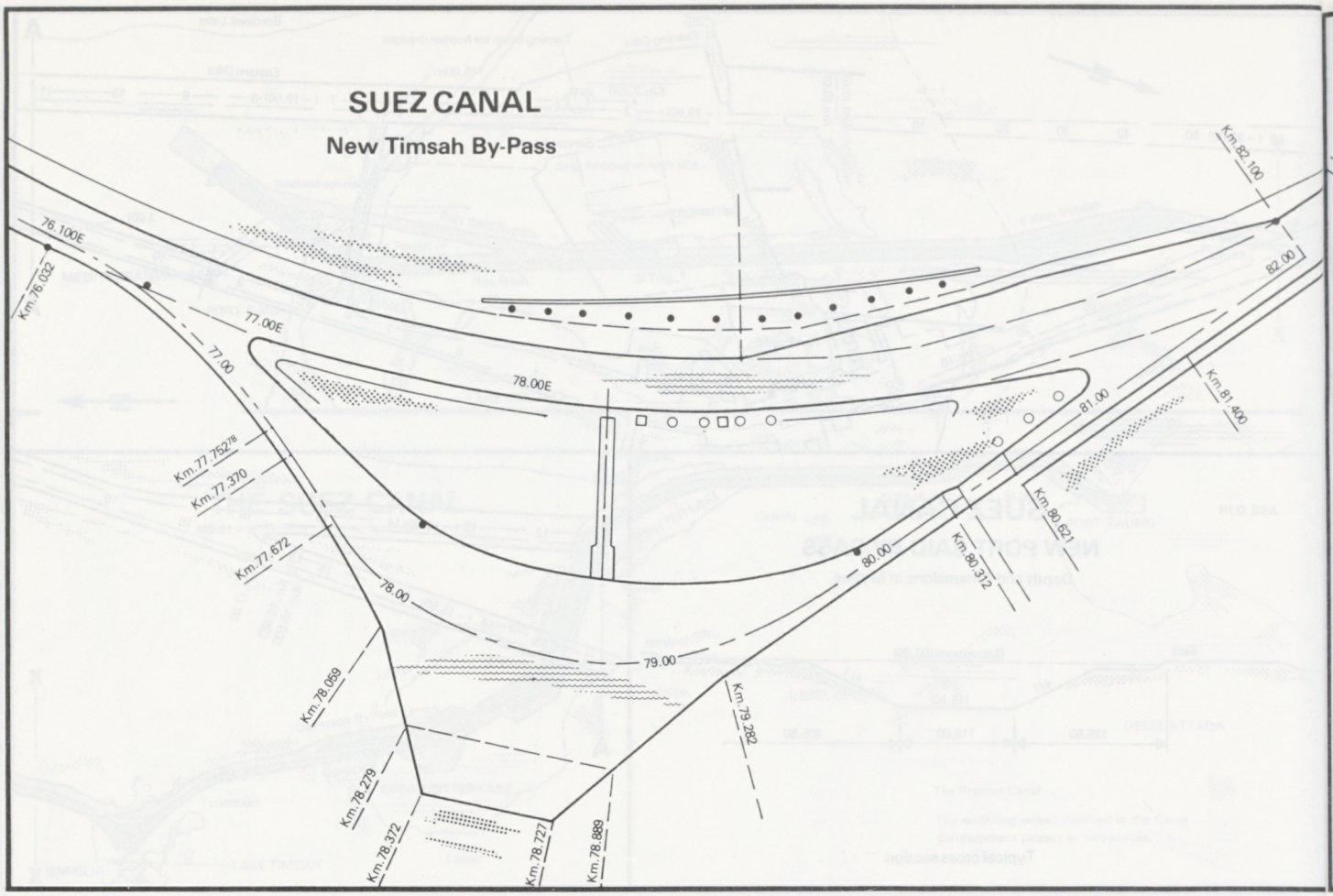
SUEZ CANAL

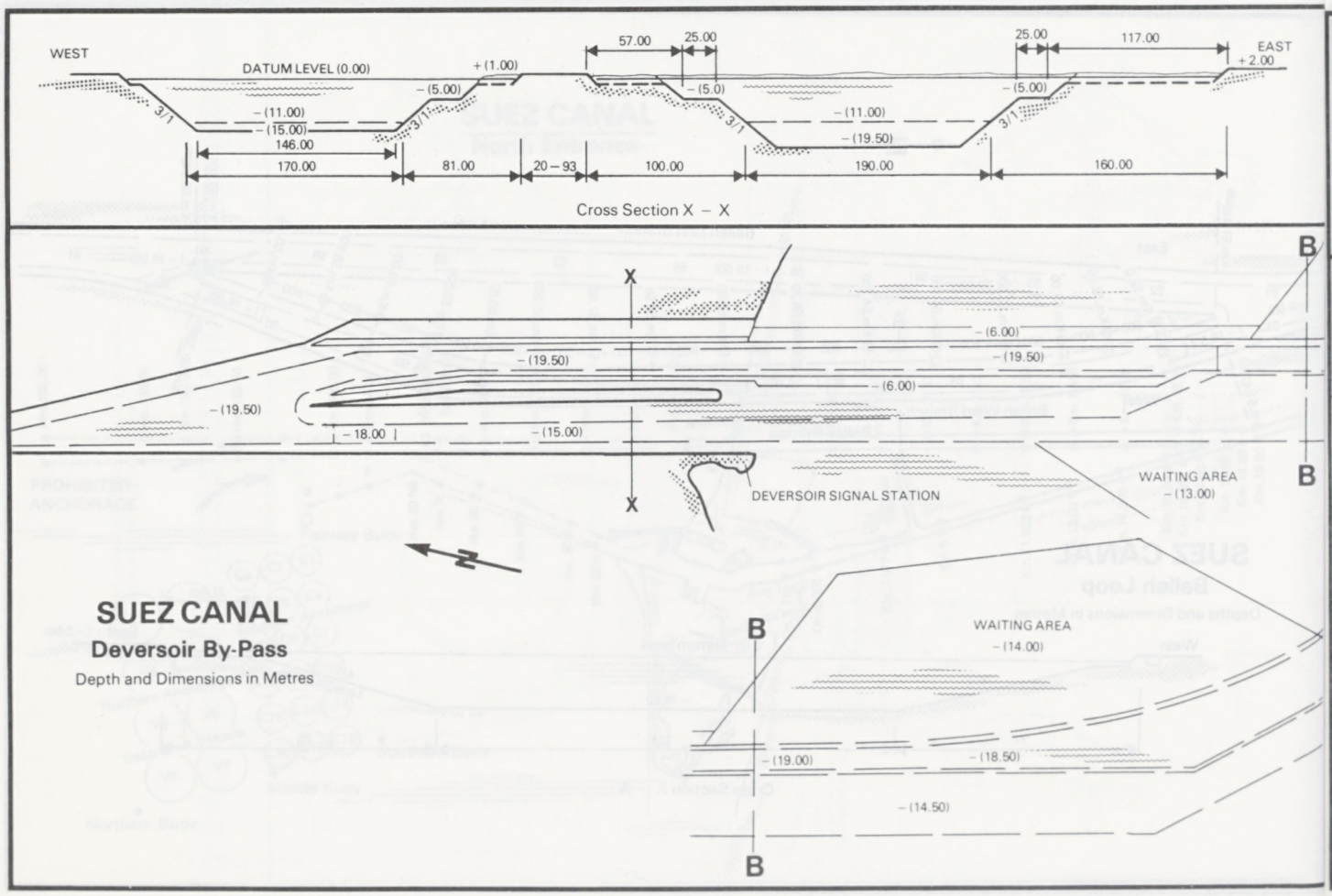
Ballah Loop

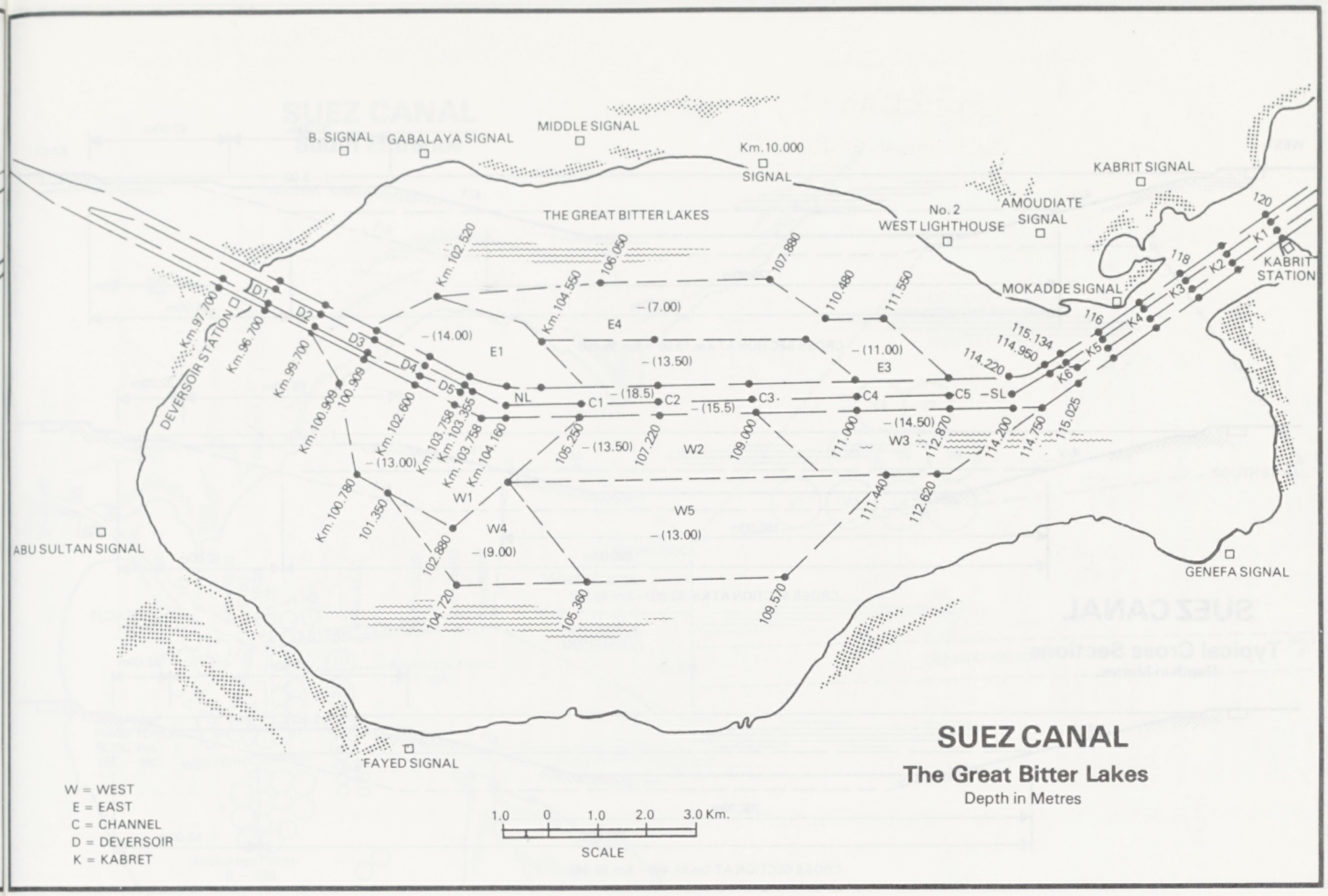
Depths and Dimensions in Metres



Cross Section A – A


SUEZ CANAL
New Timsah By-Pass
Km.82.100
76.100E
Km.76.032
77.00E
77.00
82.00
78.00E
81.00
Km.81.400
Km.77.752
Km.77.370
Km.77.672
Km.80.621
80.00
Km.80.312
78.00
79.00
Km.78.059
Km.79.282
Km.78.279
Km.78.372
Km.78.727
Km.78.889

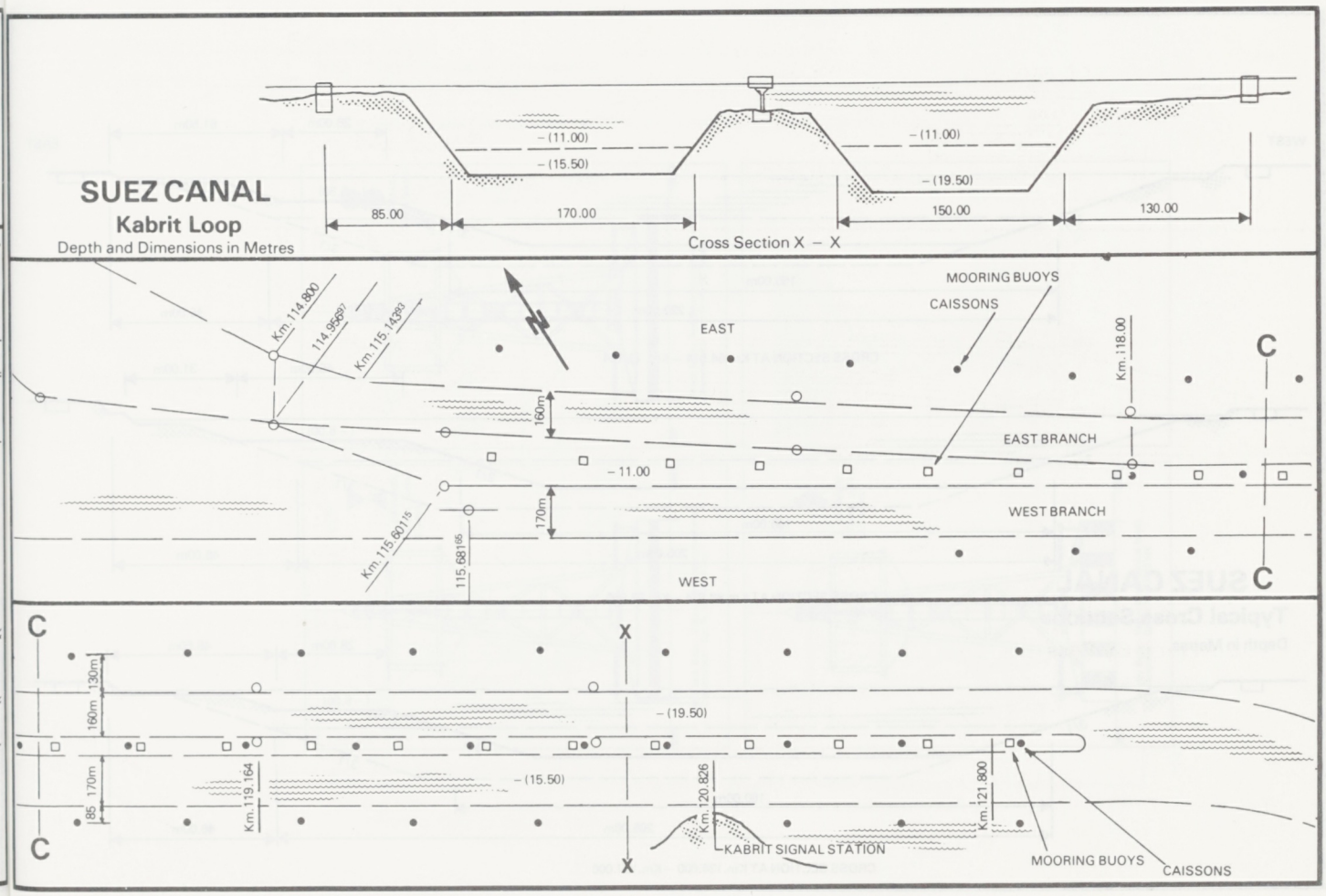

WEST
DATUM LEVEL (0.00)
+ (1.00)
57.00
25.00
25.00
117.00
EAST
+ 2.00
– (5.00)
– (5.0)
– (5.00)
3/1
– (11.00)
– (15.00)
– (11.00)
– (19.50)
146.00
170.00
81.00
20 – 93
100.00
190.00
160.00
Cross Section X – X
X
B
– (6.00)
– (19.50)
– (19.50)
– (6.00)
– (19.50)
– 18.00
– (15.00)
DEVERSOIR SIGNAL STATION
WAITING AREA
– (13.00)
N
SUEZ CANAL
Deversoir By-Pass
Depth and Dimensions in Metres
WAITING AREA
– (14.00)
– (19.00)
– (18.50)
– (14.50)

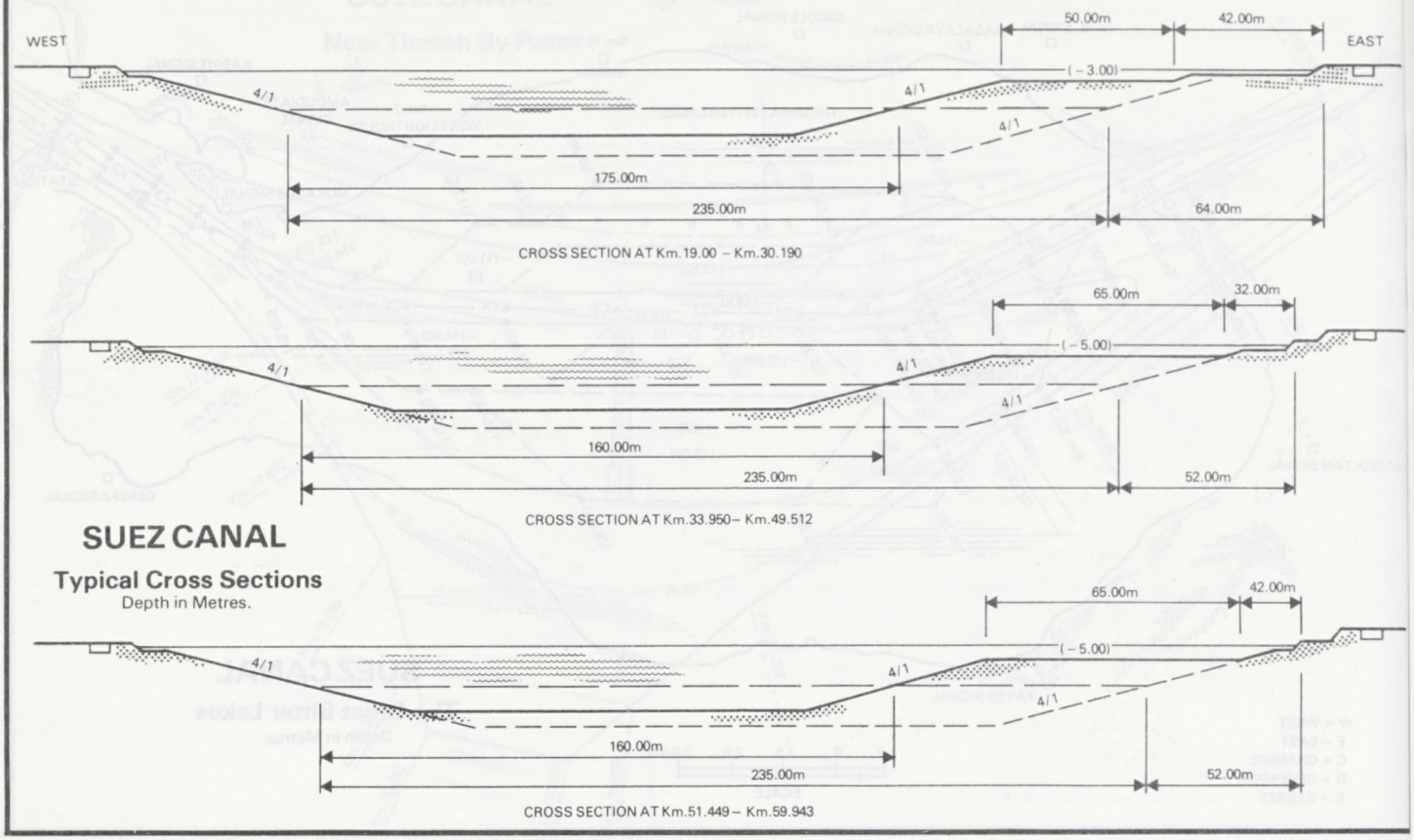


SUEZ CANAL

The Great Bitter Lakes

Depth in Metres

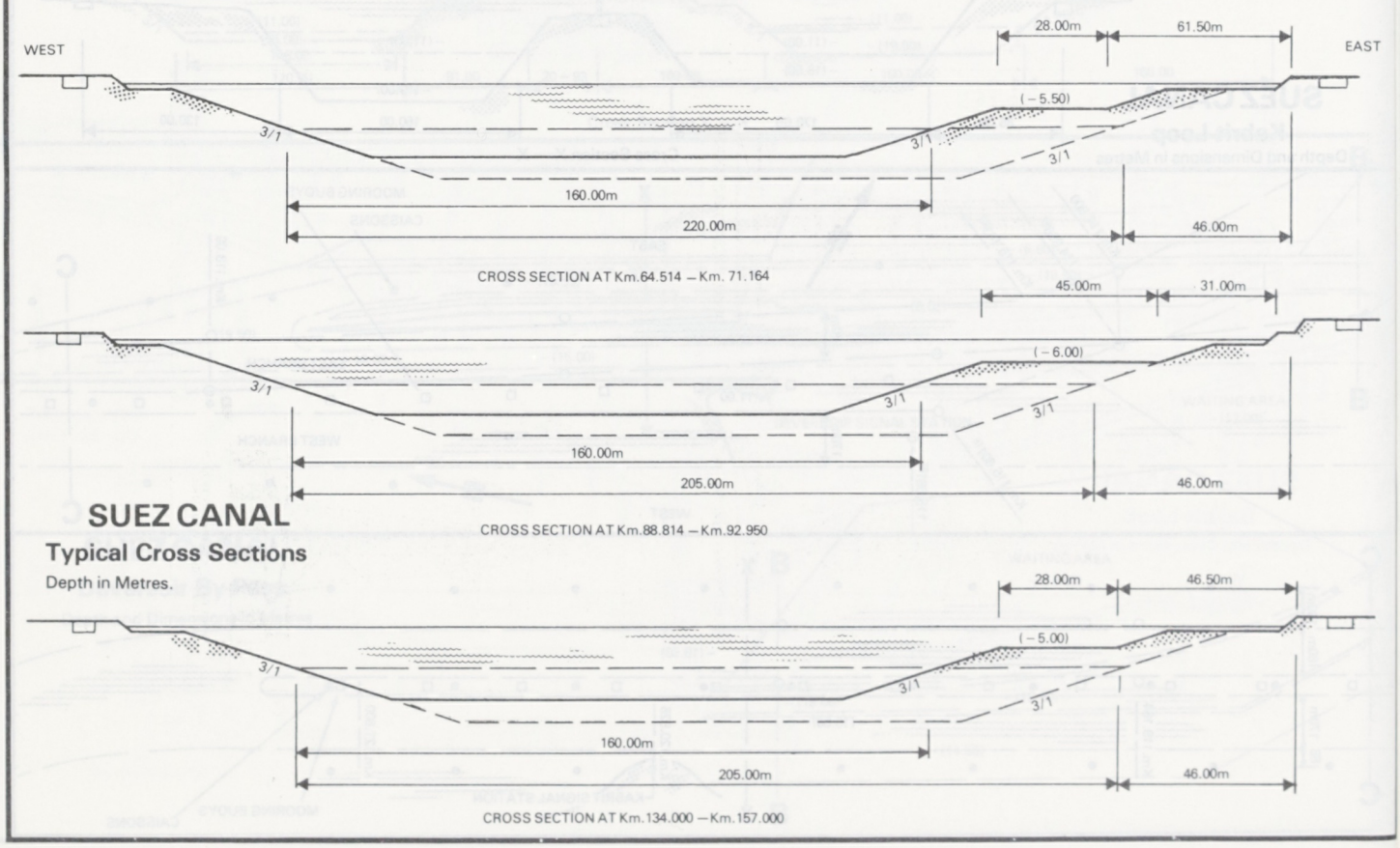


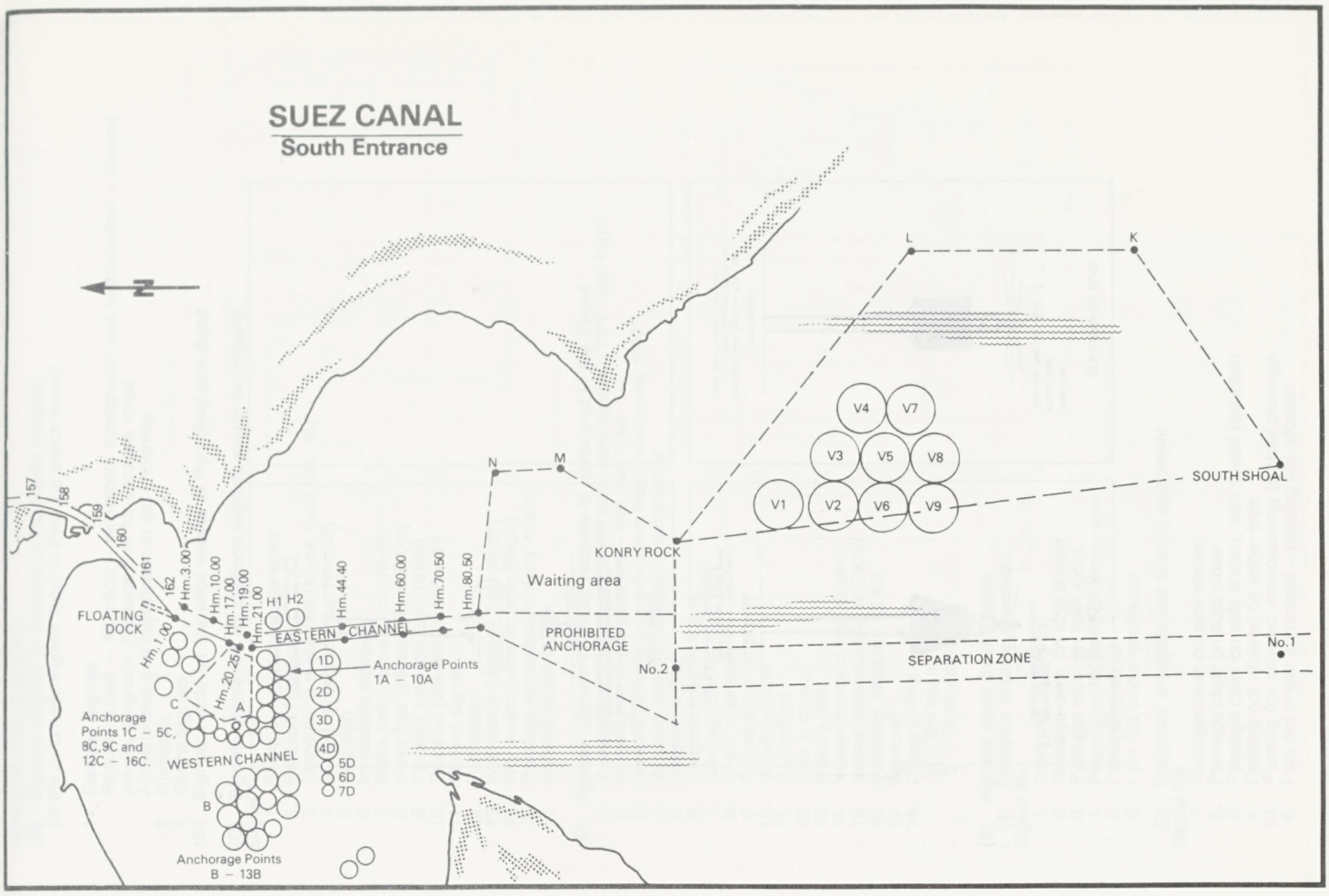


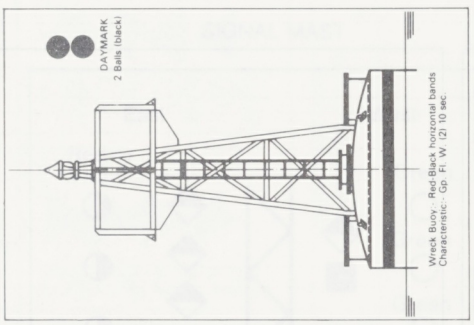
SUEZ CANAL

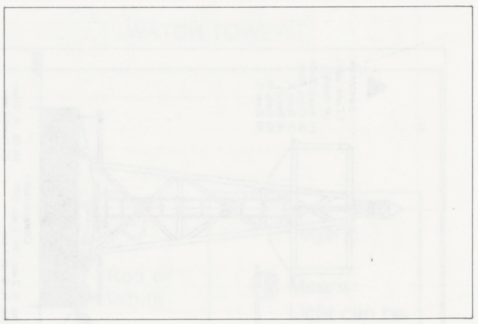
Typical Cross Sections

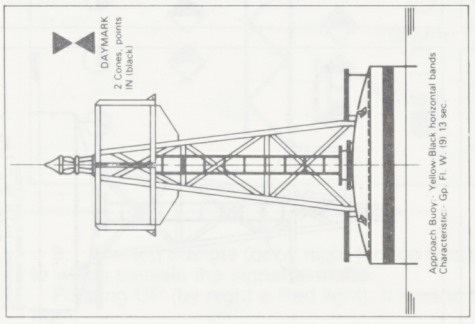
Depth in Metres.

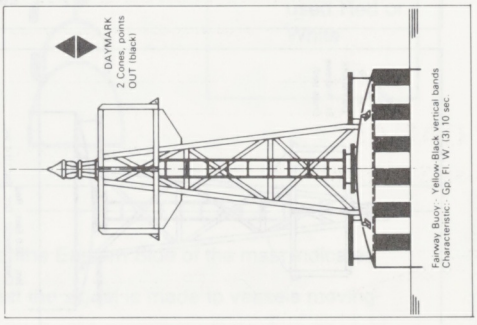


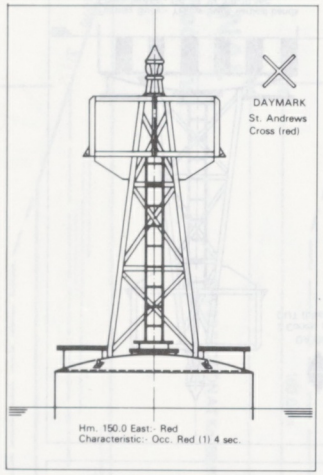

SUEZ CANAL
South Entrance
N
L
K
V4
V7
V3
V5
V8
V1
V2
V6
V9
SOUTH SHOAL
N
M
KONRY ROCK
Waiting area
PROHIBITED ANCHORAGE
No.2
SEPARATION ZONE
No.1
157
158
159
160
161
162
Hm.3.00
Hm.10.00
Hm.17.00
Hm.19.00
Hm.21.00
H1 H2
Hm.44.40
Hm.60.00
Hm.70.50
Hm.80.50
FLOATING DOCK
Hm.1.00
Hm.20.25
EASTERN CHANNEL
1D
2D
3D
4D
5D
6D
7D
Anchorage Points 1A – 10A
C
A
Anchorage Points 1C – 5C, 8C,9C and 12C – 16C.
WESTERN CHANNEL
B
Anchorage Points B – 13B

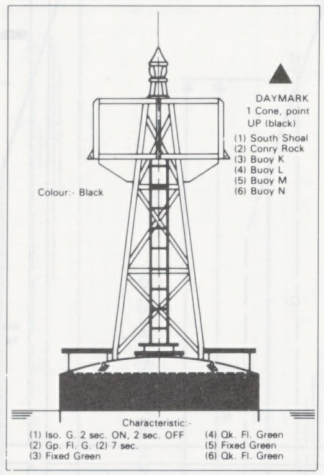

DAYMARK
2 Balls (black)
Wreck Buoy:- Red-Black horizontal bands
Characteristic:- Gp. Fl. W. (2) 10 sec.

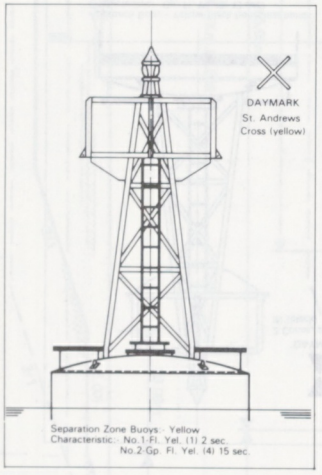


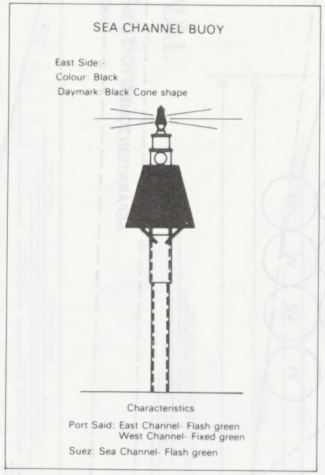

DAYMARK
2 Cones, points IN (black)
Approach Buoy:- Yellow Black horizontal bands
Characteristic:- Gp. Fl. W. (9) 13 sec.

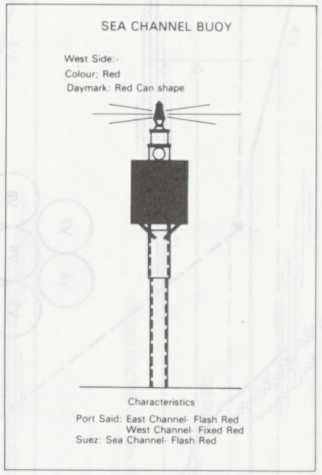

DAYMARK
2 Cones, points OUT (black)
Fairway Buoy:- Yellow Black vertical bands
Characteristic:- Gp. Fl. W. (3) 10 sec.

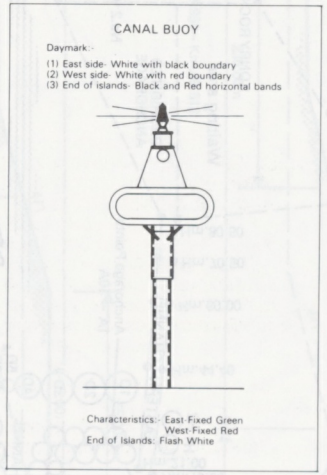

DAYMARK
St. Andrews
Cross (red)
Hm. 150.0 East:- Red
Characteristic:- Occ. Red (1) 4 sec.


DAYMARK
1 Cone, point
UP (black)
(1) South Shoal
(2) Conry Rock
(3) Buoy K
(4) Buoy L
(5) Buoy M
(6) Buoy N
Colour:- Black
Characteristic:-
(1) Iso. G. 2 sec. ON, 2 sec. OFF
(2) Gp. Fl. G. (2) 7 sec.
(3) Fixed Green
(4) Qk. Fl. Green
(5) Fixed Green
(6) Qk. Fl. Green


DAYMARK
St. Andrews
Cross (yellow)
Separation Zone Buoys:- Yellow
Characteristic:- No.1-Fl. Yel. (1) 2 sec.
No.2-Gp. Fl. Yel. (4) 15 sec.


SEA CHANNEL BUOY
East Side:-
Colour: Black
Daymark: Black Cone shape
Characteristics
Port Said: East Channel- Flash green
West Channel- Fixed green
Suez: Sea Channel- Flash green


SEA CHANNEL BUOY
West Side:-
Colour; Red
Daymark: Red Can shape
Characteristics
Port Said: East Channel- Flash Red
West Channel- Fixed Red
Suez: Sea Channel- Flash Red


CANAL BUOY
Daymark:-
(1) East side- White with black boundary
(2) West side- White with red boundary
(3) End of islands- Black and Red horizontal bands
Characteristics:- East-Fixed Green
West-Fixed Red
End of Islands: Flash White

Article 94: Visual Signals

(A) ***Signals hoisted to vessels in Port Said Harbour***
(at the automatic signals mast or from the watch tower)

1. General Signals
   Reduce speed – Attention – Movement suspension and authorisation – Cancel previous signal – Passage free for benzene ships
   Authorisation and interdiction to get underway
2. Numerals
3. Berths signals

(B) ***Signals made by the pilot vessel at Port Said and Suez***

(C) ***Signals displayed on stations signals masts to vessels***

Signal No.

1. Stand by to proceed (general)
2. Proceed (general)
3. Stand by to make fast (signal mast Km. 18)
4. Make fast (signal mast Km. 18)
5. Attention
6. Immediate stopping
7. Make fast (vessels from North)
8. Make fast (vessels from South)
9. Proceed (vessels from North)
10. Proceed (vessels from South)
11. Current signal
12. Port closed
13. W/T watch (vessels from North)
14. W/T watch (vessels from South)
15. Passage authorisation (ferry boats)
16. Isolated signal station

(D) ***Special signals used by vessels in ports and in the Canal***

1. Vessels carrying bulkpetroleum flash point between 73°F. and 150°F.
2. Vessels carrying explosives – Not Gas Free
3. Vessels carrying bulk petroleum flash point under 73°F.
4. Vessels carrying radioactive substances
5. I require a Pilot
6. I require Free Pratique
7. Coming from infected port
8. Under quarantine
9. Tug required (in ports)
10. Mooring boats
11. Searchlight
12. Last in convoy
13. Making fast
14. Vessel manoeuvring to sea
15. Vessel manoeuvring to Canal
16. Voluntary stopping (G.V.)
17. Aground
18. I have a Pilot
    a. On board
    b. To disembark

(E) ***Signals used by dredgers***

(1) Dredgers working underway

Signal No.

1. Dredging underway
2. Passage clear on side shown
3. Passage clear on both sides
4. Passing not allowed on either side
5. I am going about
6. I am not under command

(2) Stationary dredgers and floating equipment

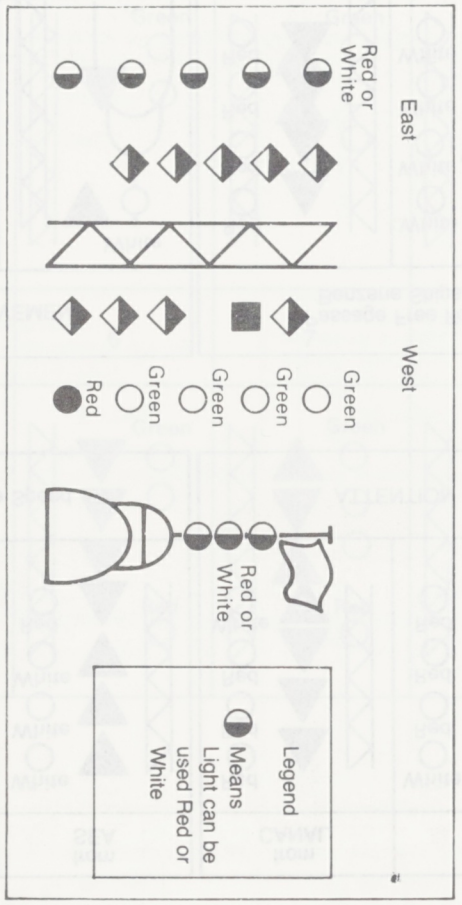
Signal No.

7. Passage clear on side shown
8. Passage clear on both sides
9. Passage clear on side shown, with speed reduction
4. Passing not allowed on either side
10. Passing not allowed: manoeuvring to clear passage
6. I am not under command – passing not allowed

PORT SAID:

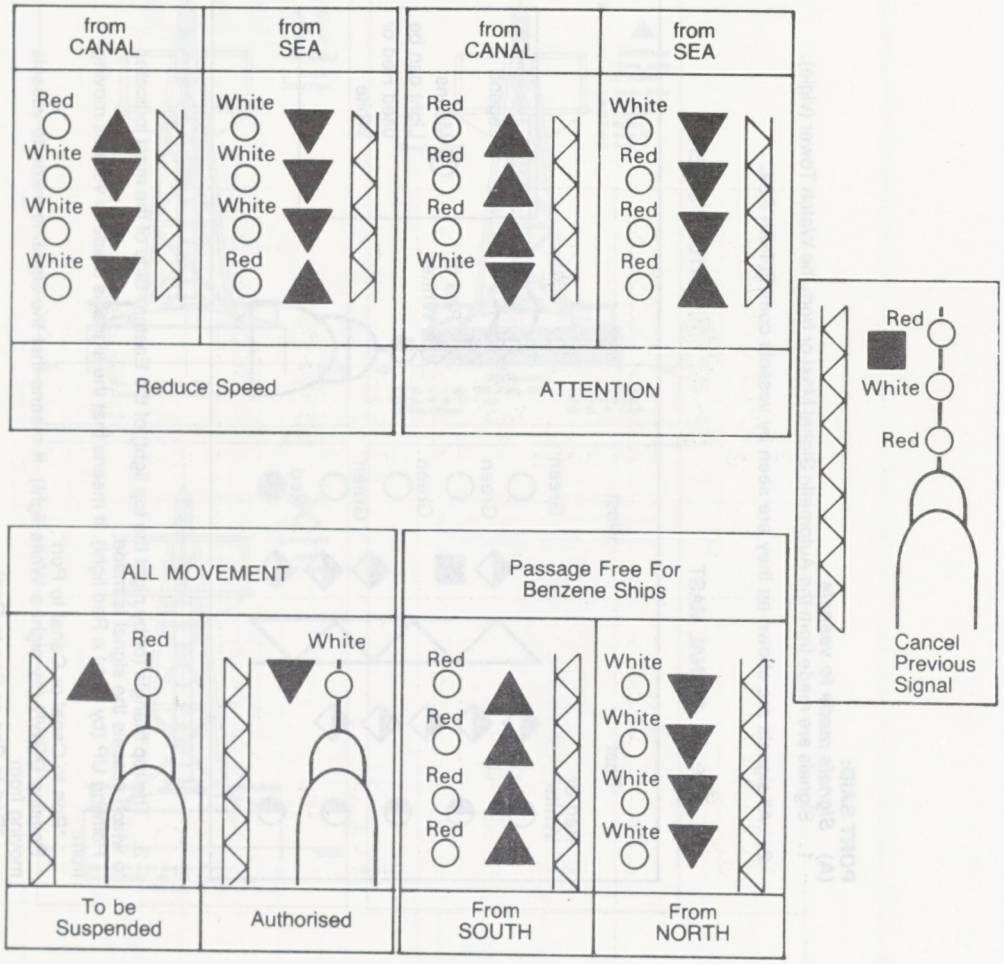
(A) ***Signals made to vessels***

1. Signals are made from the Automatic Signal Mast or from the Watch Tower (vigie).
2. All signals are shown as they are seen by vessels coming from Sea.



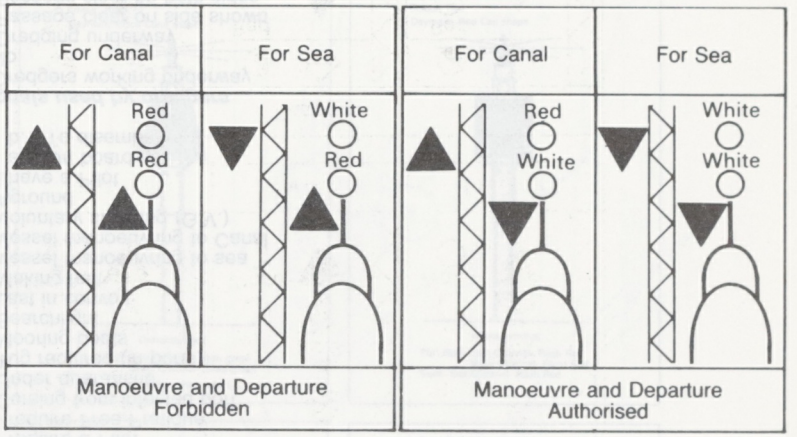
3. The top triangle (or by night the top light) of the Eastern Side of the mast indicates to which vessels the signal is made.
   Pointing UP (by night a Red light). It means that the signal is made to vessels moving from:
   "Port to Canal or Canal to Port".
   Pointing DOWN (by night a White light). It means that the signal is made to vessels moving from:
   "Port to Sea or Sea to Port".

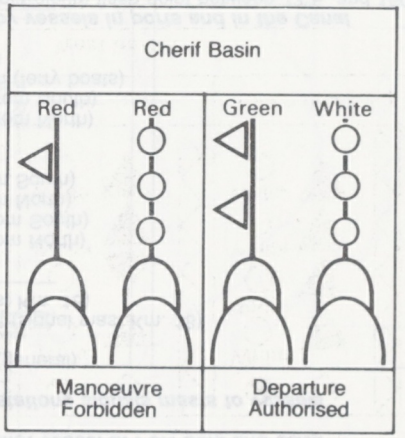
(1) General Signals



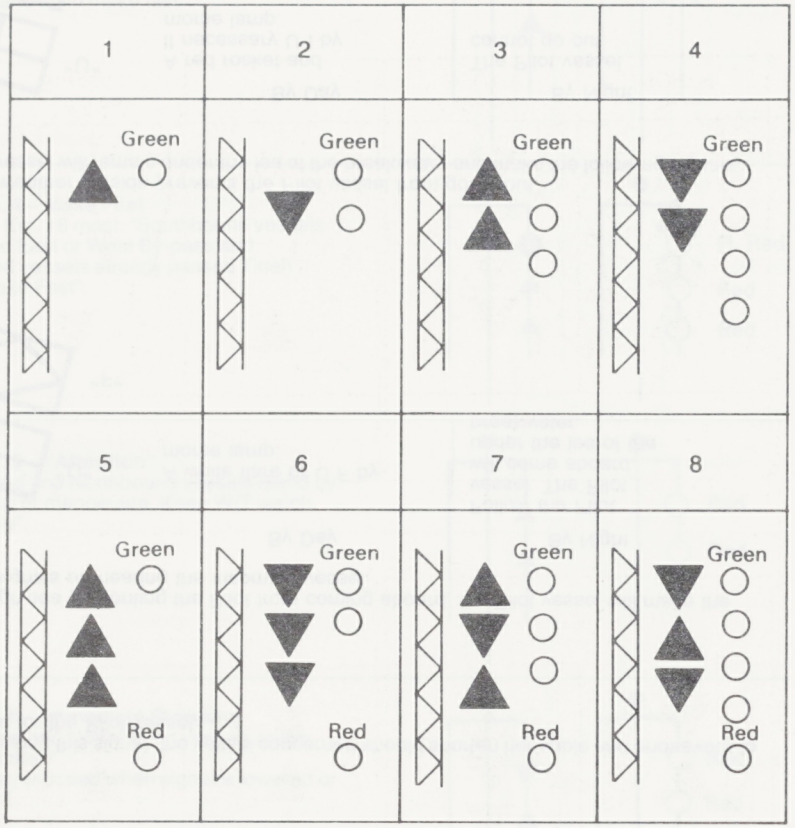
(1) General Signals – *continued*

Authorisation and Interdiction to Get Underway



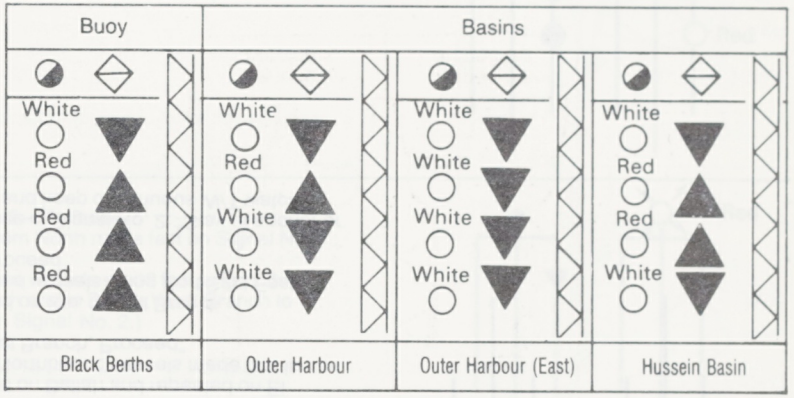


(2) Numerals

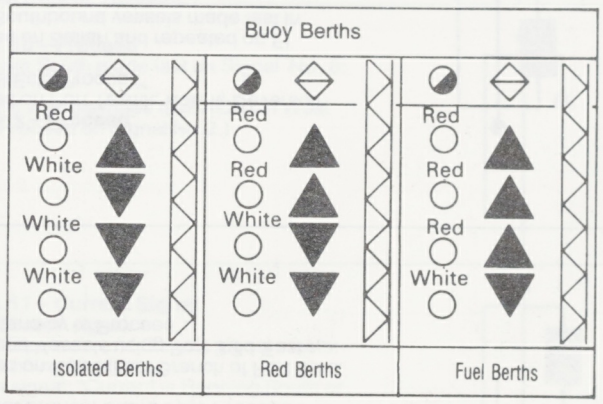


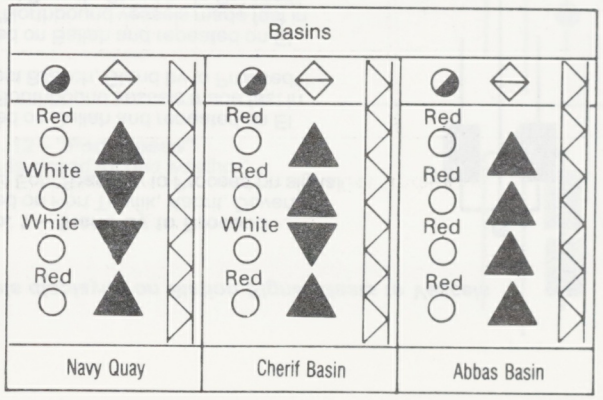
(3) Berths Signals

East Berths



West Berths



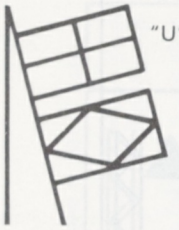


(B) ***Signals to be made in Port Said and Port of Suez by the Pilot vessel***
(a) If the weather outside does not prevent the Pilot vessel from going out.

By Day	By Night
A white rocket or U A flashed in morse.	A Pilot vessel is going out to you.

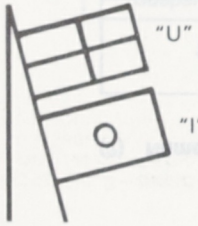
N.B.: On seeing this signal, the vessel concerned should shorten her cable and endeavour to make a lee for the Pilot vessel.

In a rough sea preventing the Pilot from coming aboard, the Pilot vessel will make the following signals on nearing the incoming vessel.



By Day	By Night
A white flare or U F by morse lamp.	Follow the Pilot vessel. The Pilot will come aboard under the lee of the breakwater.

(b) If the weather outside prevents the Pilot vessel from going out.
The Pilot vessel will remain under the lee of the breakwater and make the following signals.



By Day	By Night
A red rocket and if necessary U I by morse lamp.	The Pilot vessel cannot go out.

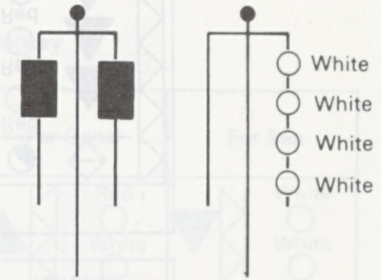
(C) ***Signals displayed on Station Signal Masts to Vessels***

Signal No. 1 – Stand by to Proceed
(a) Hoisted on Port Tewfik, Kabrit, Deversoir and Ras El Ech "Stand by to Proceed on signal No. 2".

(b) Hoisted on Ballah and repeated on El Ferdan. "Southbound vessels made fast in Ballah West Branch, Stand by to Proceed".

(c) Hoisted on Ballah and repeated on El Kantara. "Northbound vessels made fast in Ballah West Branch, Stand by to Proceed".

(d) Hoisted on Km. 3 East Branch of Port Said. "Southbound Vessels using Port Said East Branch, Stand by to Proceed".



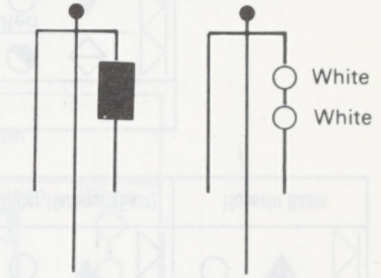
Signal No. 2 – Proceed
(a) Hoisted on Port Tewfik, Kabrit, Deversoir and Ras El Ech "Proceed".

(b) Hoisted on Ballah and repeated on El Ferdan. "Southbound vessels made fast in Ballah West Branch, Proceed".

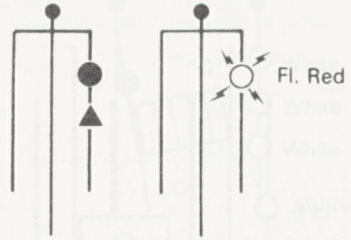
(c) Hoisted on Ballah and repeated on El Kantara. "Northbound vessels made fast in Ballah West Branch, Proceed".

(d) Hoisted on Km. 3 East Branch. "Southbound vessels using Port Said East Branch, Proceed".

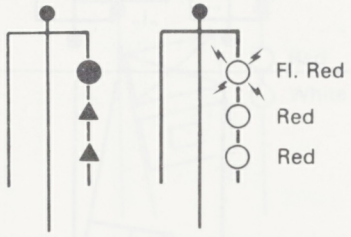
(e) Absence of Signal No. 2: "Stay at anchor or made fast and keep continuous W/T watch".



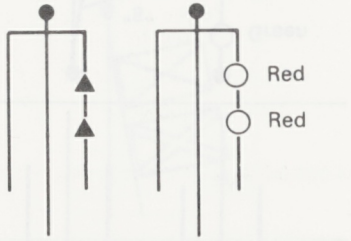
Signal No. 3 – Stand by to Make Fast
Hoisted at Km. 18 mast. "Southbound vessels made fast in West Branch Km. 4 to 14 and Northbound vessels already passed Tineh station, Stand by to make fast".



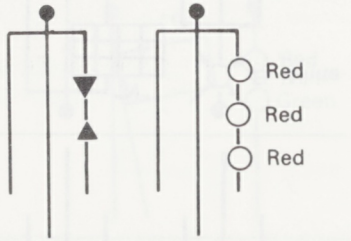
Signal No. 4 – Make Fast
Hoisted at Km. 18 mast. "Southbound vessels in Port Said East or West By-pass and Northbound vessels already passed Tineh station, Make Fast".



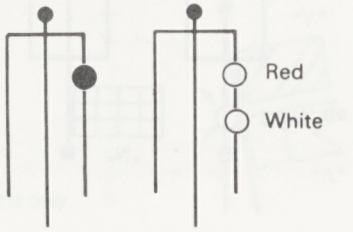
Signal No. 5 – "Attention"
"Southbound and Northbound vessels stand by to make fast or manoeuvre. Keep W/T watch immediately".



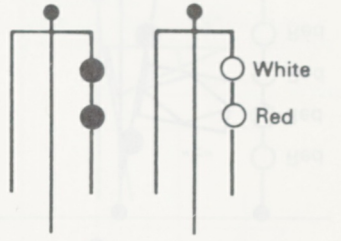
Signal No. 6 – Immediate Stopping
"Southbound and Northbound vessels make fast immediately".
Vessels may proceed when signal is lowered or switched off.



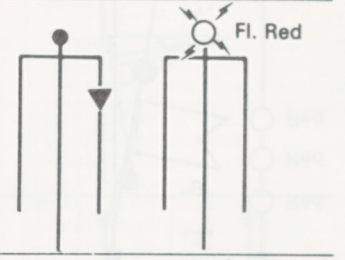
Signal No. 7 – Make Fast
"Vessels from North : Make Fast".
(to be lowered or switched off when all concerned vessels are made fast.)



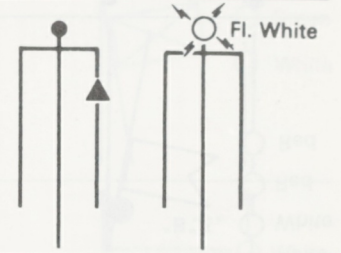
Signal No. 8 – Make Fast
"Vessels from South : Make Fast".
(to be lowered or switched off when all concerned vessels are made fast.)



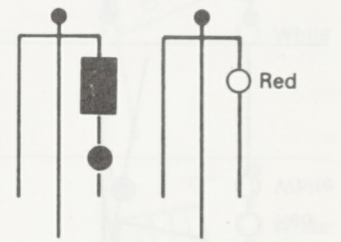
Signal No. 9 – Proceed
"Vessels from North made fast on Signal No. 7 : Proceed".
(Southbound vessels made fast in Port Said West Branch and in Ballah West Branch to Proceed on Signal No. 2.)



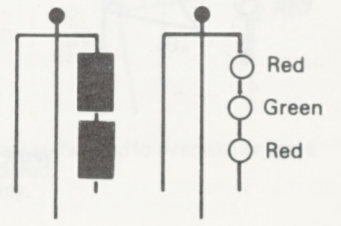
Signal No. 10 – Proceed
"Vessels from South made fast on Signal No. 8: Proceed".
(Northbound vessels made fast in Ballah West Branch to Proceed on Signal No.2.)



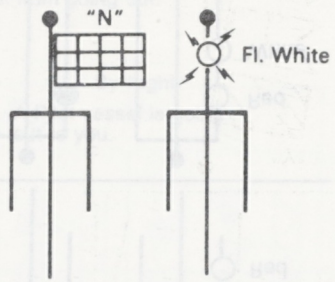
Signal No. 11 – Current Signal
Current indication signal.
Hoisted on Challoufa and Genefa signal masts: "Current Running North"
Absence of signal: "Current is Running South or Slack Water."



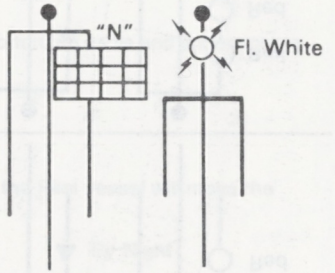
Signal No. 12 – "Port Closed"
"Suez Roads closed for bad weather".



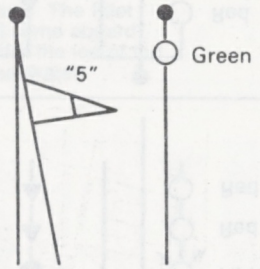
***Signal No. 13 – W/T Watch**
"Vessels from North establish Wireless Telegraphy Watch".



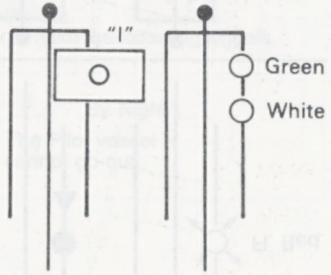
***Signal No. 14 – W/T Watch**
"Vessels from South establish Wireless Telegraphy Watch".



Signal No. 15 – Passage Authorisation
"Ferry Boat not allowed to move".
(By night: Light on wharf.)



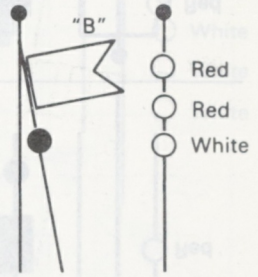
Signal No. 16 – Isolated Signal Station
"This signal station is isolated. All communications are made by Wireless Telegraphy".



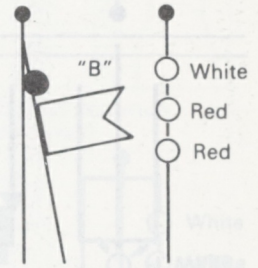
*Signals No. 13 and 14 can be used at the same time addressing both convoys from North and South.

(D) ***Special Signals Used by Vessels in Ports and in the Canal***

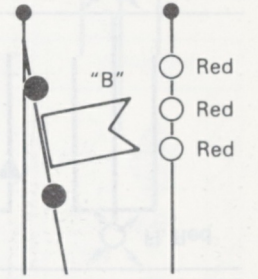
1. Oil tanker carrying bulk petroleum (flash point between 73° and 150°F).



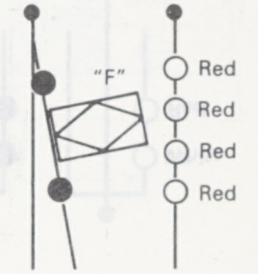
2. Vessels carrying 1st group dangerous goods.
Not Gas Free tankers.
LPG – LNG.
Dangerous chemicals in bulk.



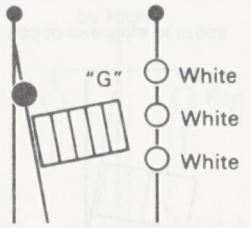
3. Petroleum in bulk. (Flash point below 73°F).



4. Vessels carrying Radio Active substances.



5. I require a Pilot.
N.B. 1. From port to Sea or changing berth, signal to be hoisted half an hour before sailing time.
2. For the Canal at least 2 hours before the 1st Vessel is expected to enter the Canal.



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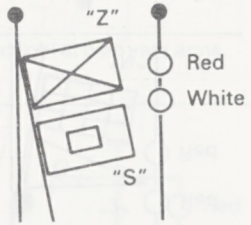
6. I require free pratique.



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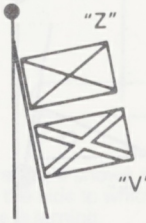
7. My vessel is coming from an infected port.



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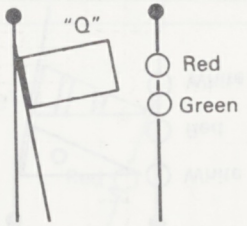
8. My vessel is under Quarantine.



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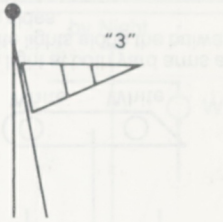
9. I require a tug (followed by a numeral pendant to indicate the number of tugs required).
By Night: A long blast on the whistle and letters "YA" flashed by morse lamp several times.

N.B. Signals Nos. 6, 7, 8, 9, 10 and 11 are to be used in Ports only.

10. I have no mooring boats

By Night: Numeral 3 flashed by morse lamp several times.



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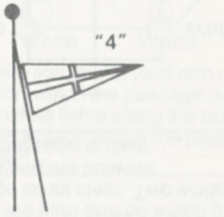
11. I have no shore searchlight.

By Night: Numeral 4 flashed by morse lamp several times. (Signals 10 and 11 can be used in ONE hoist if vessel has no mooring boats and searchlight).



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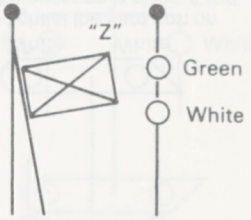
12. Last vessel in the convoy.



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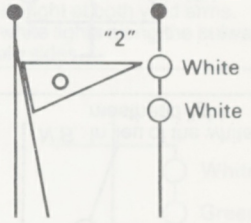
*13. The vessel is making fast.

N.B. In the Canal when made fast the 2 white lights are extinguished and a RED light put on aft all the time the vessel is moored until actually underway.



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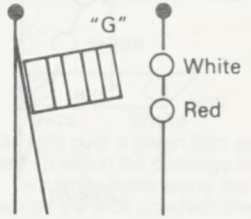
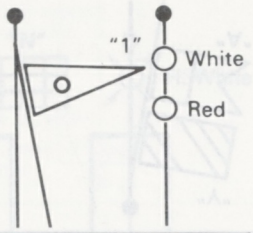
*14. The vessel is manoeuvring to get underway to sea.

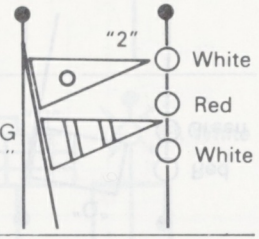


* When signals Nos. 13, 14 and 15 are hoisted, vessels are not authorised to overtake or cross until vessel is securely made fast and Signal No. 16 (G.V.) hoisted.
N.B. Signals Nos. 6, 7, 9, 10 and 11 are to be used in Ports only.

*15. The vessel is manoeuvring to get underway to the Canal.

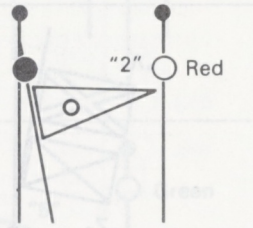


16. Voluntary Stopping (Garage Volontaire). Vessel is not ready and will not maintain her turn in the convoy. If hoisted by a vessel in the Canal. "I am securely made fast and can be crossed or doubled by other vessels in the convoy".

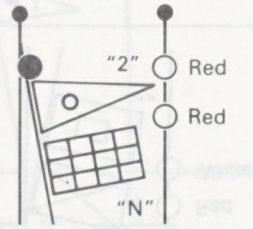


17. Aground:

"Passage clear for tugs".

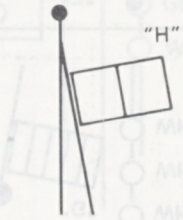


"Passage not clear for tugs"



18. (a) I have a Pilot on board.

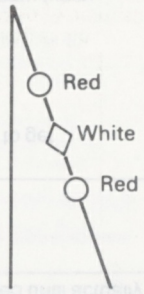
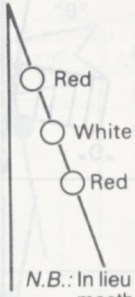
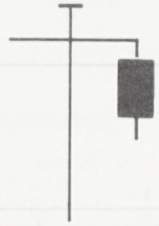
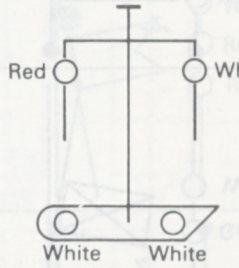
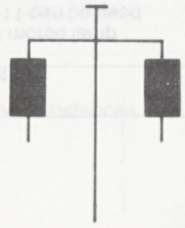
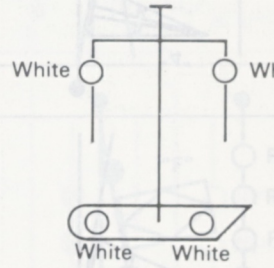
(b) Leaving Port Said and Port of Suez: "I have a Pilot to disembark".



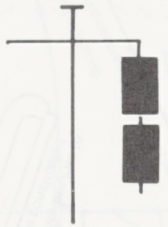
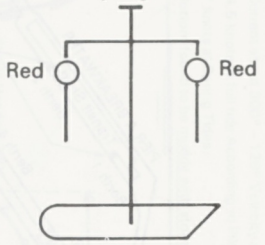
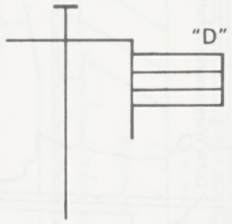
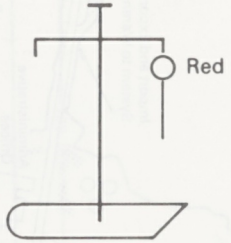
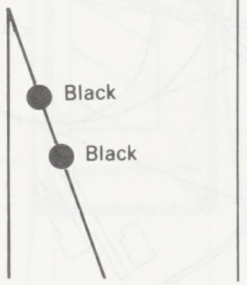
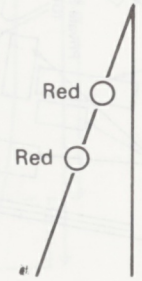
* When signals Nos. 13, 14 and 15 are hoisted, vessels are not authorised to overtake or cross until vessel is securely made fast and Signal No. 16 (G.V.) hoisted.

(E) *Signals used by dredgers in Canal Waters*

(1) Dredgers working underway

MEANING	by Day	by Night
1 I am dredging underway and cannot get out of the way.	 International Signal	 *N.B.*: In lieu of the white masthead light.
2 Passage is clear on the side shown	 A drum at the yard arm on the side on which the passage is clear.	 A white light at the yard arm on which the passage is clear. A red light at the yard arm on which the passage is not clear. Two white lights along the bulwark where passage is clear.
3 Passage is clear on both sides.	 A drum at both yard arms.	 A white light at both yard arms and two white lights along the bulwark on both sides.

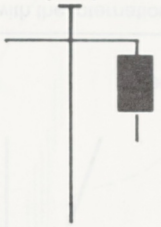
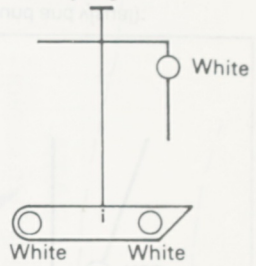
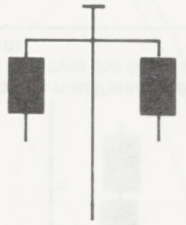
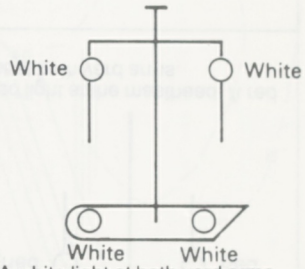
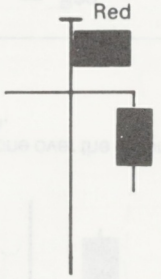
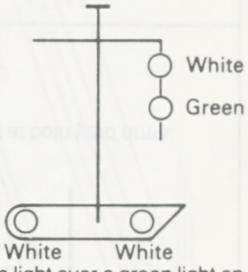
(1) Dredgers working underway – *continued*

MEANING	by Day	by Night
4 Passing not allowed on either side.	 Two drums one over the other at the yard arm.	 A red light at both yard arms.
5 I am going about.	 Flag D hoisted at the yard arm on the side to which she is turning.	 A red light shown at the yard arm on the side to which she is turning. Signal IP by morse lamp.
*6 I am not under command.		

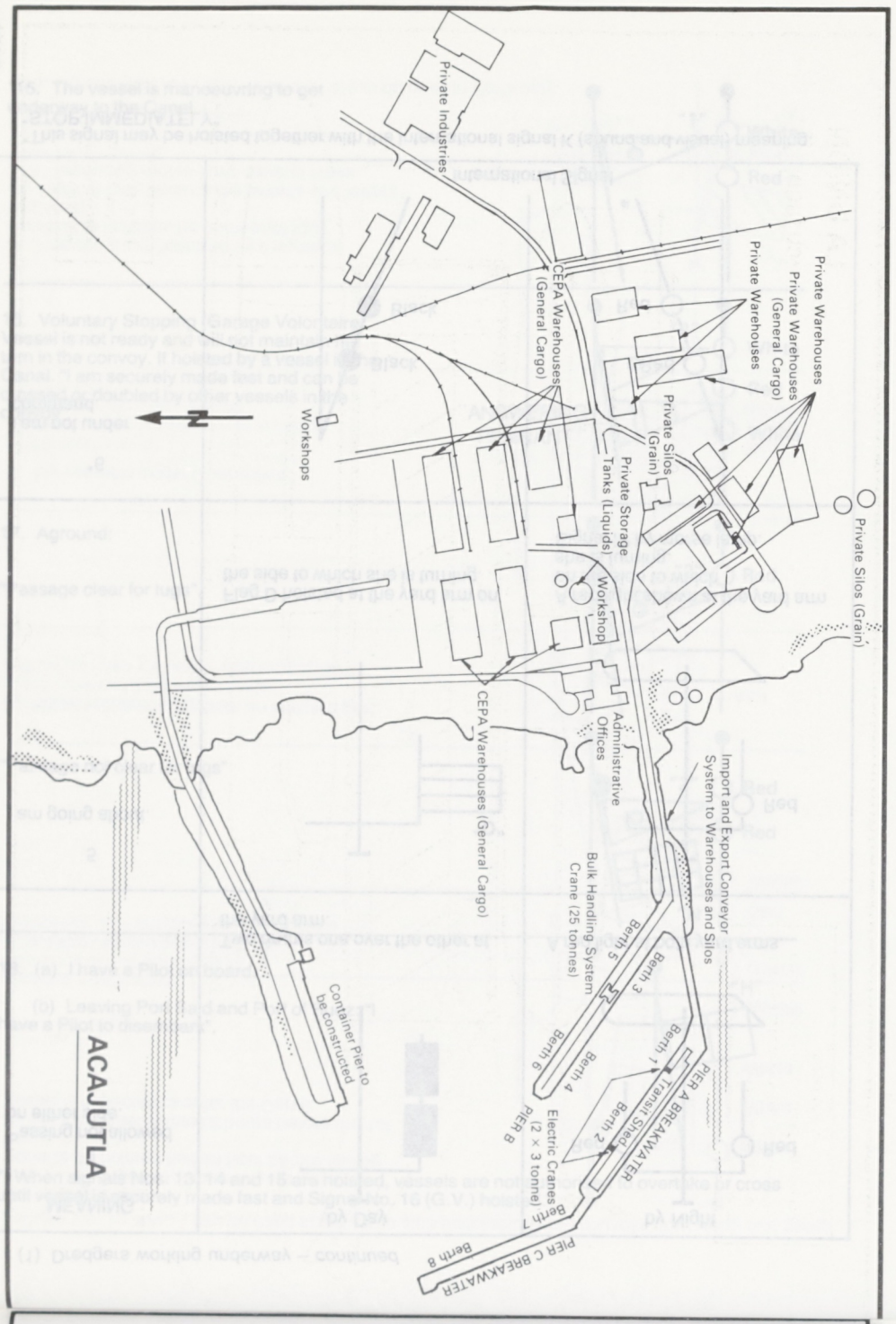
International Signal

*This signal may be hoisted together with the International signal K (sound and visual) meaning: "STOP IMMEDIATELY"

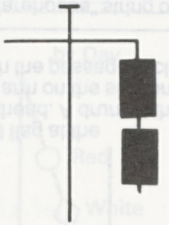
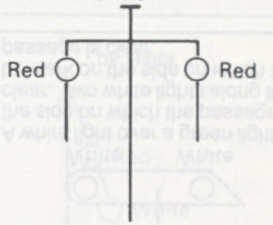
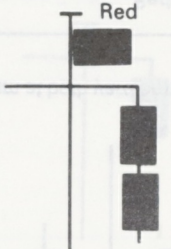
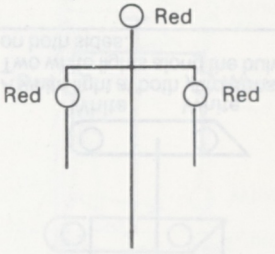
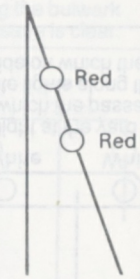
(2) Stationary dredgers, floating cranes, etc.

MEANING	by Day	by Night
7 Passage is clear on the side shown. (I am at work or moored).	 A drum at the yard arm on the side on which the passage is clear.	 A white light at the yard arm on the side on which the passage is clear. Two white lights along the bulwark on the side on which the passage is clear.
8 Passage is clear on both sides (I am at work).	 A drum at both yard arms.	 A white light at both yard arms. Two white lights along the bulwark on both sides.
*†9 Passage is clear on the side shown but only proceed at the lowest possible speed.	 A red flag at the masthead. A drum at the yard arm on the side on which the passage is clear.	 A white light over a green light on the side on which the passage is clear. Two white lights along the bulwark on the side on which the passage is clear.

*This signal is also used by "Warehouse" string of barges.
†The International Signal TE may also be hoisted. In this case the decrease of speed is imperative. By night the imperative decrease of speed is shown on the Pilot's embarkation order.

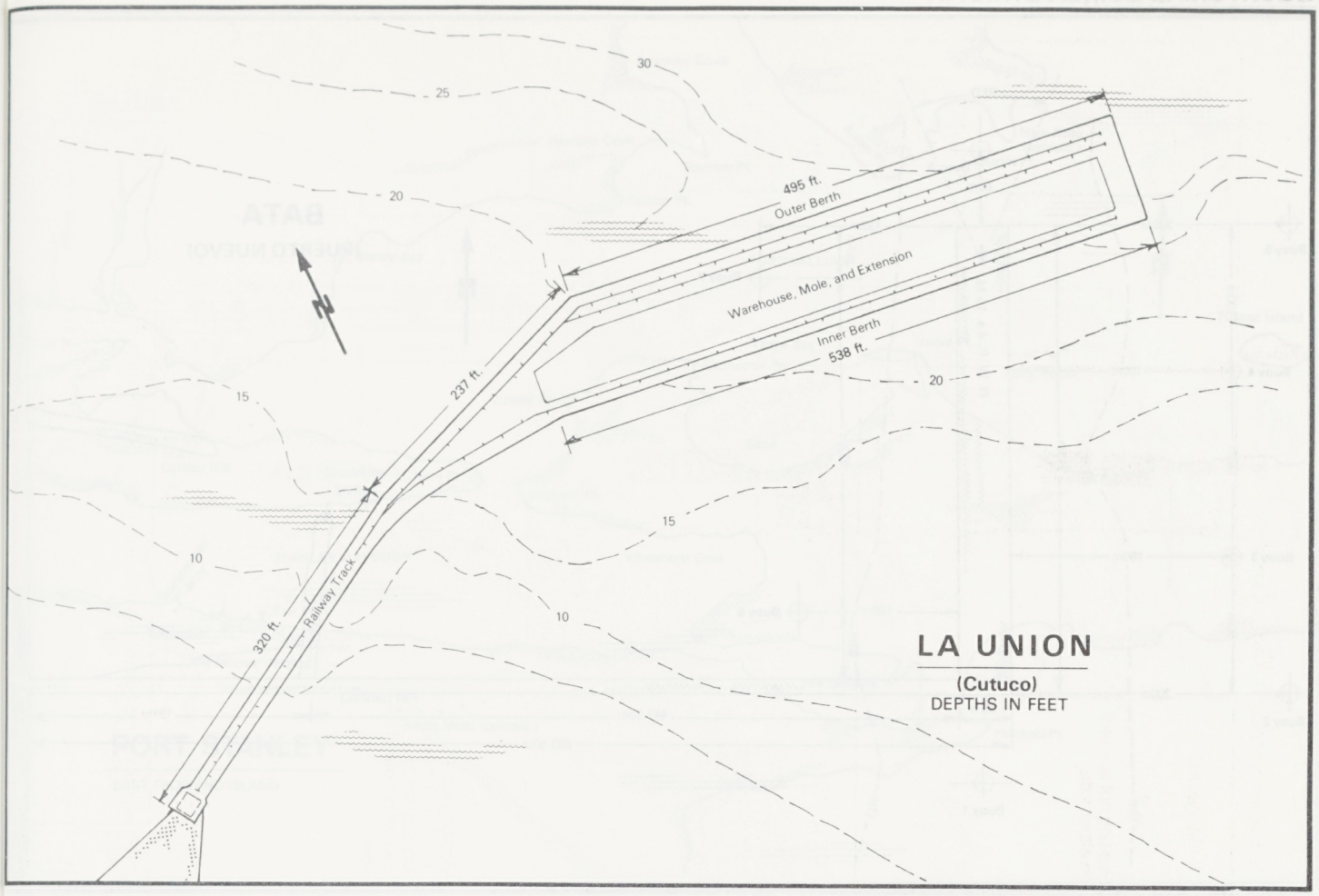


(2) Stationary dredgers, floating cranes, etc. – *continued*

MEANING	by Day	by Night
4 Passing not allowed on either side.	 Two drums one over the other at the yard arm.	 A red light at both yard arms.
10 Passing not allowed: I am manoeuvring to make fast to clear the passage.	 A red flag at the masthead and two drums one over the other at the yard arm.	 A red light at the masthead. A red light at both yard arms.
*6 Passing not allowed. I have a breakdown and cannot get out of the way.		

International Signal

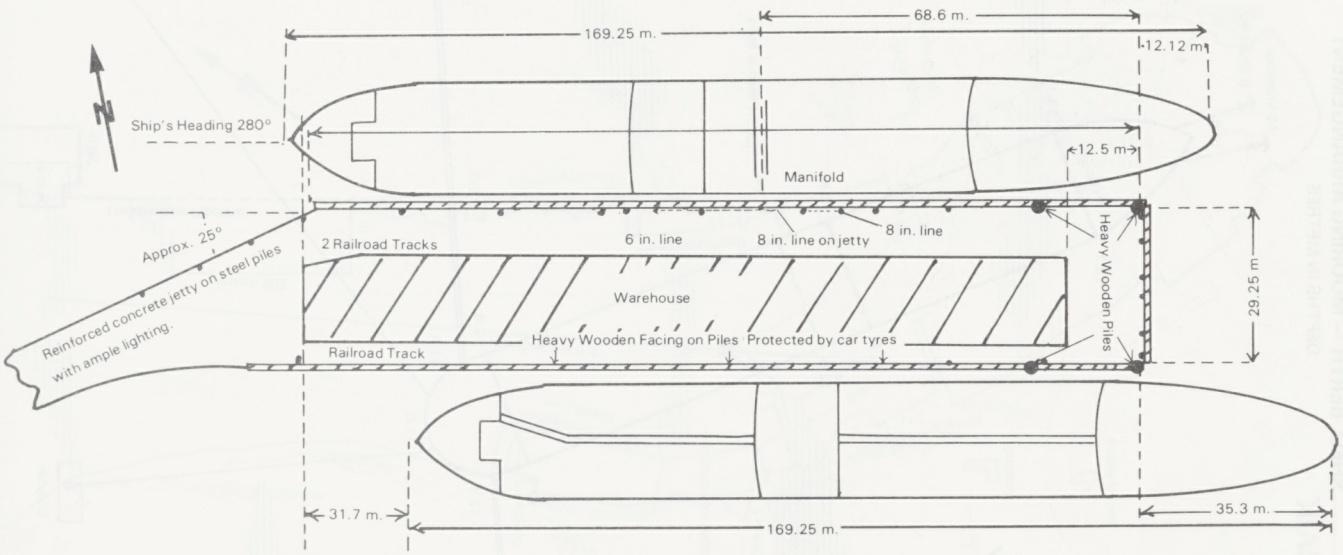
*This signal may be hoisted together with the International Signal "K" (sound and visual): "STOP IMMEDIATELY".



CONDITIONS:
Current about 300° – 120° Velocity approx. 4.5 knots at full tide According to Pilot up to 7 knots at Spring Tides
Bottom found to be muddy with stones

LA UNION

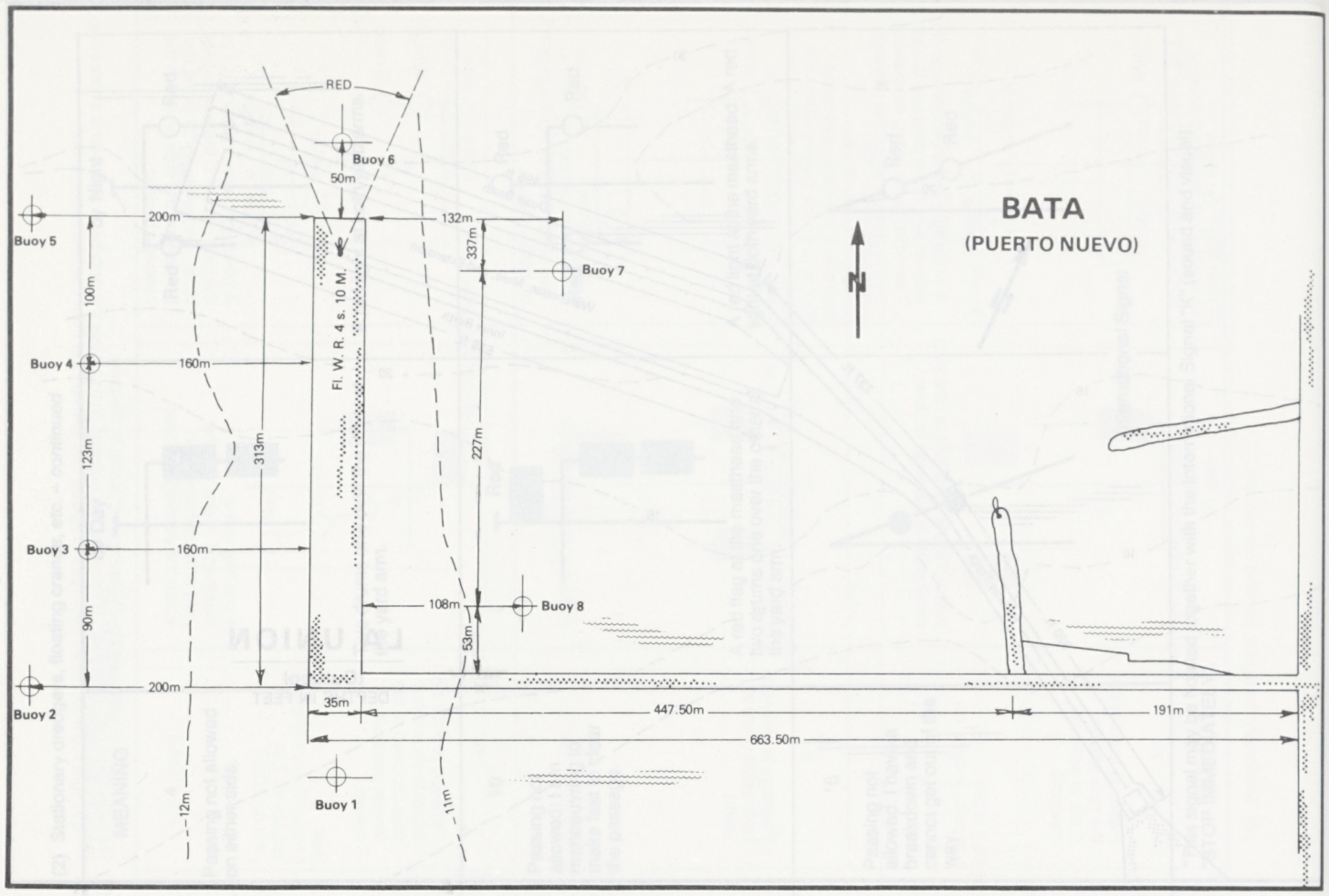
(CUTUCO)



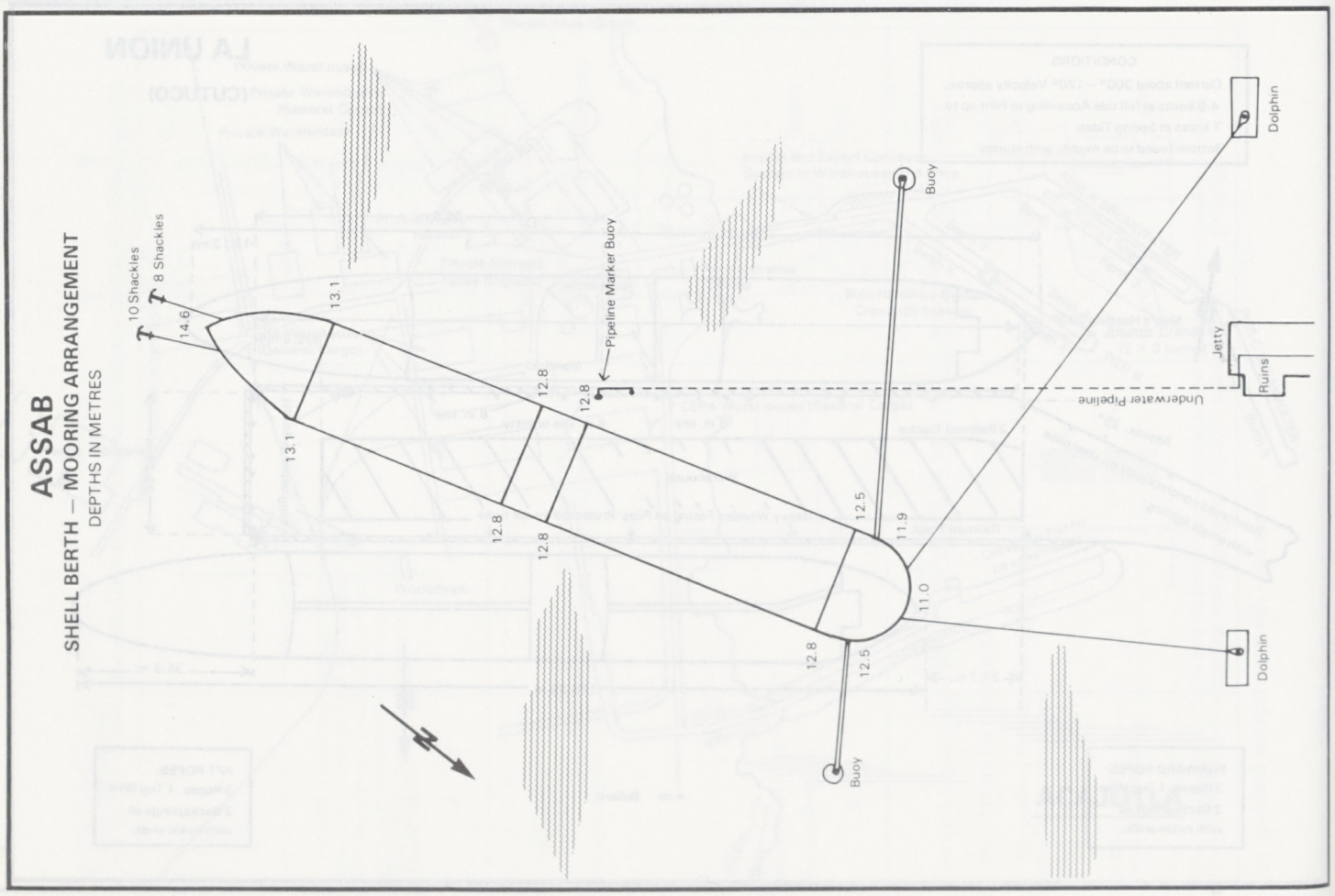
FORWARD ROPES:
3 Ropes. 1 Tug Wire. 2 Backsprings all with nylon ends.

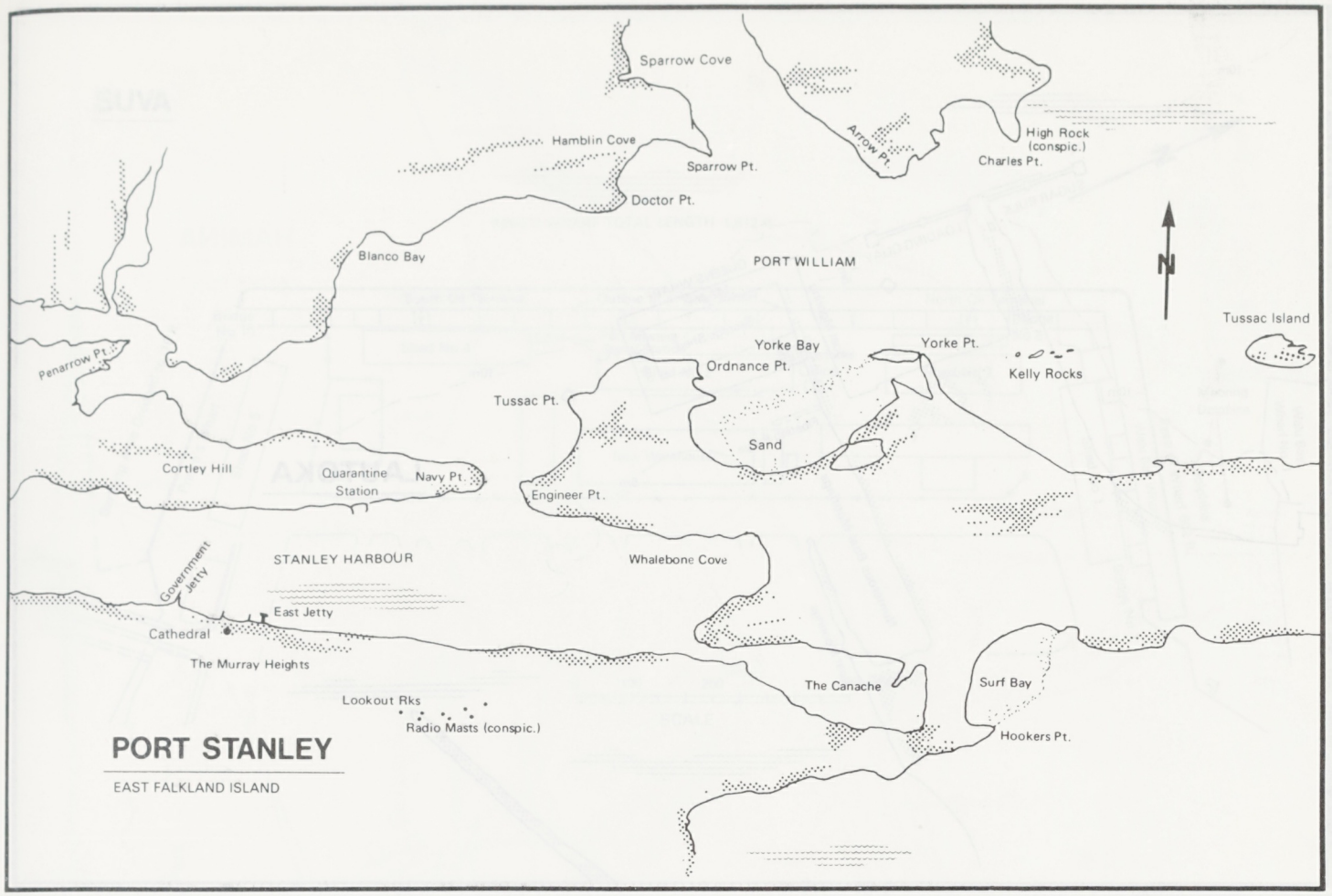
• = Bollard

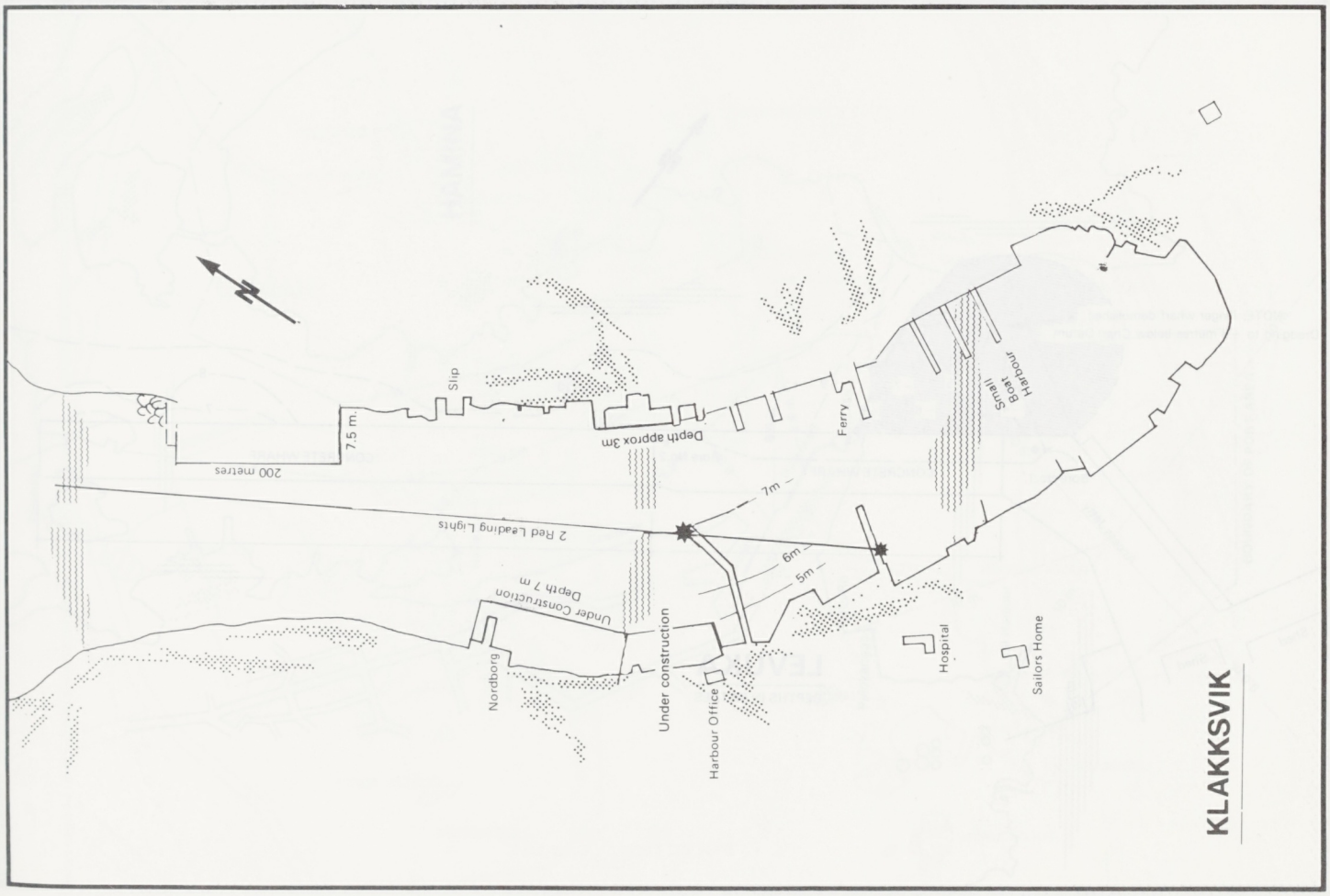
AFT ROPES:
3 Ropes. 1 Tug Wire. 2 Backsprings all with nylon ends.

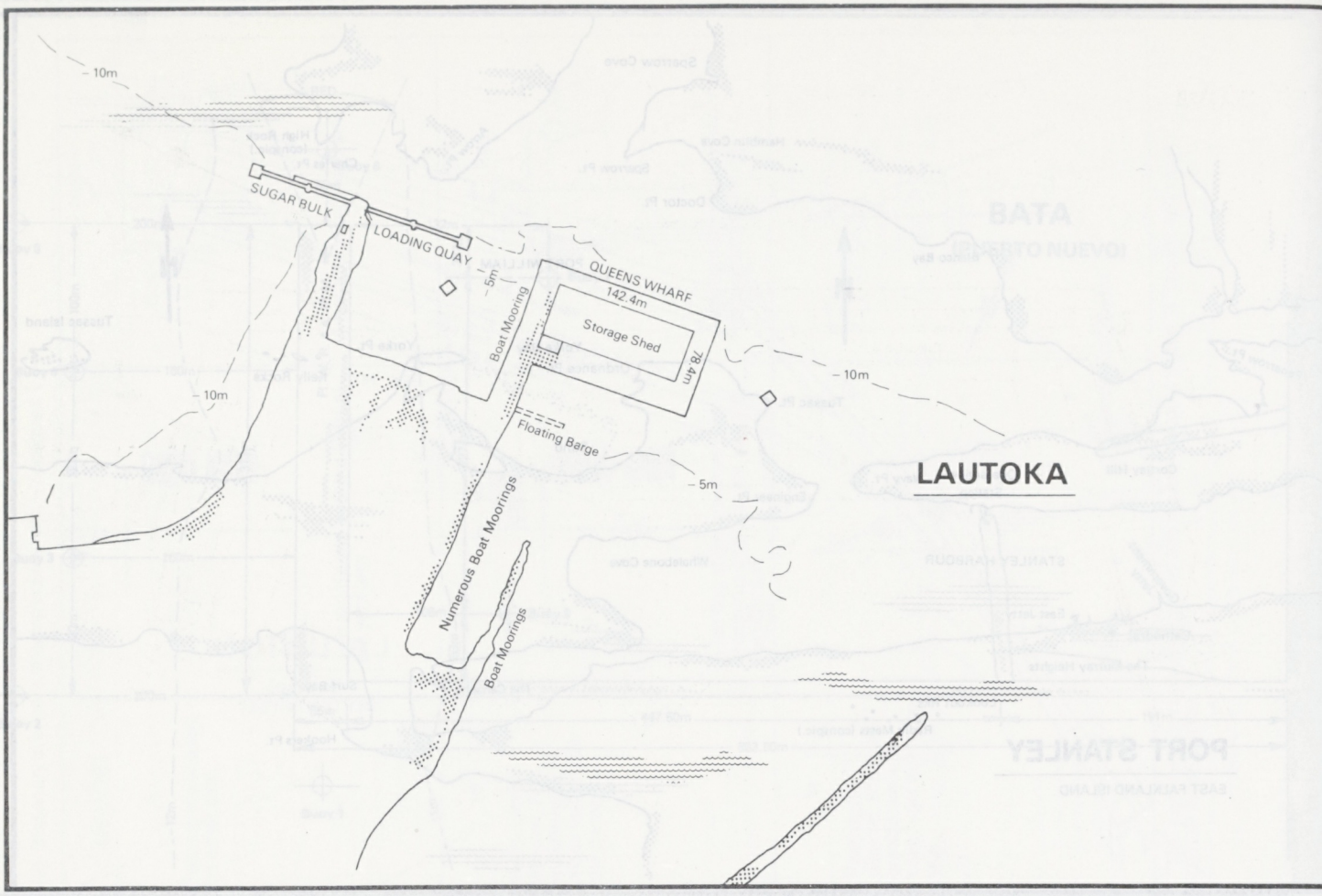


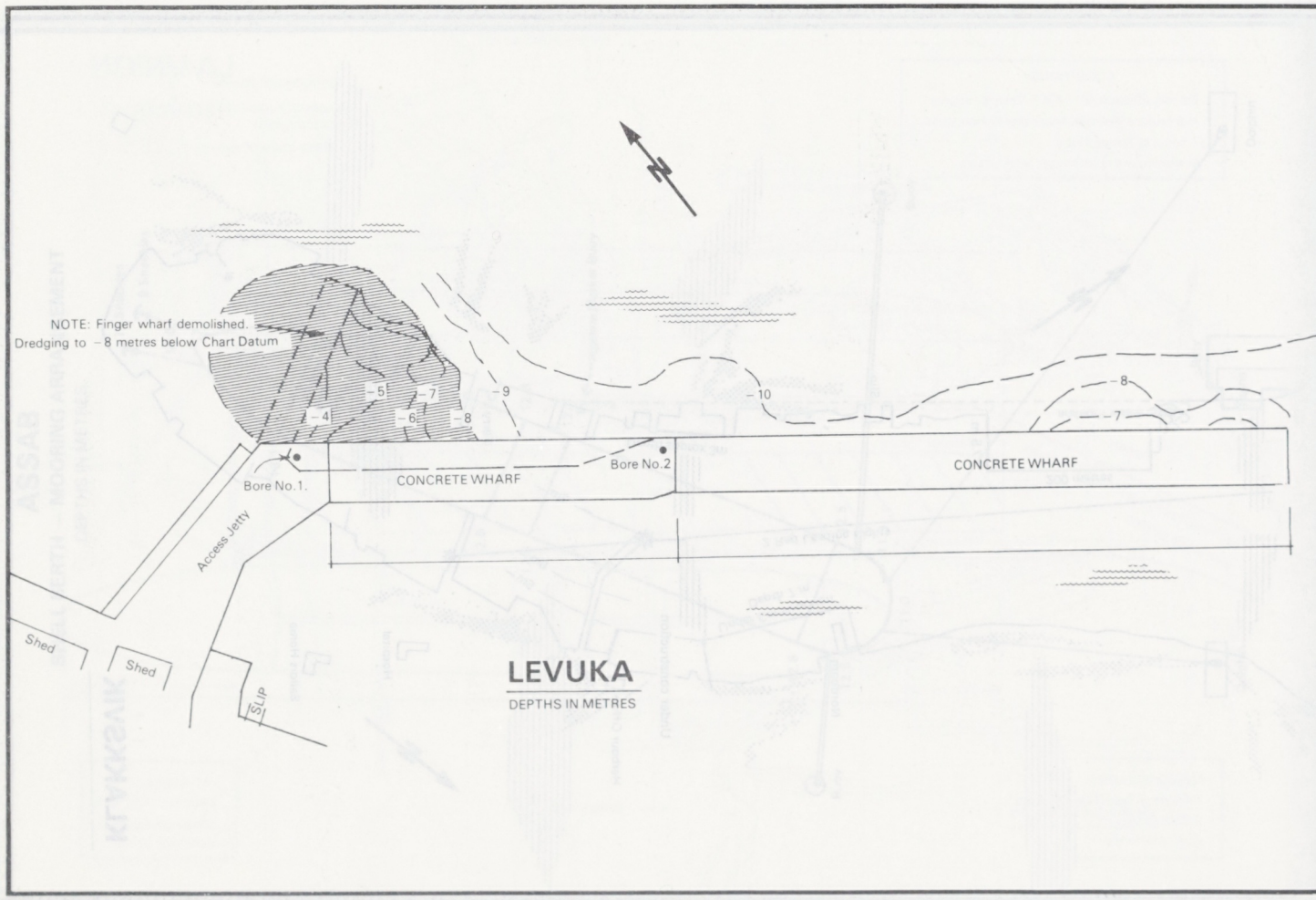
"Plan supplied by Ship's Master"



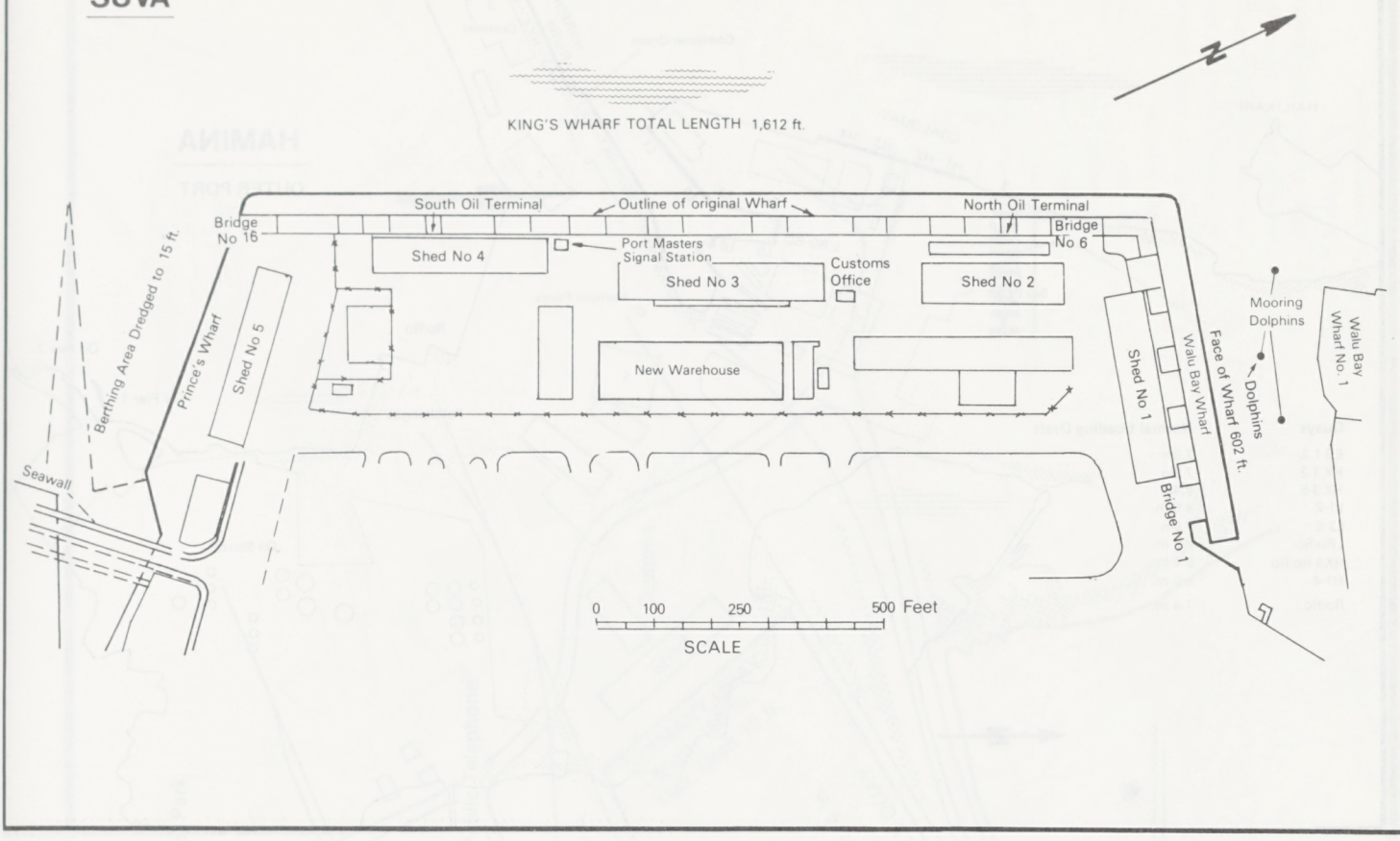

Sparrow Cove
Hamblin Cove
Sparrow Pt.
Doctor Pt.
Arrow Pt.
High Rock (conspic.)
Charles Pt.
Blanco Bay
PORT WILLIAM
N
Tussac Island
Penarrow Pt.
Yorke Bay
Ordnance Pt.
Yorke Pt.
Kelly Rocks
Tussac Pt.
Sand
Cortley Hill
Quarantine Station
Navy Pt.
Engineer Pt.
STANLEY HARBOUR
Whalebone Cove
Government Jetty
East Jetty
Cathedral
The Murray Heights
The Canache
Surf Bay
Lookout Rks
Radio Masts (conspic.)
Hookers Pt.
PORT STANLEY
EAST FALKLAND ISLAND

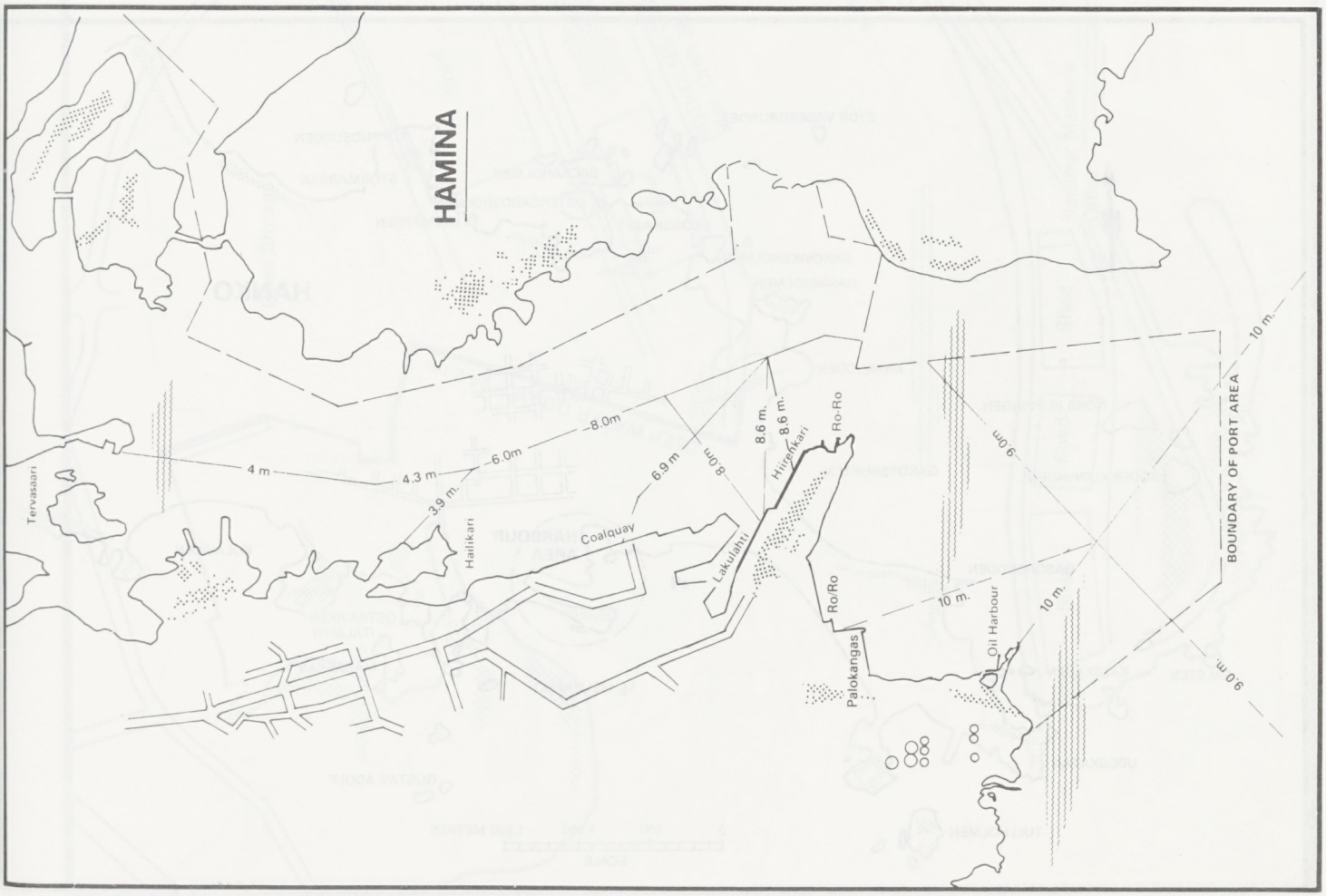

N
Slip
7.5 m.
200 metres
Depth approx 3m
Ferry
Small Boat Harbour
7m
2 Red Leading Lights
6m
5m
Under Construction
Depth 7 m
Nordborg
Under construction
Harbour Office
Hospital
Sailors Home
KLAKKSVIK

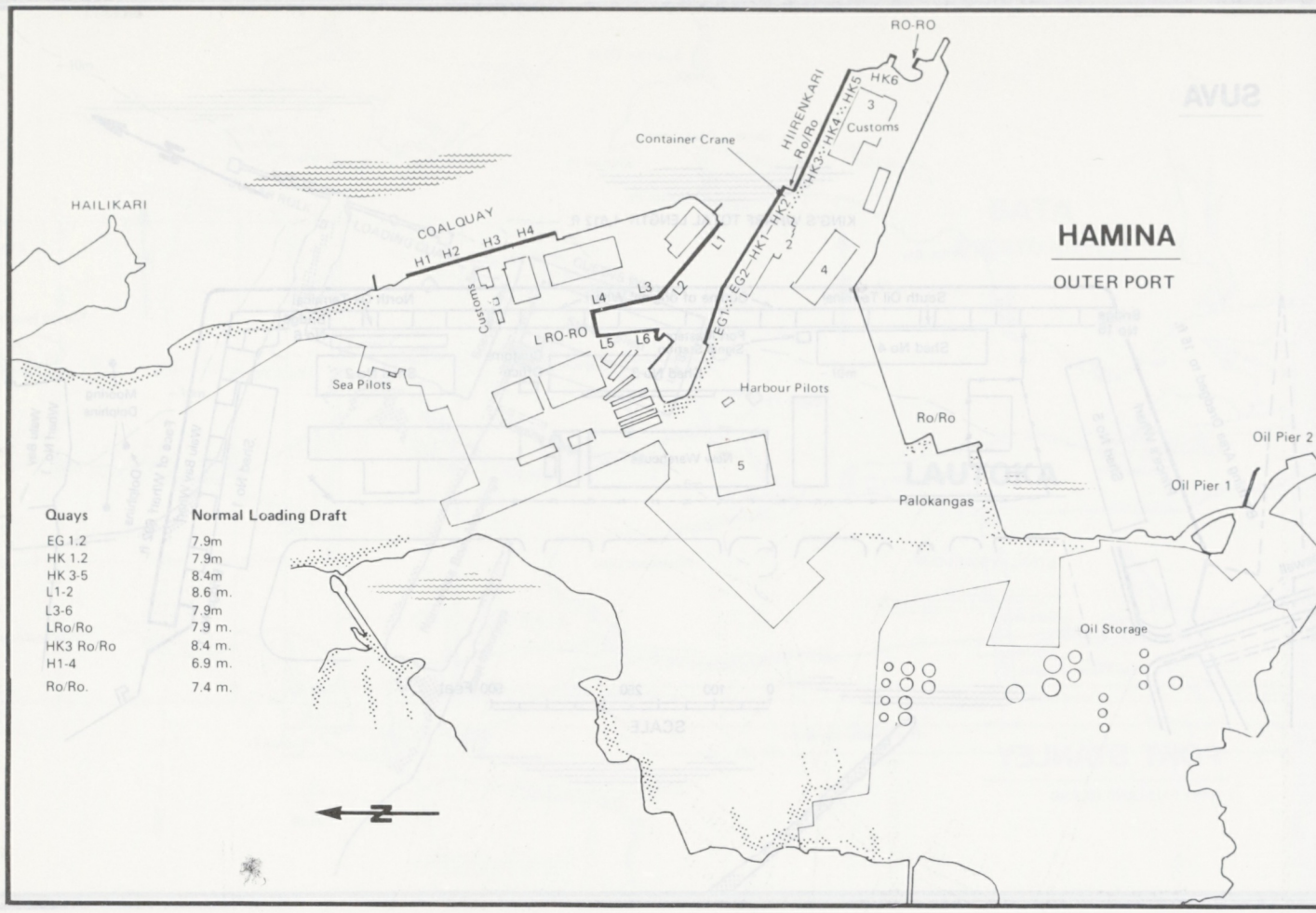

10m
SUGAR BULK
LOADING QUAY
5m
QUEENS WHARF
142.4m
Storage Shed
78.4m
Boat Mooring
10m
10m
Floating Barge
5m
Numerous Boat Moorings
Boat Moorings
LAUTOKA

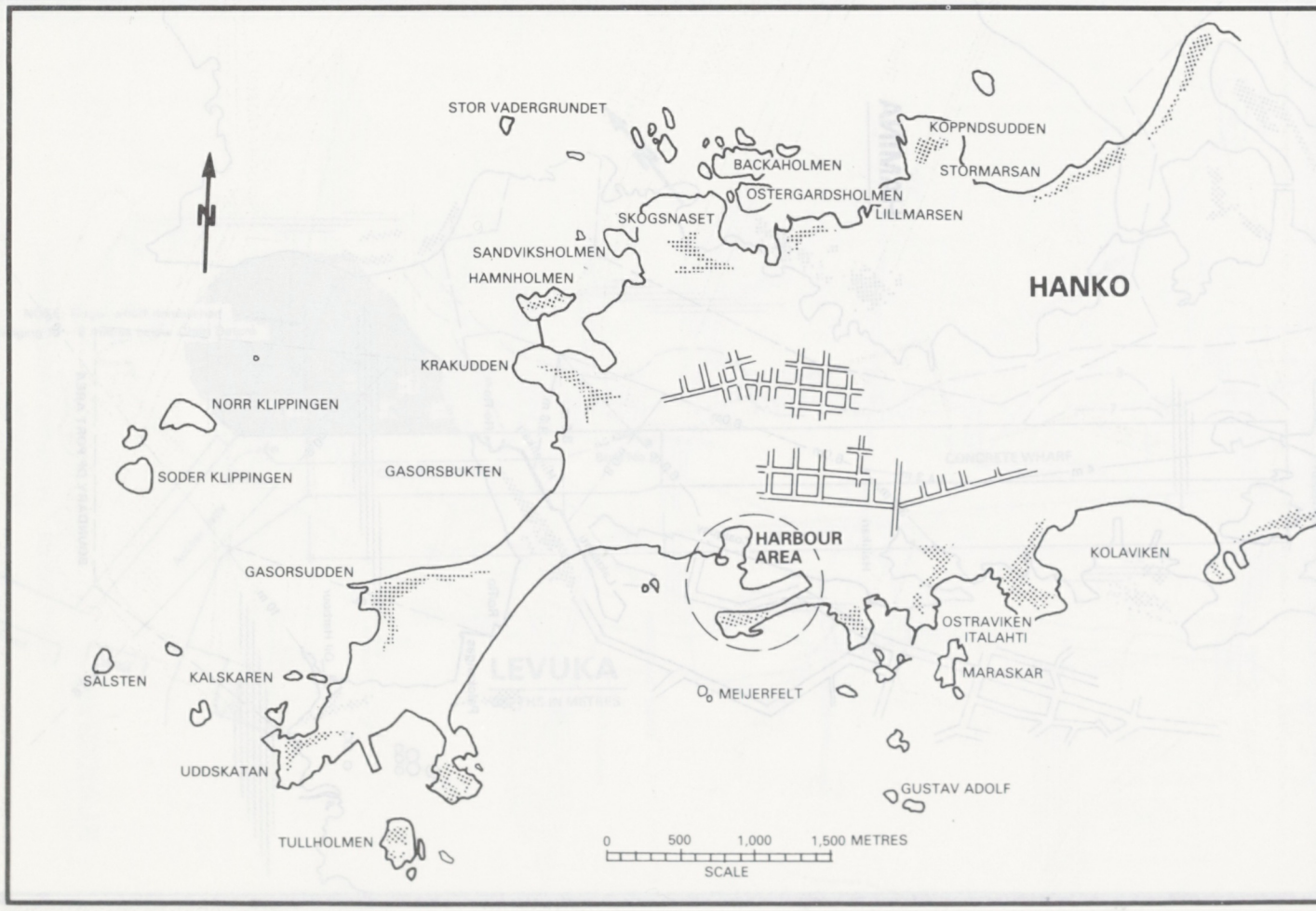

N
NOTE: Finger wharf demolished.
Dredging to −8 metres below Chart Datum
−4
−5
−6
−7
−8
−9
−10
−8
−7
Bore No.1.
CONCRETE WHARF
Bore No.2
CONCRETE WHARF
Access Jetty
Shed
Shed
SLIP
LEVUKA
DEPTHS IN METRES

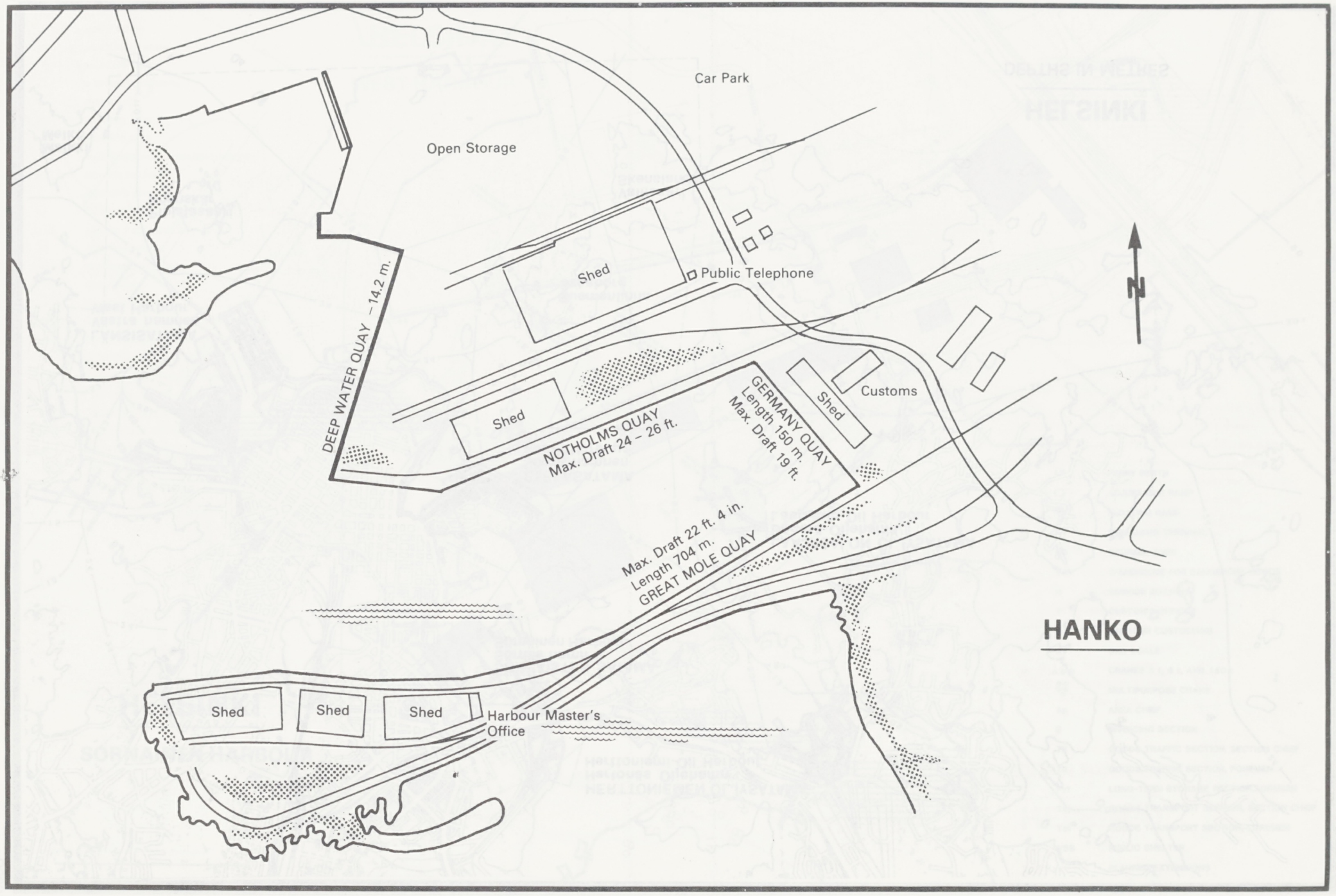
SUVA

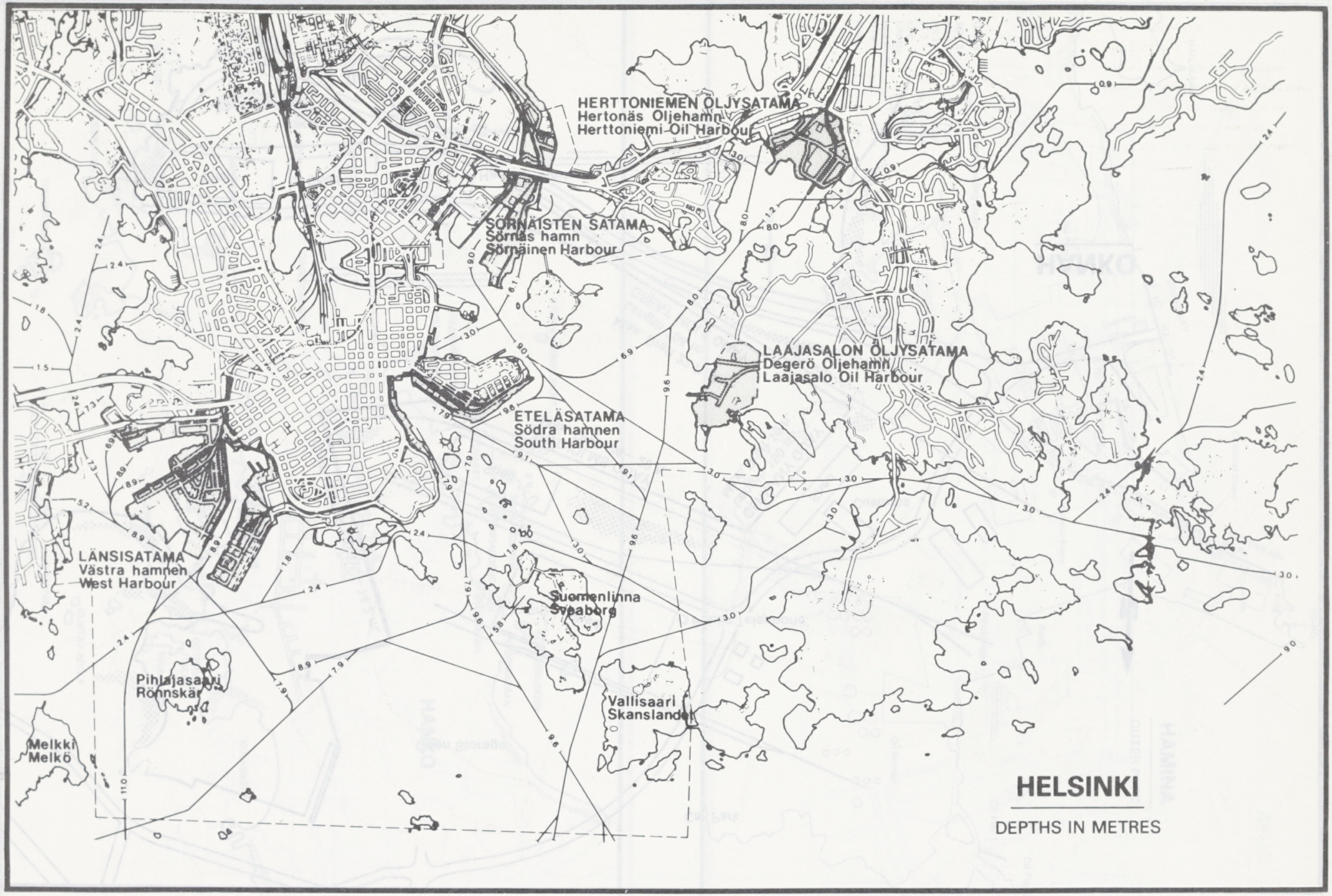

KING'S WHARF TOTAL LENGTH 1,612 ft.
South Oil Terminal
Outline of original Wharf
North Oil Terminal
Bridge No 16
Bridge No 6
Shed No 4
Port Masters Signal Station
Shed No 3
Customs Office
Shed No 2
New Warehouse
Shed No 1
Walu Bay Wharf
Face of Wharf 602 ft.
Bridge No 1
Mooring Dolphins
Dolphins
Walu Bay Wharf No. 1
Berthing Area Dredged to 15 ft.
Prince's Wharf
Shed No 5
Seawall
0 100 250 500 Feet
SCALE


HAMINA
Tervasaari
Hatikari
Coalquay
Lakulahti
Hiilenkari
Ro-Ro
Ro/Ro
Palokangas
Oil Harbour
4 m
4.3 m
3.9 m.
6.0m
8.0m
6.9 m
8.0m
8.6 m.
8.6 m.
9.0m
10 m.
10 m.
10 m.
9.0m
BOUNDARY OF PORT AREA


HAMINA
OUTER PORT
RO-RO
HK6
3
Customs
Container Crane
HIIRENKARI
Ro/Ro
HK5
HK4
HK3
HK2
HK1
EG2
EG1
HAILIKARI
COALQUAY
H1 H2 H3 H4
L1
L2
L3
L4
L5
L6
L RO-RO
Customs
2
4
5
Sea Pilots
Harbour Pilots
Ro/Ro
Oil Pier 2
Oil Pier 1
Palokangas
Oil Storage
Quays
Normal Loading Draft
EG 1.2 7.9m
HK 1.2 7.9m
HK 3-5 8.4m
L1-2 8.6 m.
L3-6 7.9m
LRo/Ro 7.9 m.
HK3 Ro/Ro 8.4 m.
H1-4 6.9 m.
Ro/Ro. 7.4 m.
N


HANKO
STOR VADERGRUNDET
KÖPPNDSUDDEN
BACKAHOLMEN
STORMARSAN
OSTERGARDSHOLMEN
SKOGSNASET
LILLMARSEN
SANDVIKSHOLMEN
HAMNHOLMEN
KRAKUDDEN
NORR KLIPPINGEN
SODER KLIPPINGEN
GASORSBUKTEN
HARBOUR AREA
KOLAVIKEN
GASORSUDDEN
OSTRAVIKEN
ITALAHTI
MARASKAR
SALSTEN
KALSKAREN
MEIJERFELT
UDDSKATAN
GUSTAV ADOLF
TULLHOLMEN
0 500 1,000 1,500 METRES
SCALE
N


Car Park
Open Storage
Shed
Public Telephone
DEEP WATER QUAY – 14.2 m.
Shed
NOTHOLMS QUAY
Max. Draft 24 – 26 ft.
GERMANY QUAY
Length 150 m.
Max. Draft 19 ft.
Shed
Customs
N
Max. Draft 22 ft. 4 in.
Length 704 m.
GREAT MOLE QUAY
HANKO
Shed
Shed
Shed
Harbour Master's
Office


HERTTONIEMEN ÖLJYSATAMA
Hertonäs Oljehamn
Herttoniemi Oil Harbour
SÖRNÄISTEN SATAMA
Sörnäs hamn
Sörnäinen Harbour
LAAJASALON ÖLJYSATAMA
Degerö Oljehamn
Laajasalo Oil Harbour
ETELÄSATAMA
Södra hamnen
South Harbour
LÄNSISATAMA
Västra hamnen
West Harbour
Suomenlinna
Sveaborg
Pihlajasaari
Rönnskär
Vallisaari
Skanslandet
Melkki
Melkö
HELSINKI
DEPTHS IN METRES

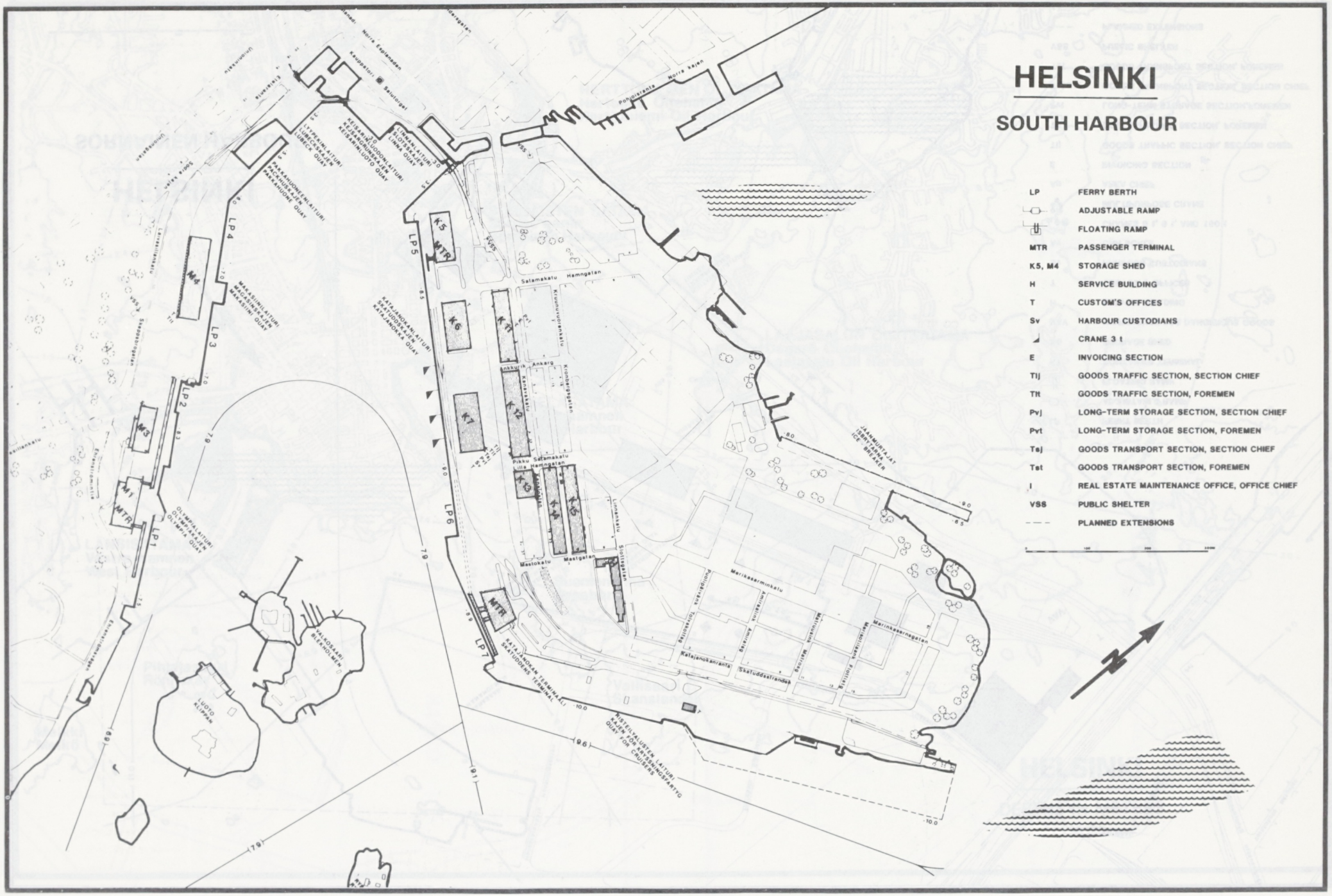
HELSINKI

SORNAINEN HARBOUR

LP	FERRY BERTH
	ADJUSTABLE RAMP
	FLOATING RAMP
KT	CONTAINER TERMINAL
S5	STORAGE SHED
VAV	WAREHOUSE FOR DANGEROUS GOODS
H	SERVICE BUILDING
T	CUSTOM'S OFFICES
Sv	HARBOUR CUSTODIANS
Av	CAR SCALE
	CRANES 5 t, 6 t, AND 150 t
	MULTIPURPOSE CRANE
Ap	AREA CHIEF
E	INVOICING SECTION
Tlj	GOODS TRAFFIC SECTION, SECTION CHIEF
Tlt	GOODS TRAFFIC SECTION, FOREMEN
Pvt	LONG-TERM STORAGE SECTION,FOREMEN
Tsj	GOODS TRANSPORT SECTION, SECTION CHIEF
Tst	GOODS TRANSPORT SECTION, FOREMEN
VSS	PUBLIC SHELTER
- - -	PLANNED EXTENSIONS

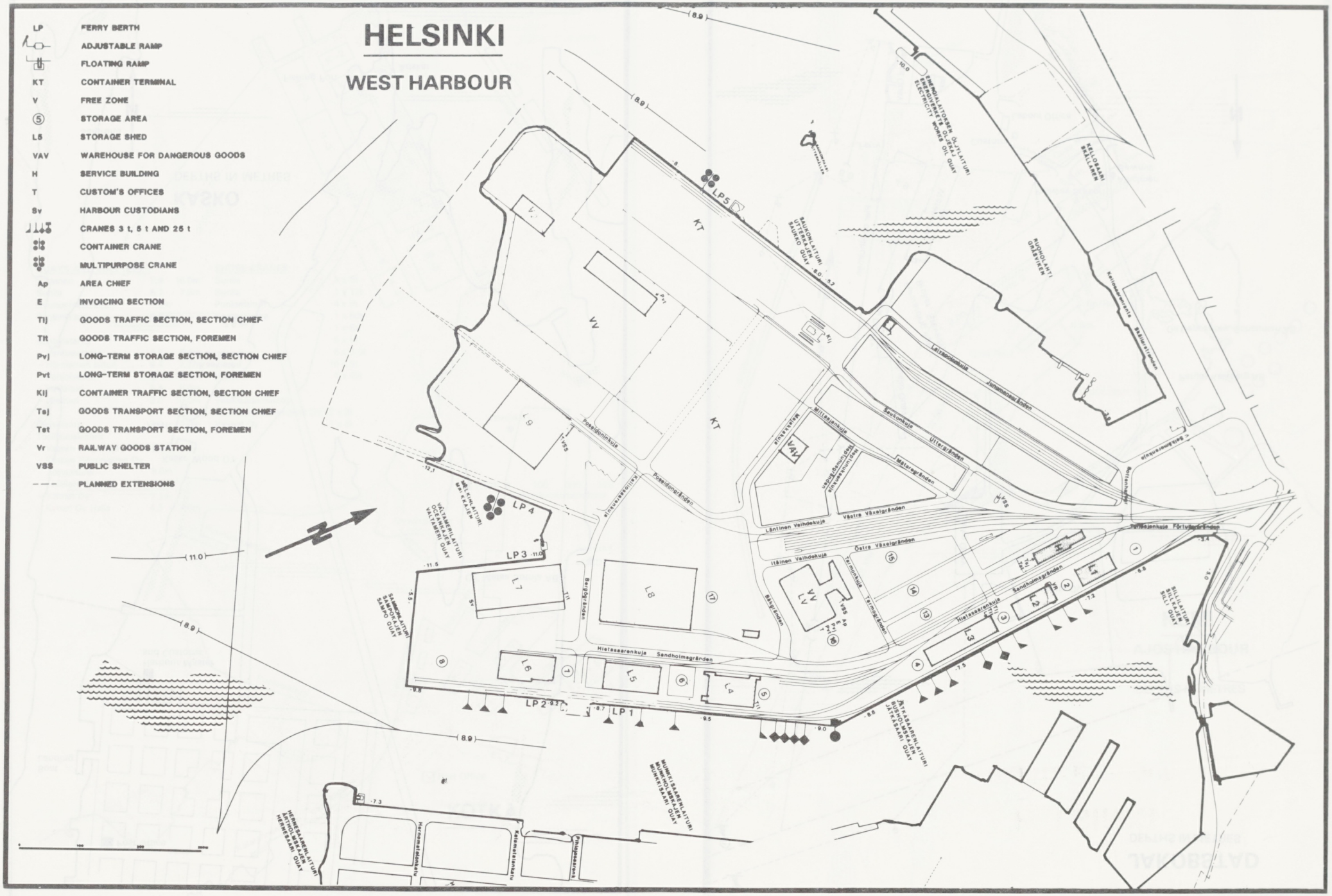
HELSINKI

SOUTH HARBOUR



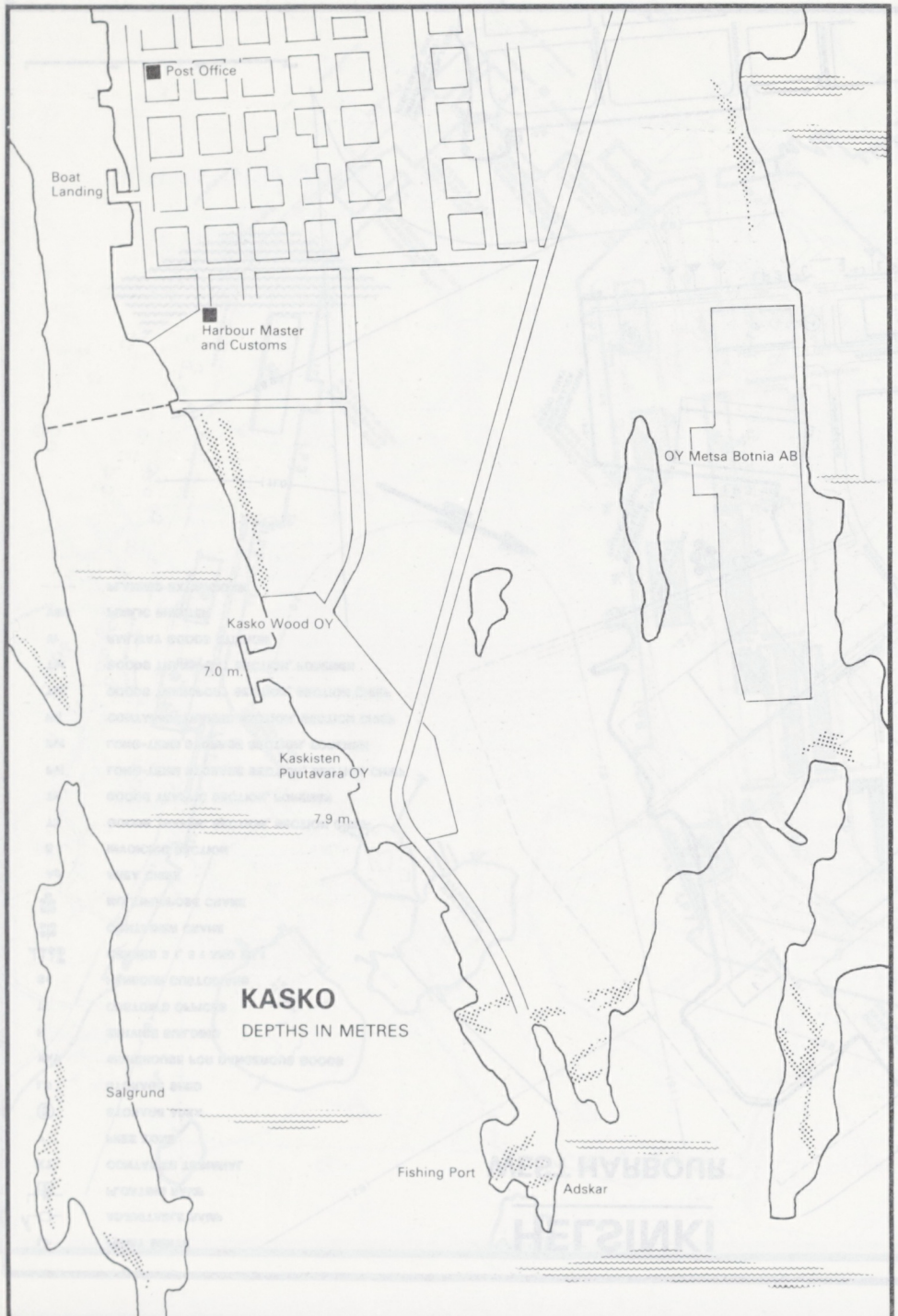
HELSINKI

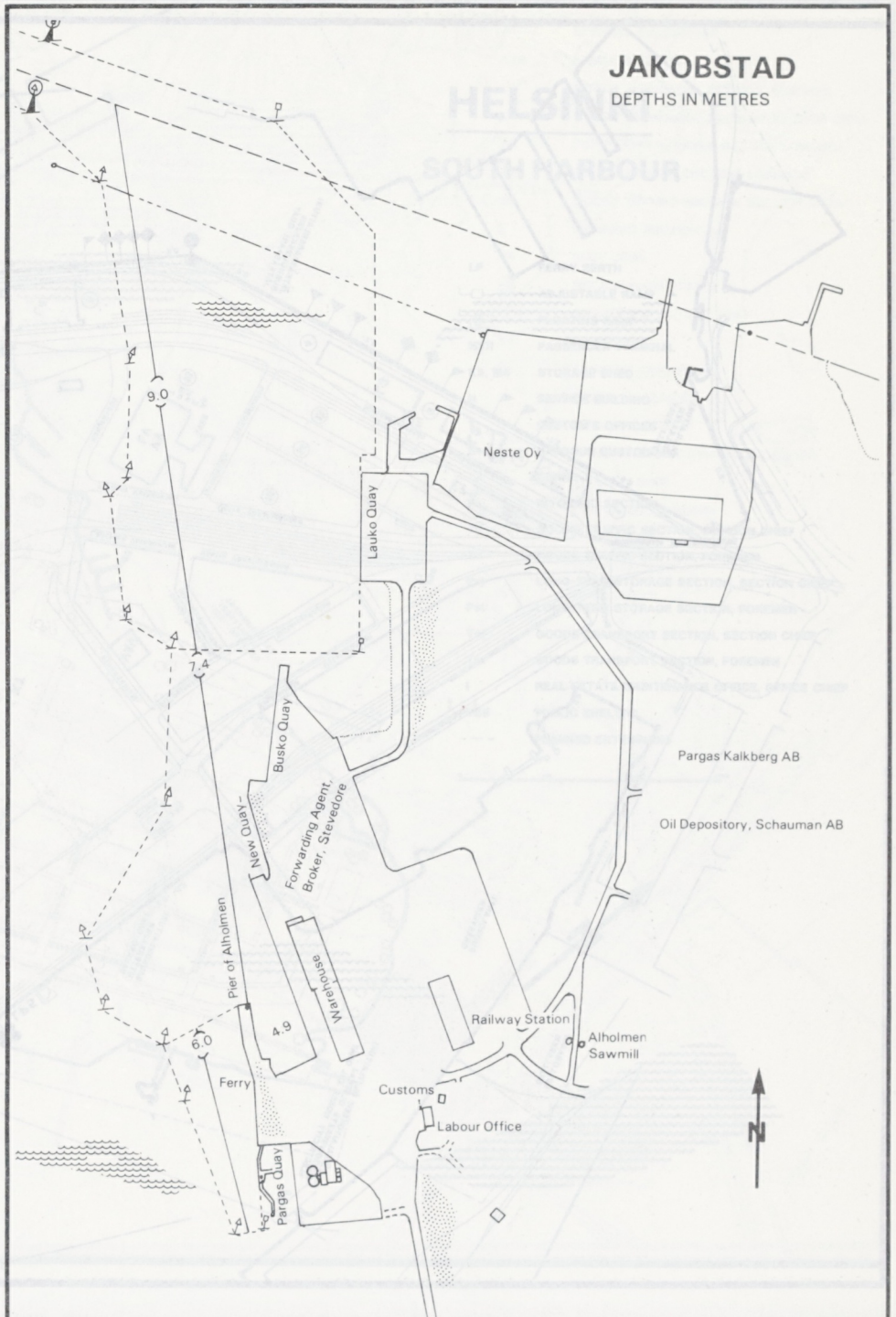
WEST HARBOUR

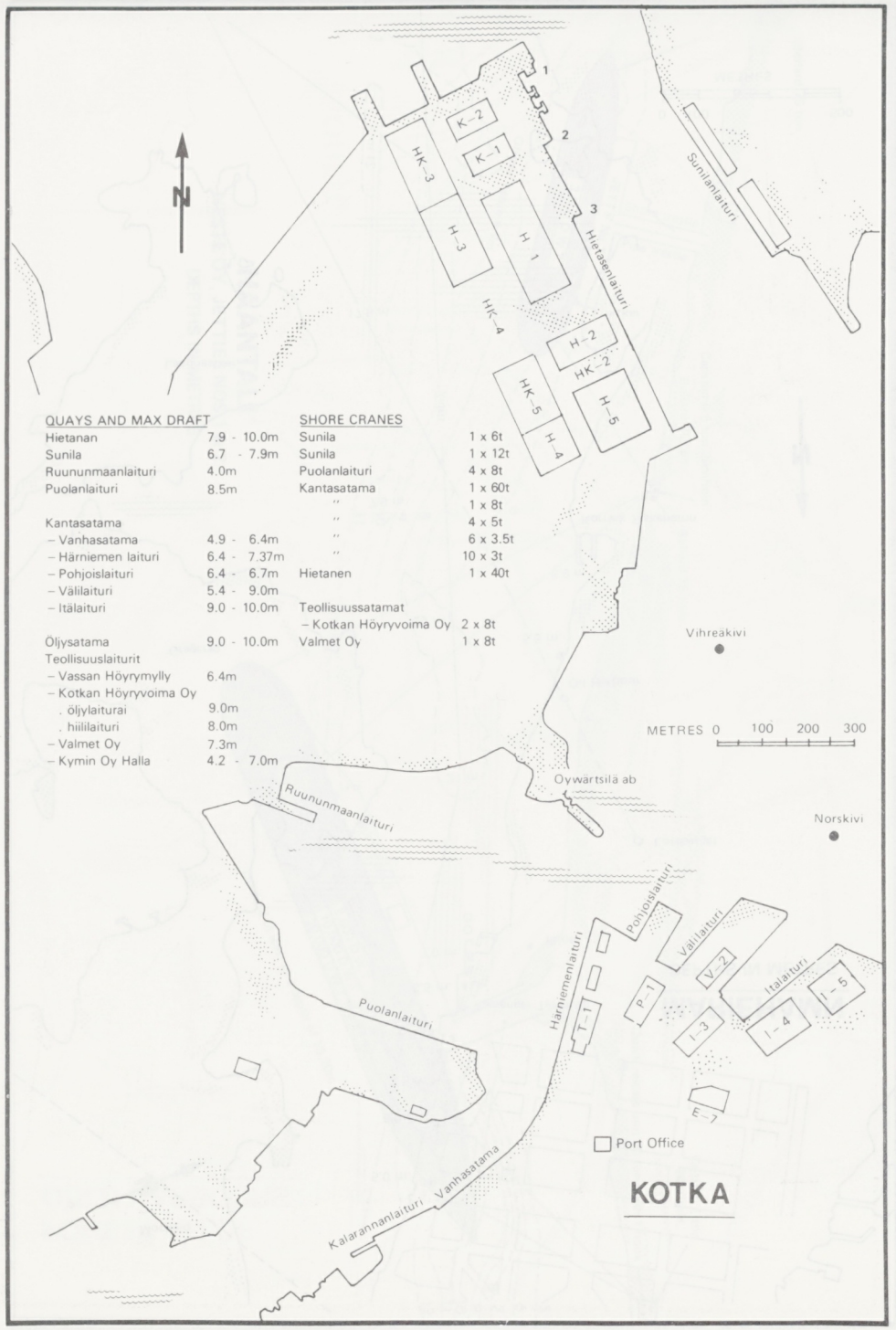


FINLAND

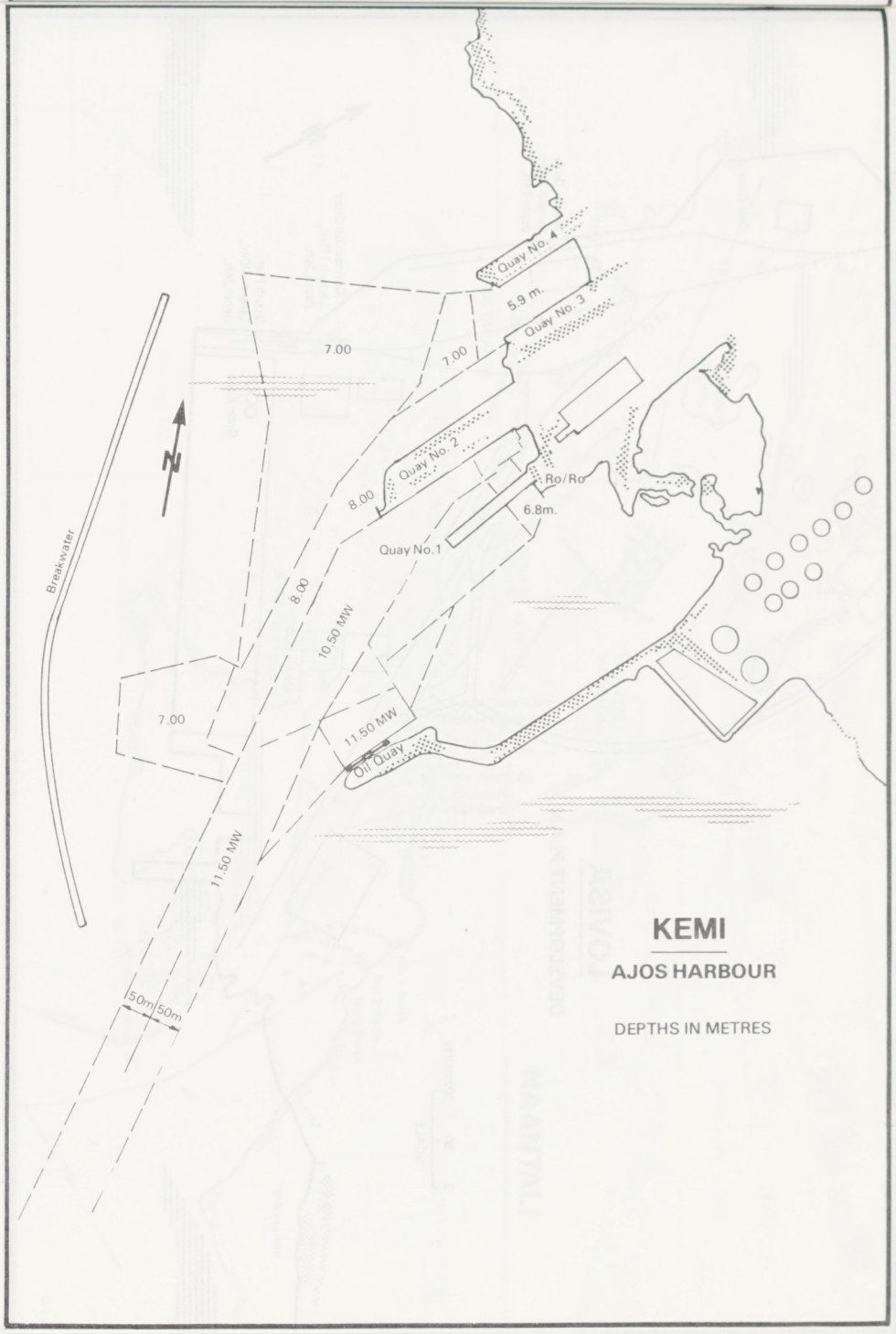
P291

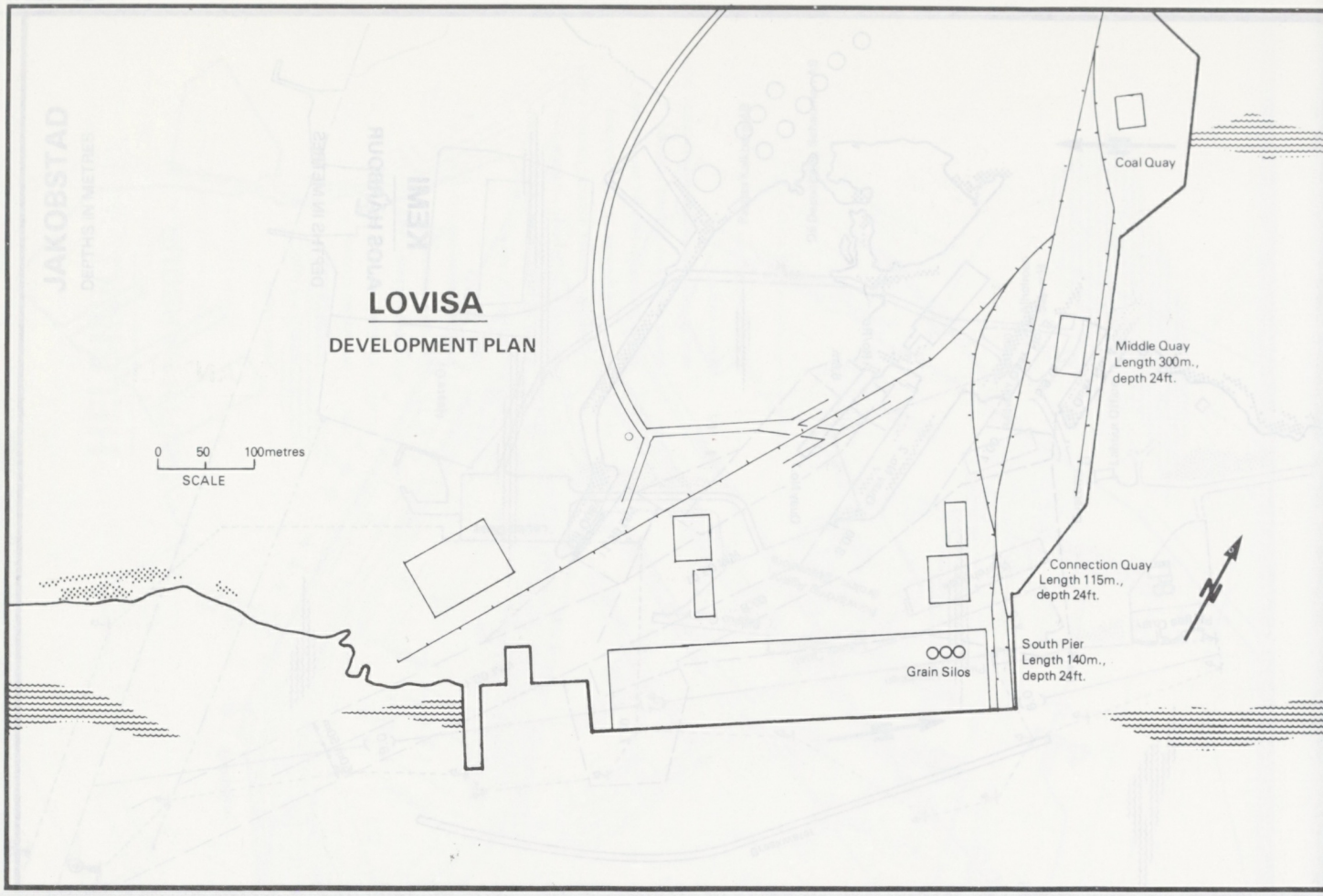

Post Office
Boat Landing
Harbour Master and Customs
OY Metsa Botnia AB
Kasko Wood OY
7.0 m.
Kaskisten Puutavara OY
7.9 m.
KASKO
DEPTHS IN METRES
Salgrund
Fishing Port
Adskar

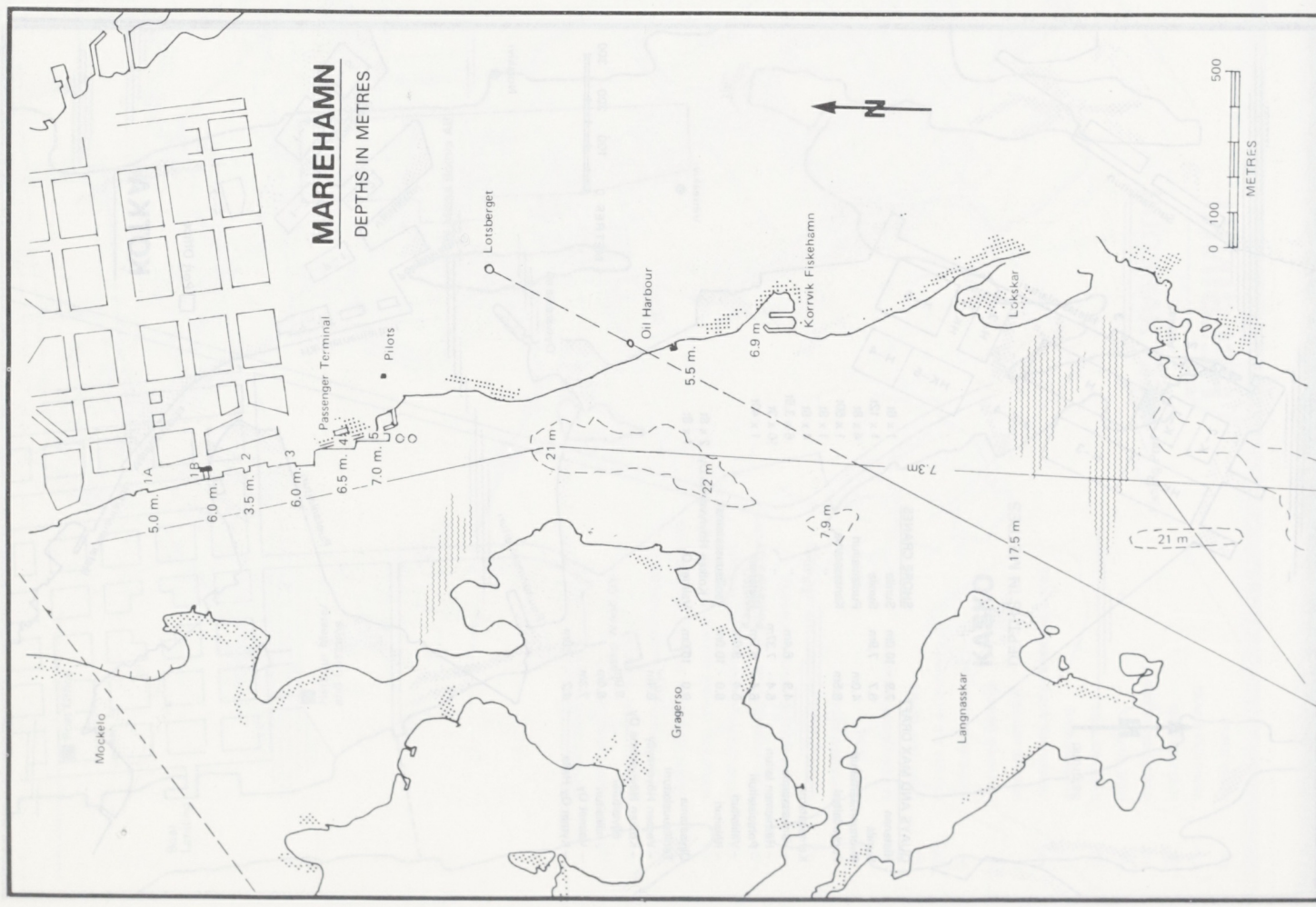

JAKOBSTAD
DEPTHS IN METRES
9.0
Neste Oy
Lauko Quay
7.4
Busko Quay
Pargas Kalkberg AB
Oil Depository, Schauman AB
New Quay
Forwarding Agent, Broker, Stevedore
Pier of Alholmen
Warehouse
4.9
6.0
Railway Station
Alholmen Sawmill
Ferry
Customs
Labour Office
Pargas Quay
N

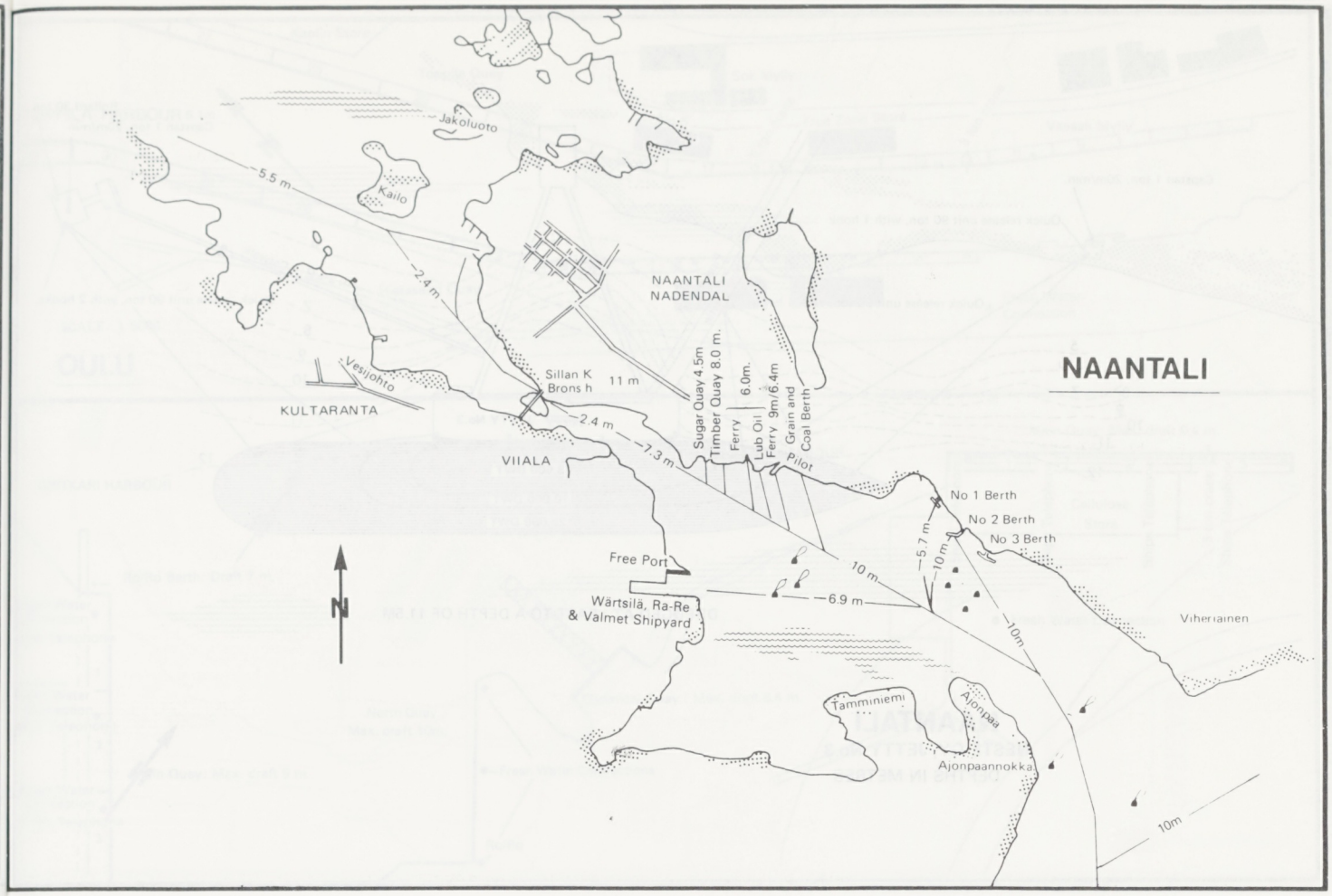


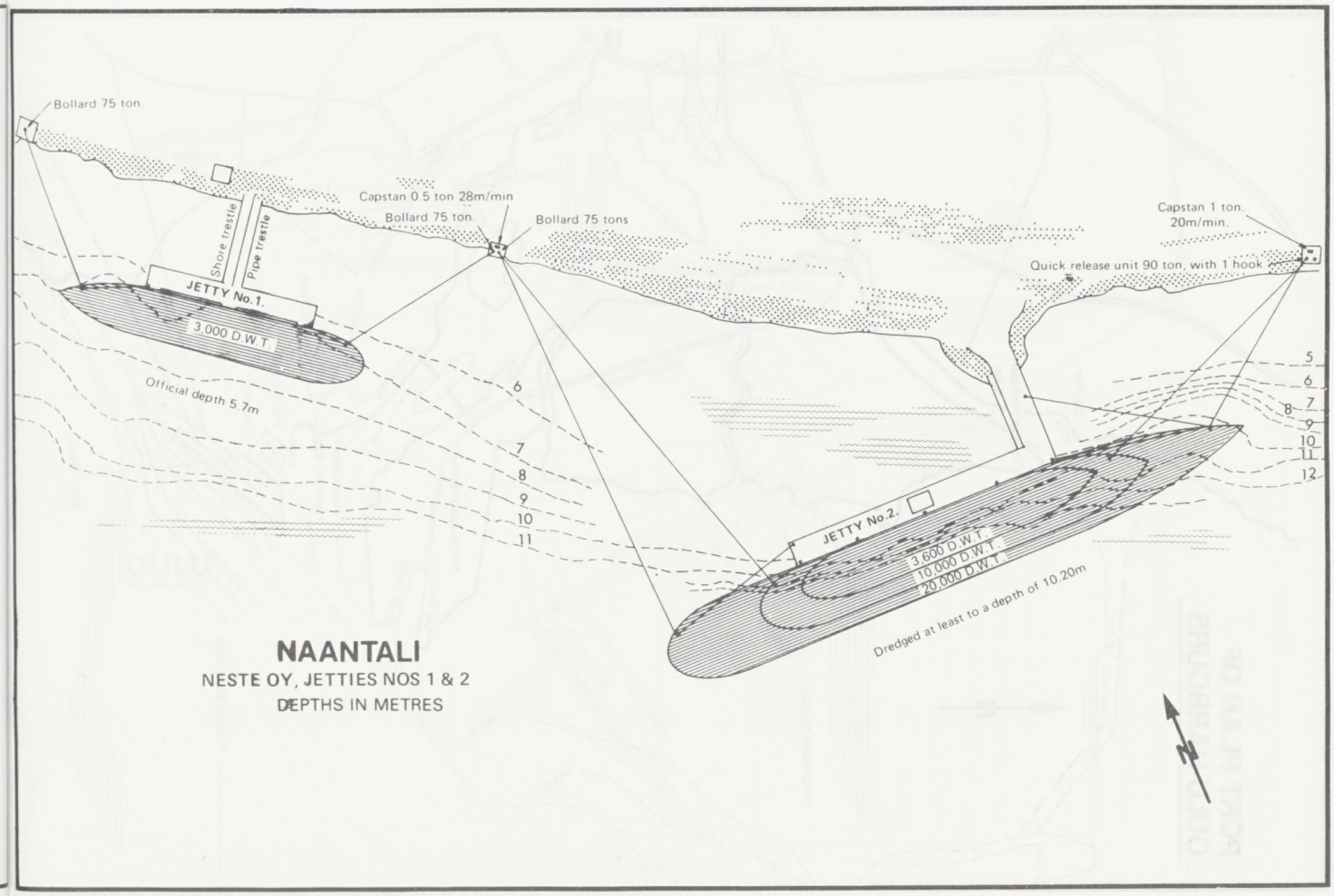
QUAYS AND MAX DRAFT		SHORE CRANES	
Hietanan	7.9 - 10.0m	Sunila	1 x 6t
Sunila	6.7 - 7.9m	Sunila	1 x 12t
Ruununmaanlaituri	4.0m	Puolanlaituri	4 x 8t
Puolanlaituri	8.5m	Kantasatama	1 x 60t
		,,	1 x 8t
Kantasatama		,,	4 x 5t
– Vanhasatama	4.9 - 6.4m	,,	6 x 3.5t
– Härniemen laituri	6.4 - 7.37m	,,	10 x 3t
– Pohjoislaituri	6.4 - 6.7m	Hietanen	1 x 40t
– Välilaituri	5.4 - 9.0m		
– Itälaituri	9.0 - 10.0m	Teollisuussatamat	
		– Kotkan Höyryvoima Oy	2 x 8t
Öljysatama	9.0 - 10.0m	Valmet Oy	1 x 8t
Teollisuuslaiturit			
– Vassan Höyrymylly	6.4m		
– Kotkan Höyryvoima Oy			
. öljylaiturai	9.0m		
. hiililaituri	8.0m		
– Valmet Oy	7.3m		
– Kymin Oy Halla	4.2 - 7.0m		




LOVISA
DEVELOPMENT PLAN
0 50 100metres
SCALE
Coal Quay
Middle Quay
Length 300m.,
depth 24ft.
Connection Quay
Length 115m.,
depth 24ft.
South Pier
Length 140m.,
depth 24ft.
Grain Silos
N


MARIEHAMN
DEPTHS IN METRES
N
0 100 500
METRES
Lotsberget
Oil Harbour
Korrvik Fiskehamn
Lökskar
Passenger Terminal
Pilots
1A
1B
2
3
4
5
5.0 m.
6.0 m.
3.5 m.
6.0 m.
6.5 m.
7.0 m.
5.5 m.
6.9 m.
21 m.
22 m.
7.3m
7.9 m.
17.5 m.
21 m.
Mockelo
Gragerso
Langnasskar

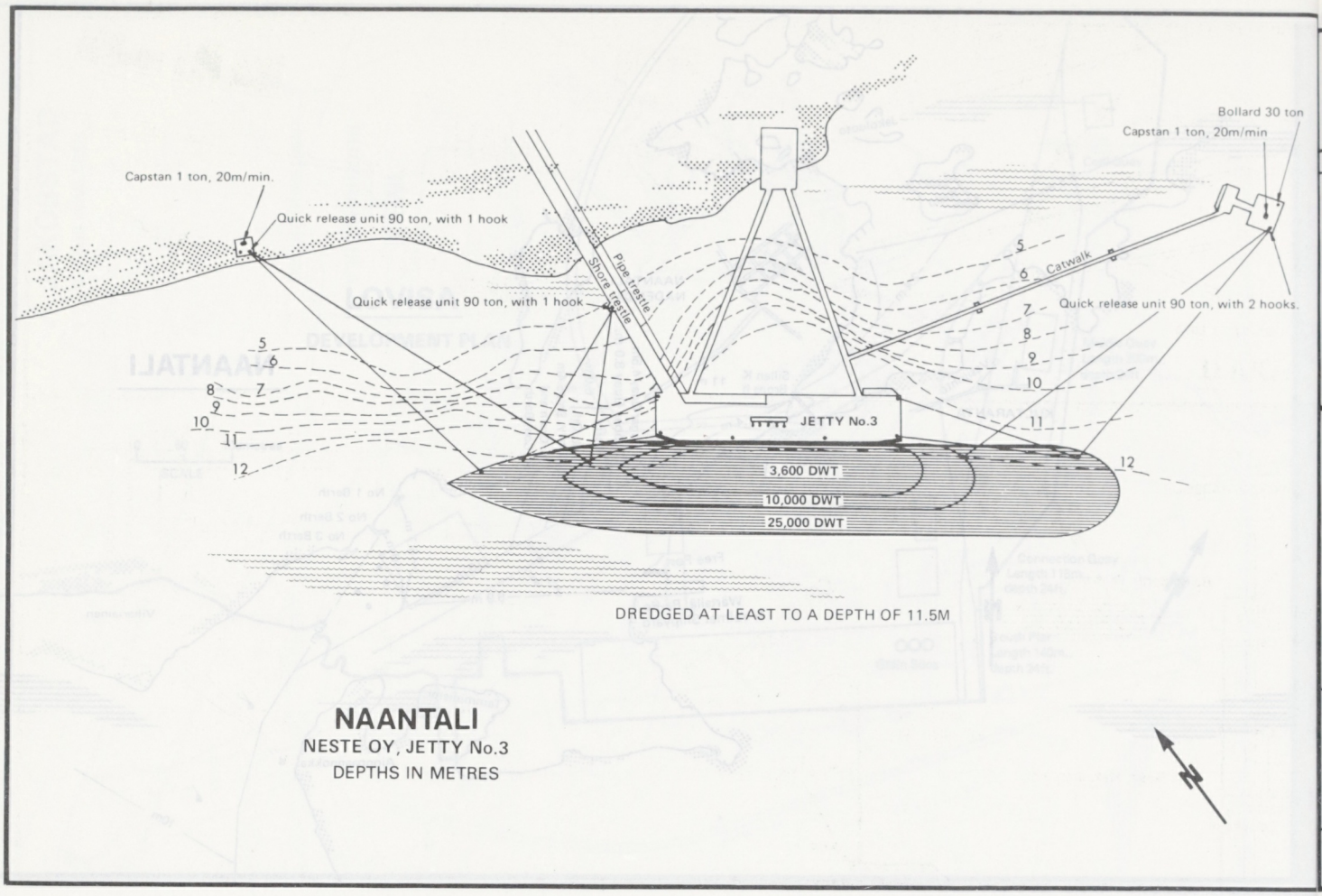




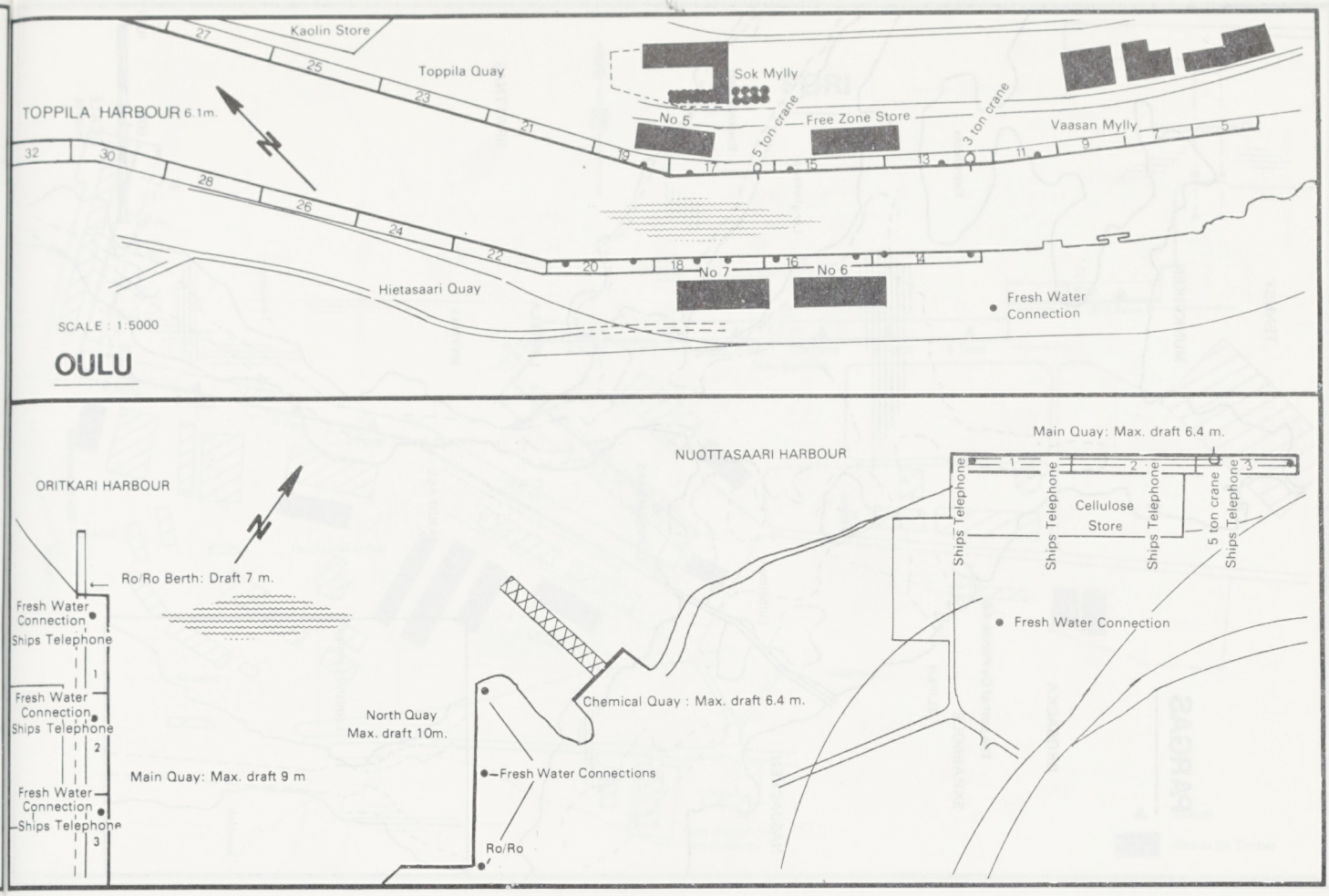
NAANTALI

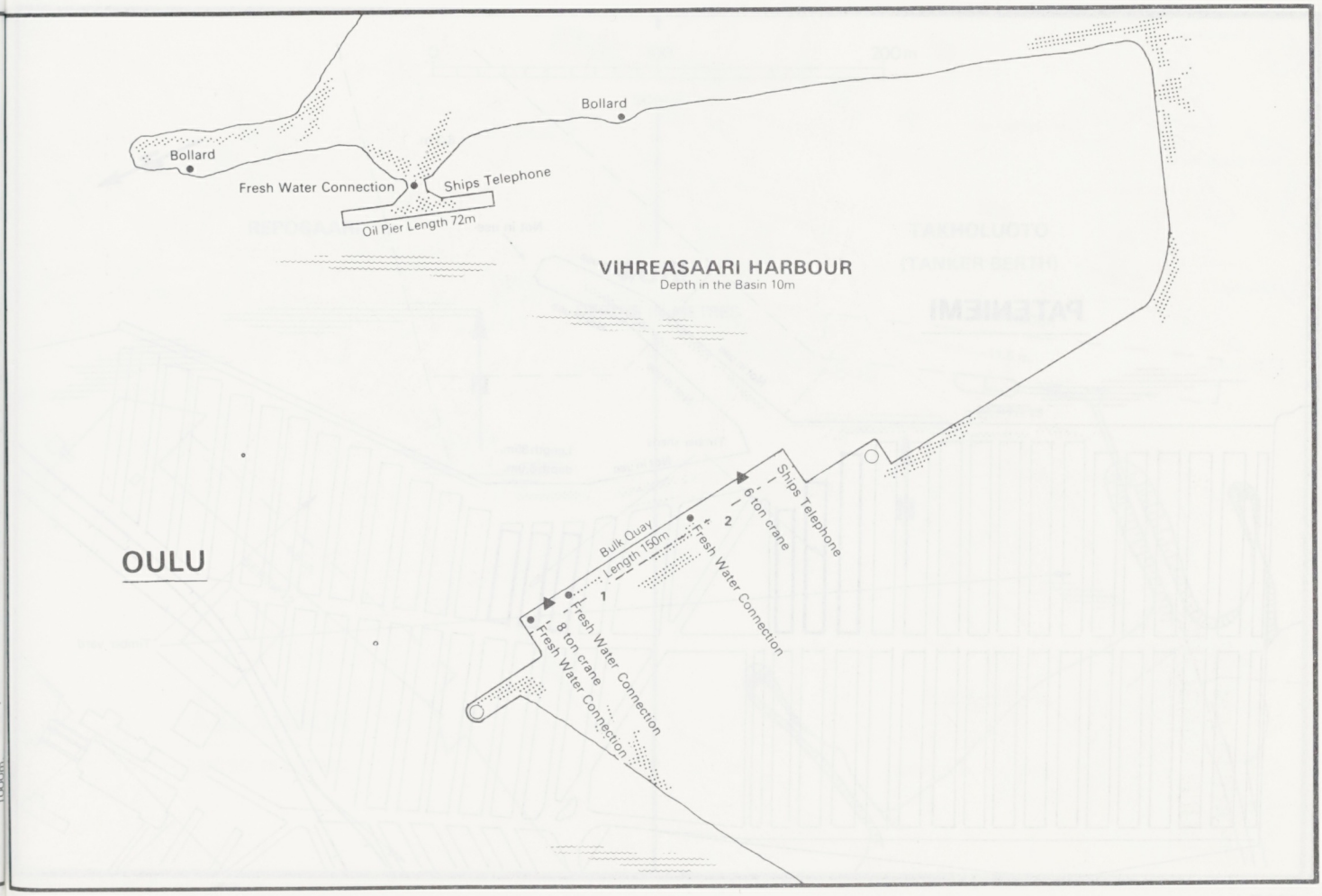
NESTE OY, JETTIES NOS 1 & 2

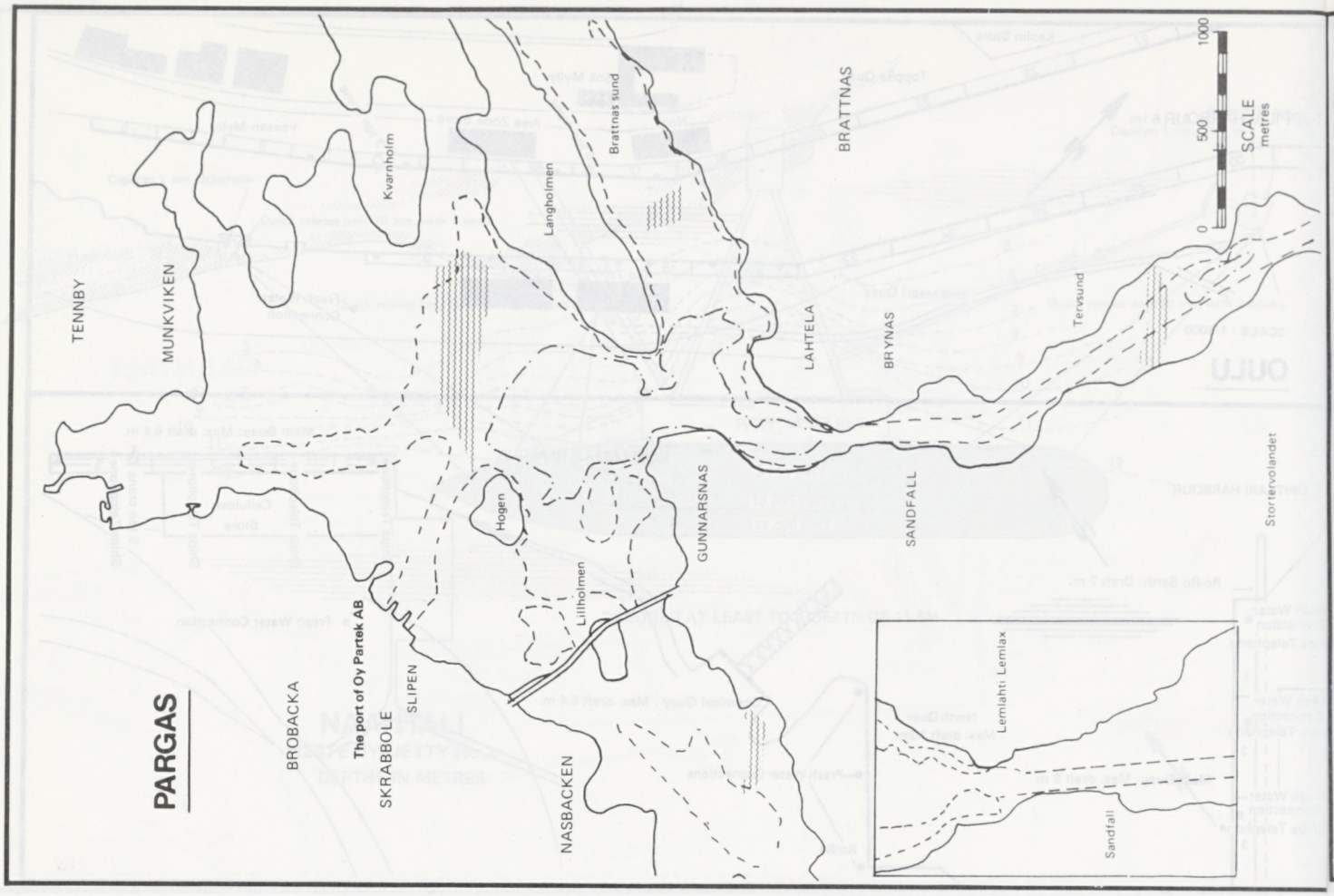
DEPTHS IN METRES

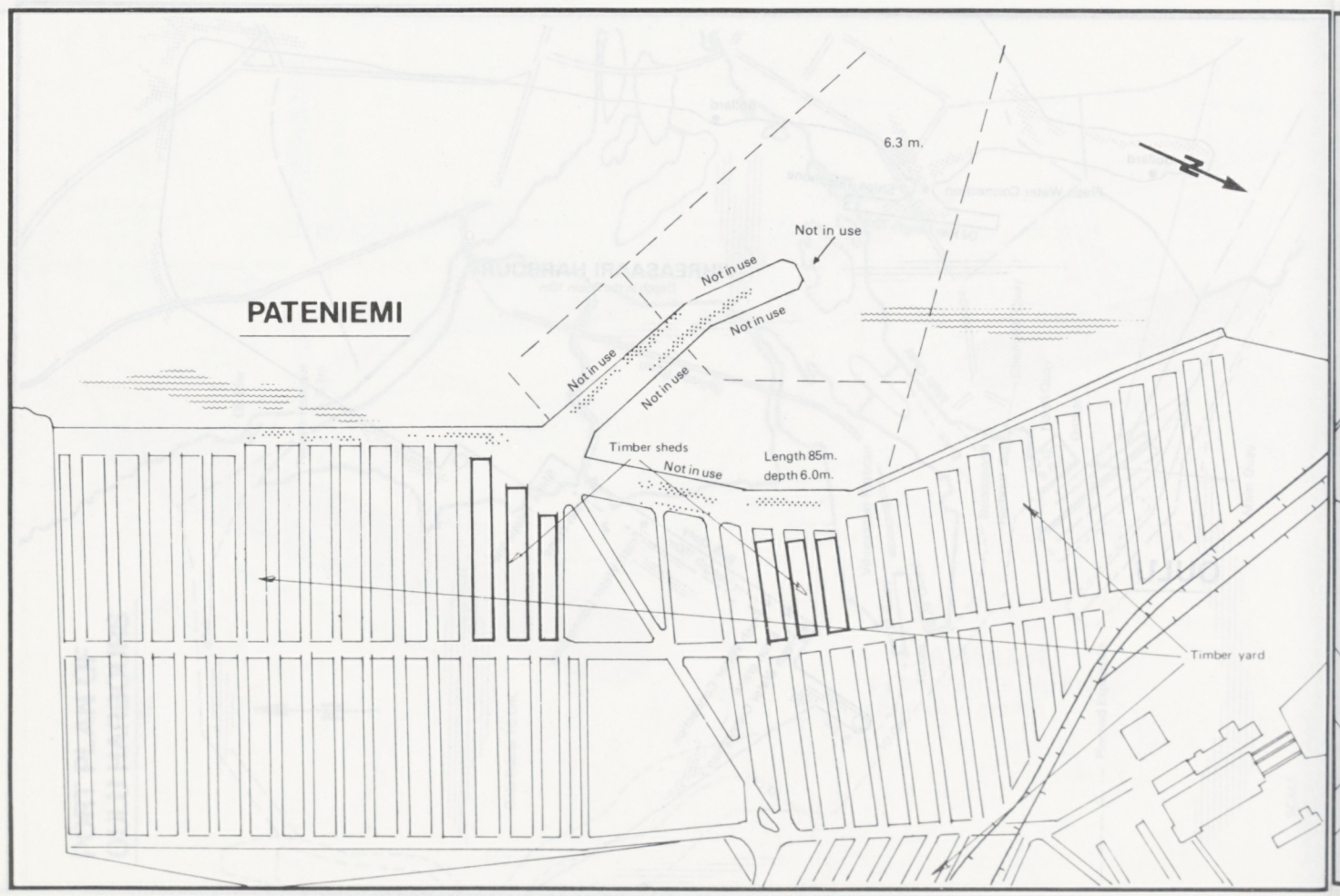

Capstan 1 ton, 20m/min.
Quick release unit 90 ton, with 1 hook
Quick release unit 90 ton, with 1 hook
Shore trestle
Pipe trestle
Bollard 30 ton
Capstan 1 ton, 20m/min
Catwalk
Quick release unit 90 ton, with 2 hooks.
JETTY No.3
3,600 DWT
10,000 DWT
25,000 DWT
DREDGED AT LEAST TO A DEPTH OF 11.5M
NAANTALI
NESTE OY, JETTY No.3
DEPTHS IN METRES
N

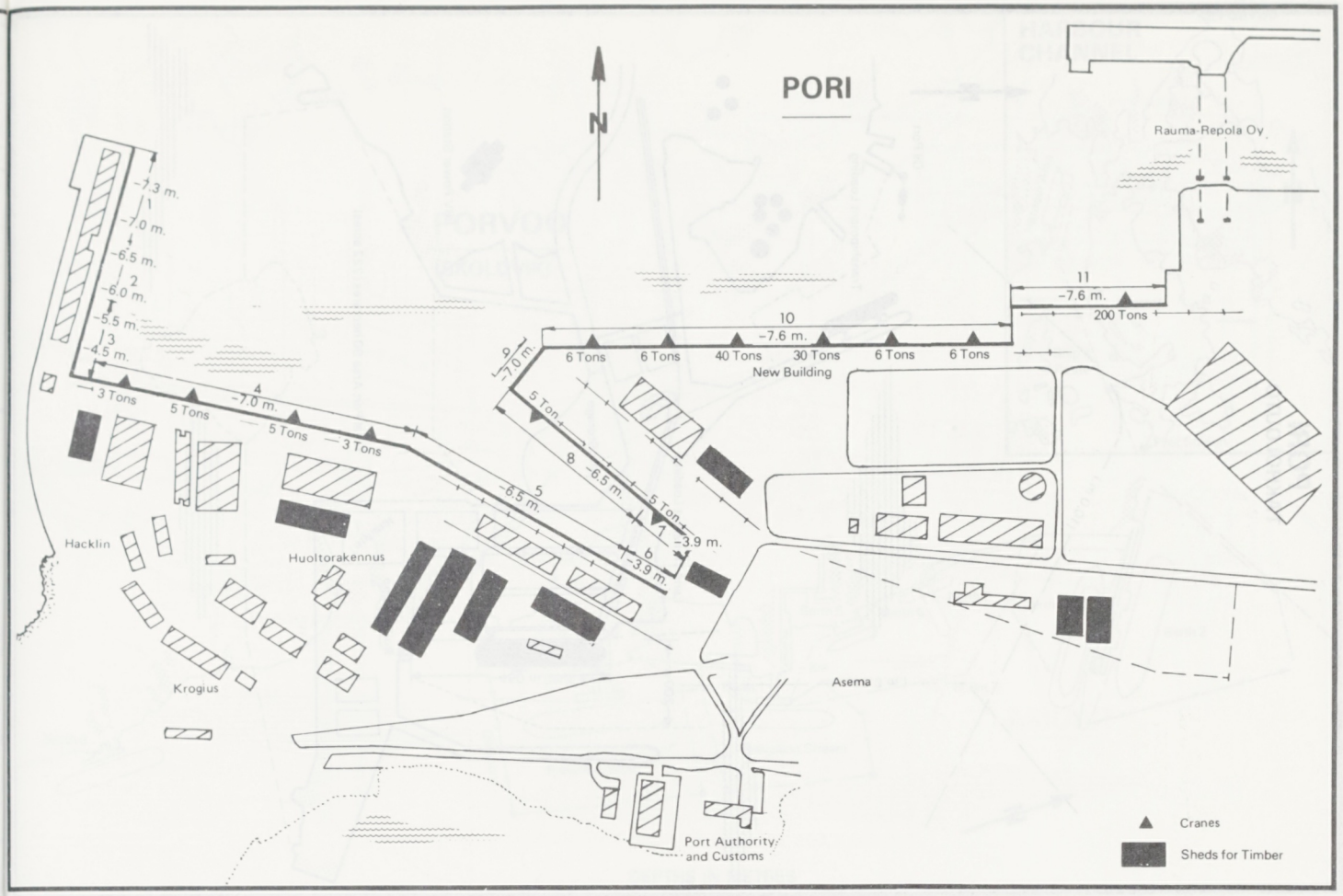
PORT PLAN OF OULU HARBOURS
Oil Pier
Toppila Harbour 6.1m
Railway Road
Main Quay
Chemical Quay
North Quay
Oritkari
Nuottasaari Harbour
Vihreasaari Harbour
Oil Quay
Bulk Quay
Main Quay
Oulu Roads 10.0m.
Planned Expansion
SCALE
N

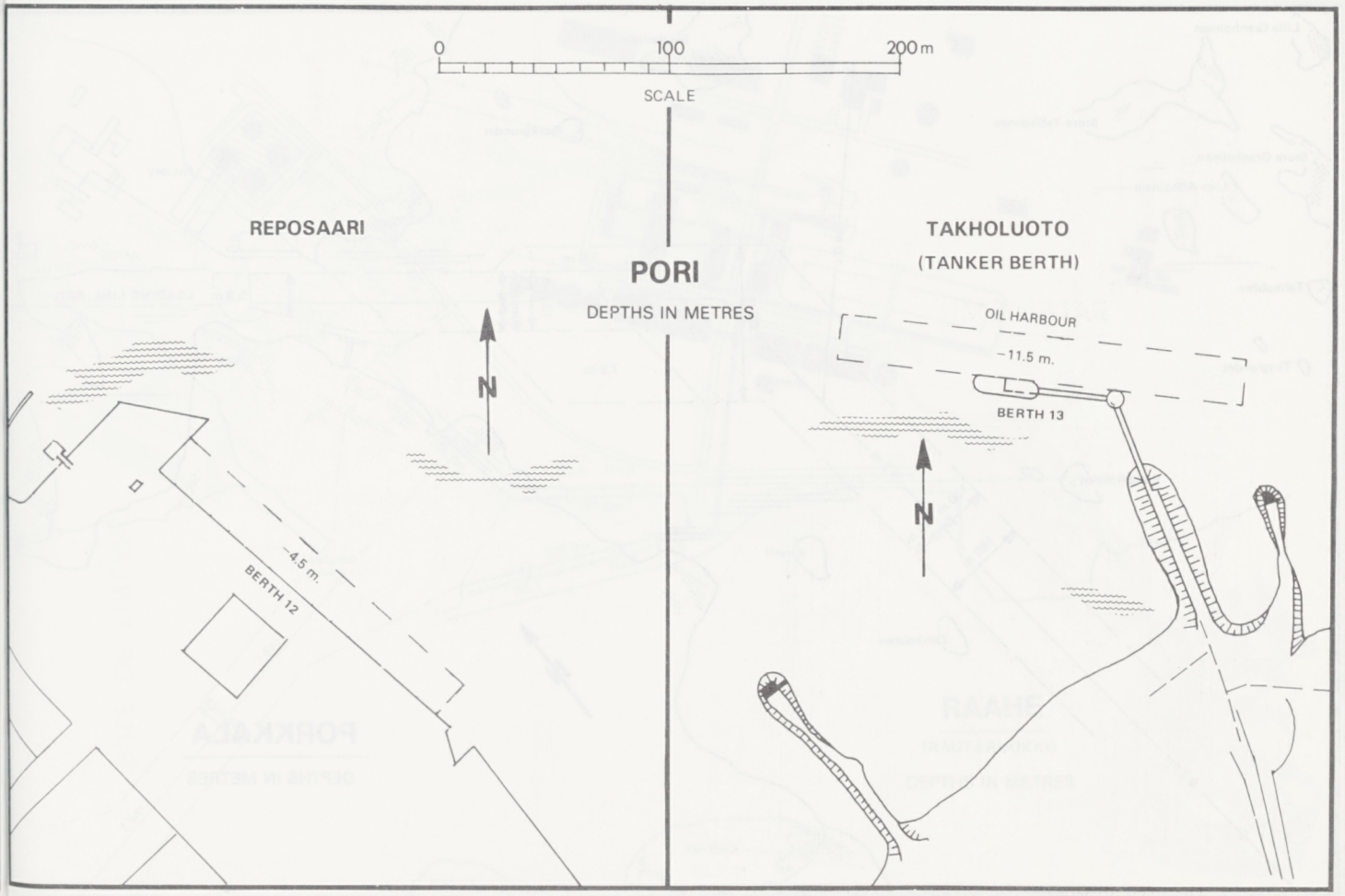

Kaolin Store
Toppila Quay
TOPPILA HARBOUR 6.1m.
Sok Mylly
No 5
5 ton crane
Free Zone Store
3 ton crane
Vaasan Mylly
Hietasaari Quay
No 7
No 6
Fresh Water Connection
SCALE : 1:5000
OULU
ORITKARI HARBOUR
Ro/Ro Berth: Draft 7 m.
Fresh Water Connection
Ships Telephone
Main Quay: Max. draft 9 m
North Quay
Max. draft 10m.
Fresh Water Connections
Ro/Ro
NUOTTASAARI HARBOUR
Chemical Quay : Max. draft 6.4 m.
Main Quay: Max. draft 6.4 m.
Cellulose Store
5 ton crane
Fresh Water Connection

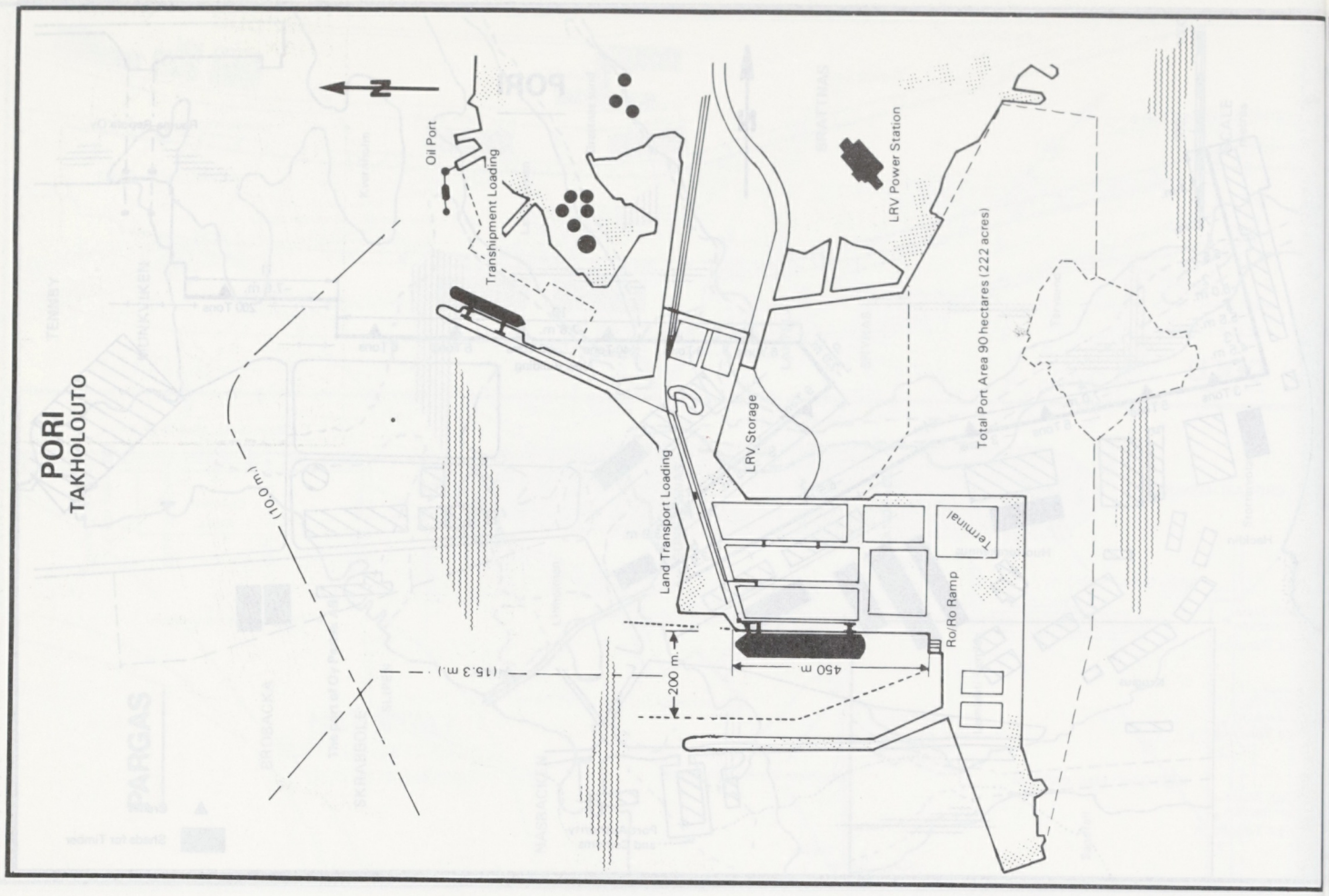

Bollard
Fresh Water Connection
Ships Telephone
Oil Pier Length 72m
VIHREASAARI HARBOUR
Depth in the Basin 10m
OULU
Bulk Quay
Length 150m
6 ton crane
8 ton crane
Fresh Water Connection

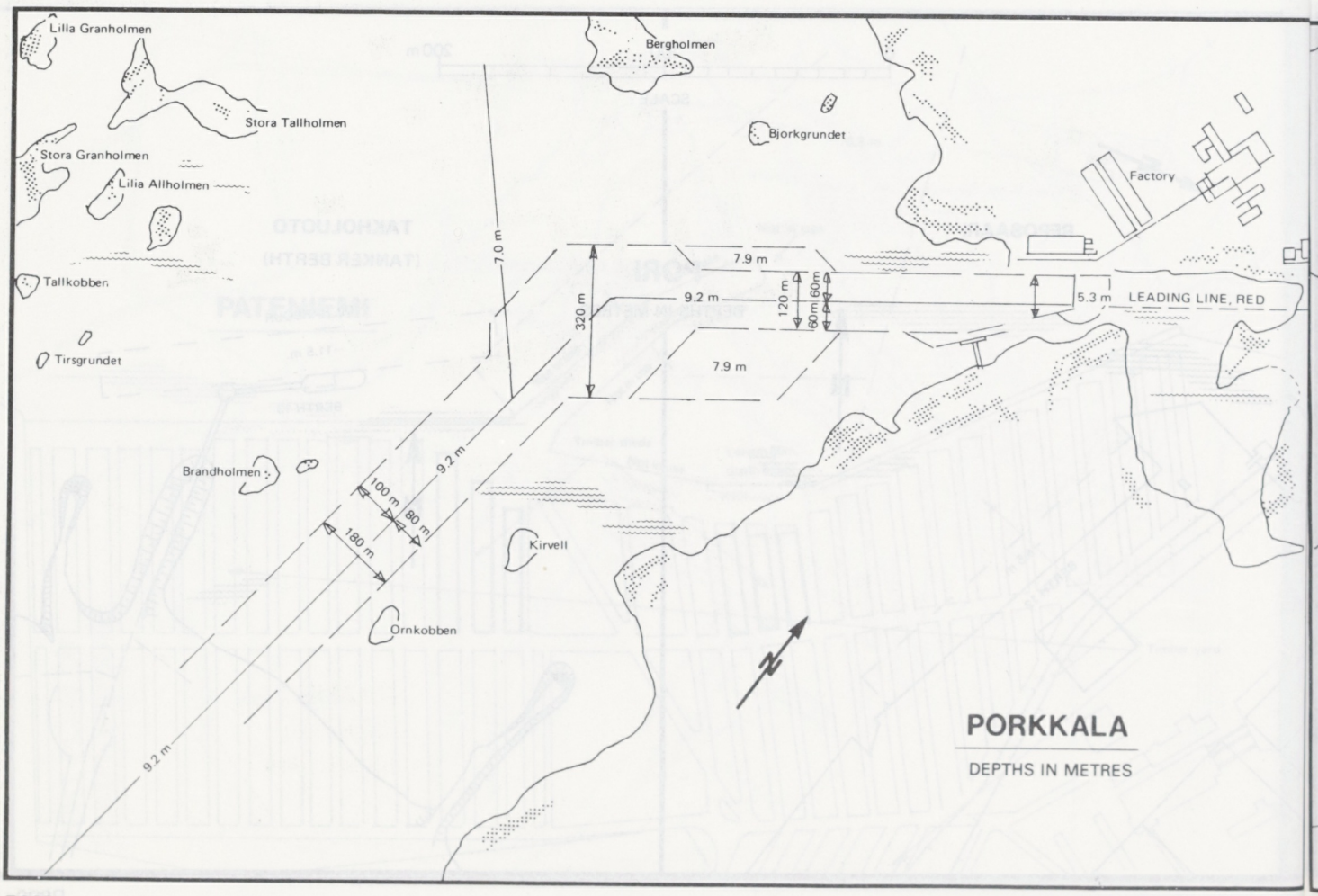

PARGAS
TENNBY
MUNKVIKEN
Kvarnholm
Langholmen
Brattnas sund
BRATTNAS
LAHTELA
BRYNAS
Tervsund
SCALE metres
1000
500
0
Hogen
Lillholmen
GUNNARSNAS
SANDFALL
Storträsket
Storträsket
BROBACKA
The port of Oy Partek AB
SLIPEN
SKRABBOLE
NASBACKEN
Lemlahti Lemlax
Sandfall

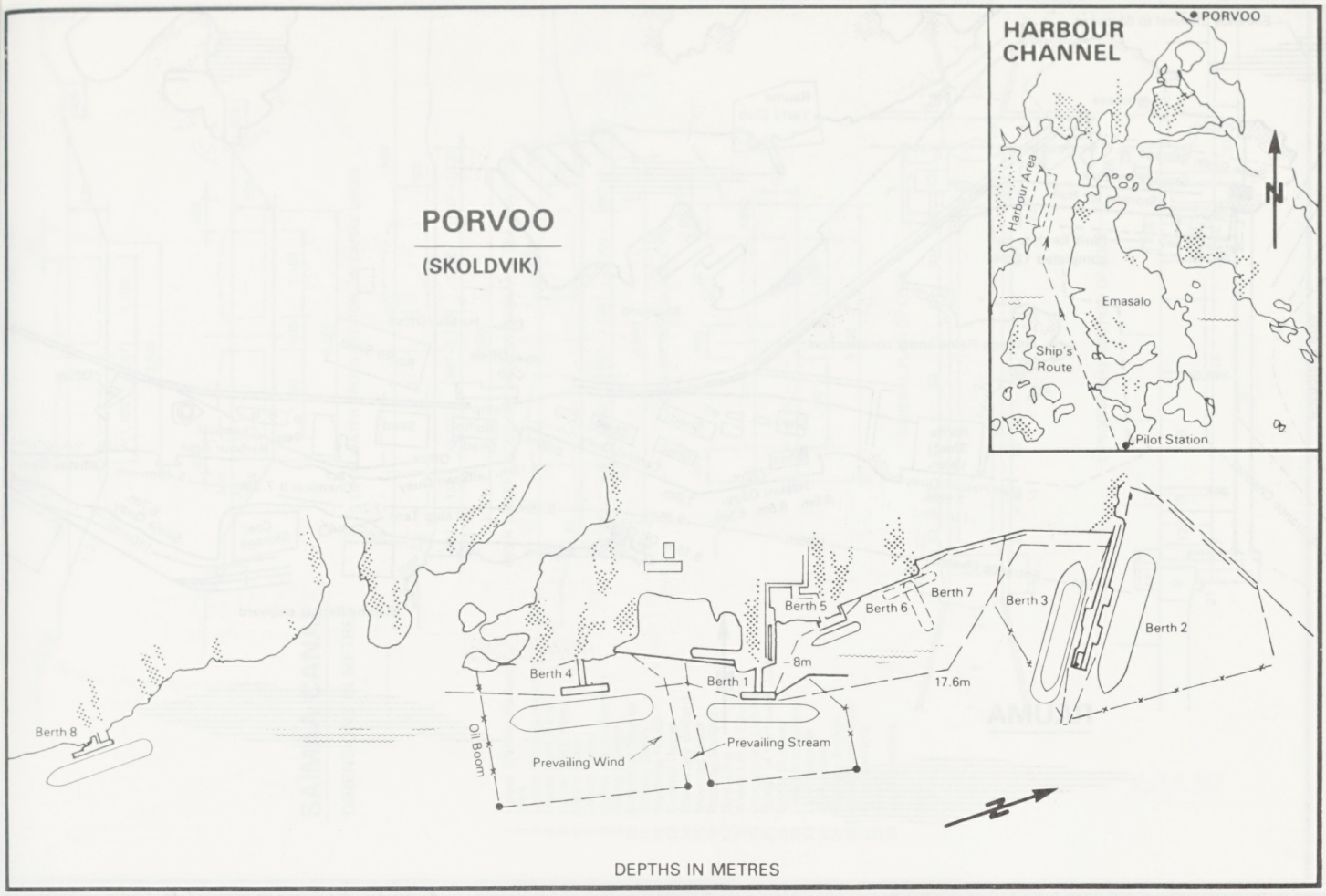

PATENIEMI
6.3 m.
N
Not in use
Not in use
Not in use
Not in use
Not in use
Not in use
Timber sheds
Not in use
Length 85m.
depth 6.0m.
Timber yard

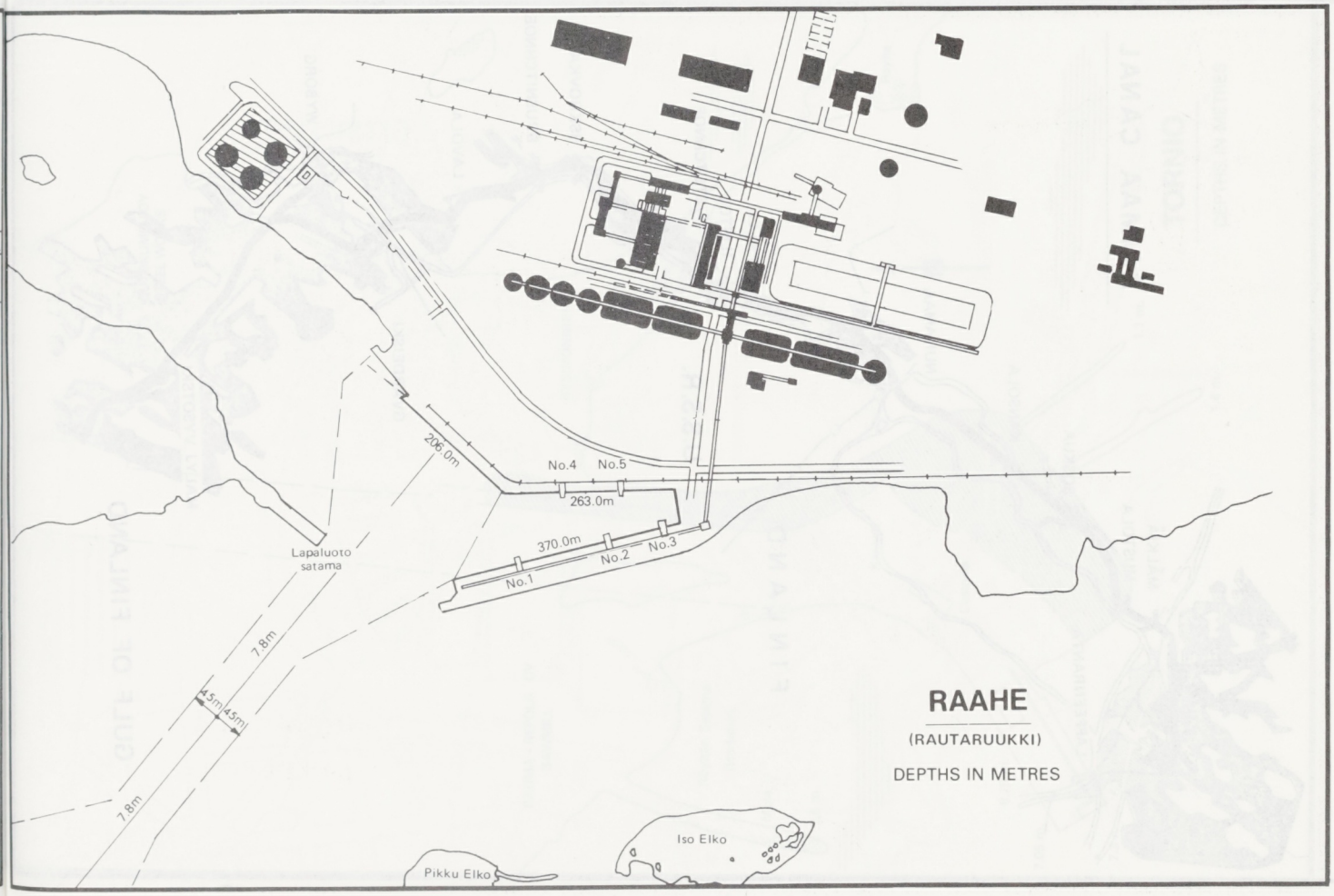

PORI
N
Rauma-Repola Oy
11
-7.6 m.
200 Tons
10
-7.6 m.
6 Tons
6 Tons
40 Tons
30 Tons
6 Tons
6 Tons
New Building
9
-7.0 m.
5 Ton
8
-6.5 m.
5 Ton
1
-3.9 m.
6
-3.9 m.
5
-6.5 m.
4
-7.0 m.
3 Tons
5 Tons
5 Tons
3 Tons
1
-7.3 m.
-7.0 m.
2
-6.5 m.
-6.0 m.
3
-5.5 m.
-4.5 m.
Hacklin
Huoltorakennus
Krogius
Asema
Port Authority and Customs
Cranes
Sheds for Timber

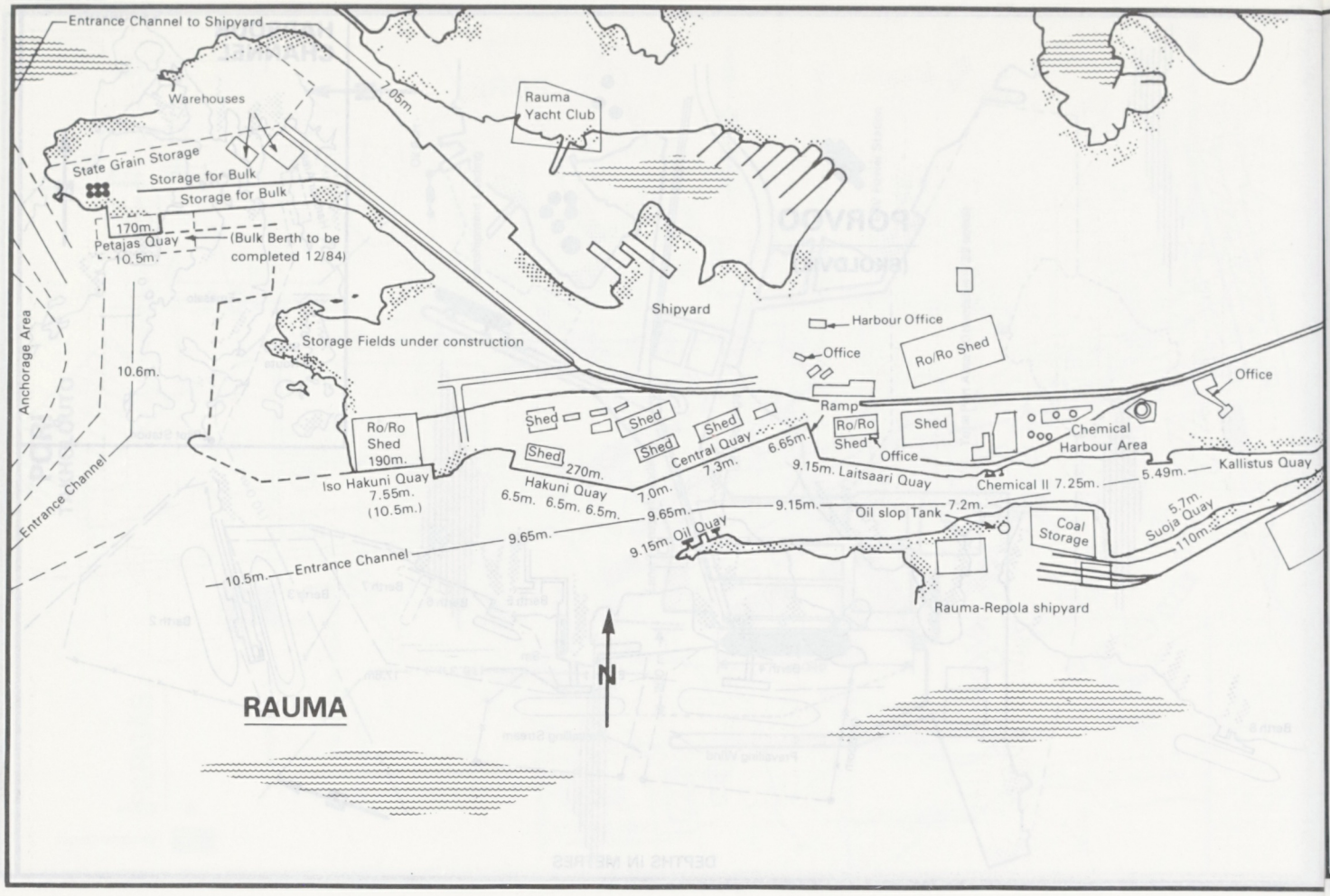

0
100
200 m
SCALE
REPOSAARI
PORI
DEPTHS IN METRES
TAKHOLUOTO
(TANKER BERTH)
N
-4.5 m.
BERTH 12
OIL HARBOUR
-11.5 m.
BERTH 13
N


PORI
TAKHOLOUTO
N
Oil Port
Transhipment Loading
LRV Power Station
Total Port Area 90 hectares (222 acres)
LRV Storage
Land Transport Loading
Terminal
Ro/Ro Ramp
(10.0 m.)
(15.3 m.)
200 m
450 m

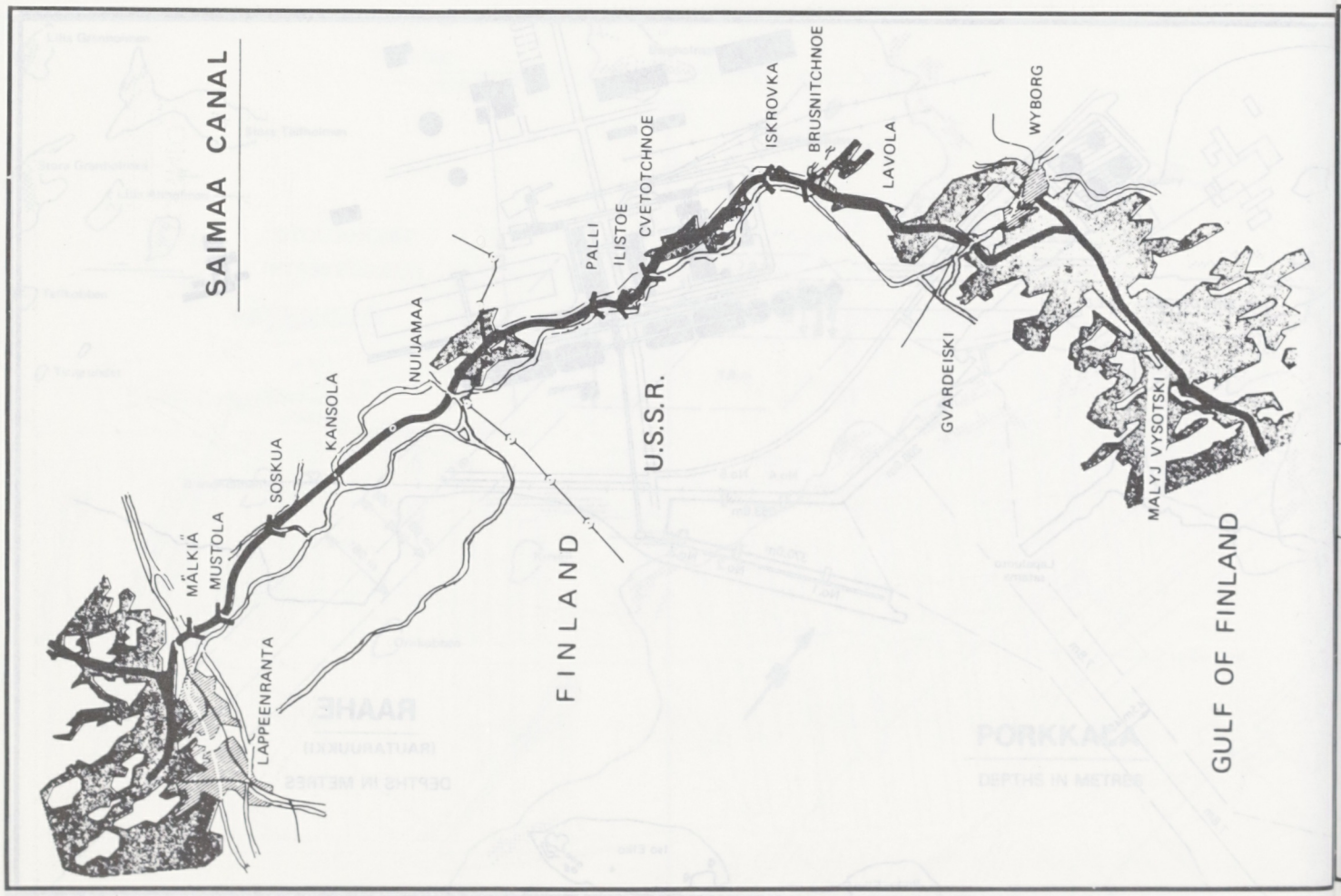

Lilla Granholmen
Stora Tallholmen
Stora Granholmen
Lilia Allholmen
Tallkobben
Tirsgrundet
Brandholmen
Bergholmen
Bjorkgrundet
Factory
Kirvell
Ornkobben
7.0 m
7.9 m
9.2 m
320 m
120 m
60m
60m
5.3 m
LEADING LINE, RED
7.9 m
9.2 m
100 m
80 m
180 m
9.2 m
N
PORKKALA
DEPTHS IN METRES

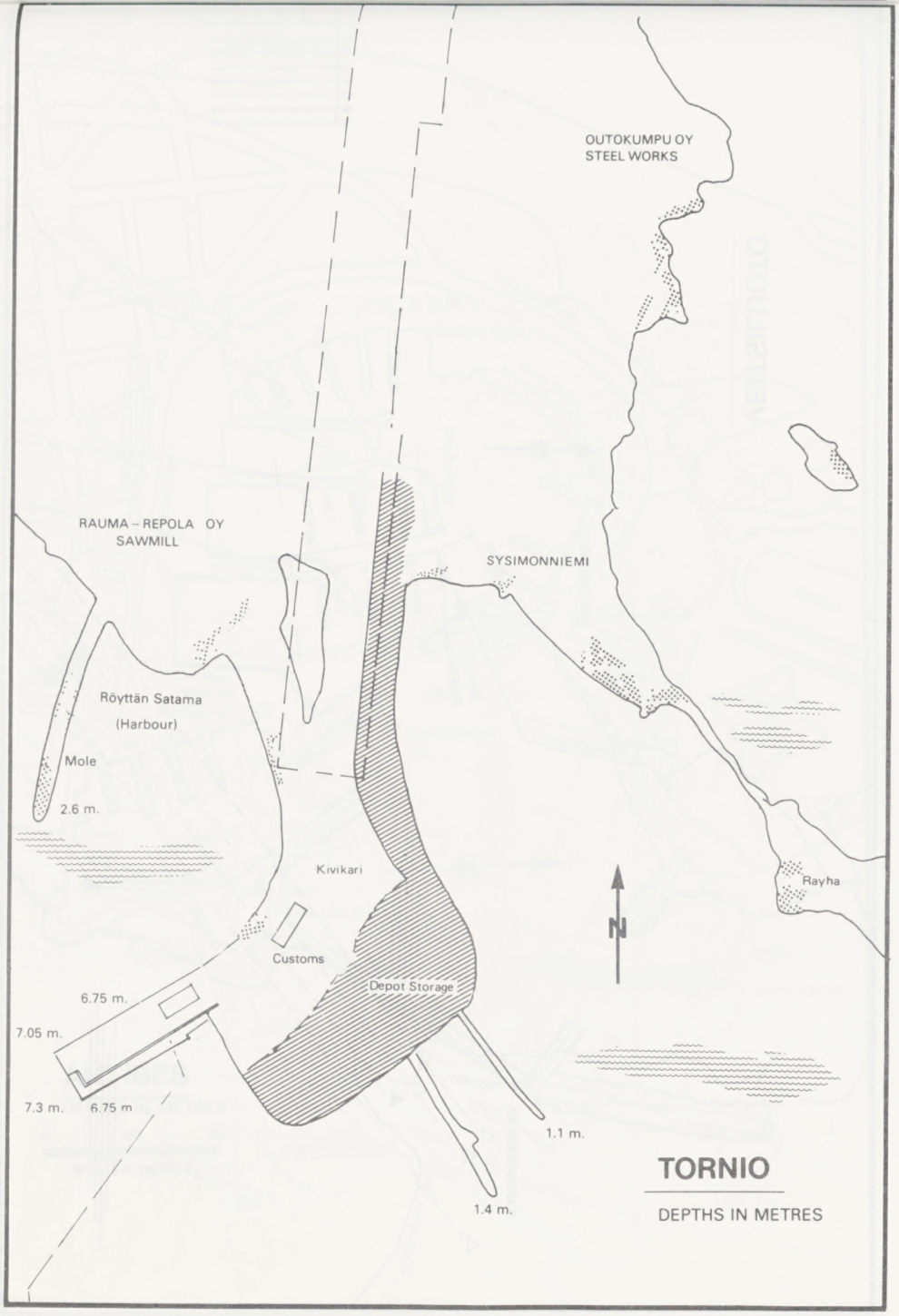

HARBOUR CHANNEL
PORVOO
Harbour Area
N
Emasalo
Ship's Route
Pilot Station
PORVOO
(SKOLDVIK)
Berth 8
Berth 4
Berth 1
Berth 5
Berth 6
Berth 7
Berth 3
Berth 2
8m
17.6m
Oil Boom
Prevailing Wind
Prevailing Stream
DEPTHS IN METRES


206.0m
No.4
No.5
263.0m
370.0m
No.1
No.2
No.3
Lapaluoto satama
7.8m
45m
45m
7.8m
RAAHE
(RAUTARUUKKI)
DEPTHS IN METRES
Iso Elko
Pikku Elko



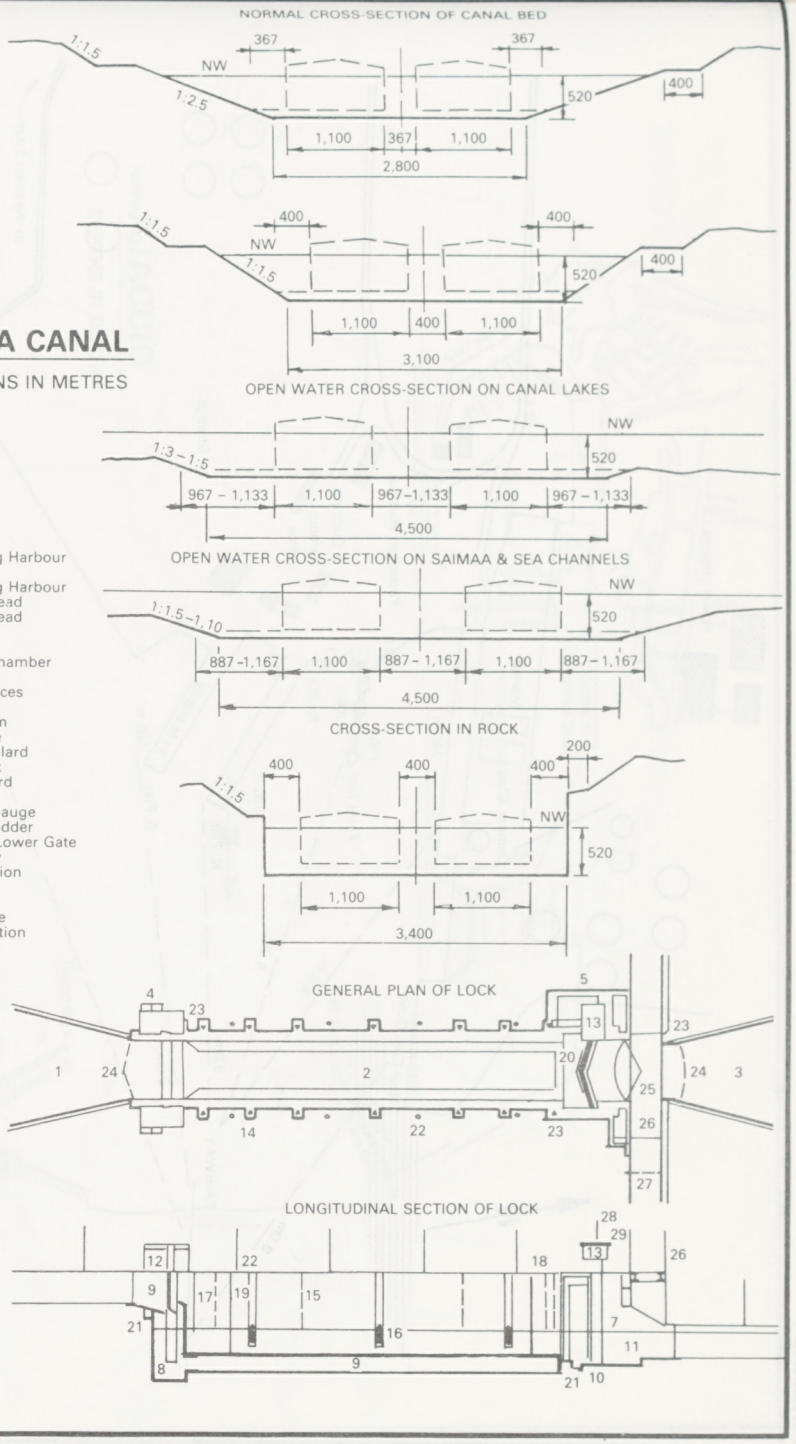
NORMAL CROSS-SECTION OF CANAL BED





TORNIO

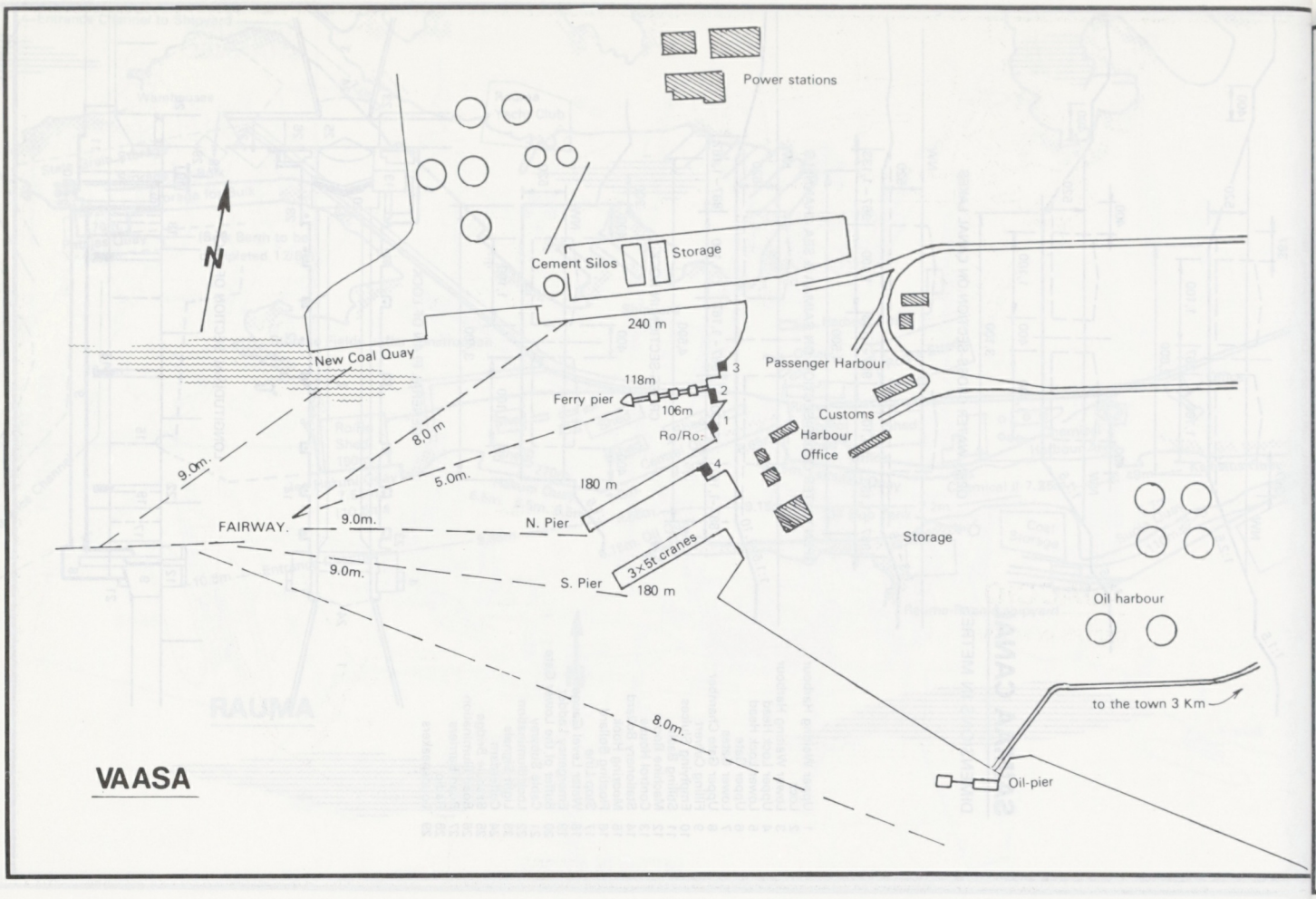
DEPTHS IN METRES

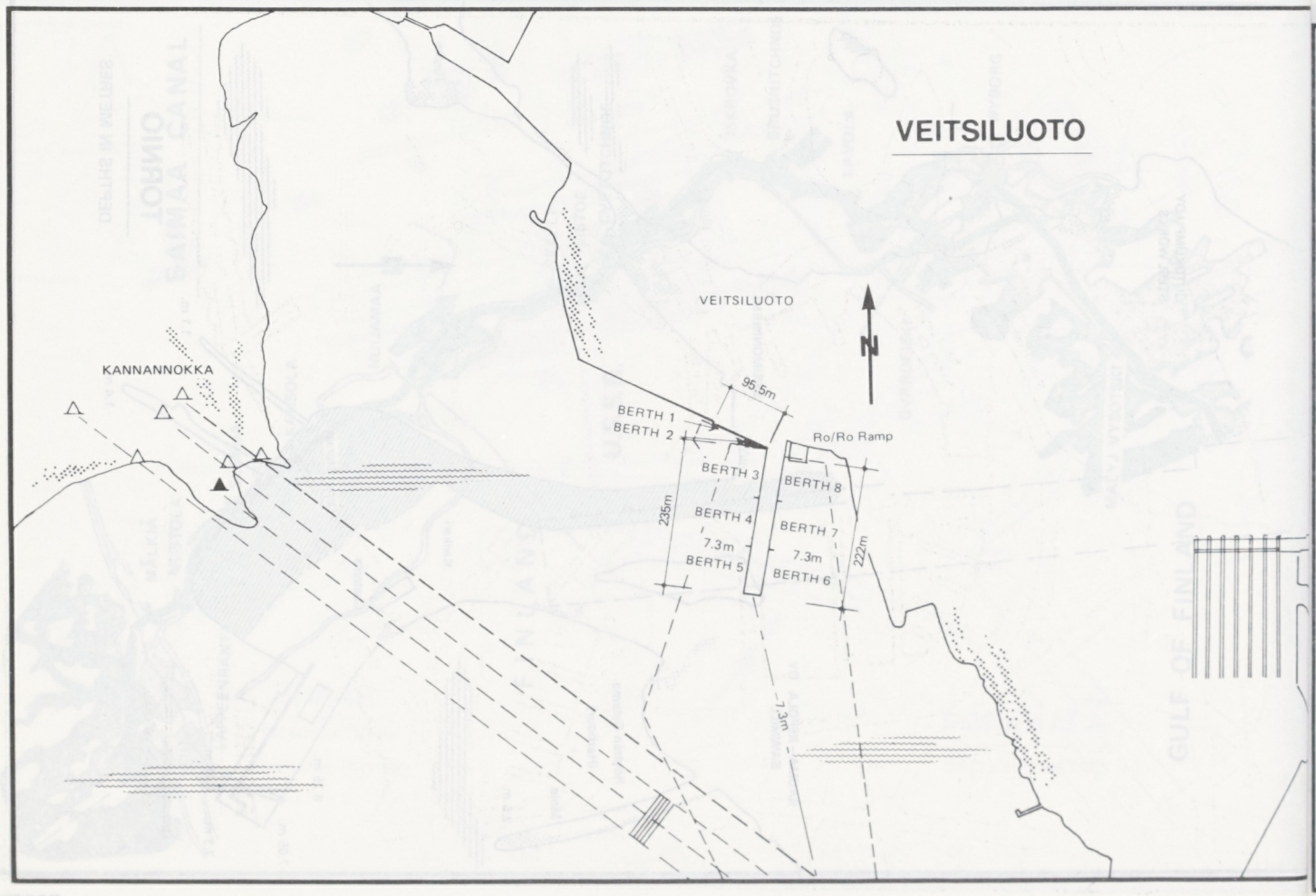


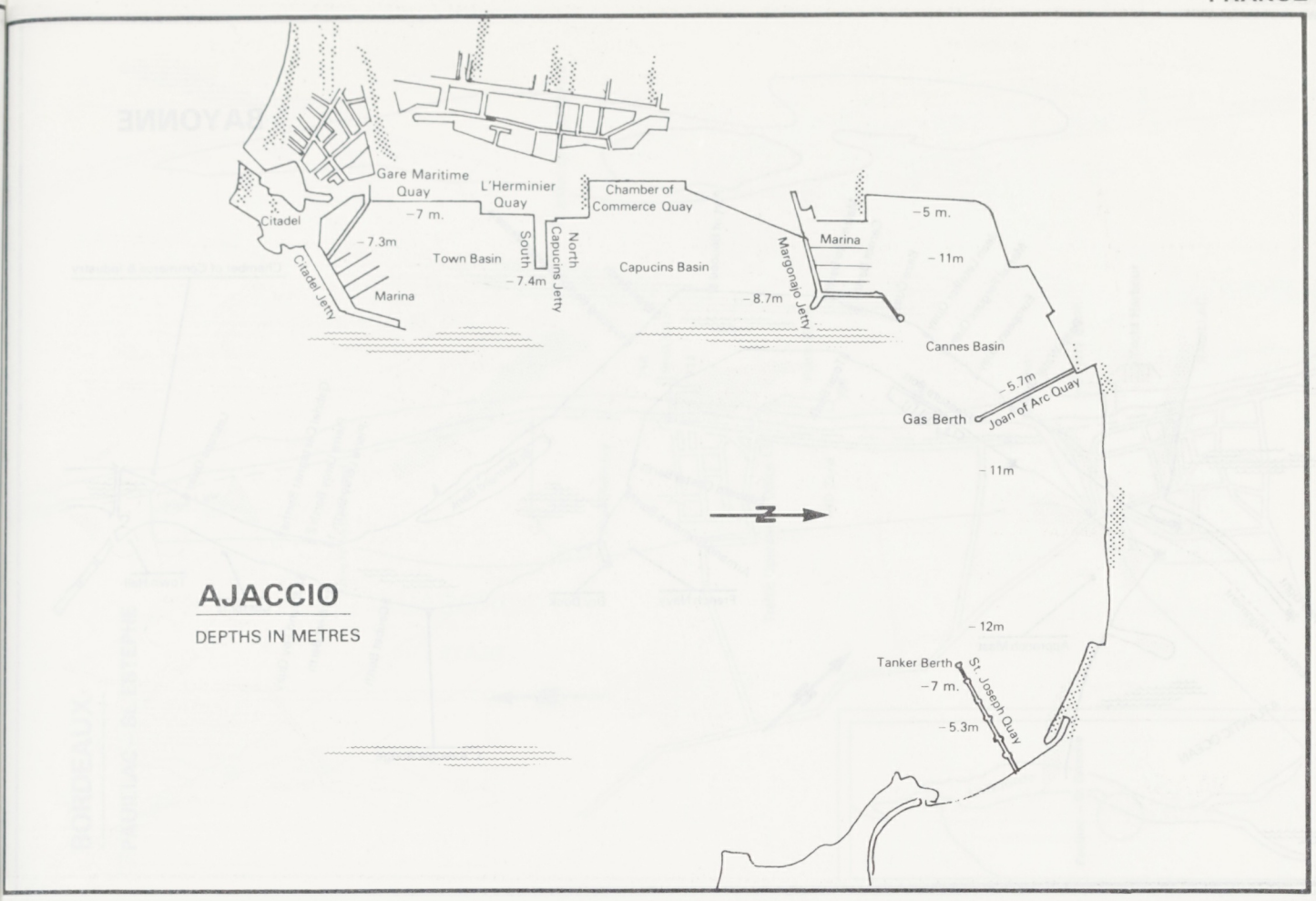
SAIMAA CANAL

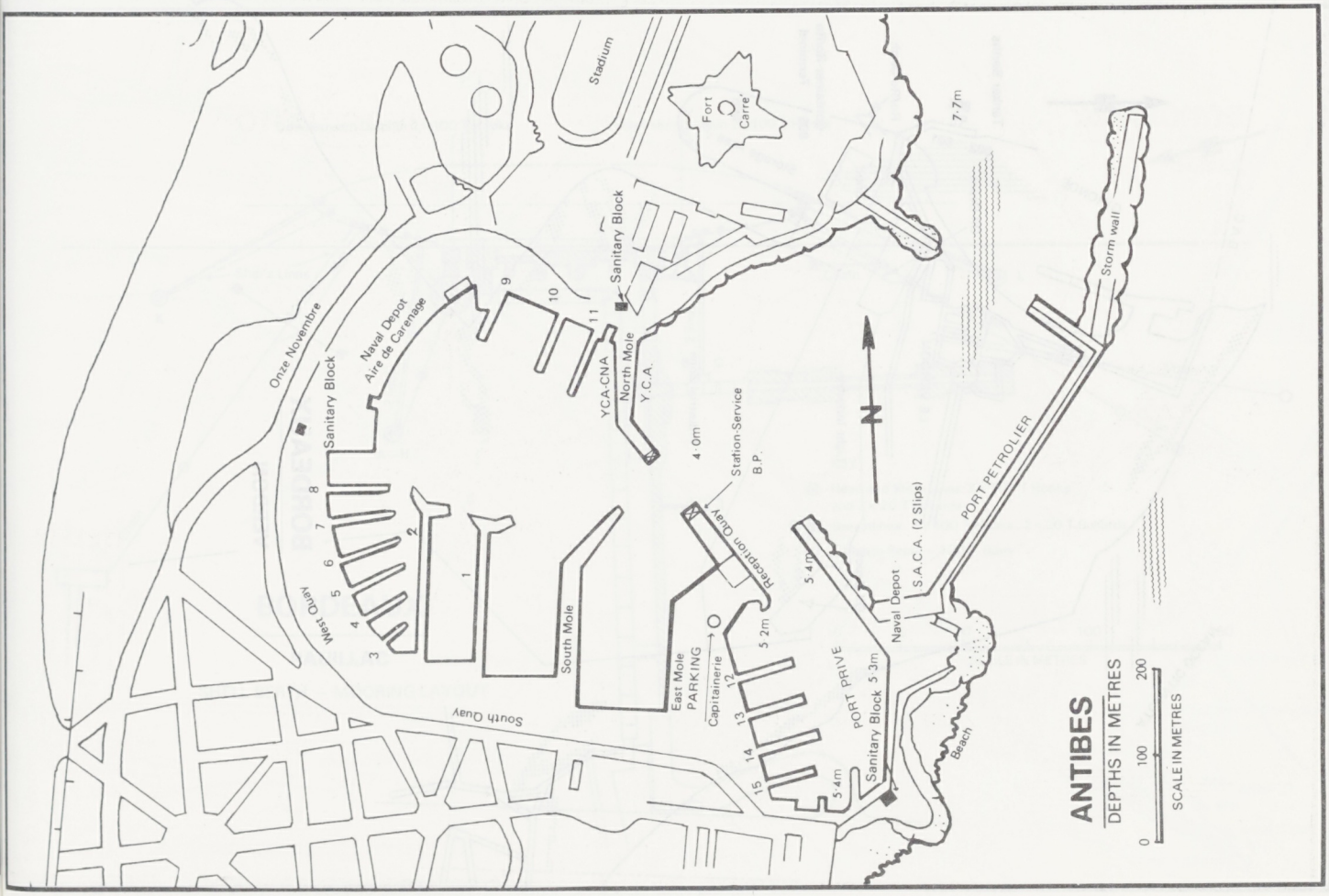
DIMENSIONS IN METRES

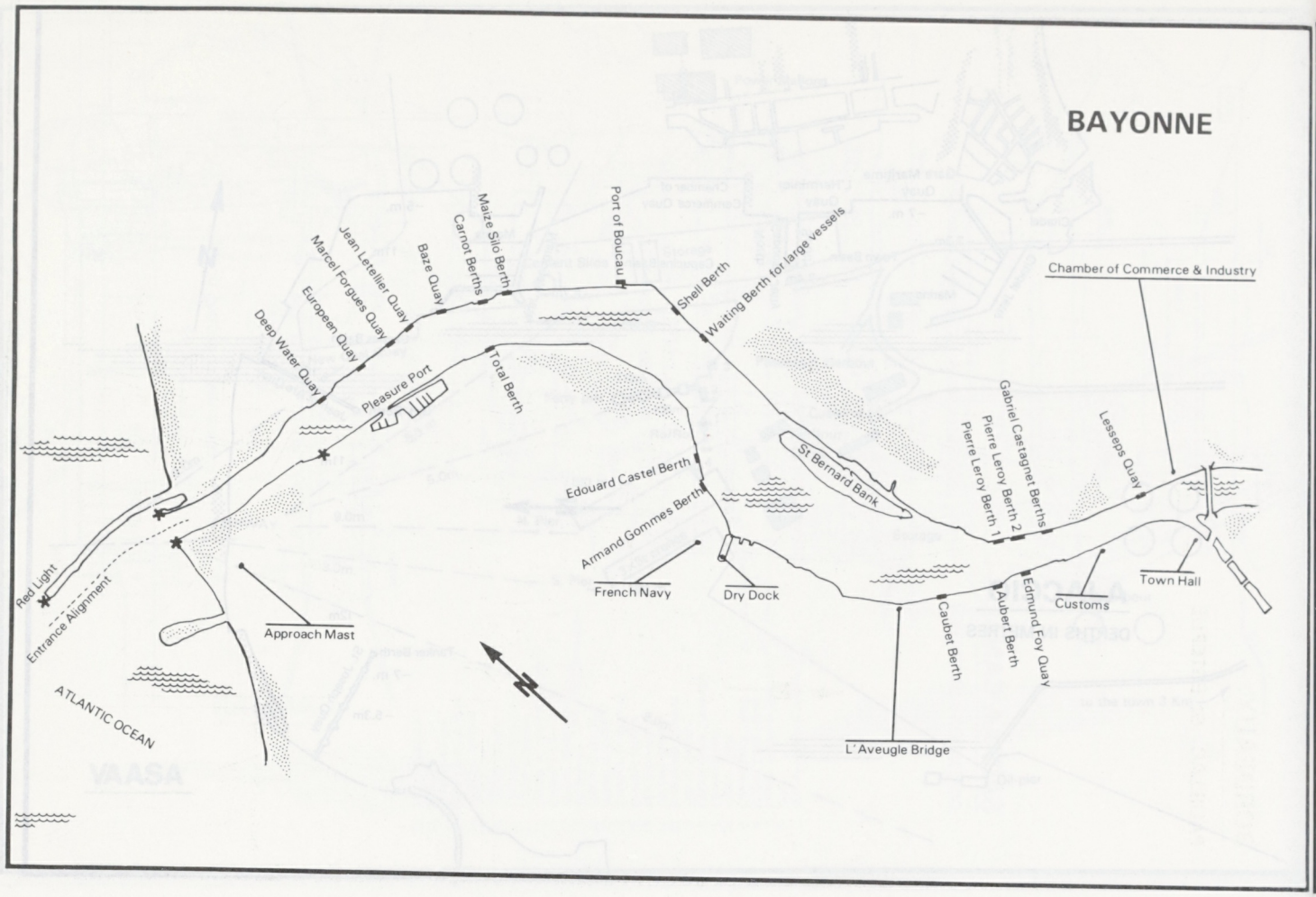
1 Upper Waiting Harbour
2 Lock
3 Lower Waiting Harbour
4 Upper Lock Head
5 Lower Lock Head
6 Upper Gate
7 Lower Gates
8 Upper Gate Chamber
9 Filling Culvert
10 Emptying Sluices
11 Stilling Basin
12 Machine Room
13 Control House
14 Stationary Bollard
15 Mooring Hook
16 Floating Bollard
17 Stop Line
18 Water Level Gauge
19 Emergency Ladder
20 Buffer of the Lower Gate
21 Cable Subway
22 Lock Illumination
23 Light Signals
24 Cofferdam
25 Bascule Bridge
26 Road Illumination
27 Road Barriers
28 Radio
29 Loudspeakers

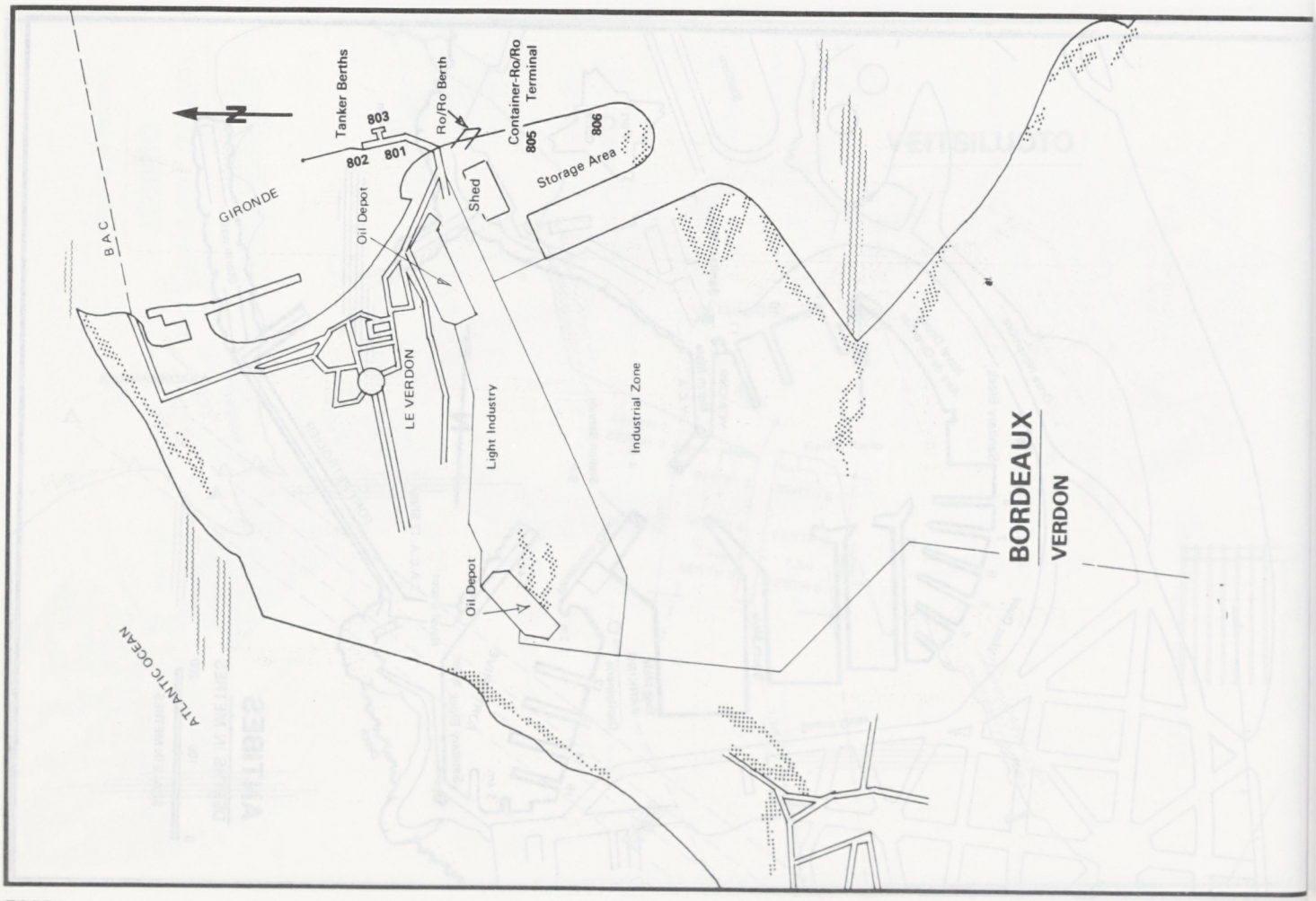

Power stations
N
Cement Silos
Storage
240 m
New Coal Quay
Passenger Harbour
118m
Ferry pier
106m
3
2
1
Ro/Ro
Customs
Harbour
Office
9.0m.
8.0 m
5.0m.
180 m
4
FAIRWAY.
9.0m.
N. Pier
Storage
9.0m.
S. Pier
3×5t cranes
180 m
Oil harbour
to the town 3 Km
8.0m.
VAASA
Oil-pier


VEITSILUOTO
VEITSILUOTO
N
KANNANNOKKA
95.5m
BERTH 1
BERTH 2
Ro/Ro Ramp
BERTH 3
BERTH 8
235m
BERTH 4
BERTH 7
7.3m
7.3m
BERTH 5
BERTH 6
222m
7.3m


Gare Maritime Quay
L'Herminier Quay
Chamber of Commerce Quay
Citadel
-7 m.
-7.3m
Town Basin
South
North
Capucins Jetty
-7.4m
Capucins Basin
Marina
Citadel Jetty
Marina
-8.7m
Margonajo Jetty
-5 m.
-11m
Cannes Basin
-5.7m
Joan of Arc Quay
Gas Berth
-11m
N
AJACCIO
DEPTHS IN METRES
-12m
Tanker Berth
St. Joseph Quay
-7 m.
-5.3m

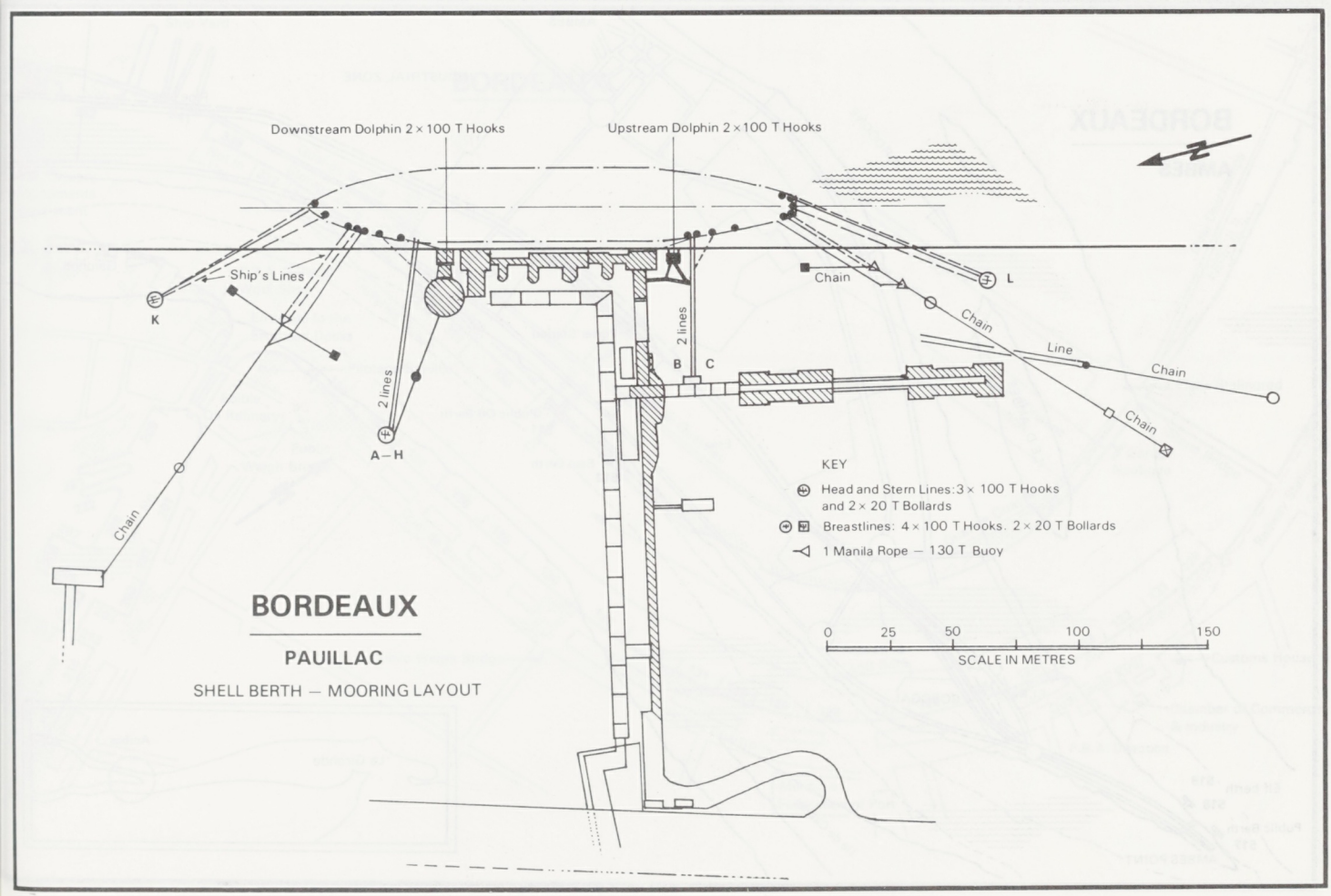

Stadium
Fort Carré
Sanitary Block
7·7m
Storm wall
Onze Novembre
Naval Depot Aire de Carenage
Sanitary Block
9
10
11
YCA-CNA
North Mole
Y.C.A.
4·0m
Station Service B.P.
N
PORT PETROLIER
S.A.C.A. (2 Slips)
Naval Depot
5·4m
Reception Quay
West Quay
8
7
6
5
4
3
2
1
South Mole
East Mole
PARKING
Capitainerie
12
13
14
15
5·2m
PORT PRIVE
5·3m
Sanitary Block
5·4m
South Quay
Beach
ANTIBES
DEPTHS IN METRES
0
100
200
SCALE IN METRES


BAYONNE
Chamber of Commerce & Industry
Port of Boucau
Maize Silo Berth
Carnot Berths
Baze Quay
Jean Letellier Quay
Marcel Forgues Quay
Europeen Quay
Deep Water Quay
Pleasure Port
Total Berth
Shell Berth
Waiting Berth for large vessels
Gabriel Castagnet Berths
Pierre Leroy Berth 2
Pierre Leroy Berth 1
Lesseps Quay
St Bernard Bank
Edouard Castel Berth
Armand Gommes Berth
French Navy
Dry Dock
Town Hall
Customs
Edmund Foy Quay
Aubert Berth
Caubet Berth
L'Aveugle Bridge
Red Light
Entrance Alignment
Approach Mast
ATLANTIC OCEAN
N


N
Tanker Berths
803
802
801
Ro/Ro Berth
Container-Ro/Ro Terminal
805
806
Storage Area
Shed
GIRONDE
BAC
Oil Depot
LE VERDON
Light Industry
Industrial Zone
Oil Depot
ATLANTIC OCEAN
BORDEAUX
VERDON

BORDEAUX

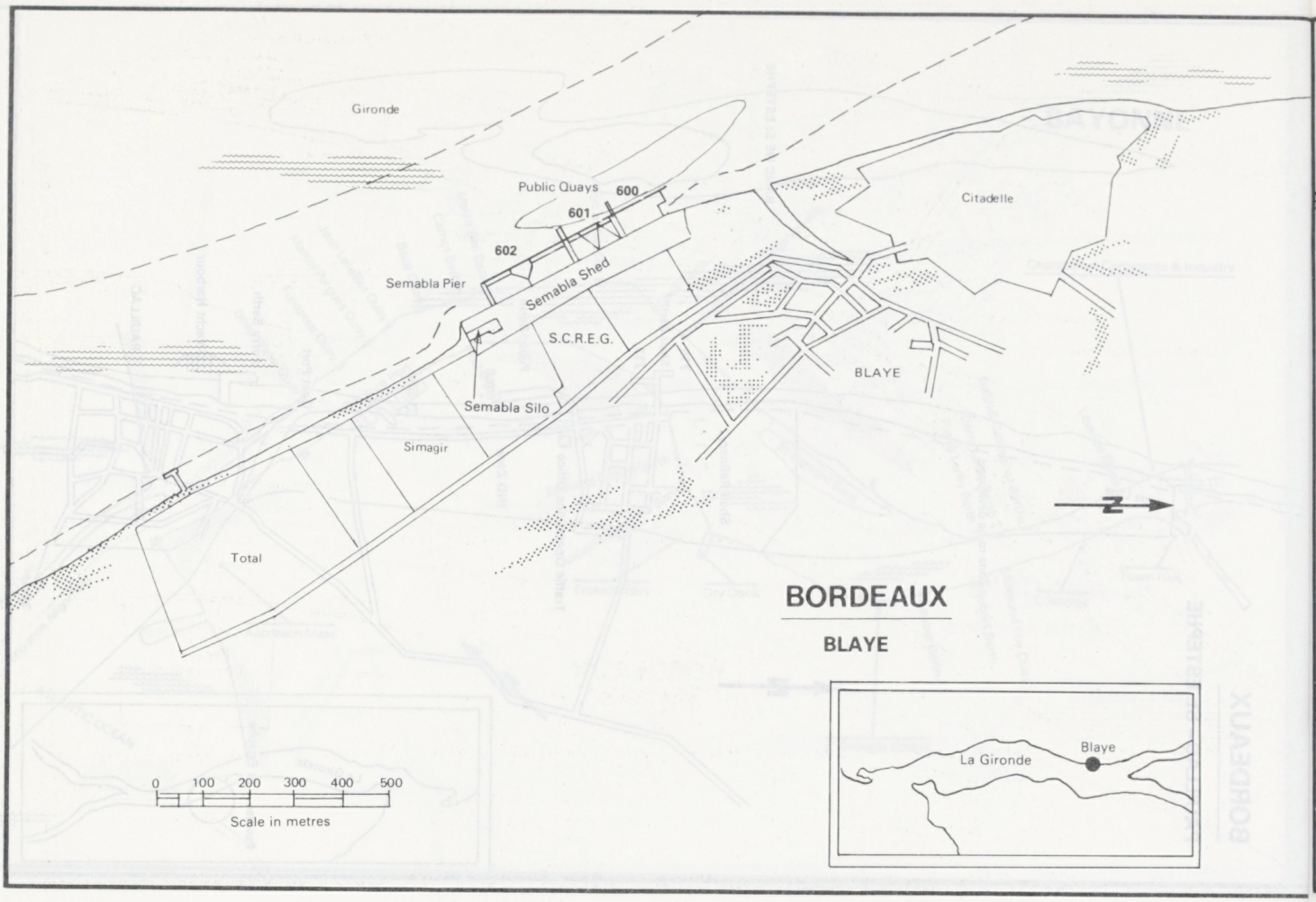
PAUILLAC – St. ESTEPHE

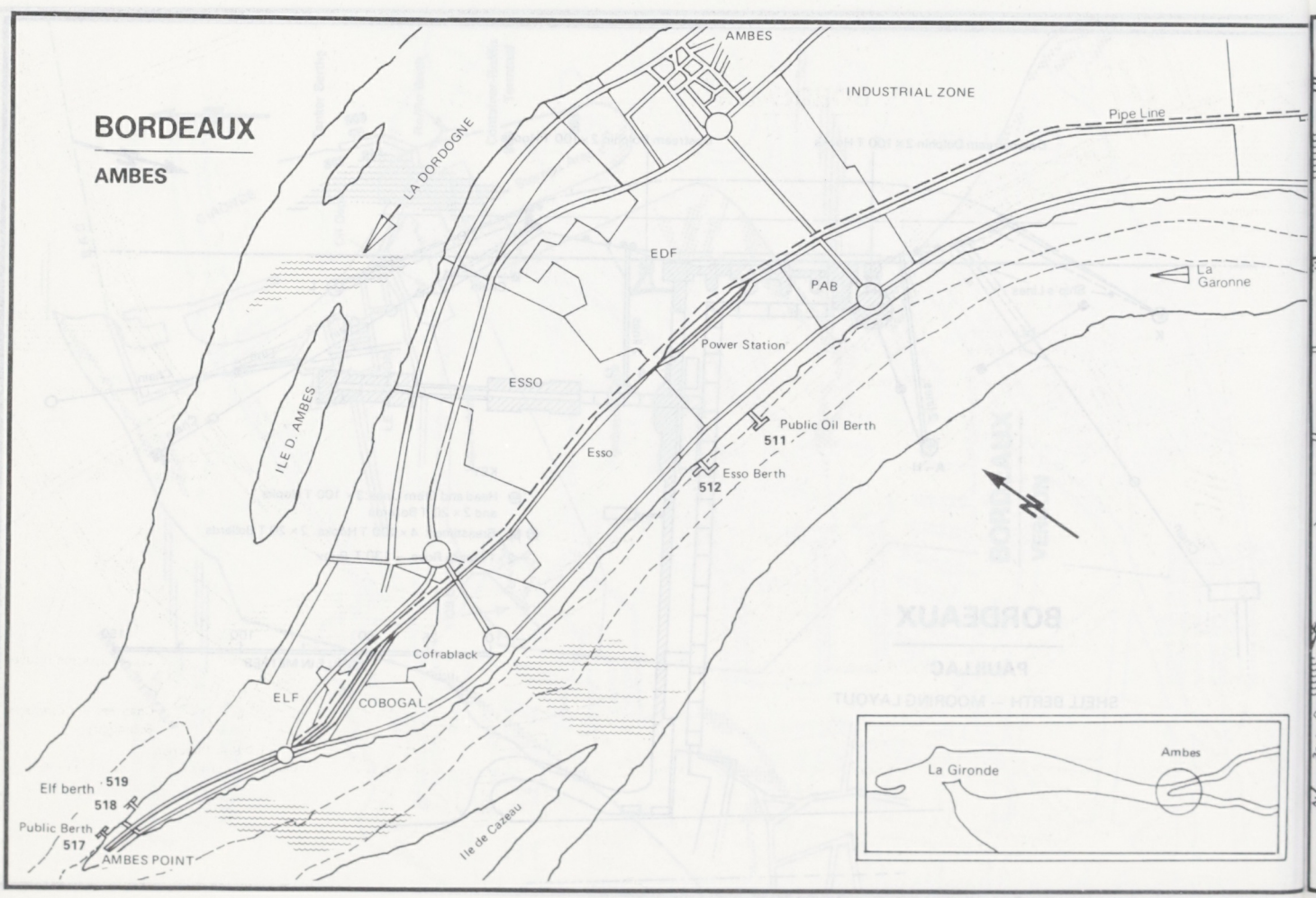


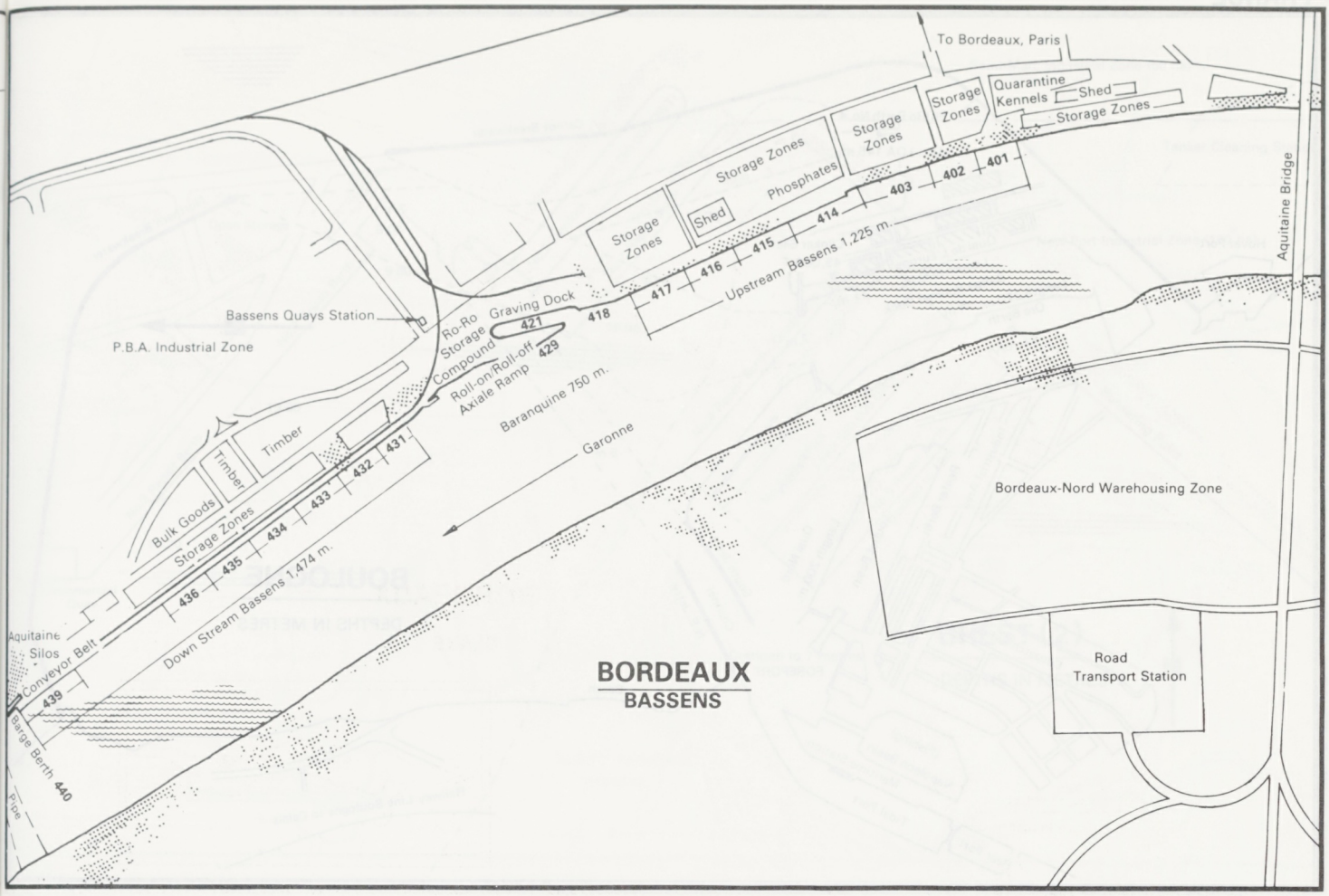
BORDEAUX

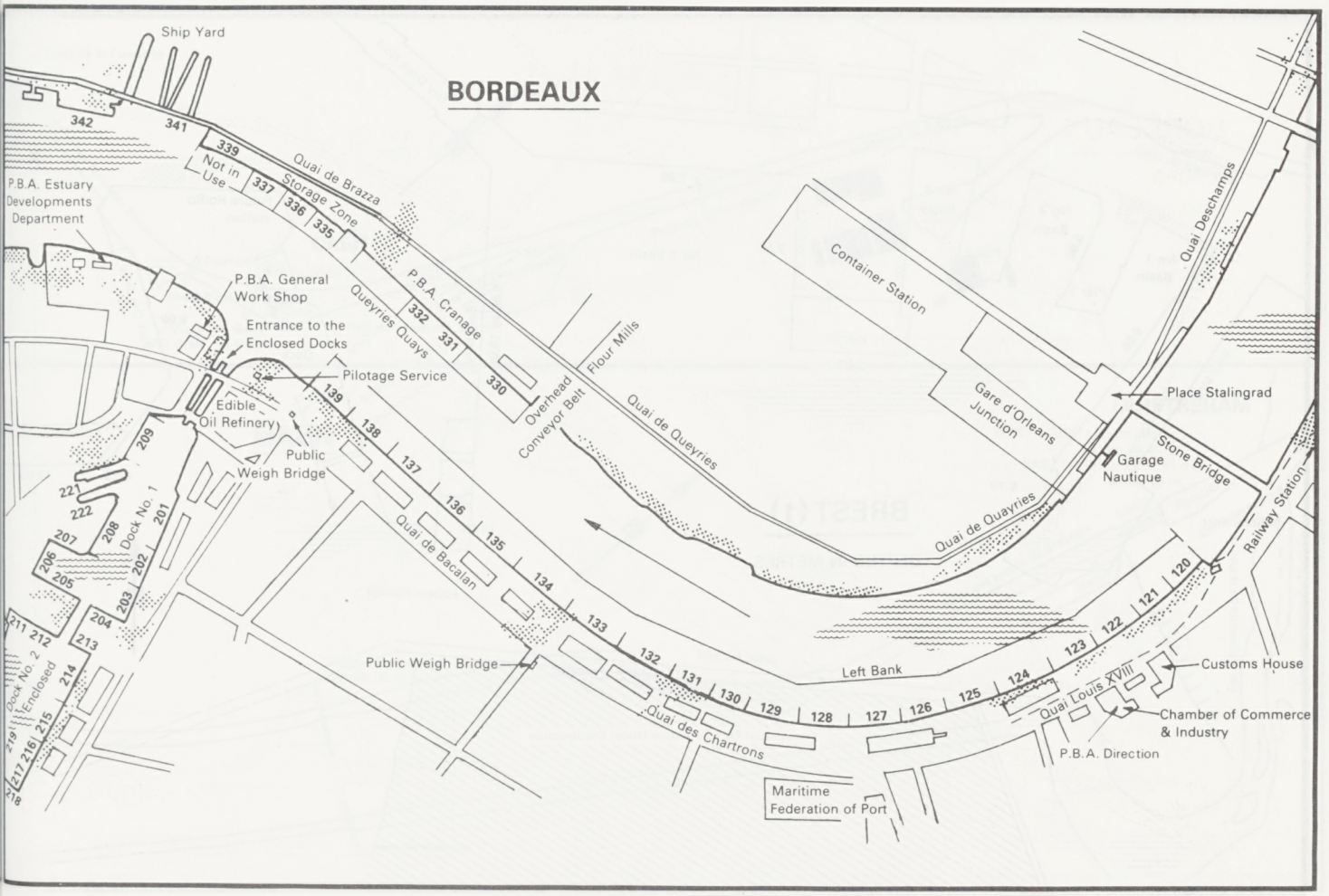
PAUILLAC

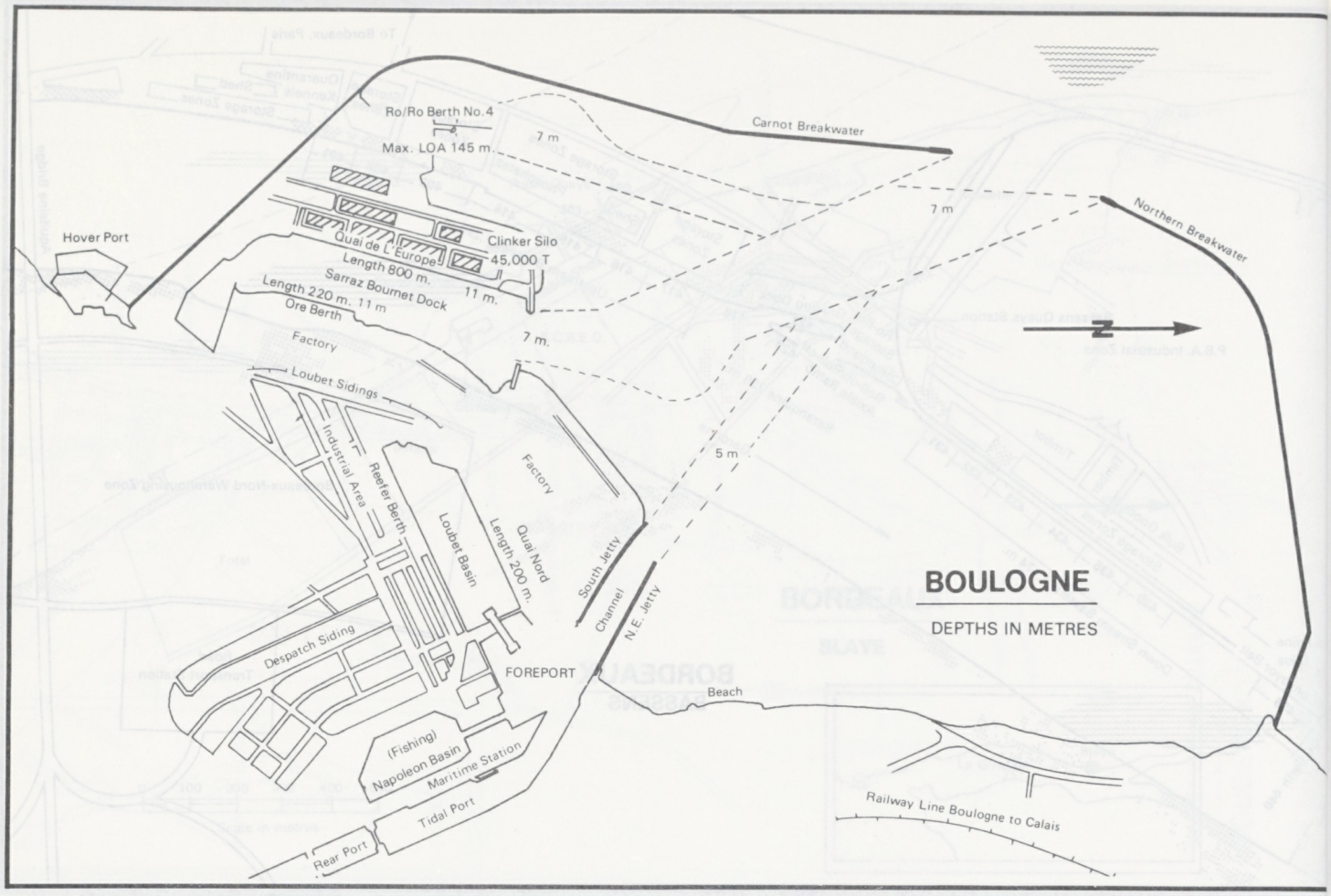
SHELL BERTH – MOORING LAYOUT

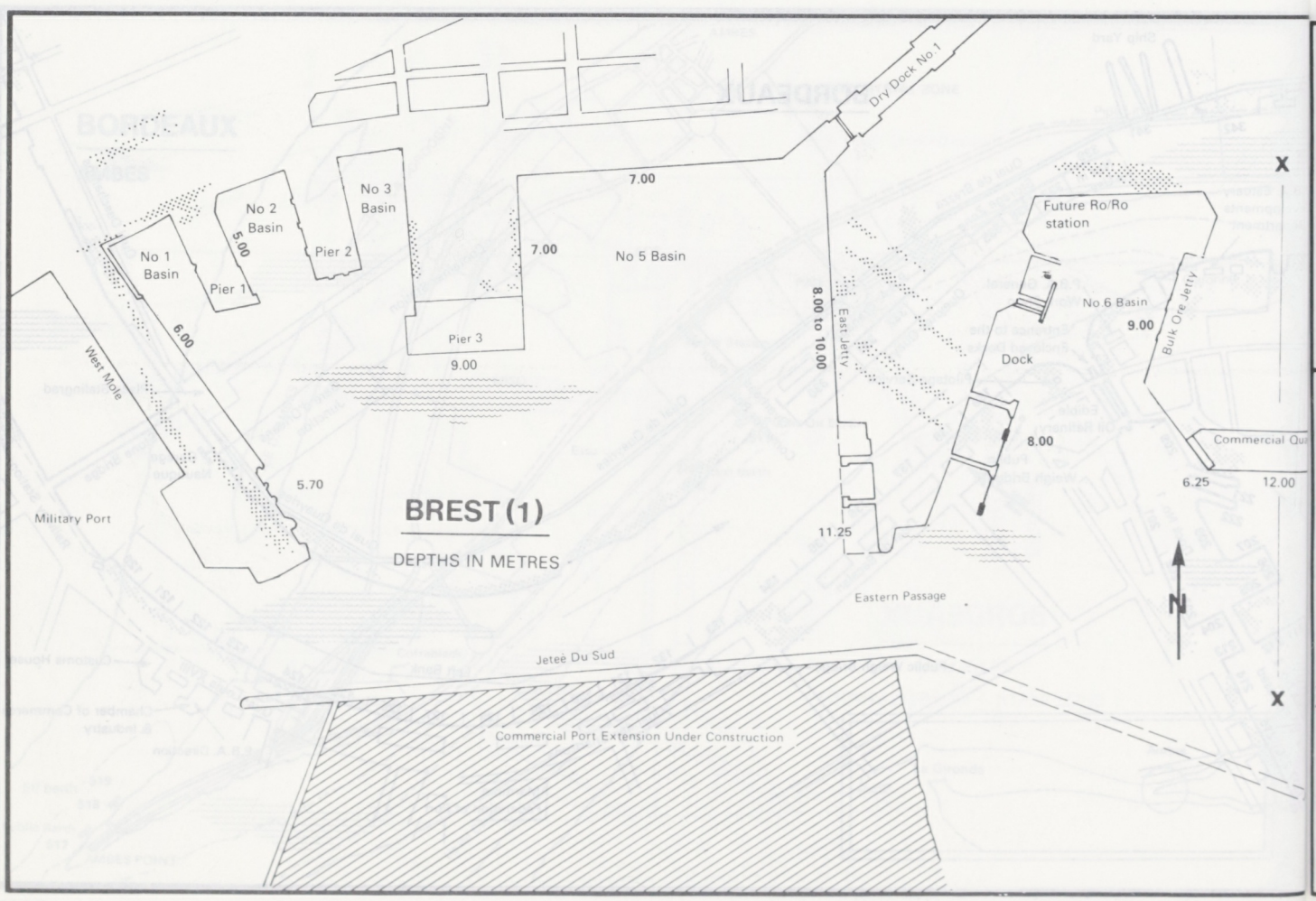

Gironde
Public Quays
600
601
602
Semabla Pier
Semabla Shed
S.C.R.E.G.
Semabla Silo
Simagir
Total
Citadelle
BLAYE
N
BORDEAUX
BLAYE
La Gironde
Blaye
0 100 200 300 400 500
Scale in metres

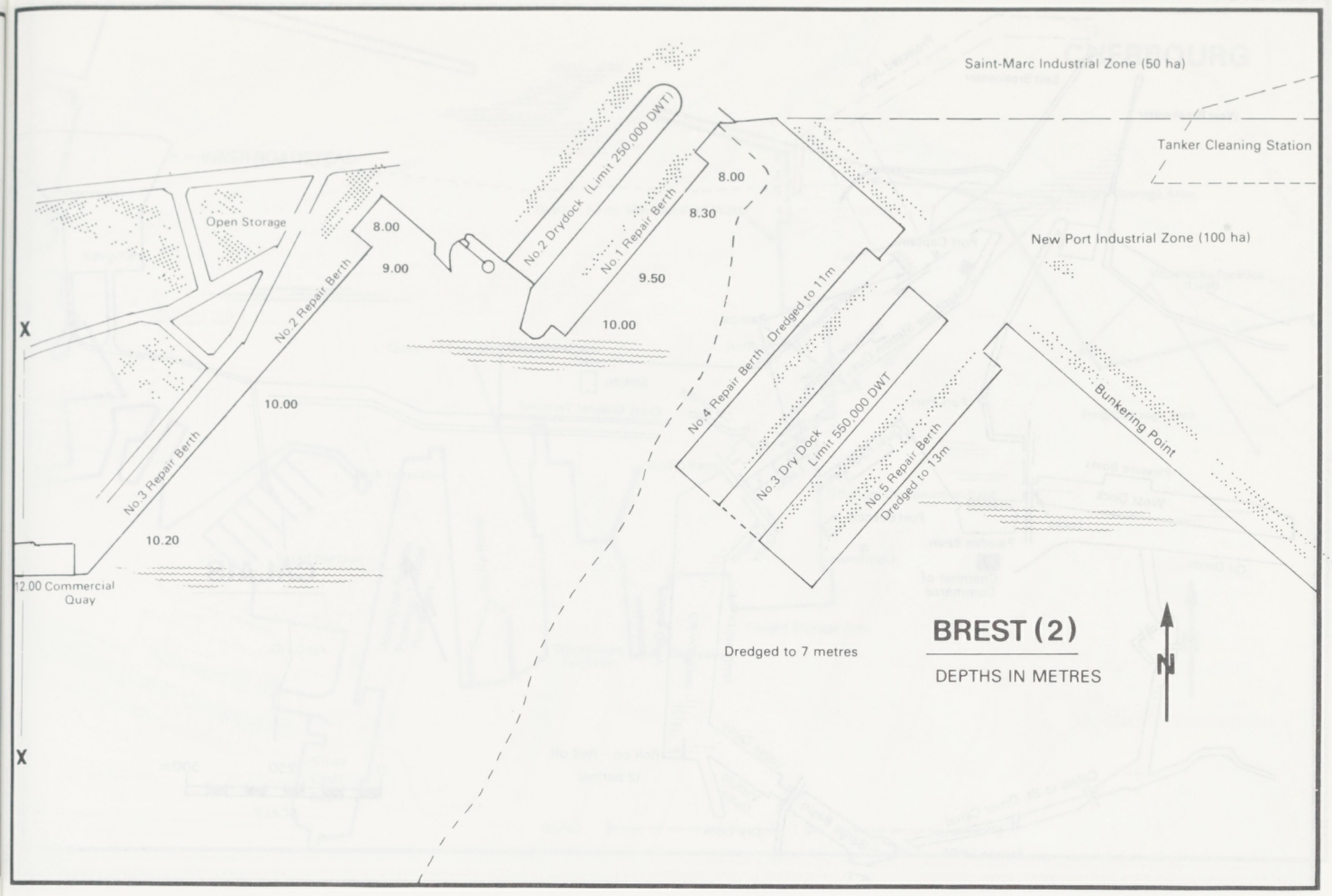

BORDEAUX
AMBES
AMBES
INDUSTRIAL ZONE
Pipe Line
LA DORDOGNE
EDF
PAB
La Garonne
Power Station
ESSO
ILE D. AMBES
Esso
Public Oil Berth
511
Esso Berth
512
N
Cofrablack
ELF
COBOGAL
Elf berth
519
518
Public Berth
517
AMBES POINT
Ile de Cazeau
La Gironde
Ambes

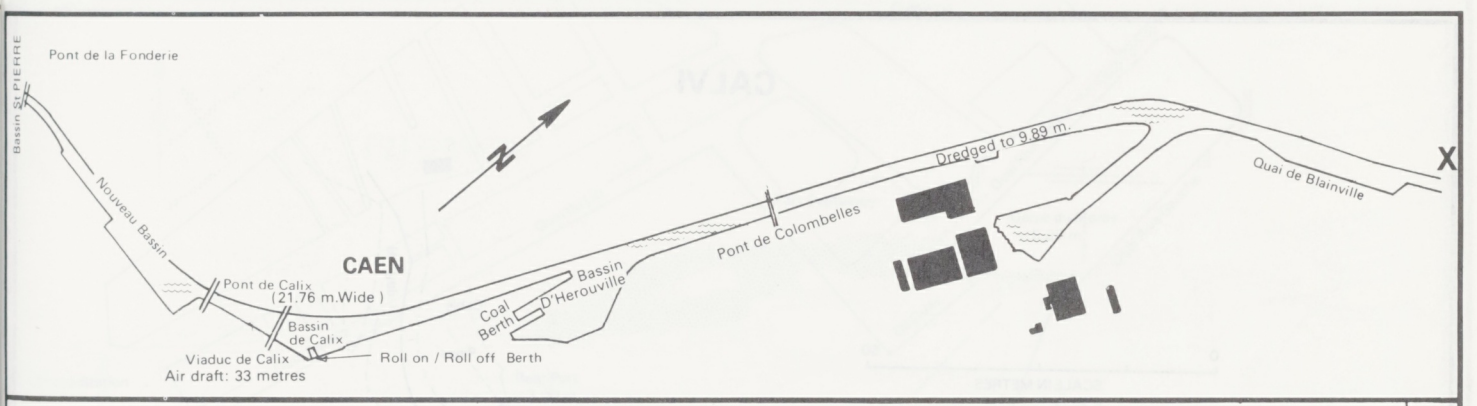

To Bordeaux, Paris
Quarantine Kennels
Shed
Storage Zones
Storage Zones
Storage Zones
Storage Zones
Storage Zones
Phosphates
Shed
Storage Zones
401
402
403
414
415
416
417
Upstream Bassens 1,225 m.
Aquitaine Bridge
Bassens Quays Station
P.B.A. Industrial Zone
Ro-Ro Storage Compound
Graving Dock
421
418
Roll-on/Roll-off Axiale Ramp
429
Baranquine 750 m.
Garonne
Timber
Timber
Bulk Goods
Storage Zones
431
432
433
434
435
436
Down Stream Bassens 1,474 m.
Bordeaux-Nord Warehousing Zone
Aquitaine Silos
Conveyor Belt
439
Barge Berth 440
Pipe
Road Transport Station
BORDEAUX
BASSENS

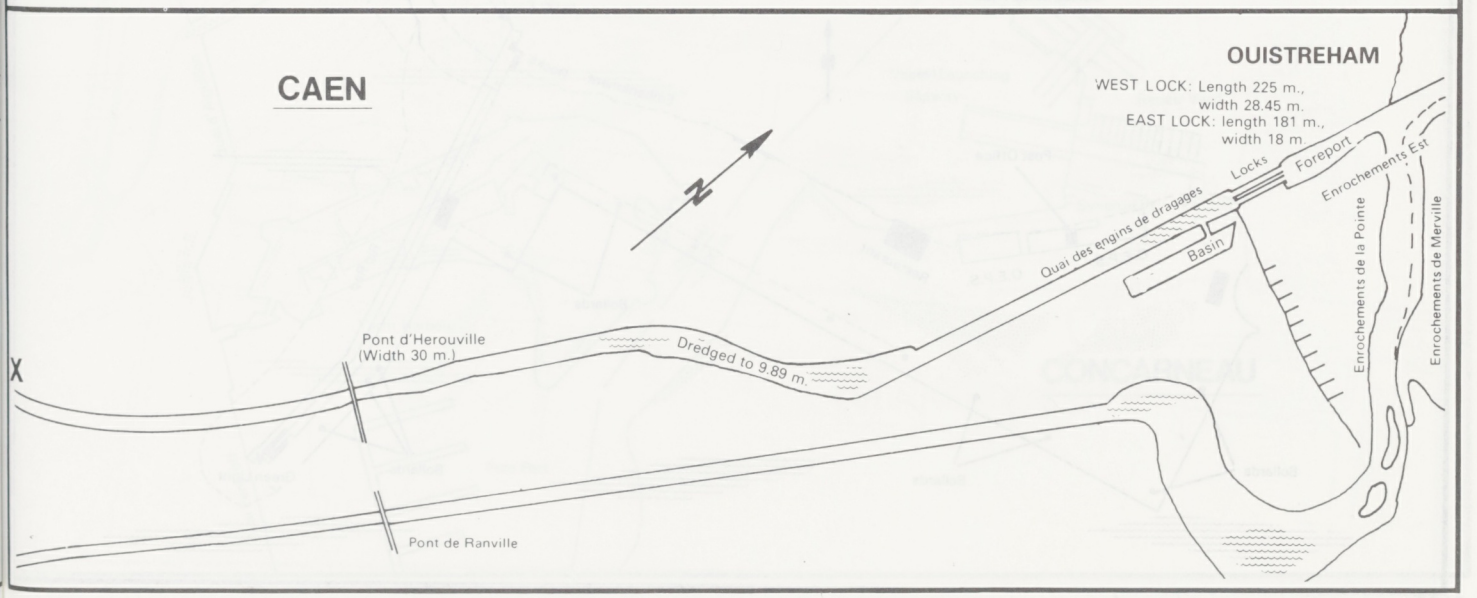

BORDEAUX
Ship Yard
342
341
339
Not in Use
337
336
335
Quai de Brazza
Storage Zone
P.B.A. Estuary Developments Department
P.B.A. General Work Shop
Entrance to the Enclosed Docks
Pilotage Service
Edible Oil Refinery
Public Weigh Bridge
Queyries Quays
332
331
330
P.B.A. Cranage
Overhead Conveyor Belt
Flour Mills
Quai de Queyries
Container Station
Gare d'Orleans Junction
Quai Deschamps
Place Stalingrad
Garage Nautique
Stone Bridge
Railway Station
Quai de Quayries
139
138
137
136
135
134
133
132
131
130
129
128
127
126
125
124
123
122
121
120
Left Bank
Quai de Bacalan
Public Weigh Bridge
Quai des Chartrons
Quai Louis XVIII
Customs House
Chamber of Commerce & Industry
P.B.A. Direction
Maritime Federation of Port
209
221
222
208
207
206
205
203
202
201
Dock No. 1
204
211
212
213
214
215
216
217
218
Dock No. 2 Enclosed

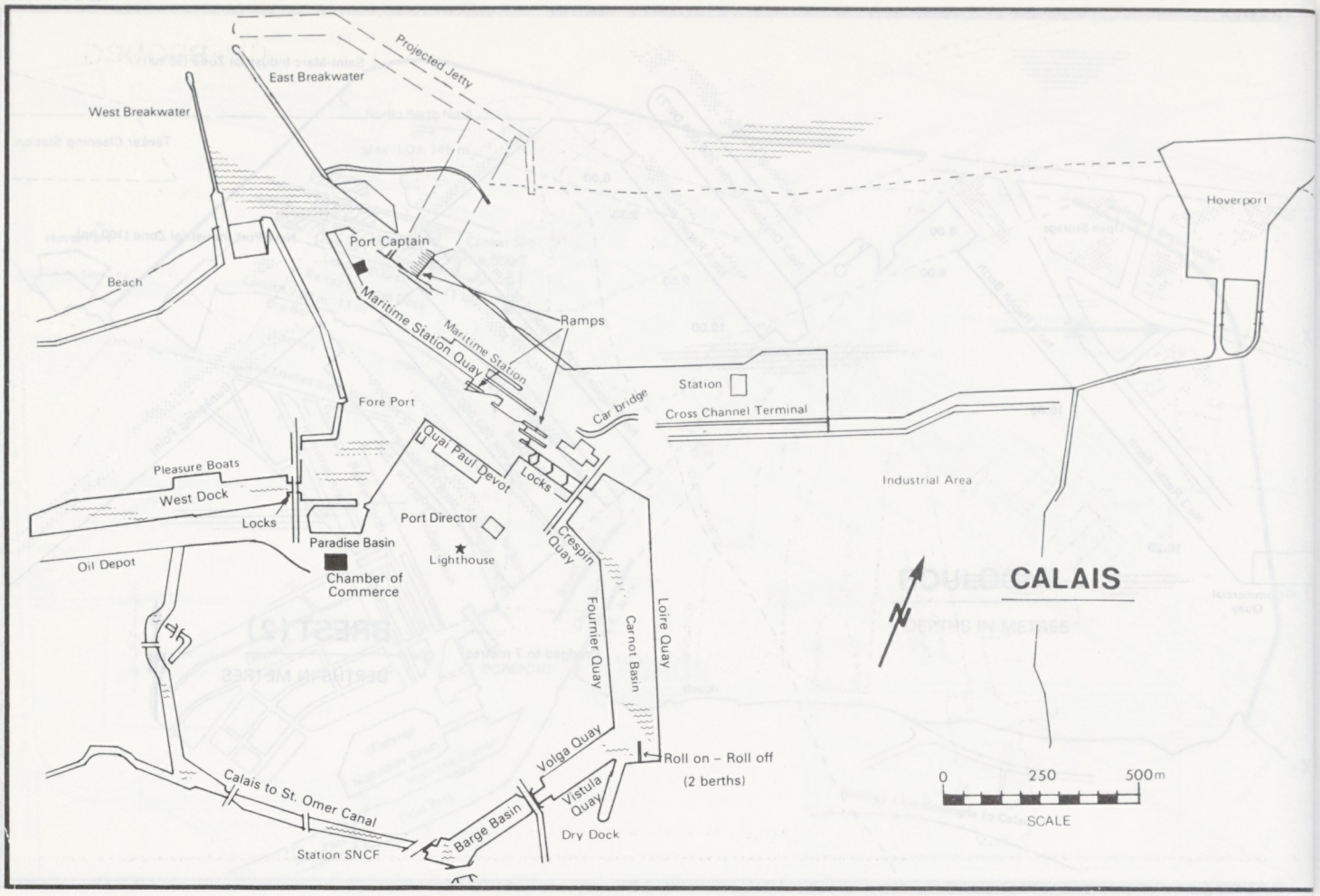

Ro/Ro Berth No.4
Max. LOA 145 m.
7 m
Carnot Breakwater
7 m
Northern Breakwater
Hover Port
Clinker Silo
45,000 T
Quai de L'Europe
Length 800 m.
11 m.
Sarraz Bournet Dock
Length 220 m. 11 m
Ore Berth
7 m.
Factory
Loubet Sidings
Industrial Area
Reefer Berth
Loubet Basin
Factory
Qual Nord
Length 200 m.
South Jetty
5 m
Channel
N.E. Jetty
Despatch Siding
FOREPORT
Beach
(Fishing)
Napoleon Basin
Maritime Station
Tidal Port
Rear Port
Railway Line Boulogne to Calais
BOULOGNE
DEPTHS IN METRES

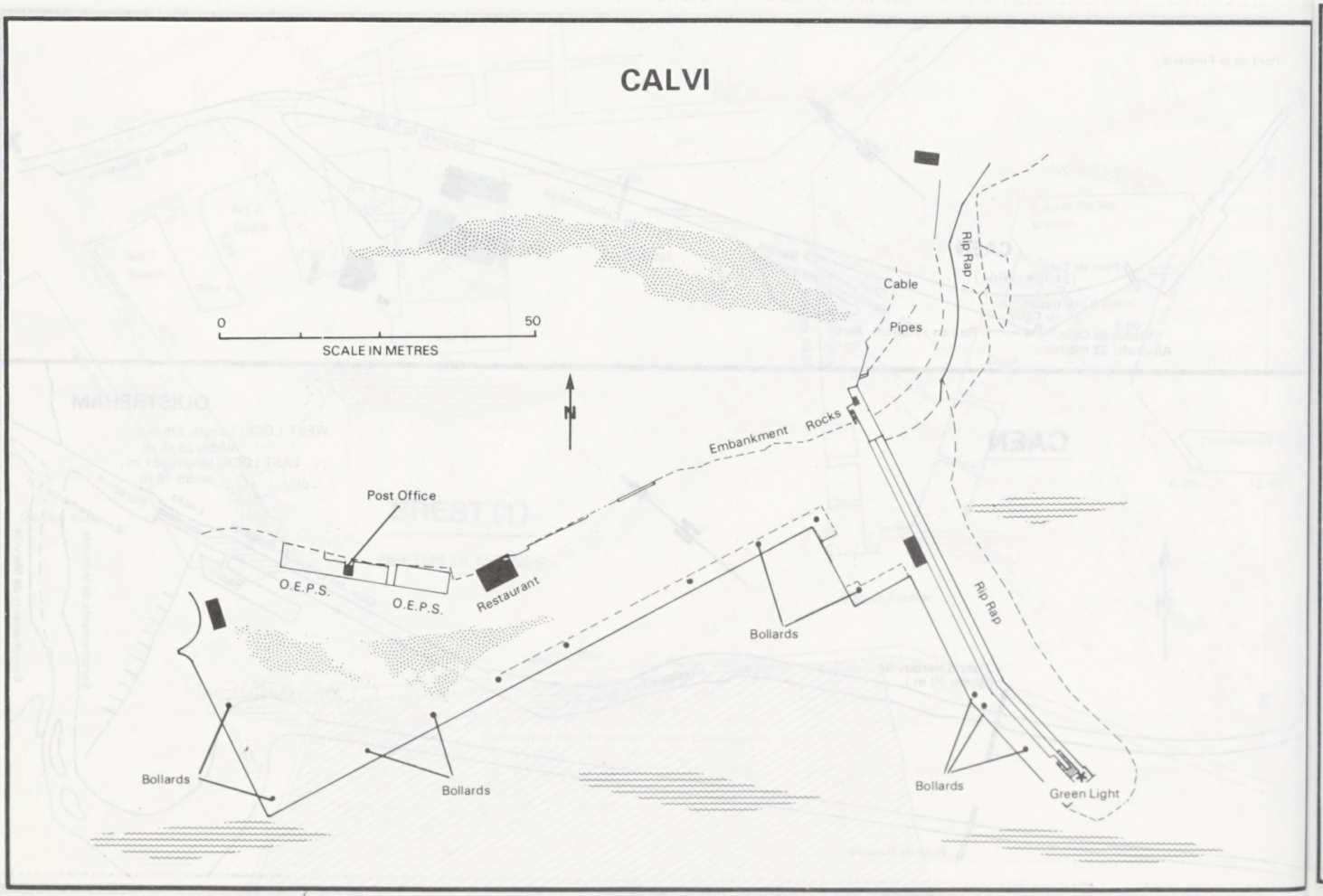

Dry Dock No.1
7.00
No 1
Basin
No 2
Basin
No 3
Basin
5.00
Pier 1
Pier 2
7.00
No 5 Basin
Pier 3
9.00
6.00
West Mole
5.70
Military Port
BREST (1)
DEPTHS IN METRES
8.00 to 10.00
East Jetty
Future Ro/Ro
station
No 6 Basin
9.00
Bulk Ore Jetty
Dock
8.00
Commercial Qu
6.25
12.00
11.25
Eastern Passage
Jetee Du Sud
Commercial Port Extension Under Construction
N
X
X

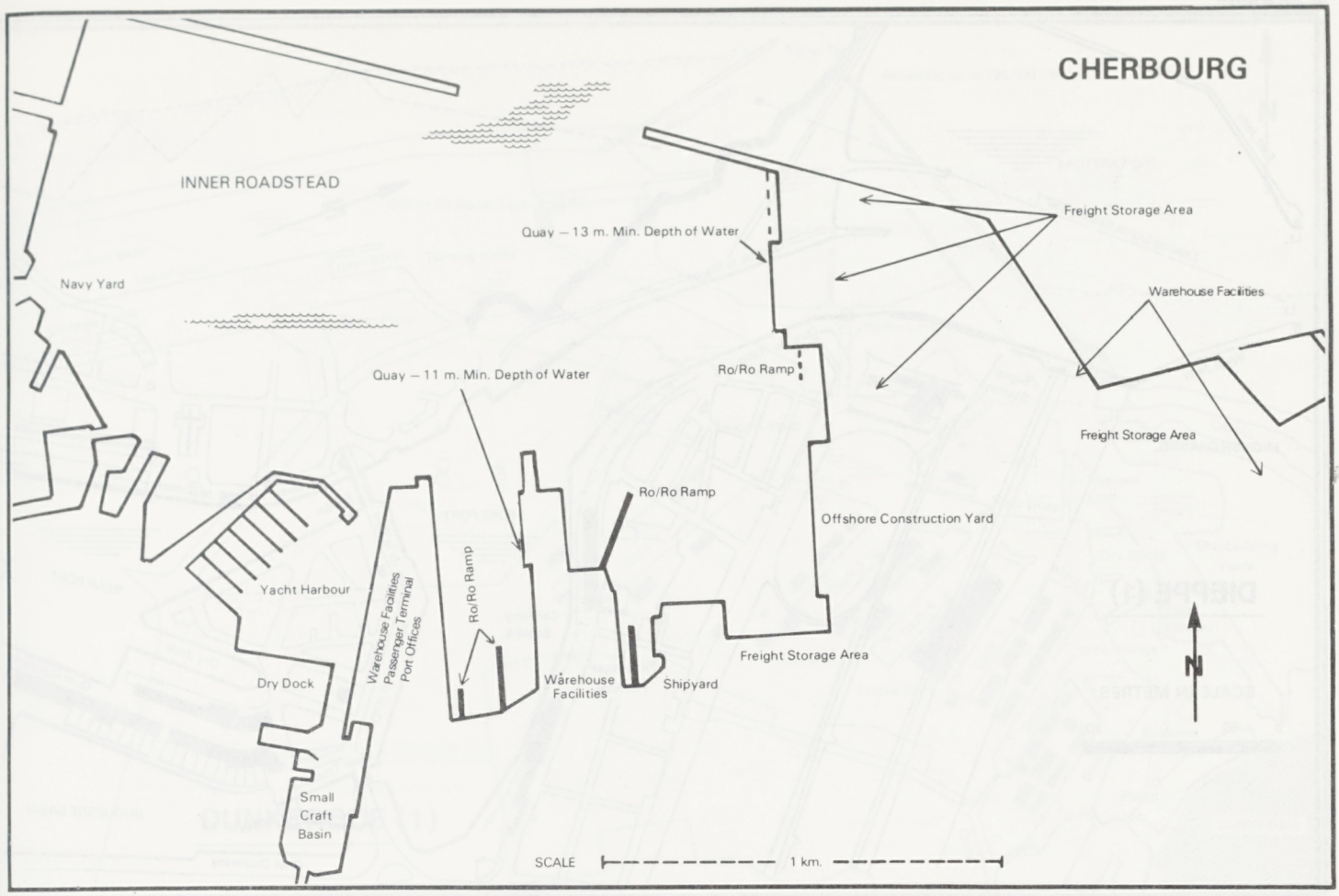

Saint-Marc Industrial Zone (50 ha)
Tanker Cleaning Station
New Port Industrial Zone (100 ha)
Open Storage
No.2 Repair Berth
No.3 Repair Berth
No.2 Drydock (Limit 250,000 DWT)
No.1 Repair Berth
No.4 Repair Berth Dredged to 11m
No.3 Dry Dock Limit 550,000 DWT
No.5 Repair Berth Dredged to 13m
Bunkering Point
8.00
9.00
8.30
9.50
10.00
10.20
12.00 Commercial Quay
X
X
Dredged to 7 metres
BREST (2)
DEPTHS IN METRES
N

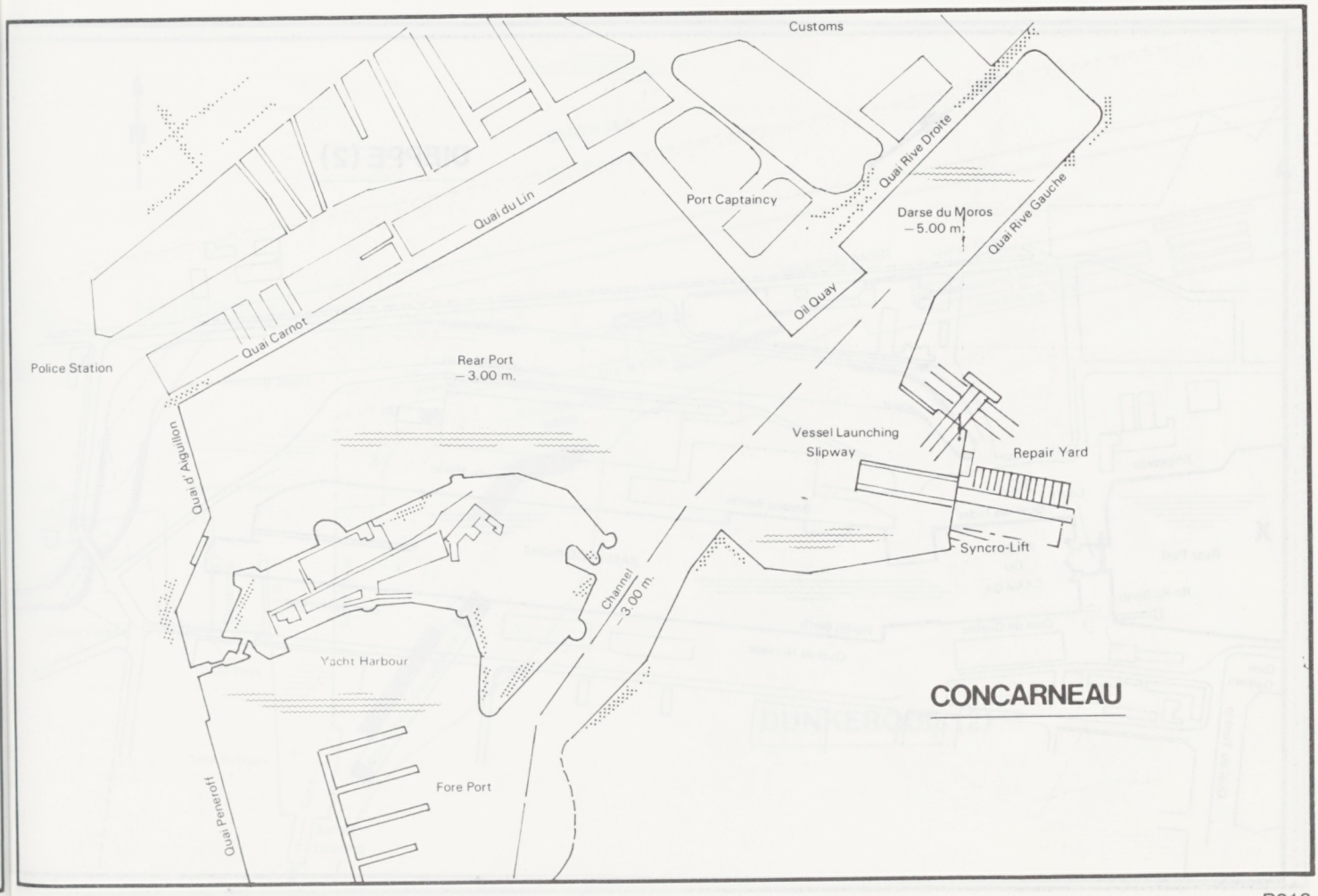

Pont de la Fonderie
Bassin St PIERRE
Nouveau Bassin
CAEN
Pont de Calix
(21.76 m.Wide)
Bassin de Calix
Viaduc de Calix
Air draft: 33 metres
Coal Berth
Bassin D'Herouville
Roll on / Roll off Berth
Pont de Colombelles
Dredged to 9.89 m.
Quai de Blainville
X
N

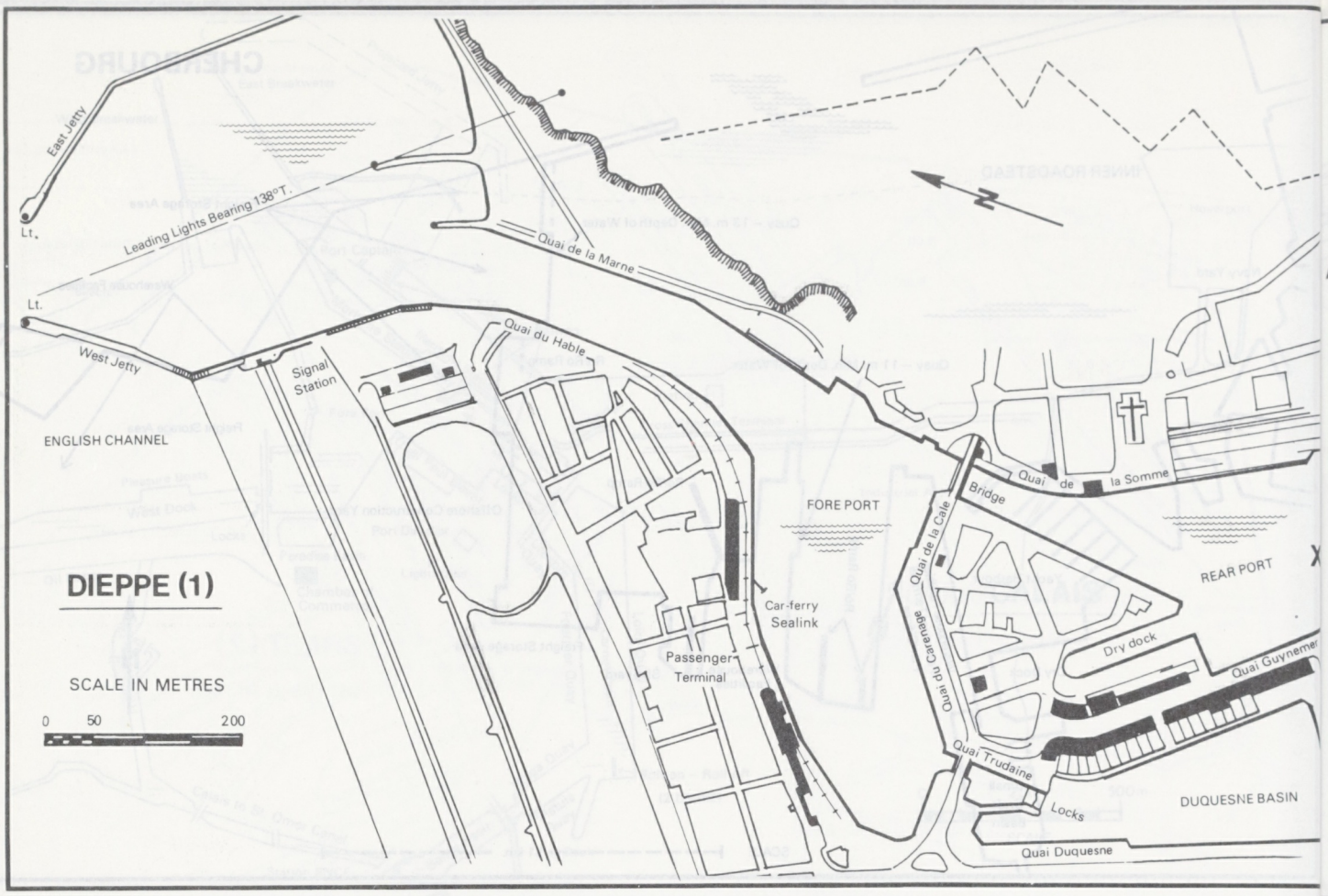

CAEN
OUISTREHAM
WEST LOCK: Length 225 m., width 28.45 m.
EAST LOCK: length 181 m., width 18 m.
Locks
Foreport
Enrochements Est
Enrochements de la Pointe
Enrochements de Merville
Quai des engins de dragages
Basin
Pont d'Herouville
(Width 30 m.)
Dredged to 9.89 m.
Pont de Ranville
X
N

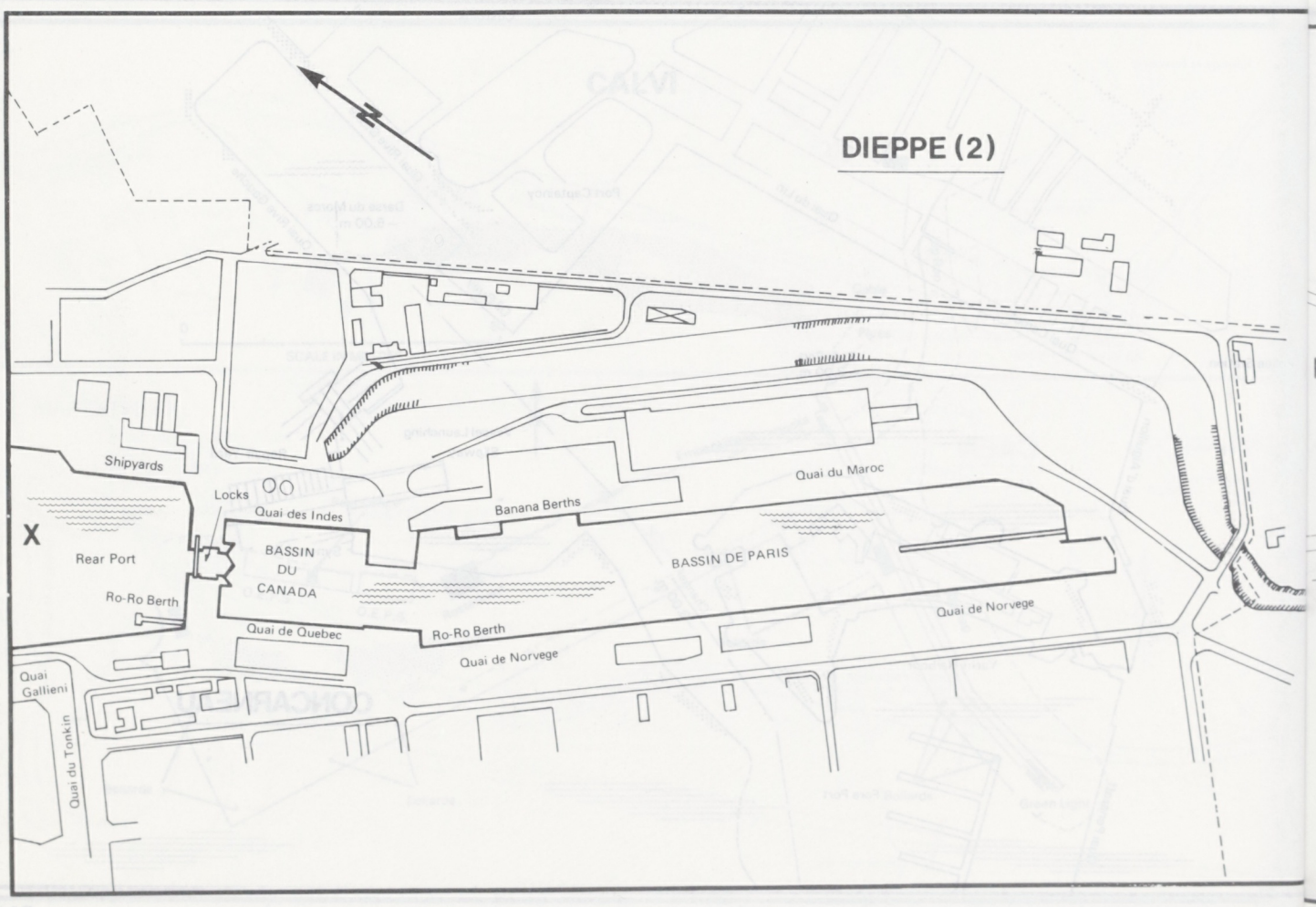

Projected Jetty
East Breakwater
West Breakwater
Hoverport
Port Captain
Beach
Maritime Station Quay
Maritime Station
Ramps
Station
Car bridge
Cross Channel Terminal
Fore Port
Quai Paul Devot
Locks
Pleasure Boats
West Dock
Locks
Paradise Basin
Port Director
Lighthouse
Crespin Quay
Oil Depot
Chamber of Commerce
Fournier Quay
Carnot Basin
Loire Quay
Industrial Area
CALAIS
Volga Quay
Roll on – Roll off
(2 berths)
Calais to St. Omer Canal
Vistula Quay
Barge Basin
Dry Dock
Station SNCF
0
250
500m
SCALE

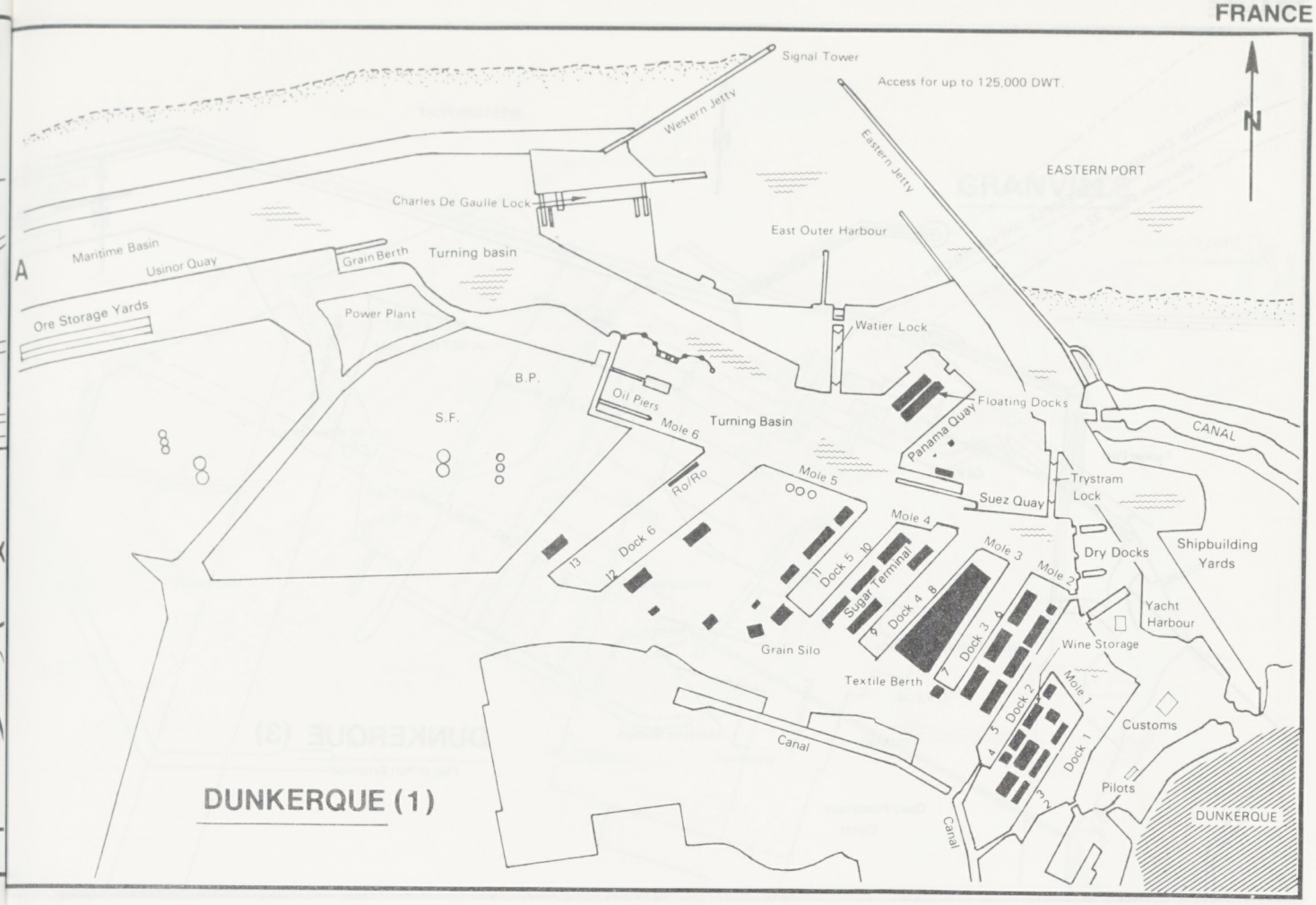

CALVI
0
50
SCALE IN METRES
N
Cable
Pipes
Rip Rap
Embankment
Rocks
Post Office
O.E.P.S.
O.E.P.S.
Restaurant
Bollards
Rip Rap
Bollards
Bollards
Bollards
Green Light

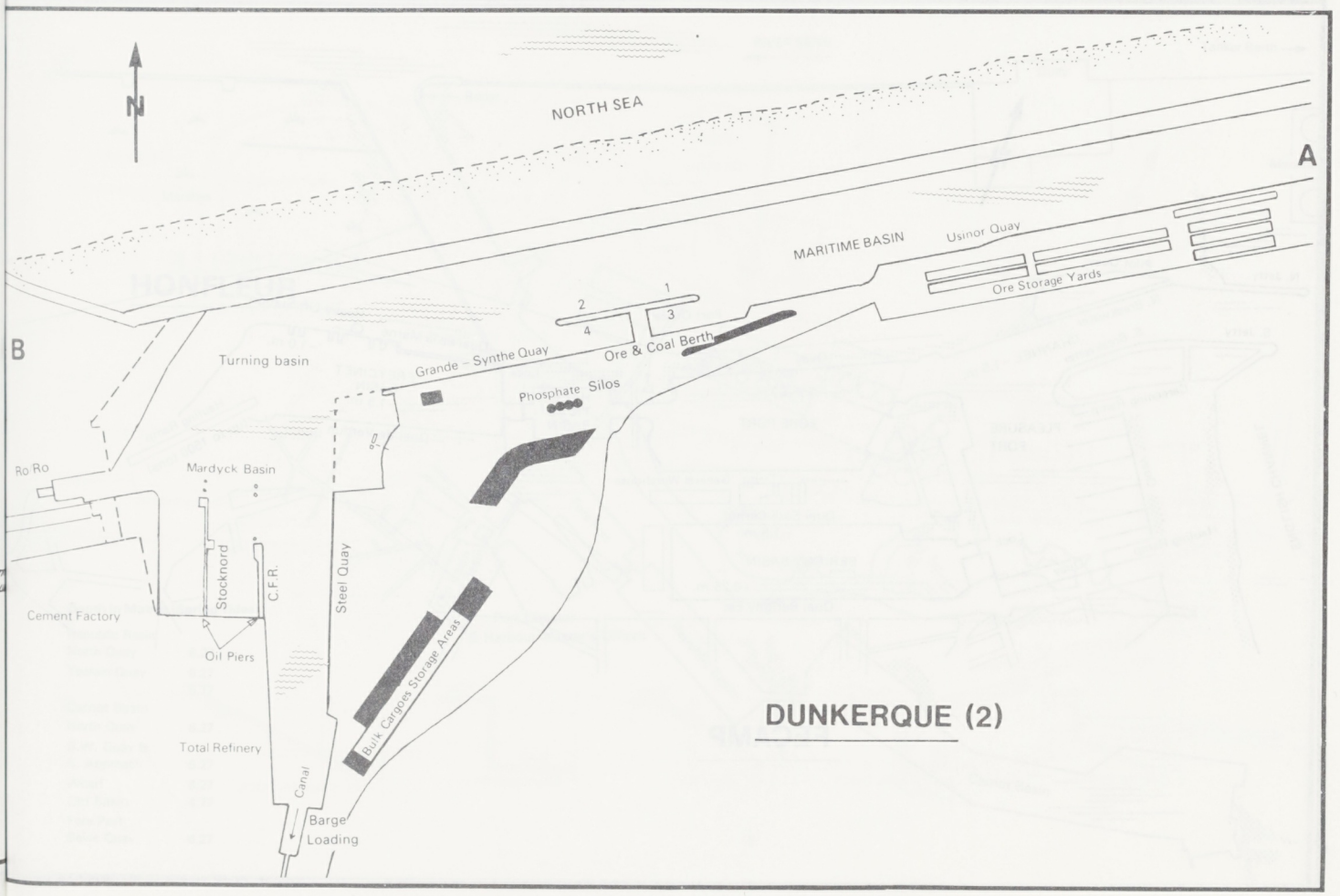

CHERBOURG
INNER ROADSTEAD
Navy Yard
Quay — 13 m. Min. Depth of Water
Freight Storage Area
Warehouse Facilities
Quay — 11 m. Min. Depth of Water
Ro/Ro Ramp
Freight Storage Area
Ro/Ro Ramp
Offshore Construction Yard
Yacht Harbour
Warehouse Facilities
Passenger Terminal
Port Offices
Ro/Ro Ramp
Dry Dock
Warehouse Facilities
Shipyard
Freight Storage Area
Small
Craft
Basin
N
SCALE
1 km.

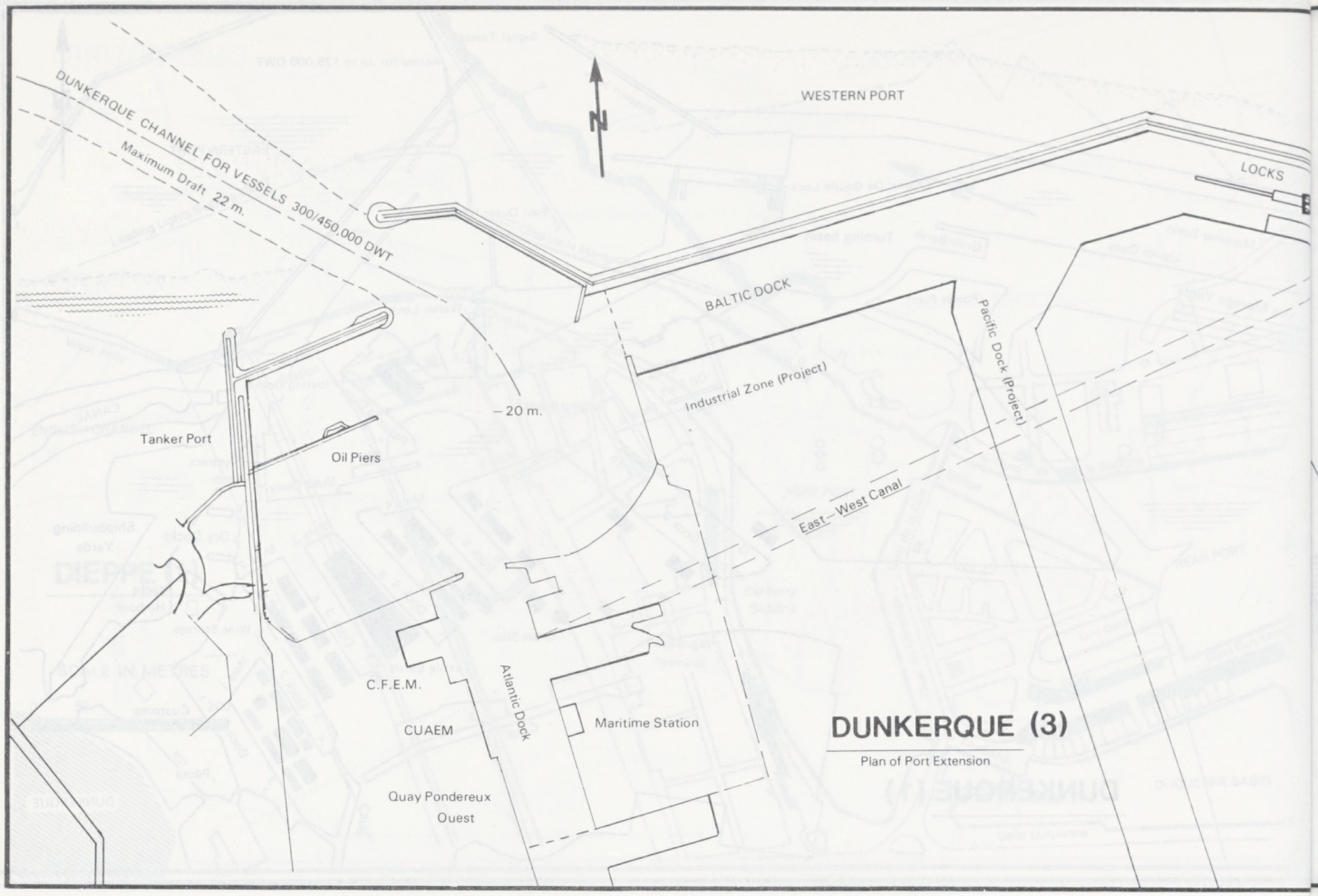

Customs
Quai Rive Droite
Quai du Lin
Port Captaincy
Darse du Moros
— 5.00 m.
Quai Rive Gauche
Oil Quay
Quai Carnot
Police Station
Rear Port
— 3.00 m.
Quai d'Aiguillon
Vessel Launching
Slipway
Repair Yard
Syncro-Lift
Channel
— 3.00 m.
Yacht Harbour
CONCARNEAU
Fore Port
Quai Peneroff

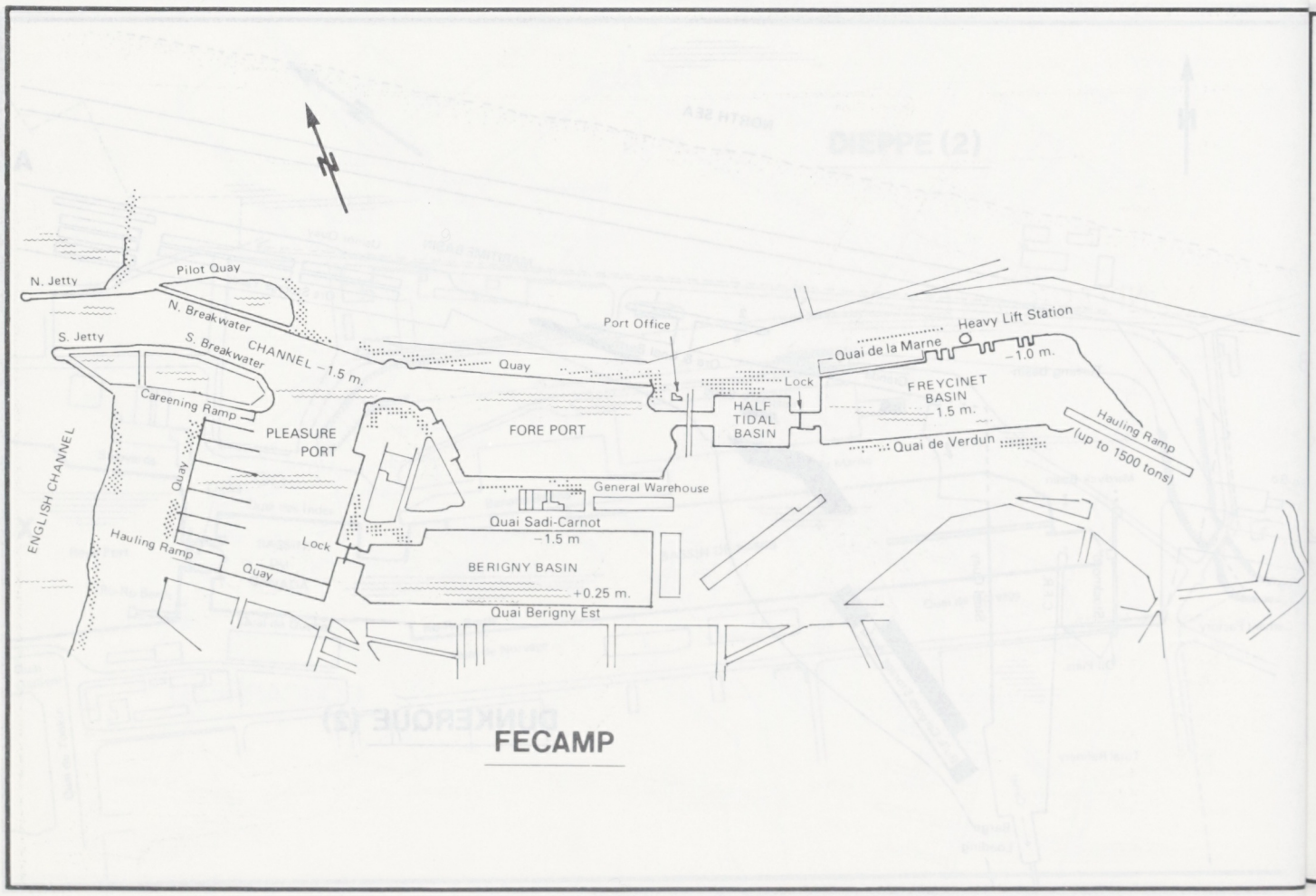

East Jetty
Lt.
Leading Lights Bearing 138°T.
Lt.
West Jetty
Signal Station
ENGLISH CHANNEL
Quai du Hable
Quai de la Marne
N
Quai de la Somme
Bridge
FORE PORT
Quai de la Cale
REAR PORT
X
DIEPPE (1)
Car-ferry Sealink
Passenger Terminal
Dry dock
Quai Guynemer
Quai du Carenage
Quai Trudaine
Locks
DUQUESNE BASIN
Quai Duquesne
SCALE IN METRES
0 50 200

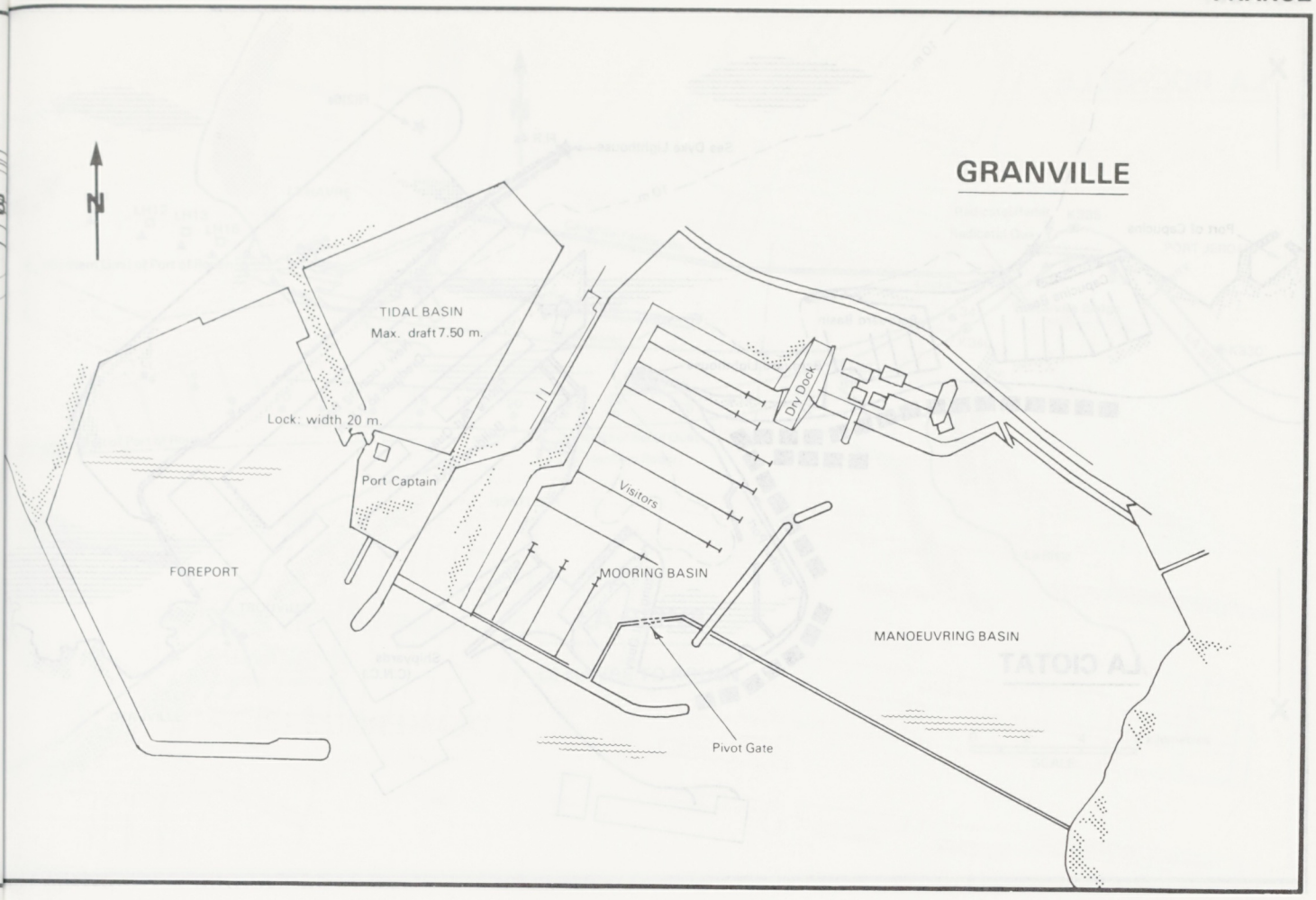

DIEPPE (2)
N
Shipyards
Locks
Quai des Indes
Banana Berths
Quai du Maroc
X
Rear Port
BASSIN DU CANADA
BASSIN DE PARIS
Ro-Ro Berth
Quai de Quebec
Ro-Ro Berth
Quai de Norvege
Quai de Norvege
Quai Gallieni
Quai du Tonkin

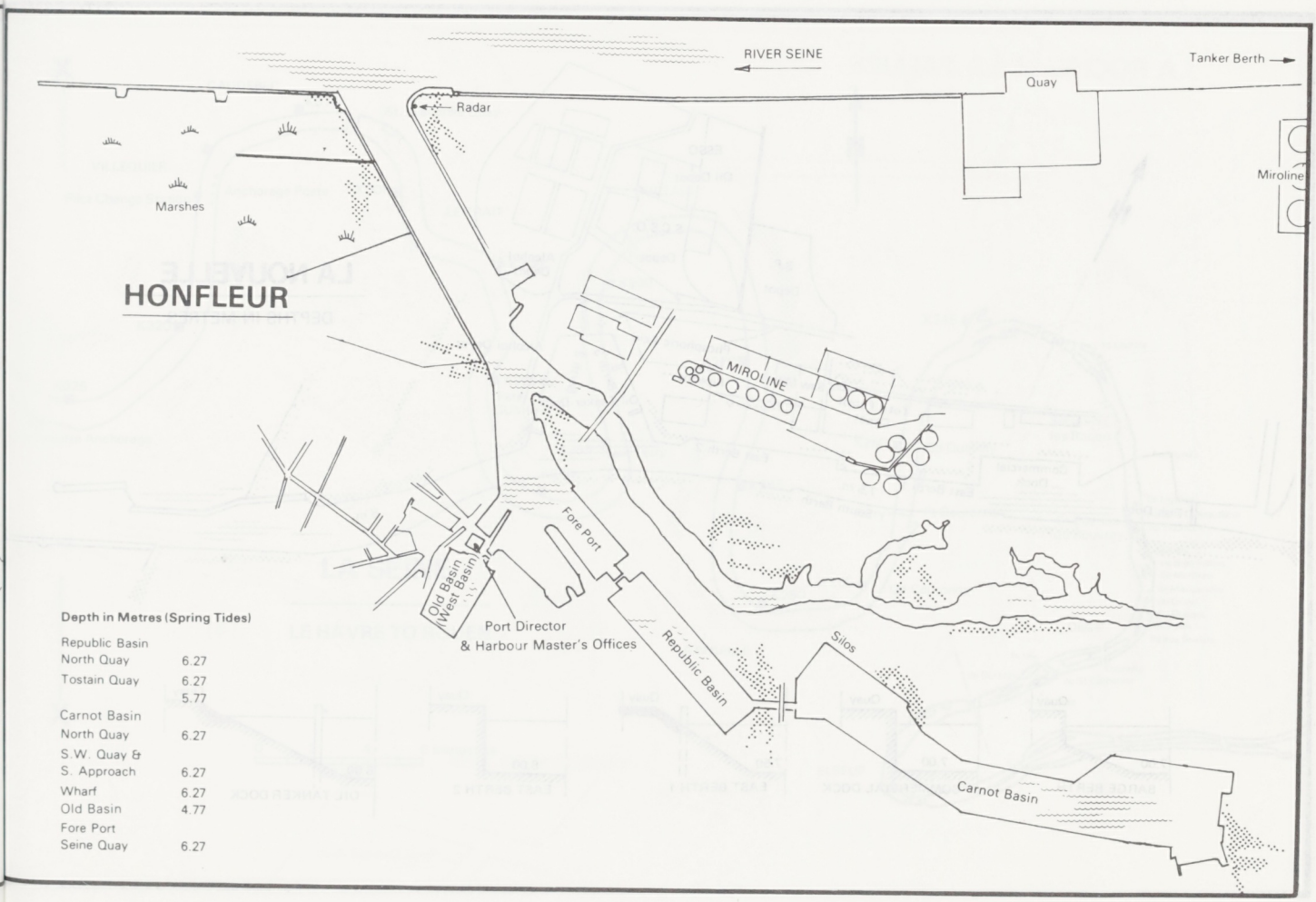

Signal Tower
Access for up to 125,000 DWT.
Western Jetty
Eastern Jetty
N
EASTERN PORT
Charles De Gaulle Lock
East Outer Harbour
A
Maritime Basin
Usinor Quay
Grain Berth
Turning basin
Ore Storage Yards
Power Plant
Watier Lock
B.P.
S.F.
Oil Piers
Mole 6
Turning Basin
Floating Docks
Panama Quay
CANAL
Mole 5
Ro/Ro
Suez Quay
Trystram Lock
Mole 4
Dock 6
J3
J2
Dock 5
11
10
Sugar Terminal
Mole 3
Mole 2
Dry Docks
Shipbuilding Yards
Dock 4
8
9
Dock 3
6
7
Yacht Harbour
Grain Silo
Wine Storage
Textile Berth
Mole 1
Dock 2
5
4
1
Customs
Canal
Dock 1
2
3
Pilots
DUNKERQUE
Canal
DUNKERQUE (1)

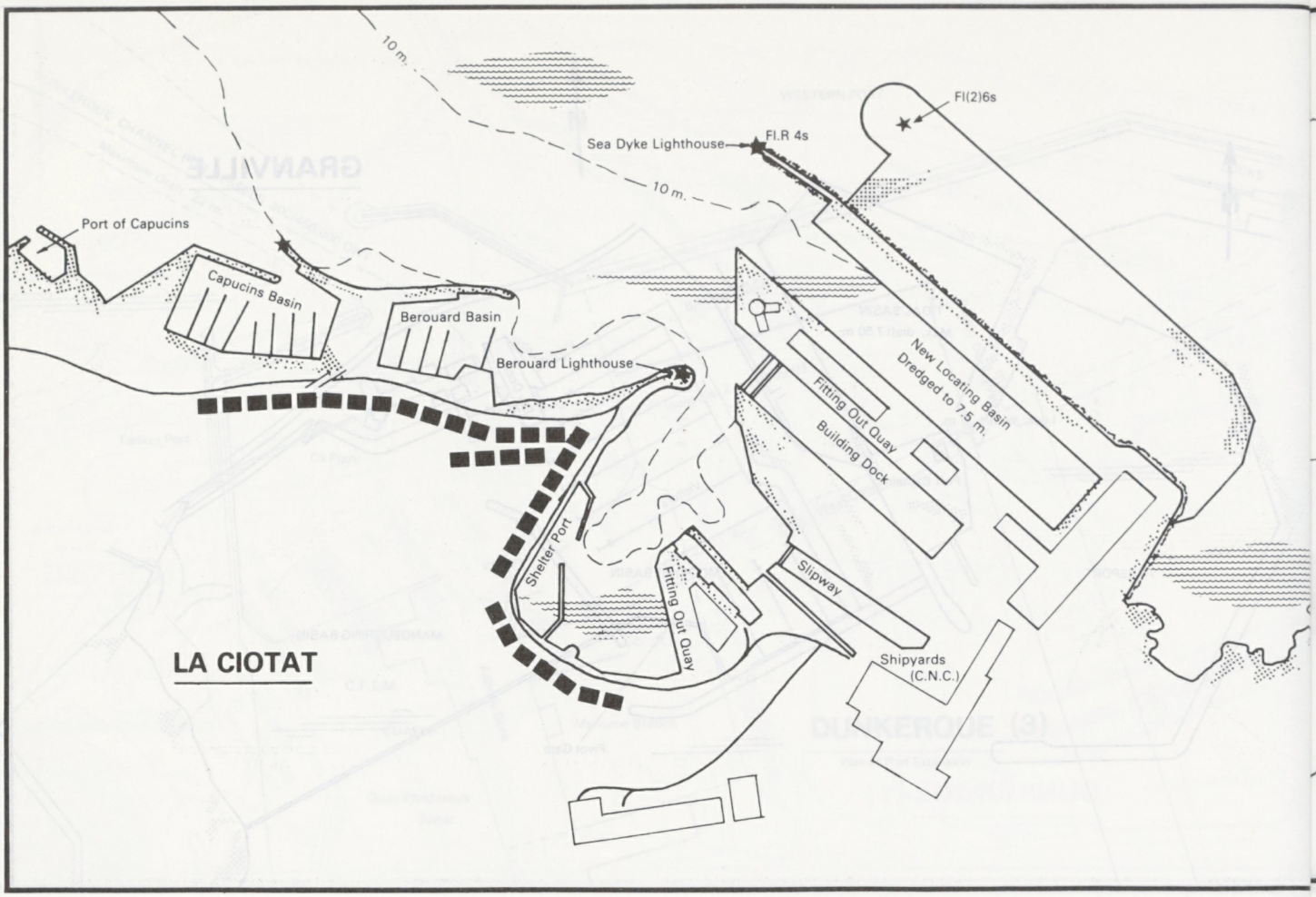

N
NORTH SEA
A
MARITIME BASIN
Usinor Quay
Ore Storage Yards
2
1
4
3
B
Turning basin
Grande – Synthe Quay
Ore & Coal Berth
Phosphate Silos
Ro Ro
Mardyck Basin
Steel Quay
Stocknord
C.F.R.
Cement Factory
Oil Piers
Bulk Cargoes Storage Areas
Total Refinery
Canal
Barge Loading
DUNKERQUE (2)

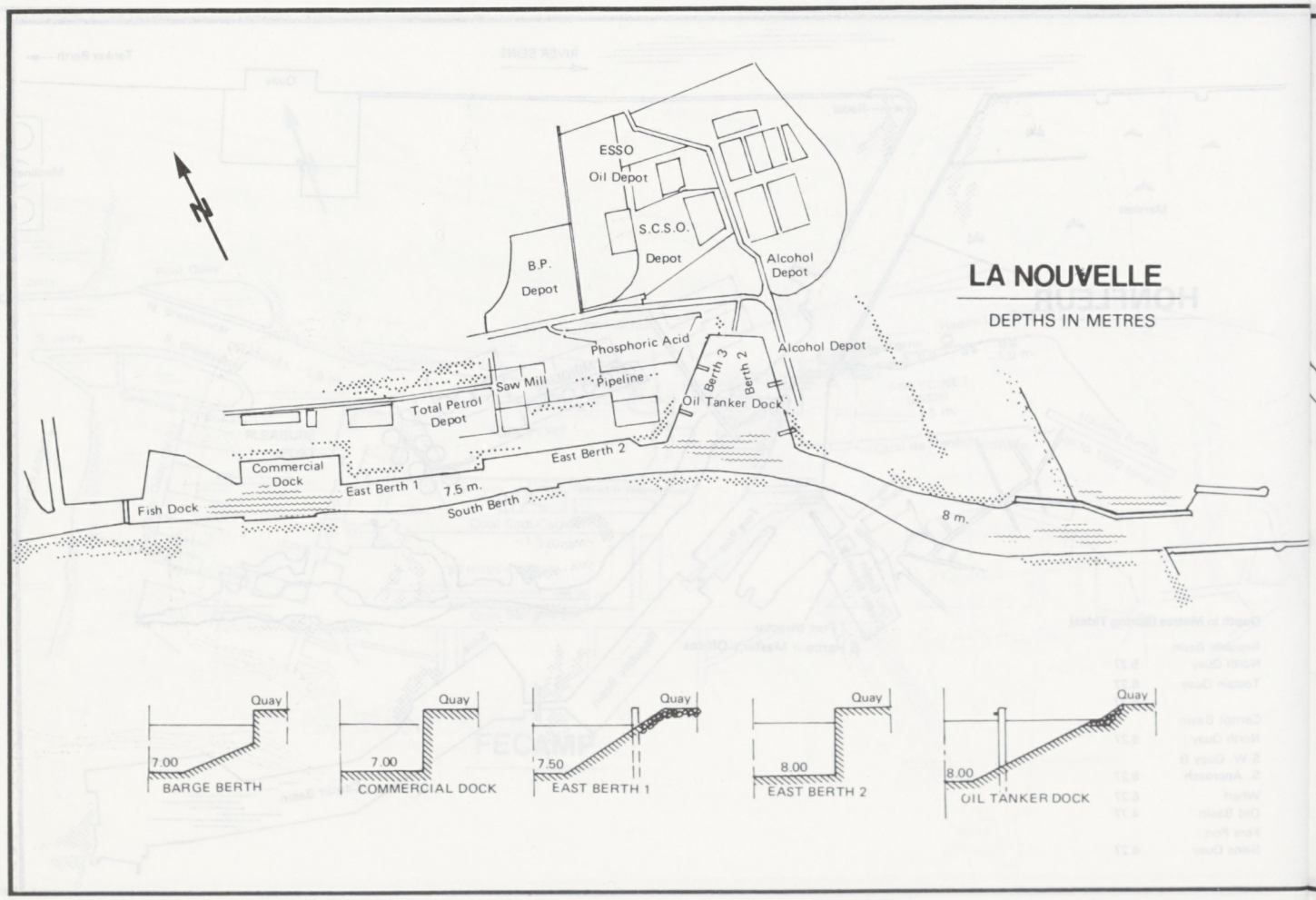

DUNKERQUE CHANNEL FOR VESSELS 300/450,000 DWT
Maximum Draft 22 m.
WESTERN PORT
LOCKS
BALTIC DOCK
Pacific Dock (Project)
Industrial Zone (Project)
−20 m.
Tanker Port
Oil Piers
East – West Canal
C.F.E.M.
CUAEM
Atlantic Dock
Maritime Station
Quay Pondereux Ouest
DUNKERQUE (3)
Plan of Port Extension

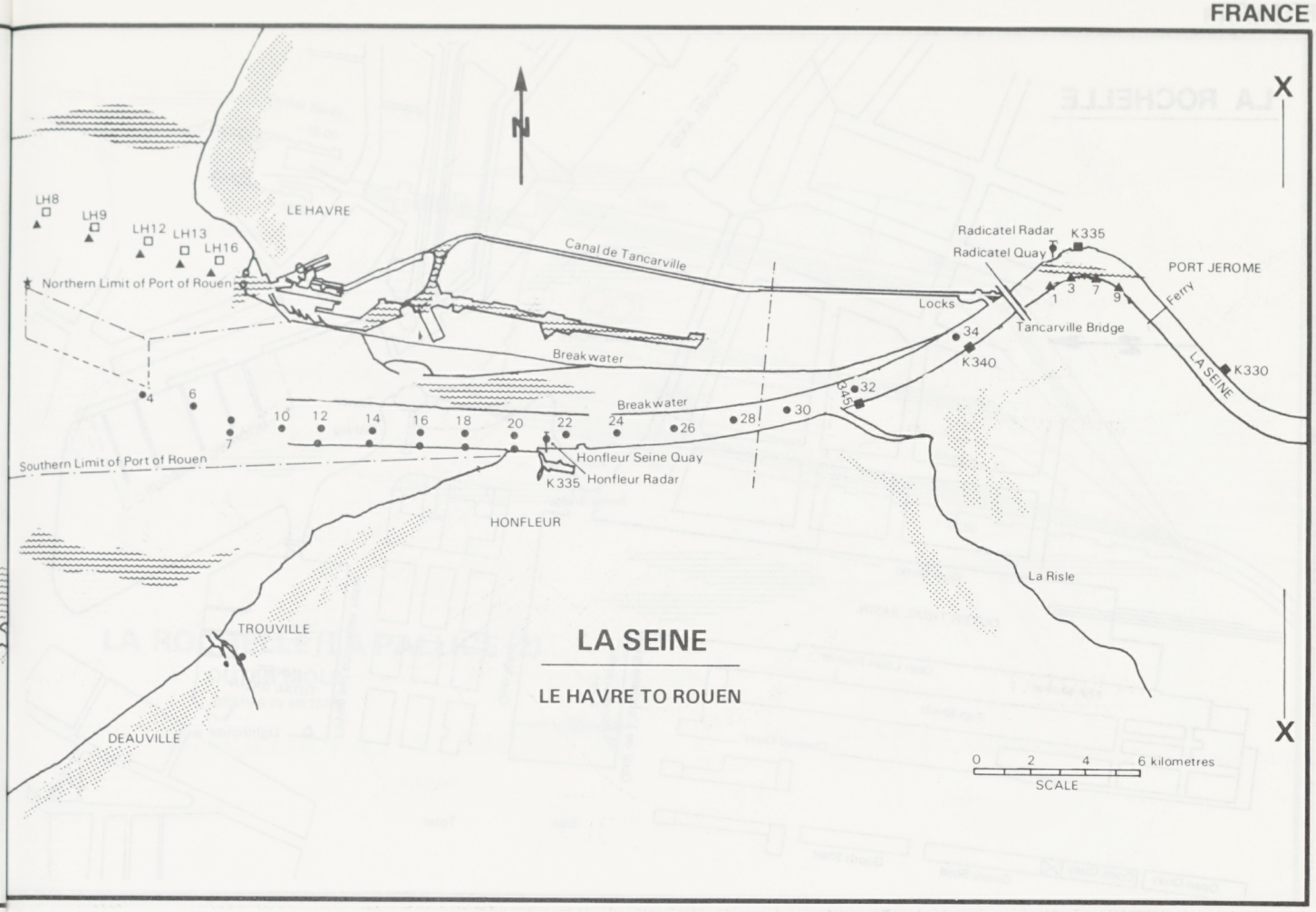

N. Jetty
Pilot Quay
N. Breakwater
S. Jetty
S. Breakwater
CHANNEL −1.5 m.
Careening Ramp
PLEASURE PORT
Quay
ENGLISH CHANNEL
Hauling Ramp
Lock
Quay
Port Office
Quay
FORE PORT
HALF TIDAL BASIN
Lock
Heavy Lift Station
Quai de la Marne
−1.0 m.
FREYCINET BASIN
1.5 m.
Quai de Verdun
Hauling Ramp (up to 1500 tons)
General Warehouse
Quai Sadi-Carnot
−1.5 m
BERIGNY BASIN
+0.25 m.
Quai Berigny Est
FECAMP

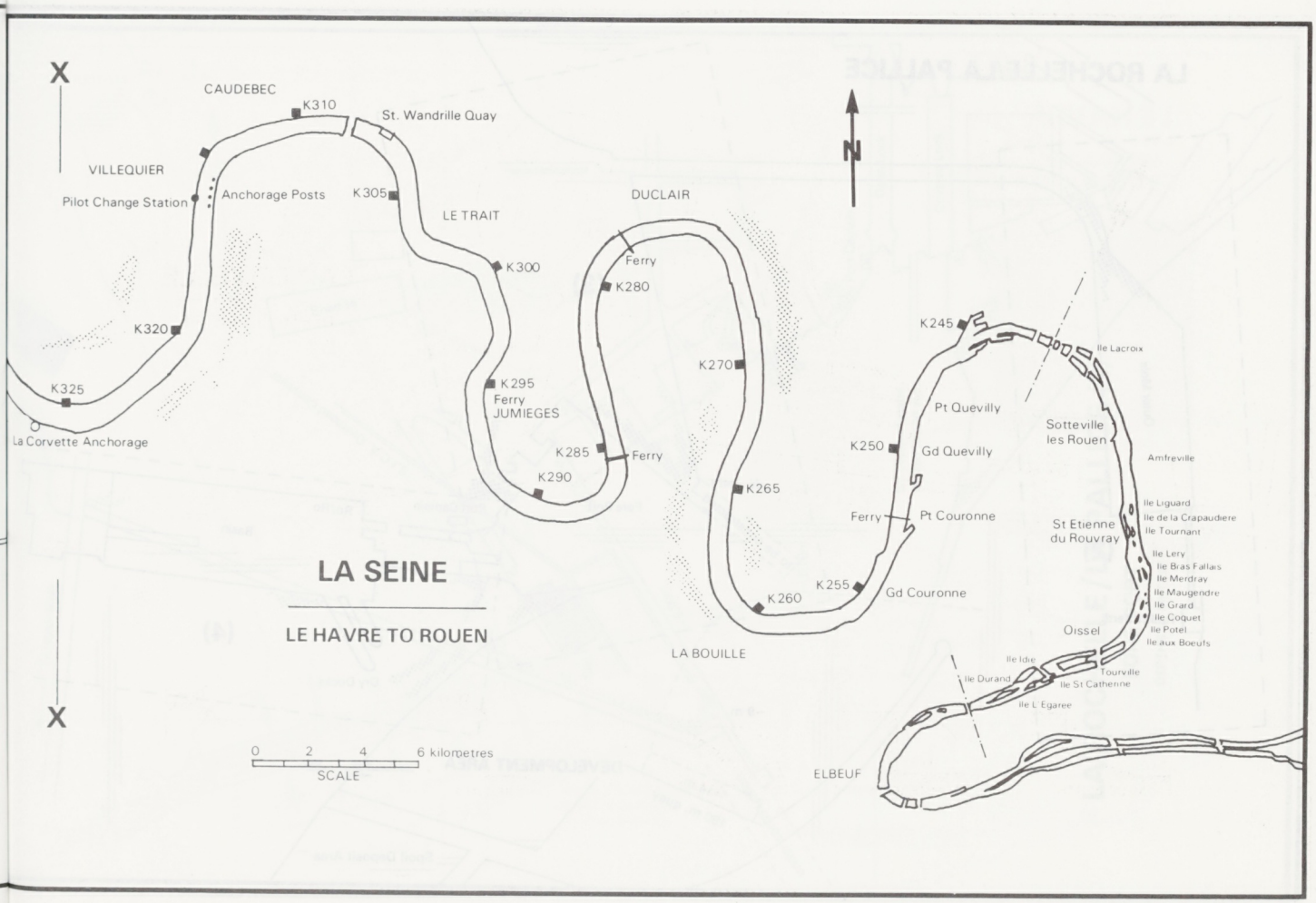

GRANVILLE
N
TIDAL BASIN
Max. draft 7.50 m.
Lock: width 20 m.
Port Captain
FOREPORT
Visitors
MOORING BASIN
Dry Dock
MANOEUVRING BASIN
Pivot Gate

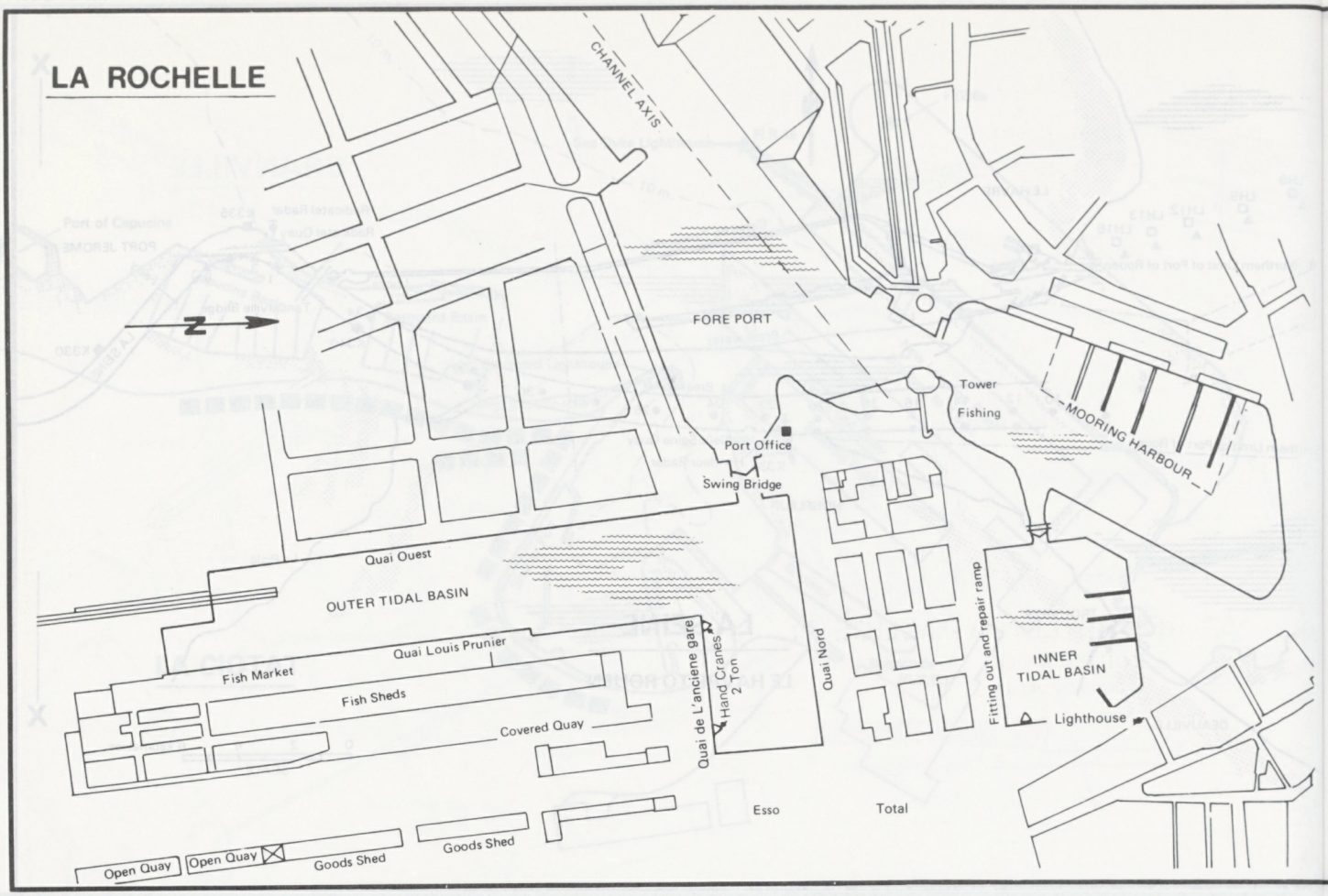

RIVER SEINE
Tanker Berth
Quay
Radar
Miroline
Marshes
HONFLEUR
MIROLINE
Fore Port
Old Basin
West Basin
Port Director
& Harbour Master's Offices
Republic Basin
Silos
Carnot Basin
Depth in Metres (Spring Tides)
Republic Basin
North Quay 6.27
Tostain Quay 6.27
5.77
Carnot Basin
North Quay 6.27
S.W. Quay &
S. Approach 6.27
Wharf 6.27
Old Basin 4.77
Fore Port
Seine Quay 6.27

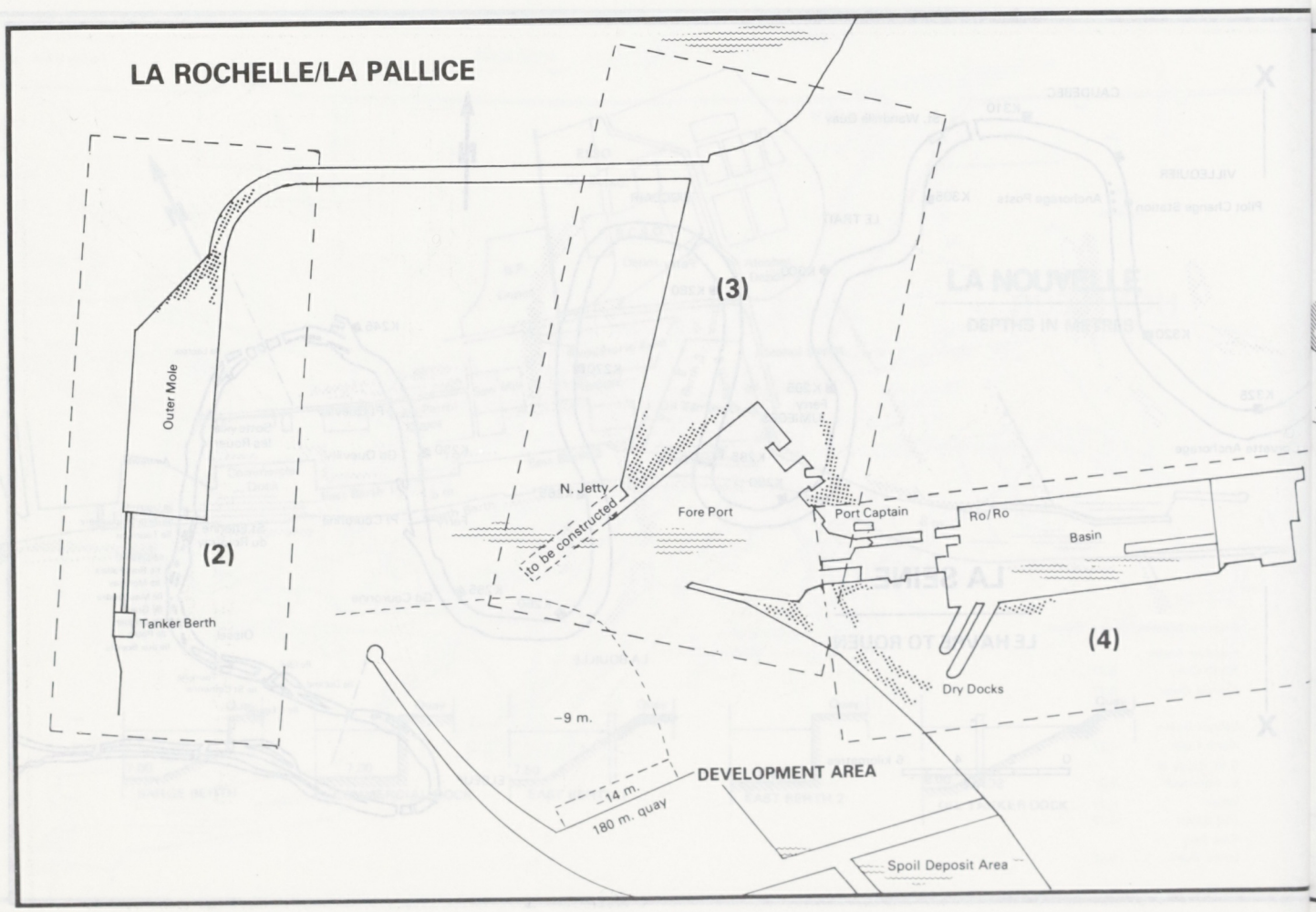

10 m.
Fl(2)6s
Sea Dyke Lighthouse
Fl.R 4s
10 m.
Port of Capucins
Capucins Basin
Berouard Basin
Berouard Lighthouse
New Locating Basin
Dredged to 7.5 m.
Fitting Out Quay
Building Dock
Shelter Port
Fitting Out Quay
Slipway
Shipyards
(C.N.C.)
LA CIOTAT

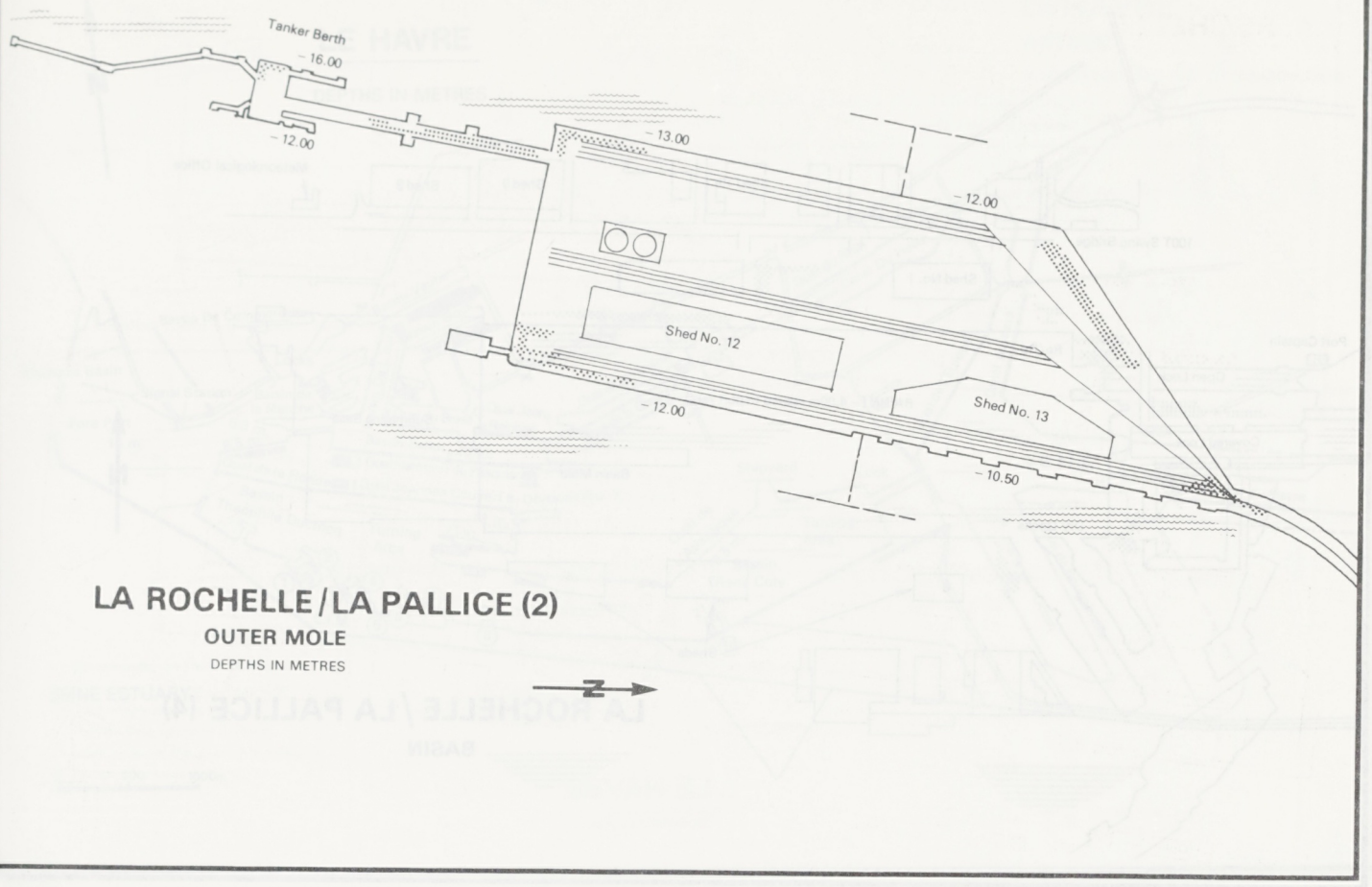

ESSO
Oil Depot
S.C.S.O.
Depot
B.P.
Depot
Alcohol
Depot
LA NOUVELLE
DEPTHS IN METRES
Phosphoric Acid
Alcohol Depot
Saw Mill
Pipeline
Berth 3
Berth 2
Total Petrol
Depot
Oil Tanker Dock
Commercial
Dock
East Berth 2
East Berth 1
7.5 m.
Fish Dock
South Berth
8 m.
Quay
7.00
BARGE BERTH
Quay
7.00
COMMERCIAL DOCK
Quay
7.50
EAST BERTH 1
Quay
8.00
EAST BERTH 2
Quay
8.00
OIL TANKER DOCK


N
X
LH8
LH9
LH12
LH13
LH16
LE HAVRE
Northern Limit of Port of Rouen
Canal de Tancarville
Radicatel Radar
Radicatel Quay
K335
PORT JEROME
Locks
Tancarville Bridge
Ferry
LA SEINE
K330
K340
Breakwater
Breakwater
Southern Limit of Port of Rouen
Honfleur Seine Quay
Honfleur Radar
K335
HONFLEUR
La Risle
TROUVILLE
DEAUVILLE
LA SEINE
LE HAVRE TO ROUEN
0 2 4 6 kilometres
SCALE


X
CAUDEBEC
K310
St. Wandrille Quay
VILLEQUIER
Pilot Change Station
Anchorage Posts
K305
LE TRAIT
DUCLAIR
Ferry
K300
K280
K320
K325
La Corvette Anchorage
K295
Ferry
JUMIEGES
K285
Ferry
K290
K270
K265
K260
K255
Gd Couronne
K250
Gd Quevilly
Pt Quevilly
K245
Ile Lacroix
Sotteville les Rouen
Amfreville
Ferry
Pt Couronne
St Etienne du Rouvray
Ile Liguard
Ile de la Crapaudiere
Ile Tournant
Ile Lery
Ile Bras Fallais
Ile Merdray
Ile Maugendre
Ile Grard
Ile Coquet
Ile Potel
Ile aux Boeufs
Oissel
Ile Idle
Ile Durand
Tourville
Ile St Catherine
Ile L Egaree
ELBEUF
LA BOUILLE
LA SEINE
LE HAVRE TO ROUEN
0 2 4 6 kilometres
SCALE


LA ROCHELLE
CHANNEL AXIS
FORE PORT
Tower
Fishing
MOORING HARBOUR
Port Office
Swing Bridge
Quai Ouest
OUTER TIDAL BASIN
Fish Market
Quai Louis Prunier
Fish Sheds
Covered Quay
Quai de L'anciene gare
Hand Cranes 2 Ton
Quai Nord
Fitting out and repair ramp
INNER TIDAL BASIN
Lighthouse
Esso
Total
Open Quay
Open Quay
Goods Shed
Goods Shed

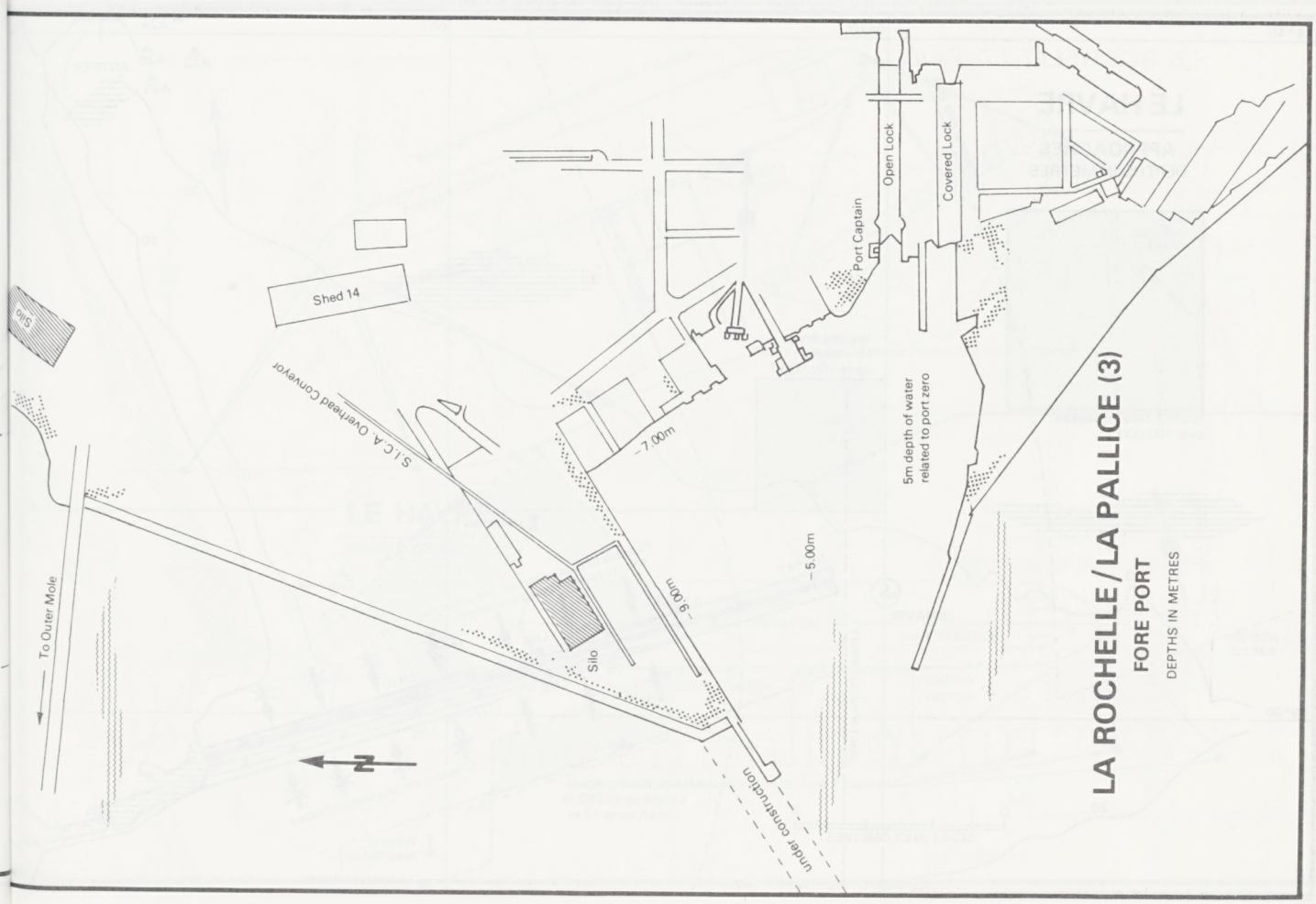

LA ROCHELLE/LA PALLICE
(3)
Outer Mole
(2)
Tanker Berth
N. Jetty
to be constructed
Fore Port
Port Captain
Ro/Ro
Basin
(4)
Dry Docks
-9 m.
-14 m.
180 m. quay
DEVELOPMENT AREA
Spoil Deposit Area



LA ROCHELLE/LA PALLICE (2)

OUTER MOLE

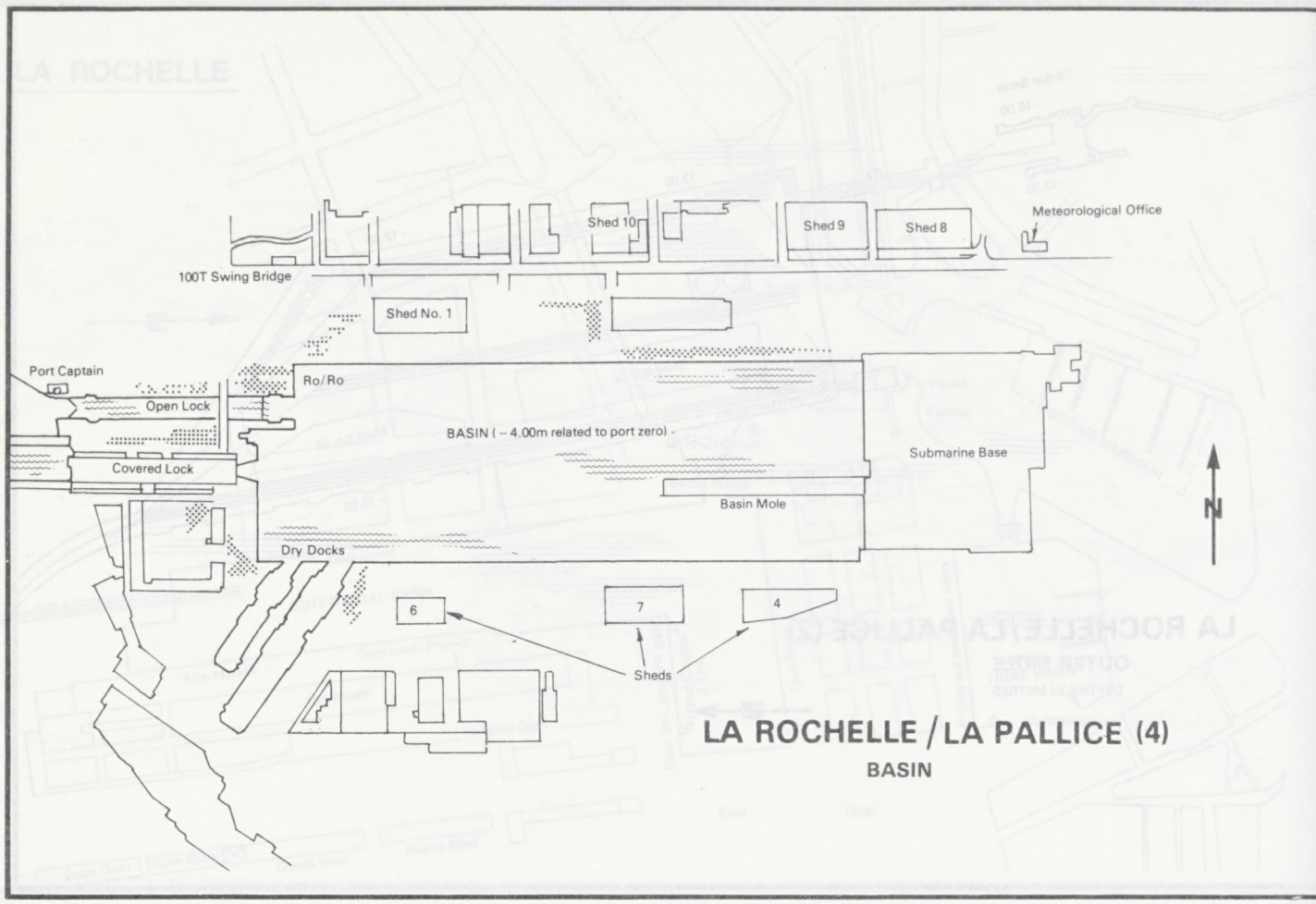
DEPTHS IN METRES



LA ROCHELLE/LA PALLICE (3)

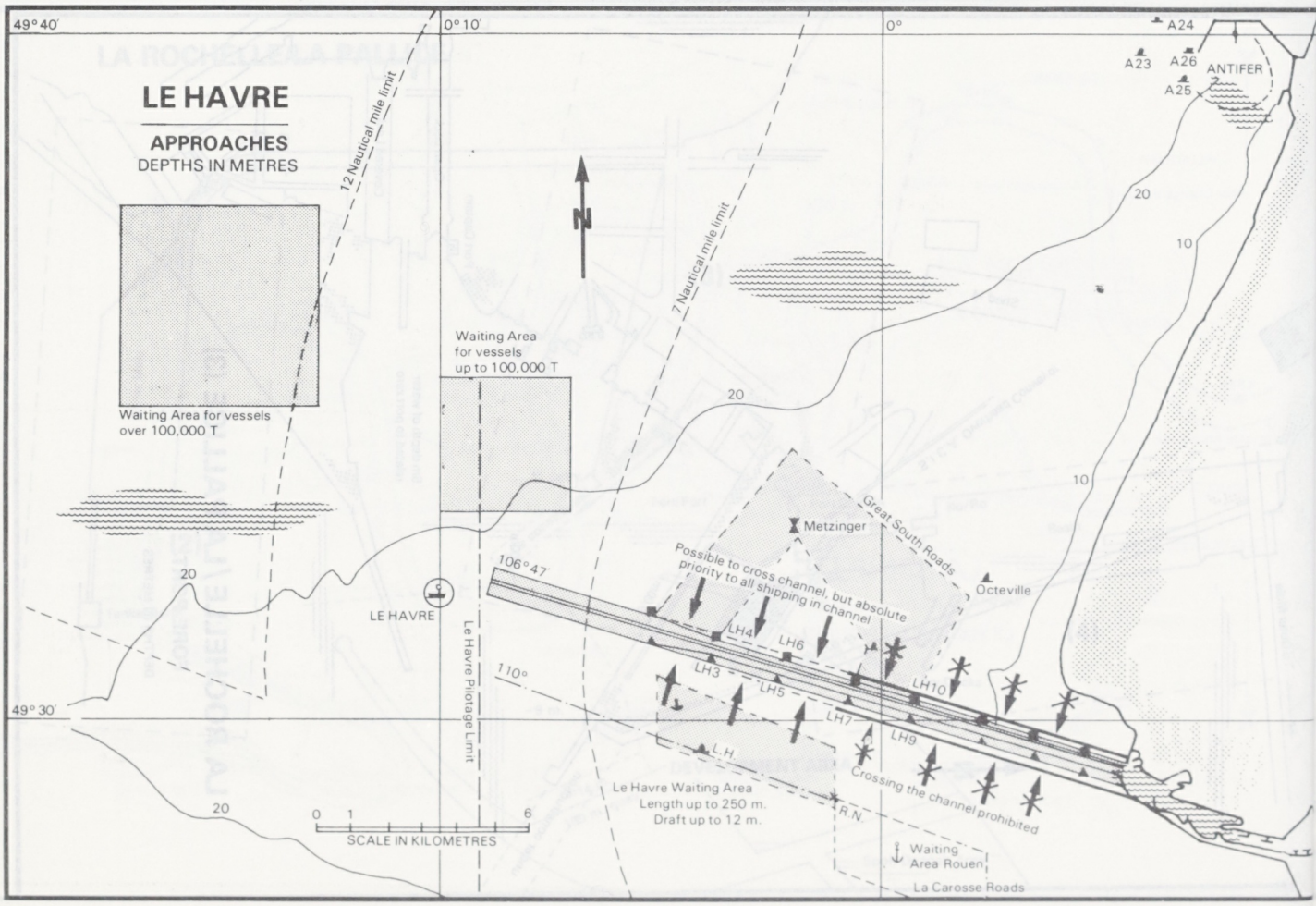
FORE PORT

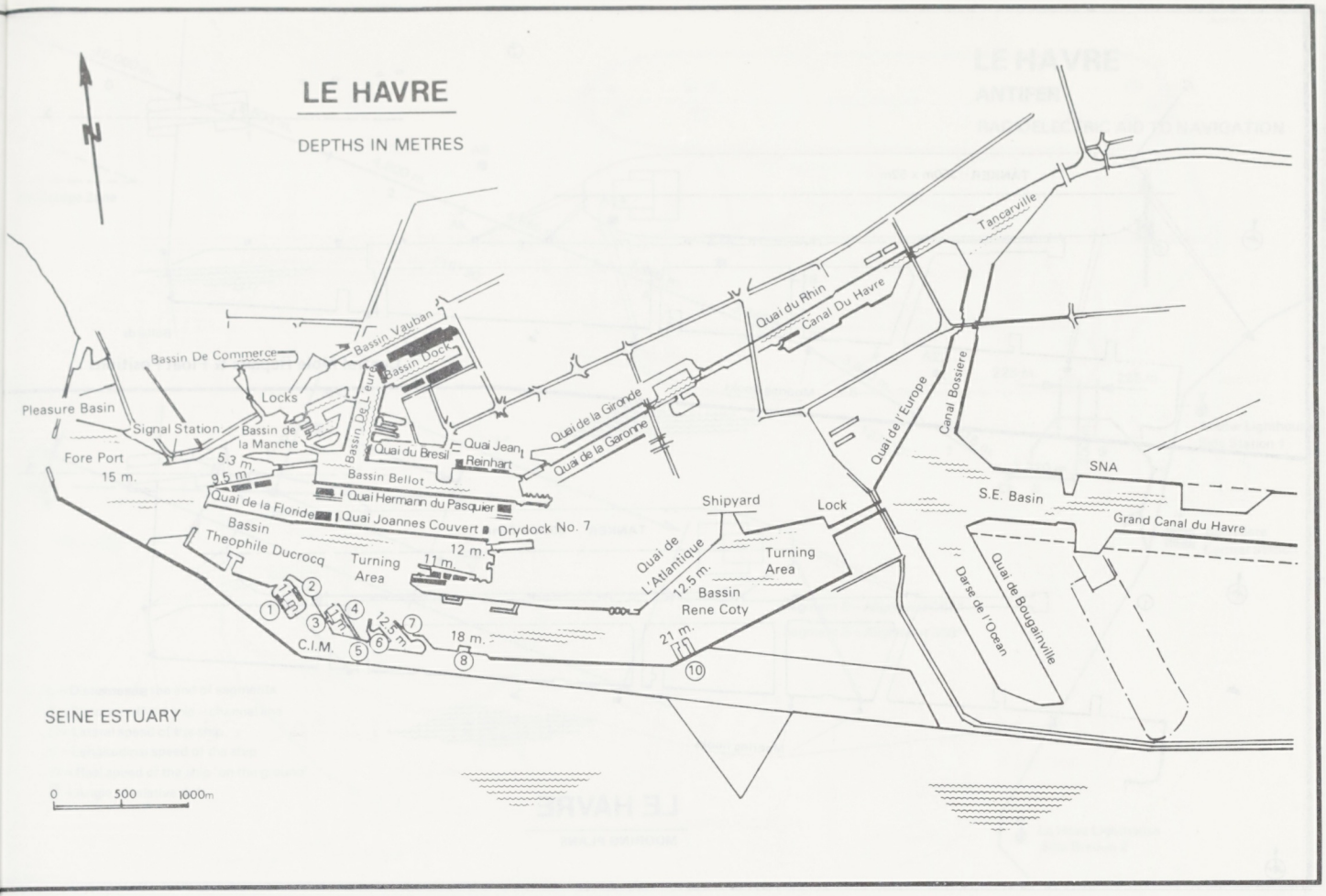
DEPTHS IN METRES

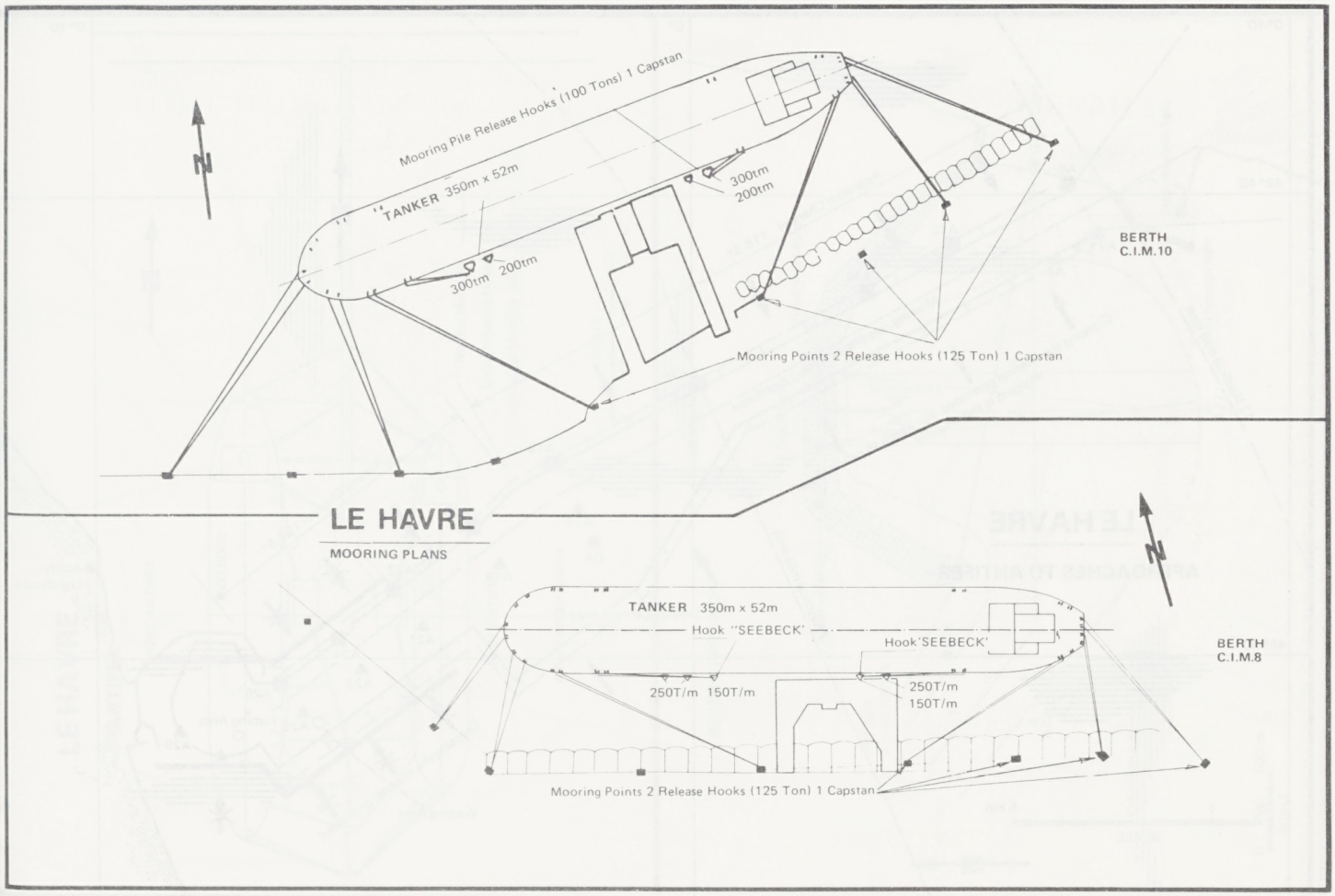


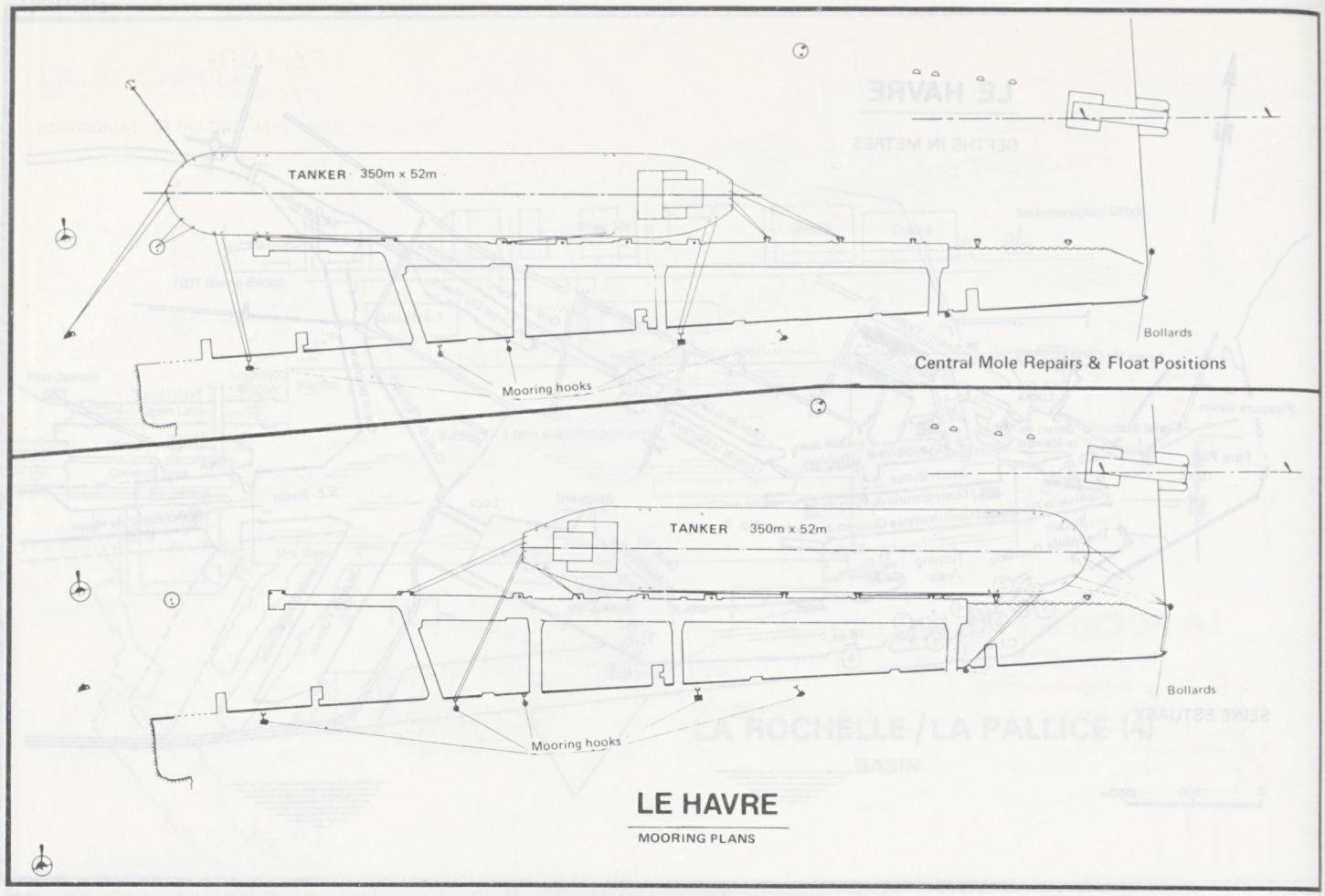
LA ROCHELLE / LA PALLICE (4)

BASIN



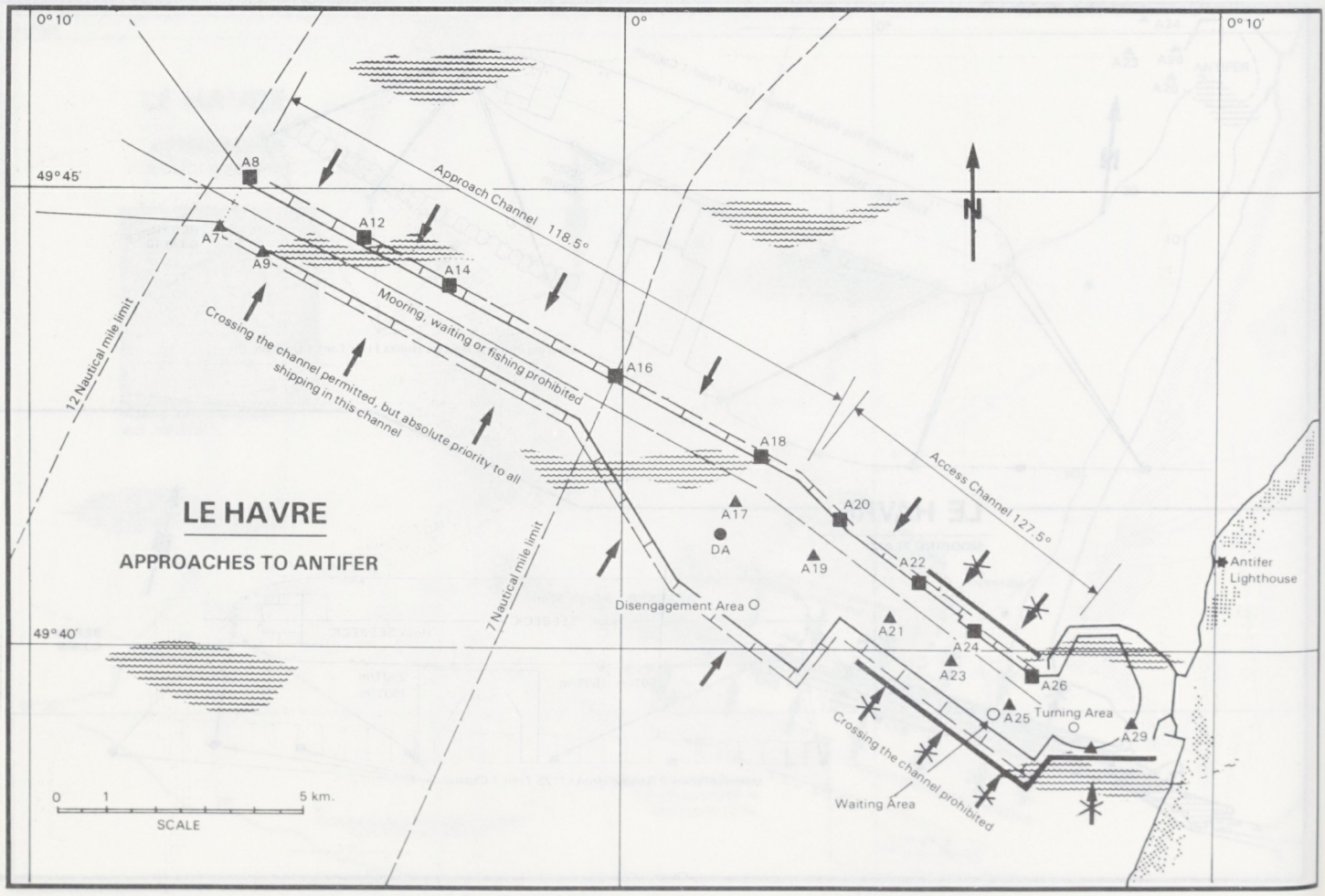

LE HAVRE
DEPTHS IN METRES
N
Bassin De Commerce
Bassin Vauban
Bassin Dock
Bassin Dock L'eure
Locks
Pleasure Basin
Signal Station
Bassin de la Manche
Fore Port
15 m.
5.3 m.
9.5 m.
Quai du Bresil
Quai Jean Reinhart
Bassin Bellot
Quai de la Gironde
Quai de la Garonne
Quai du Rhin
Canal Du Havre
Tancarville
Quai de l'Europe
Canal Bossiere
SNA
S.E. Basin
Grand Canal du Havre
Shipyard
Lock
Quai de la Floride
Quai Hermann du Pasquier
Quai Joannes Couvert
Drydock No. 7
12 m.
Bassin Theophile Ducrocq
Turning Area
11 m.
Quai de L'Atlantique
12.5 m.
Bassin Rene Coty
Turning Area
21 m.
18 m.
C.I.M.
Darse de l'Ocean
Quai de Bougainville
SEINE ESTUARY
0 500 1000m


N
Mooring Pile Release Hooks (100 Tons) 1 Capstan
"TANKER 350m x 52m
300tm 200tm
300tm 200tm
BERTH C.I.M.10
Mooring Points 2 Release Hooks (125 Ton) 1 Capstan
LE HAVRE
MOORING PLANS
N
TANKER 350m x 52m
Hook "SEEBECK"
Hook'SEEBECK'
250T/m 150T/m
250T/m 150T/m
BERTH C.I.M.8
Mooring Points 2 Release Hooks (125 Ton) 1 Capstan



LE HAVRE

MOORING PLANS



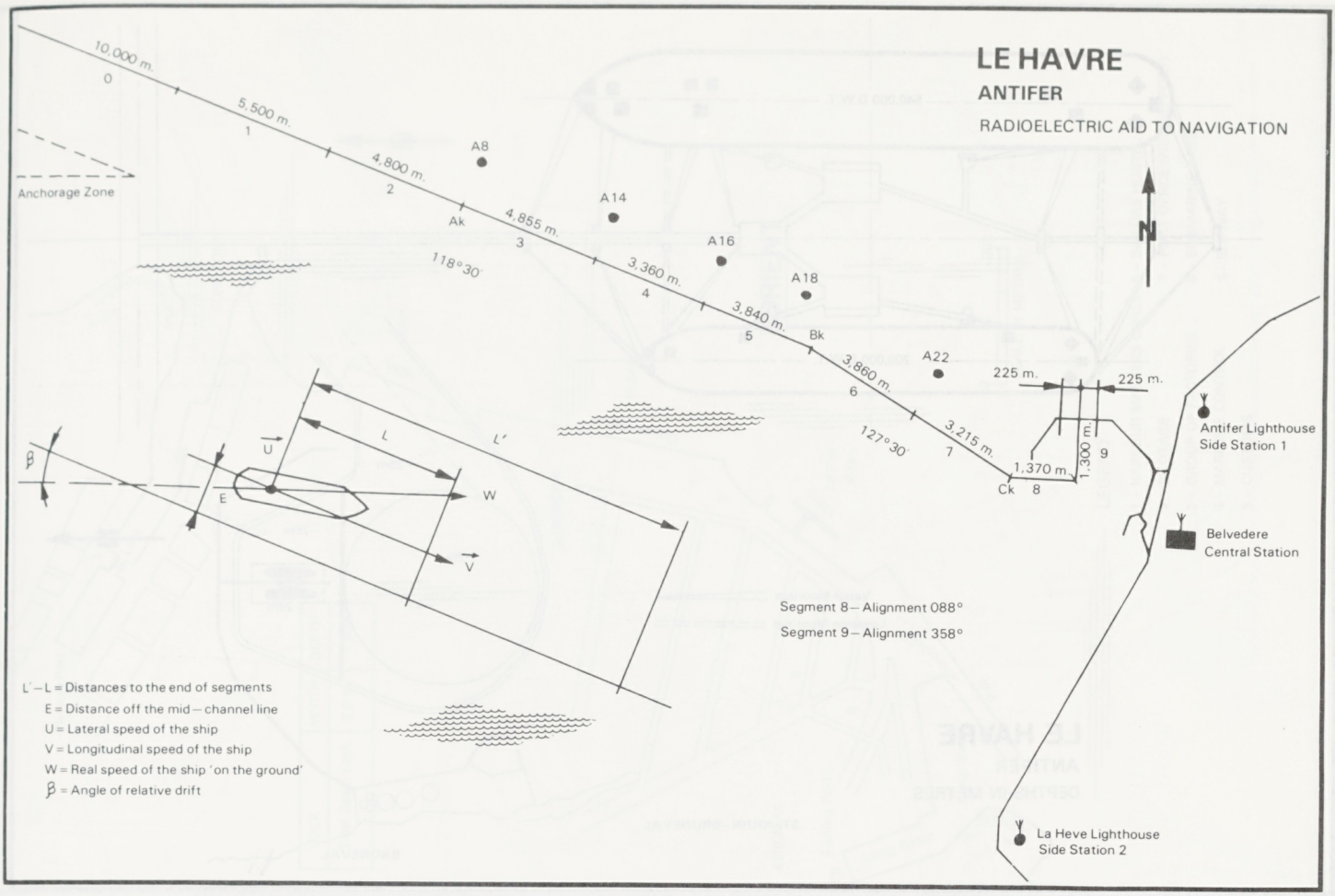
LE HAVRE

APPROACHES TO ANTIFER

LE HAVRE

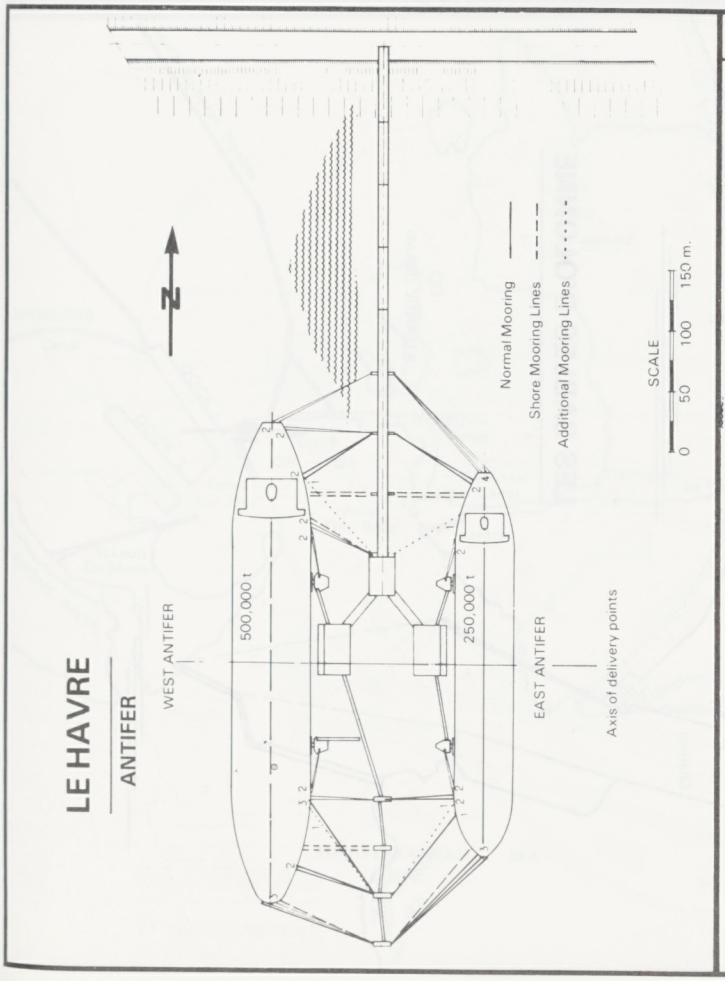
ANTIFER

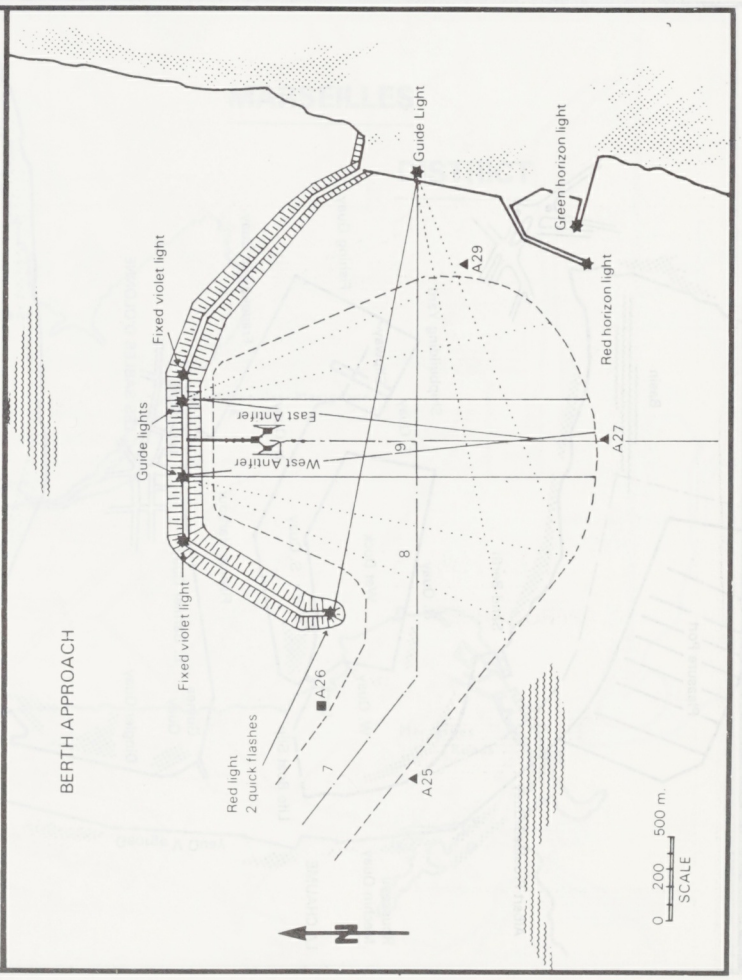
RADIOELECTRIC AID TO NAVIGATION

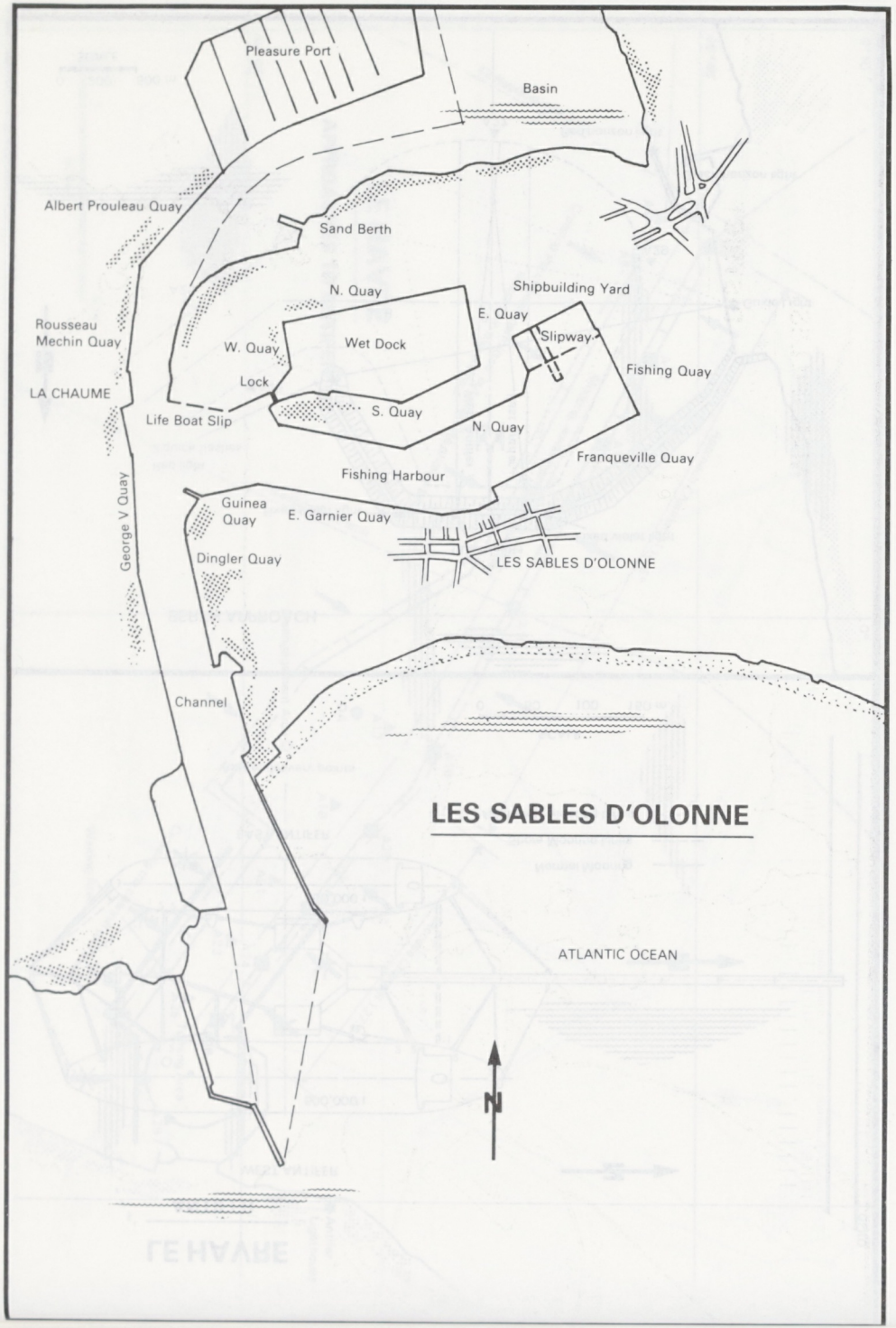


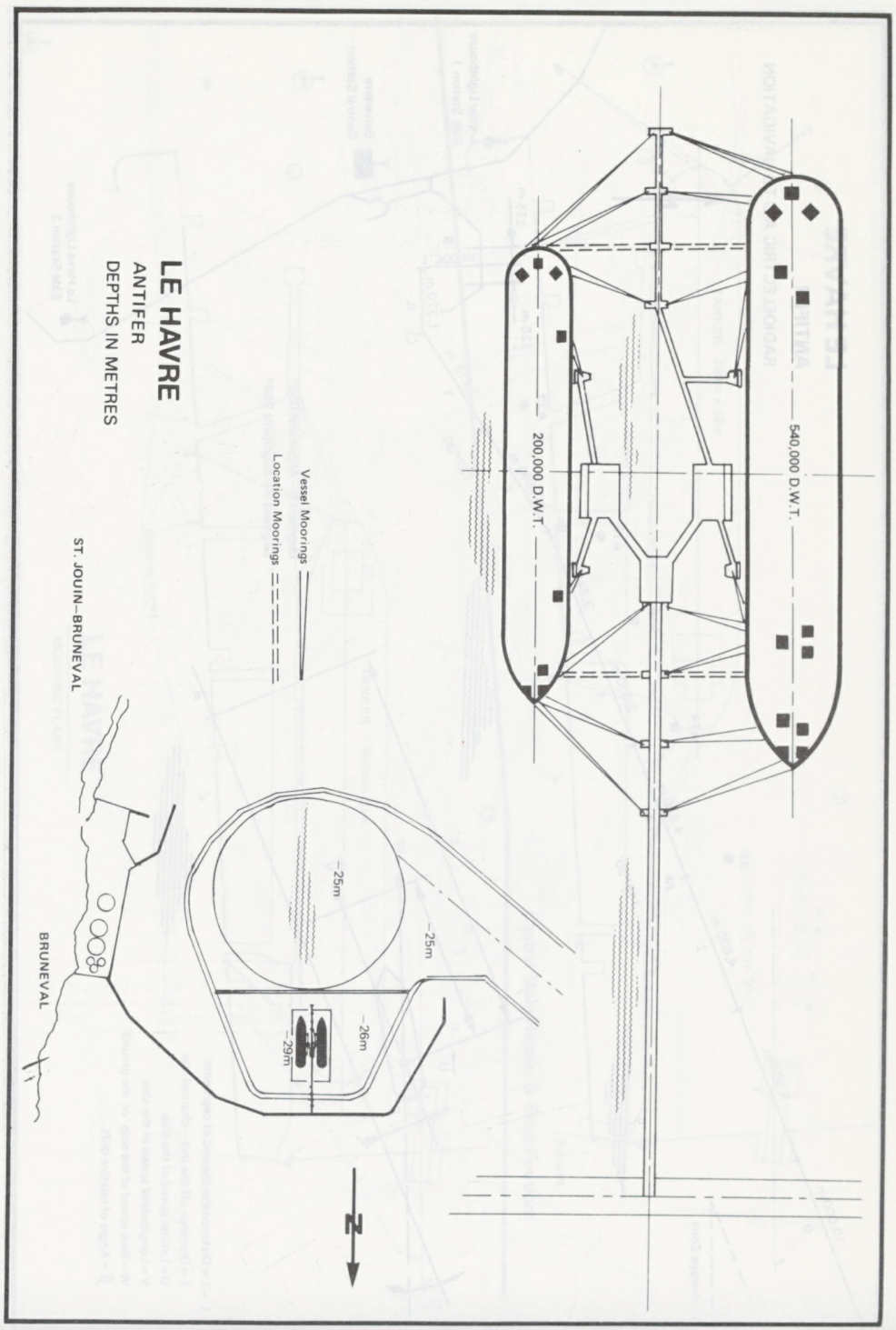
LE HAVRE

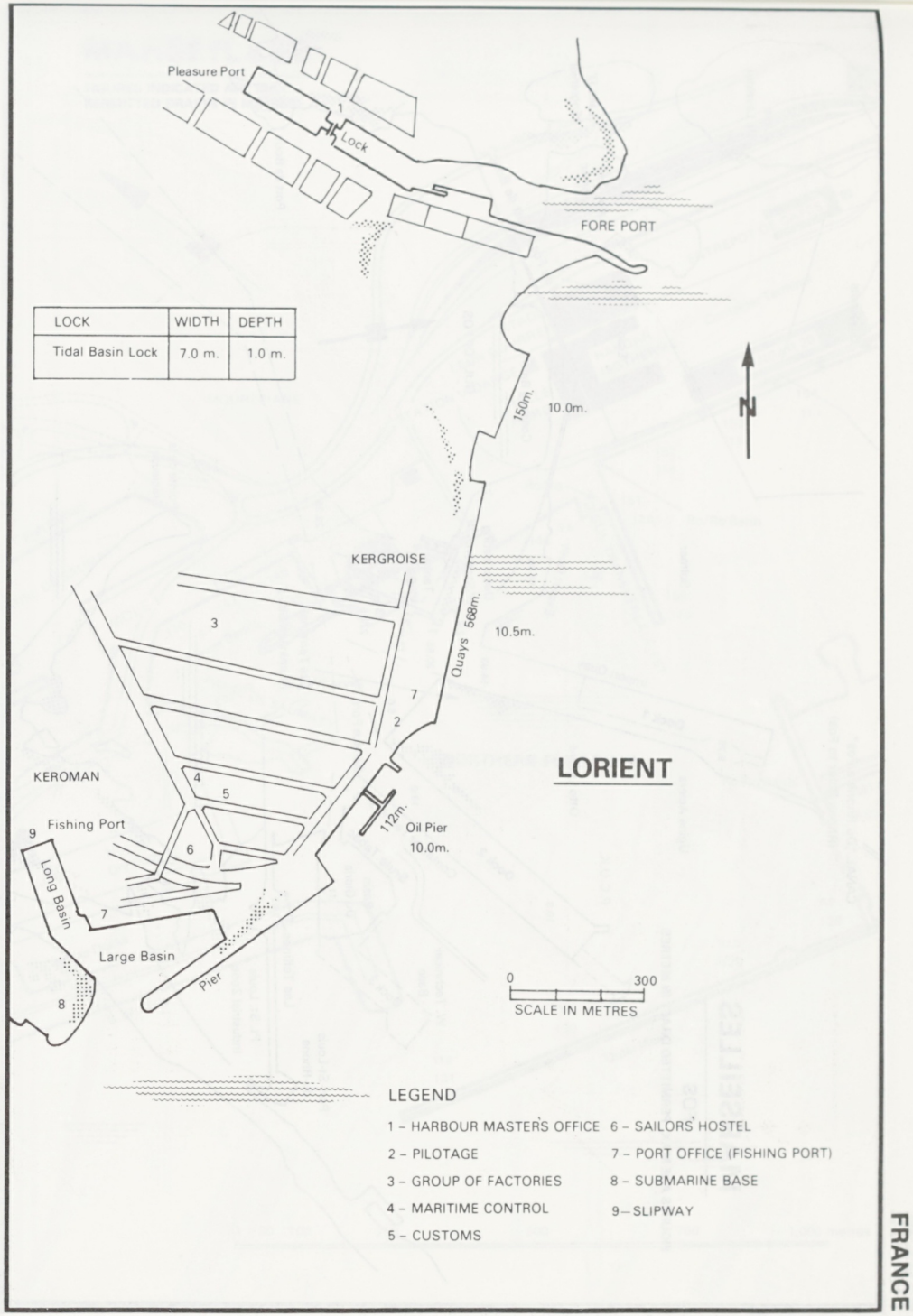
ANTIFER



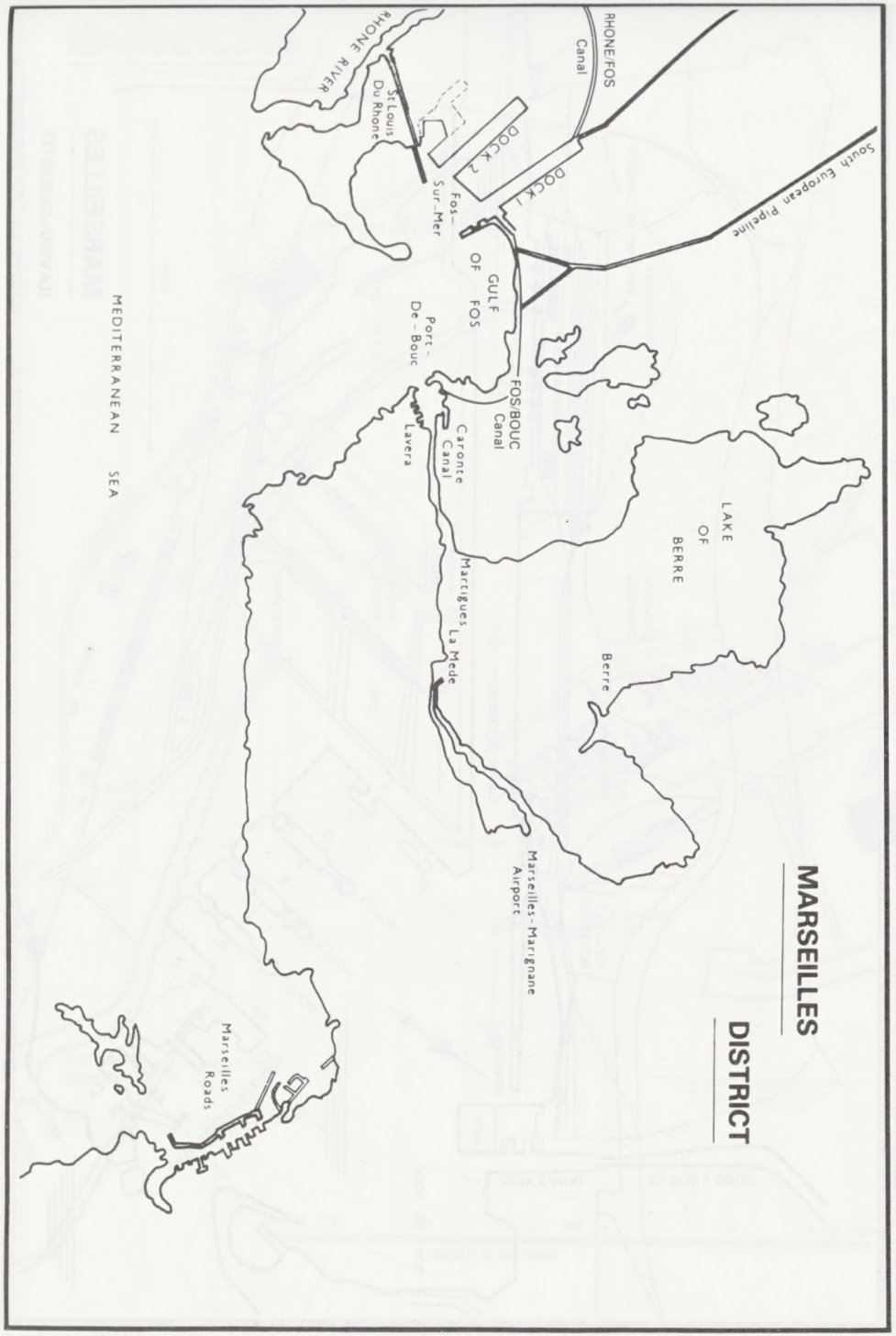



Pleasure Port
Basin
Albert Prouleau Quay
Sand Berth
N. Quay
Shipbuilding Yard
E. Quay
Rousseau
Mechin Quay
W. Quay
Wet Dock
Slipway
Fishing Quay
Lock
LA CHAUME
Life Boat Slip
S. Quay
N. Quay
Franqueville Quay
Fishing Harbour
Guinea
Quay
E. Garnier Quay
George V Quay
Dingler Quay
LES SABLES D'OLONNE
Channel
LES SABLES D'OLONNE
ATLANTIC OCEAN
N


LE HAVRE
ANTIFER
DEPTHS IN METRES
Vessel Moorings
Location Moorings
ST. JOUIN-BRUNEVAL
BRUNEVAL
540,000 D.W.T.
200,000 D.W.T.
-25m
-25m
-26m
-29m
N

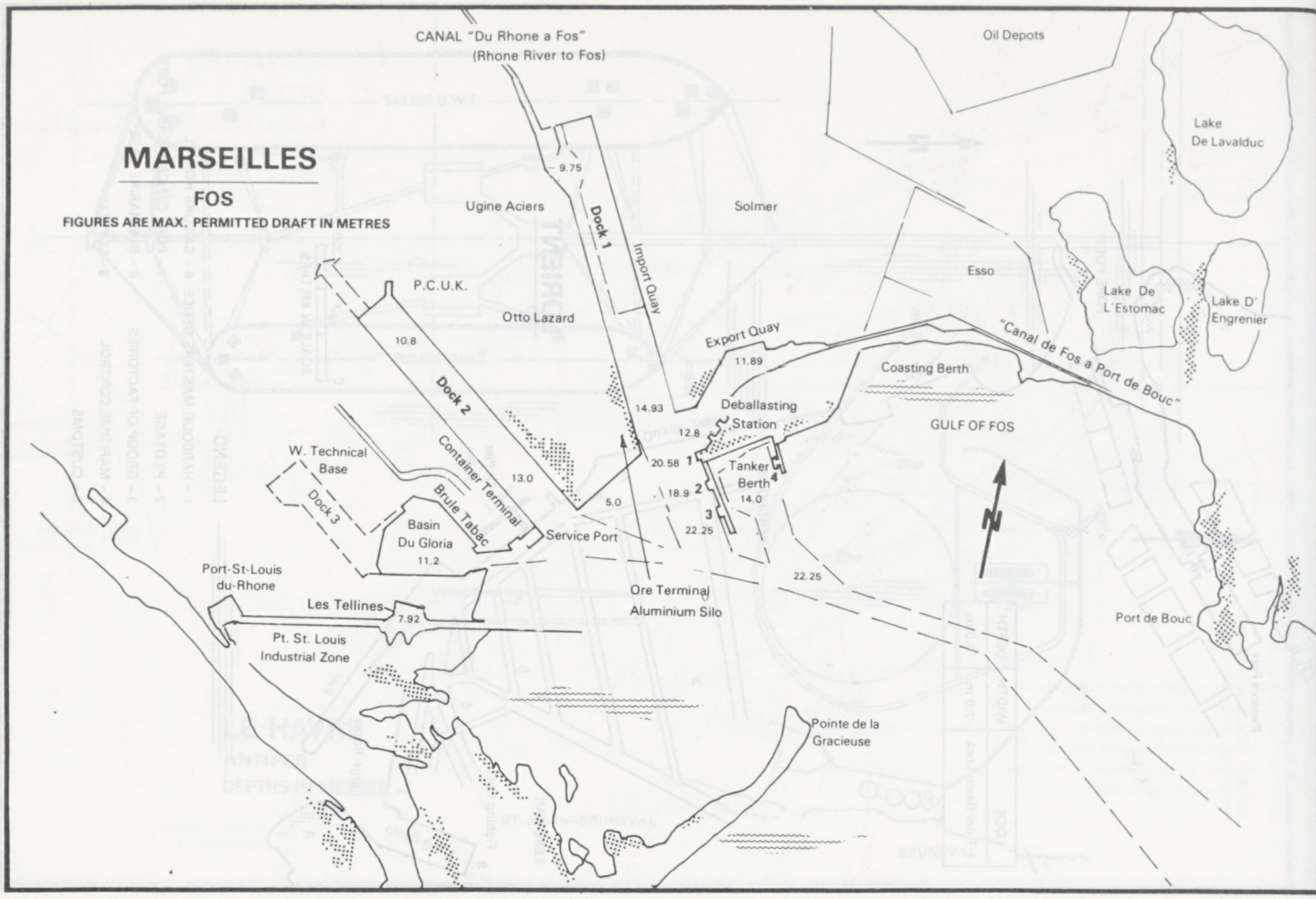


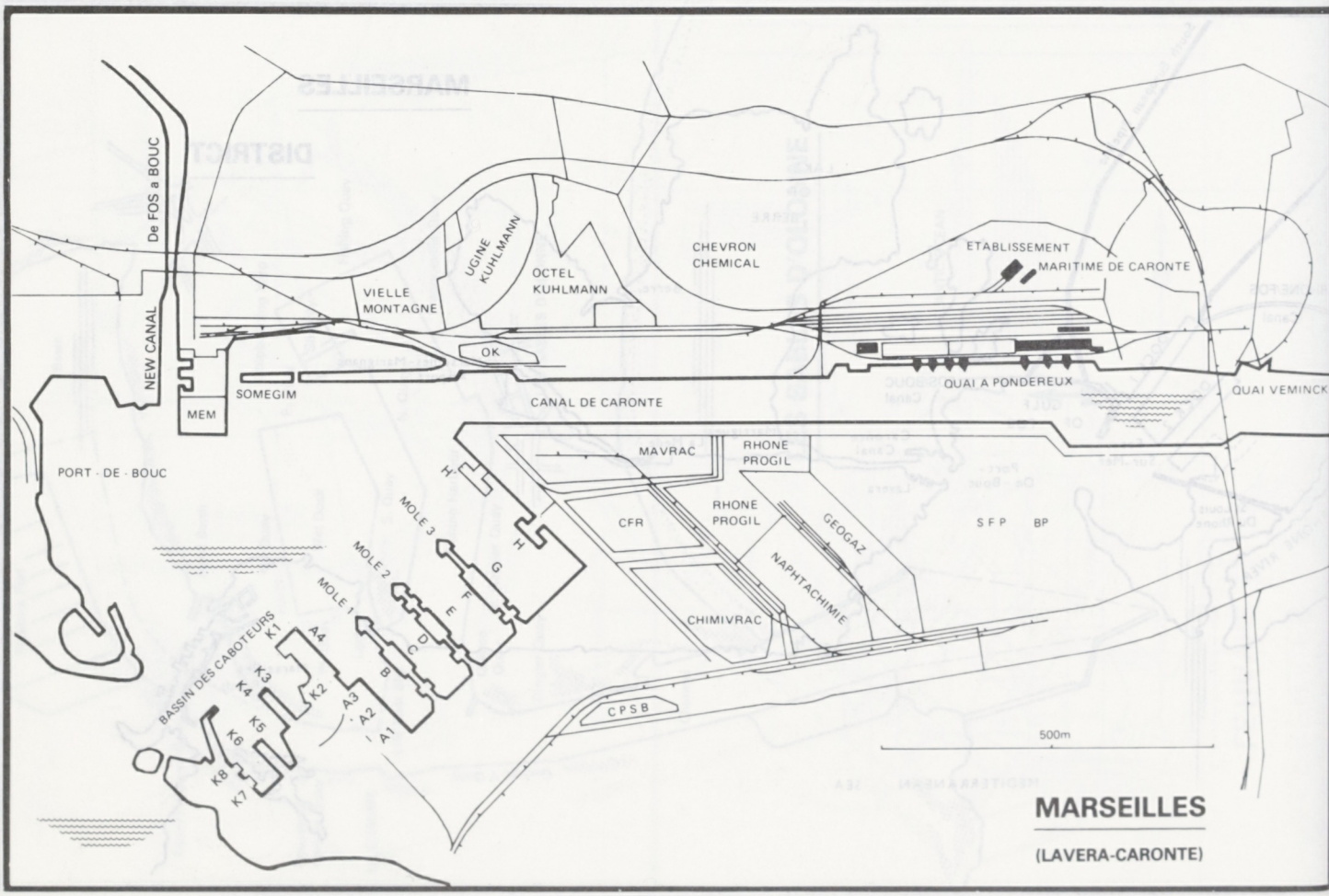
FRANCE

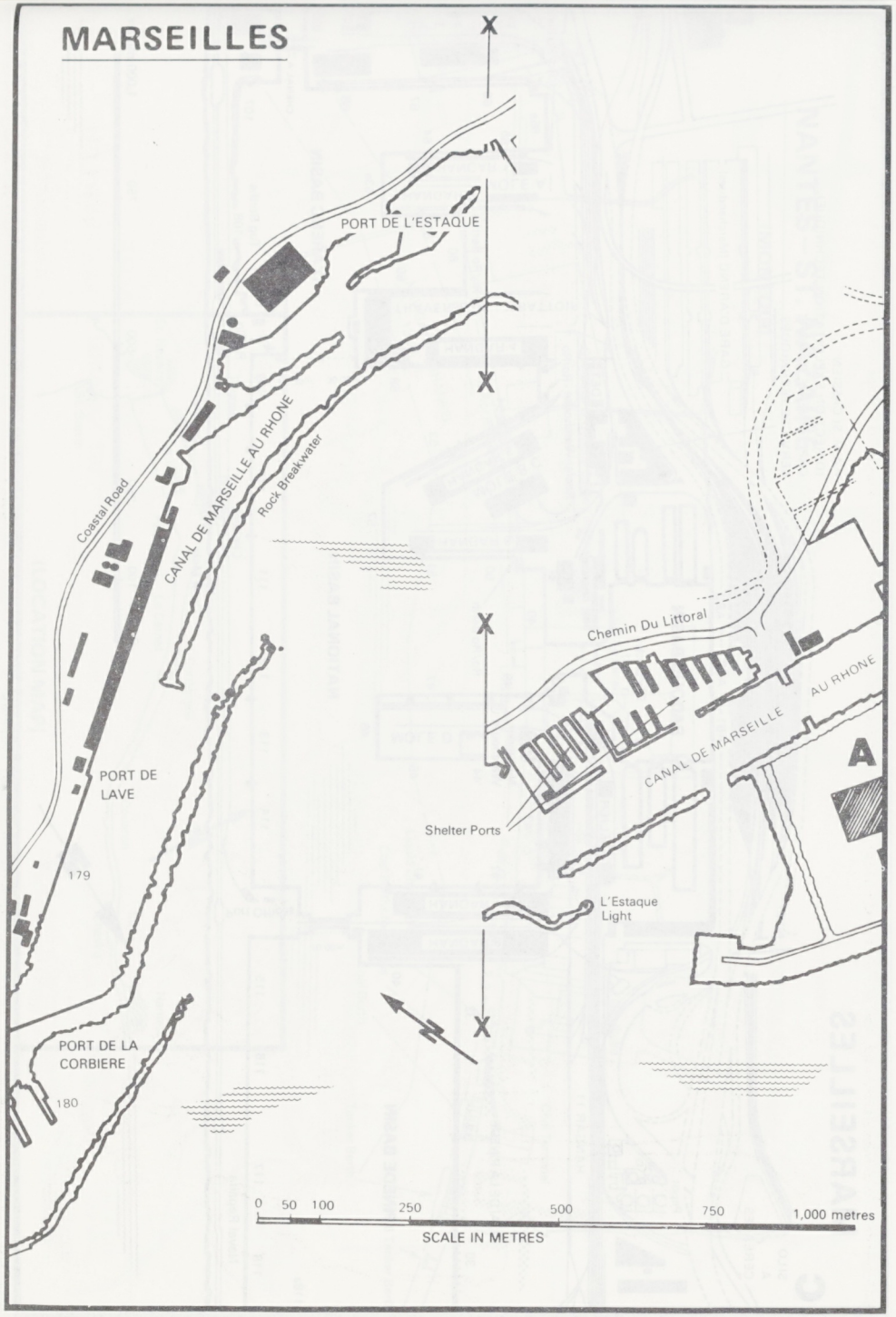


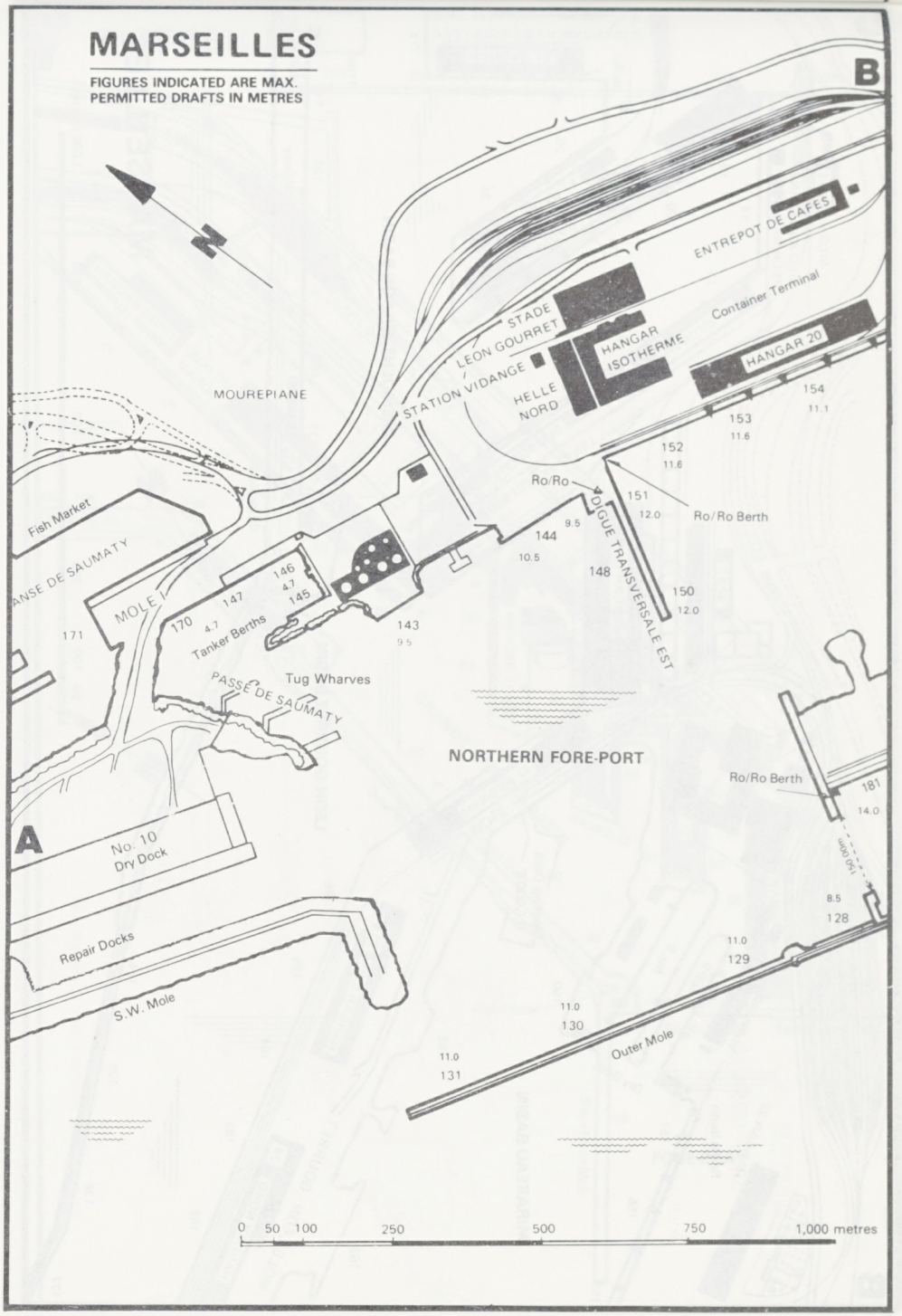
MARSEILLES

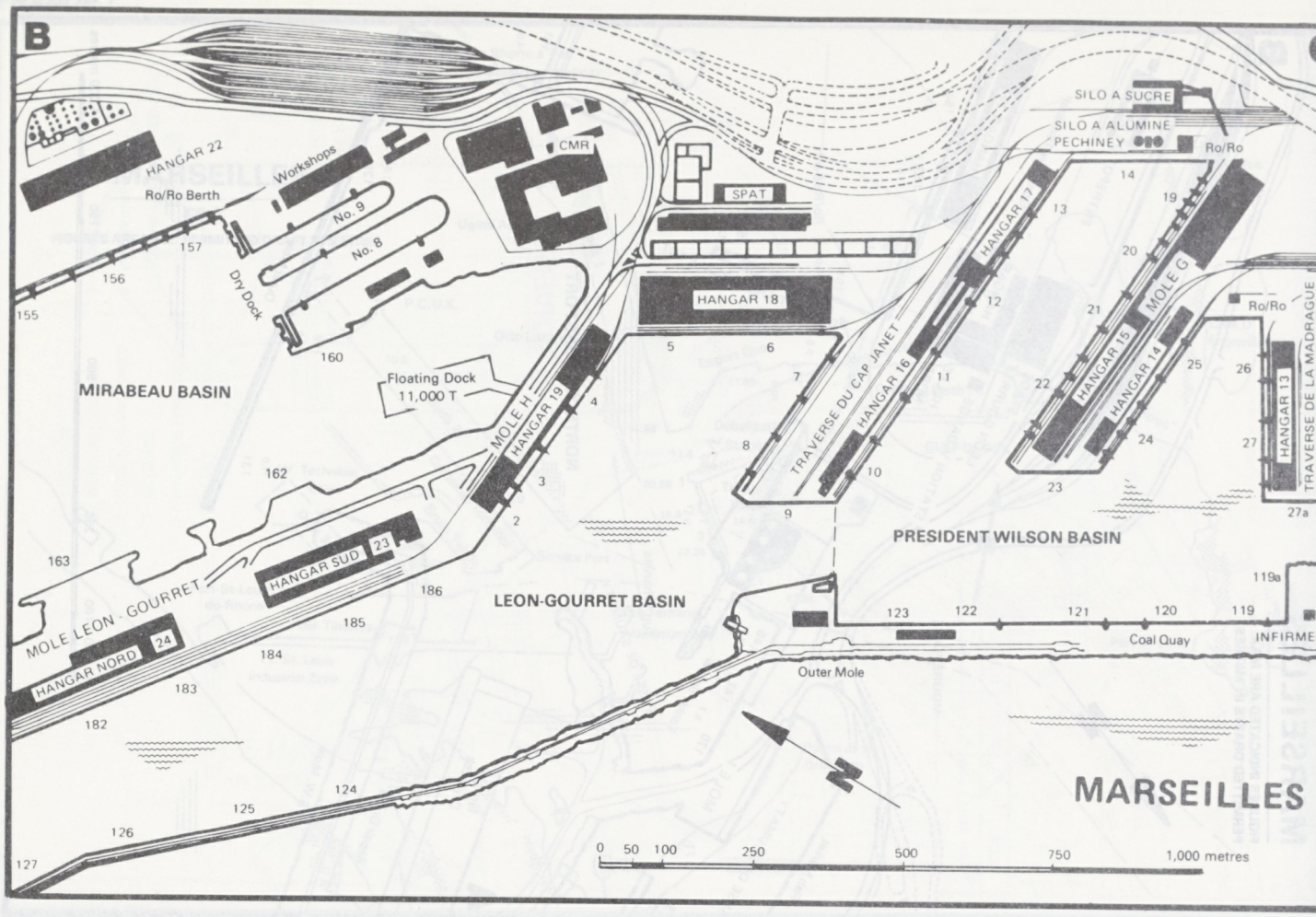
DISTRICT

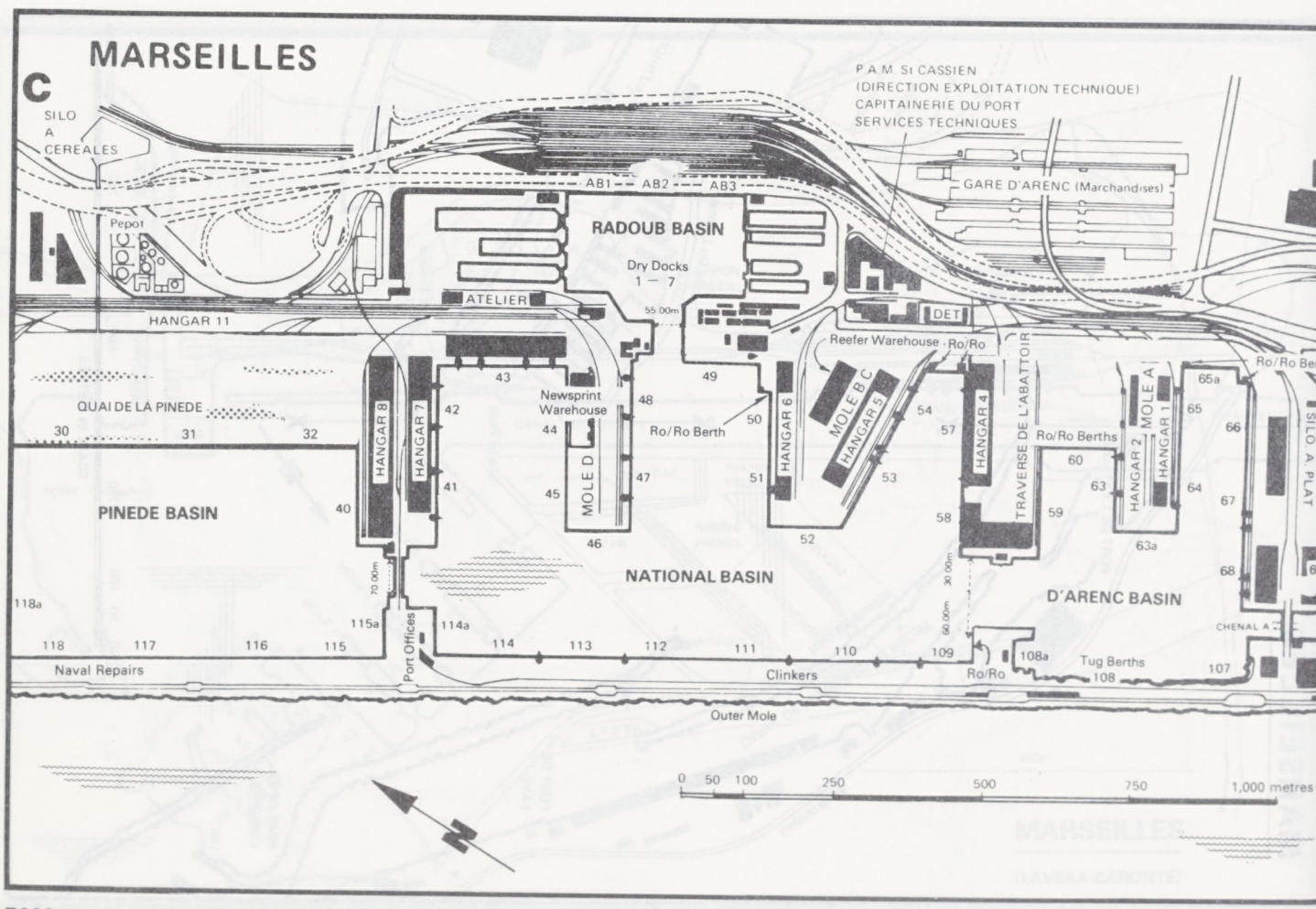

MARSEILLES
FOS
FIGURES ARE MAX. PERMITTED DRAFT IN METRES
CANAL "Du Rhone a Fos"
(Rhone River to Fos)
Oil Depots
Lake
De Lavalduc
Ugine Aciers
Solmer
Dock 1
Import Quay
9.75
Esso
Lake De
L'Estomac
Lake D'
Engrenier
P.C.U.K.
Otto Lazard
10.8
Dock 2
Export Quay
11.89
"Canal de Fos a Port de Bouc"
Coasting Berth
14.93
Deballasting
Station
12.8
GULF OF FOS
W. Technical
Base
Container Terminal
20.58
1
Tanker
Berth
4
13.0
Brute Tabac
18.9
2
14.0
Dock 3
5.0
3
22.25
Basin
Du Gloria
11.2
Service Port
Port-St-Louis
du-Rhone
22.25
Ore Terminal
Aluminium Silo
Les Tellines
7.92
Port de Bouc
Pt. St. Louis
Industrial Zone
Pointe de la
Gracieuse

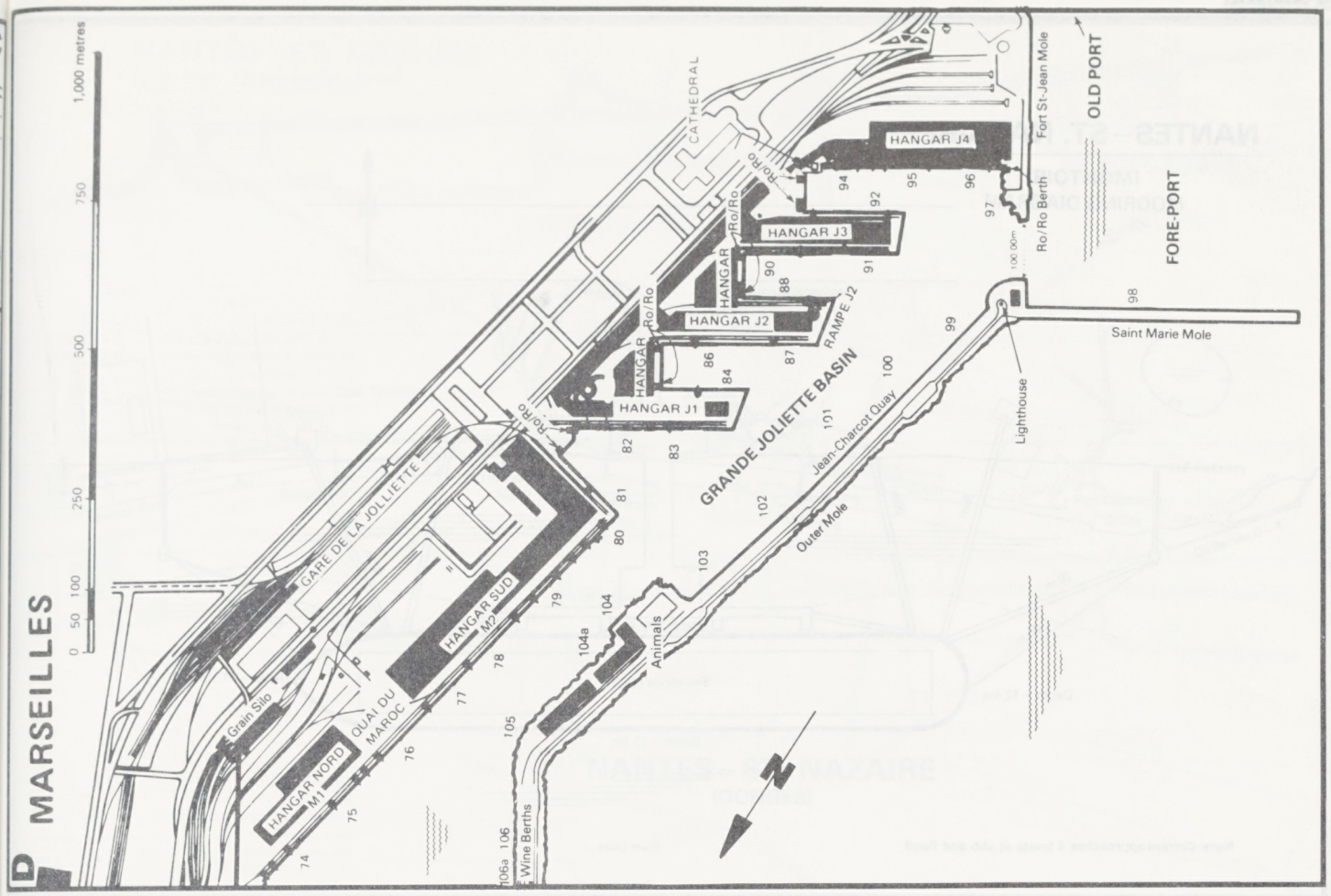

De FOS a BOUC
NEW CANAL
UGINE
KUHLMANN
OCTEL
KUHLMANN
CHEVRON
CHEMICAL
ETABLISSEMENT
MARITIME DE CARONTE
VIELLE
MONTAGNE
OK
QUAI A PONDEREUX
QUAI VEMINCK
SOMEGIM
MEM
CANAL DE CARONTE
PORT - DE - BOUC
MAVRAC
RHONE
PROGIL
H
MOLE 3
CFR
RHONE
PROGIL
GEOGAZ
S F P
BP
G
MOLE 2
F
NAPHTACHIMIE
MOLE 1
E
D
CHIMIVRAC
C
BASSIN DES CABOTEURS
K1
A4
B
K3
K2
A3
K4
A2
K5
A1
K6
CPSB
K8
K7
500m
MARSEILLES
(LAVERA-CARONTE)


MARSEILLES
PORT DE L'ESTAQUE
Coastal Road
CANAL DE MARSEILLE AU RHONE
Rock Breakwater
Chemin Du Littoral
CANAL DE MARSEILLE AU RHONE
Shelter Ports
L'Estaque Light
PORT DE LAVE
PORT DE LA CORBIERE
179
180
A
0 50 100 250 500 750 1,000 metres
SCALE IN METRES


MARSEILLES
FIGURES INDICATED ARE MAX. PERMITTED DRAFTS IN METRES
B
N
MOUREPIANE
STADE LEON GOURRET
STATION VIDANGE
HELLE NORD
HANGAR ISOTHERME
ENTREPOT DE CAFES
Container Terminal
HANGAR 20
154
11.1
153
11.6
152
11.6
Ro/Ro
151
12.0
Ro/Ro Berth
DIGUE TRANSVERSALE EST
144
9.5
10.5
148
150
12.0
143
9.5
Fish Market
ANSE DE SAUMATY
MOLE I
170
4.7
171
147
146
4.7
145
Tanker Berths
Tug Wharves
PASSE DE SAUMATY
NORTHERN FORE-PORT
Ro/Ro Berth
181
14.0
A
No. 10 Dry Dock
Repair Docks
S.W. Mole
8.5
128
11.0
129
11.0
130
Outer Mole
11.0
131
0 50 100 250 500 750 1,000 metres

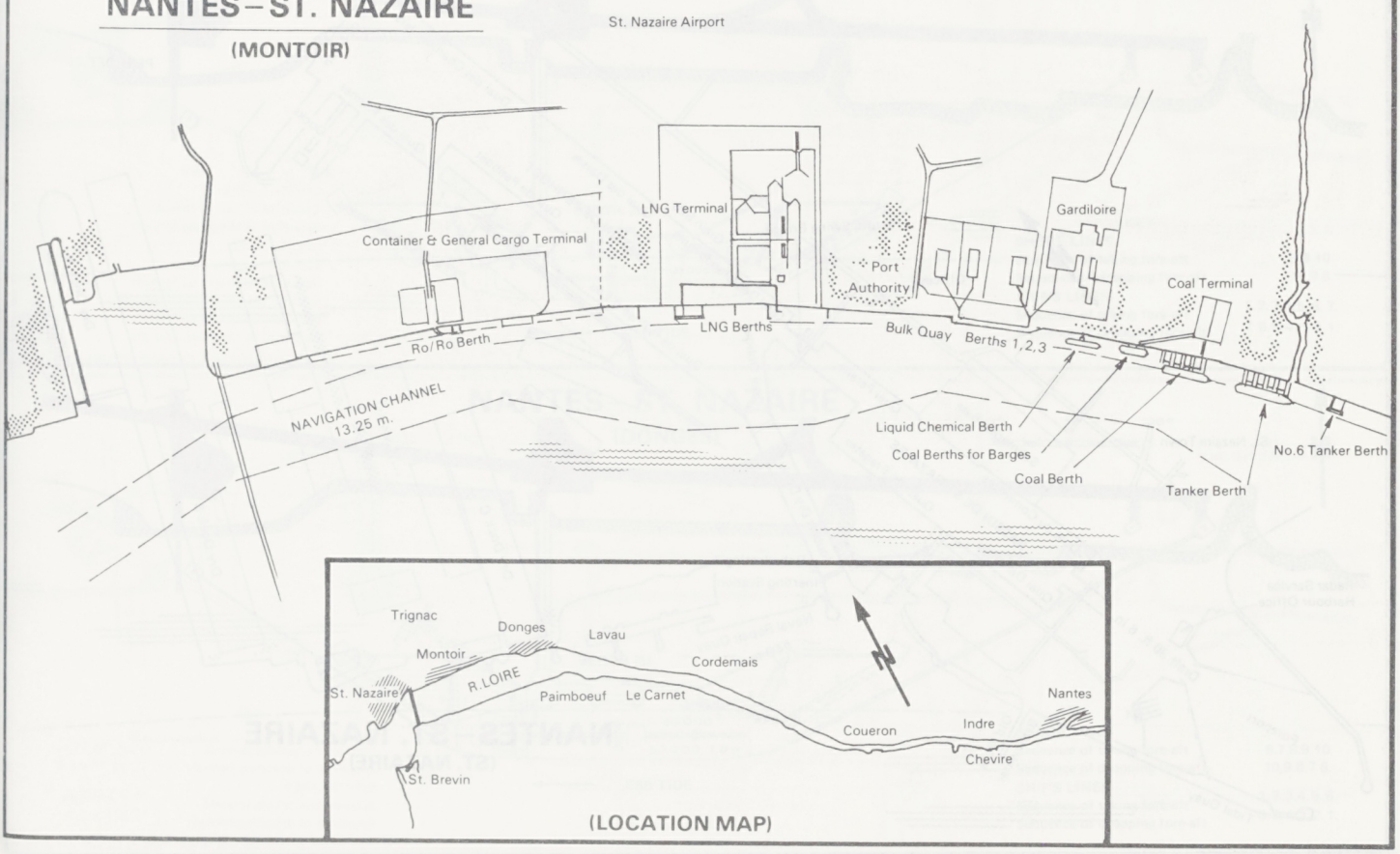

B
HANGAR 22
Ro/Ro Berth
Workshops
No. 9
No. 8
Dry Dock
CMR
SPAT
SILO A SUCRE
SILO A ALUMINE PECHINEY
Ro/Ro
HANGAR 17
HANGAR 18
MOLE G
HANGAR 15
HANGAR 14
HANGAR 13
TRAVERSE DE LA MADRAGUE
TRAVERSE DU CAP JANET
HANGAR 16
MIRABEAU BASIN
Floating Dock 11,000 T
MOLE H
HANGAR 19
HANGAR SUD
MOLE LEON - GOURRET
HANGAR NORD
LEON-GOURRET BASIN
PRESIDENT WILSON BASIN
Coal Quay
INFIRME
Outer Mole
MARSEILLES
0 50 100 250 500 750 1,000 metres


MARSEILLES
C
SILO A CEREALES
P.A.M. St CASSIEN
(DIRECTION EXPLOITATION TECHNIQUE)
CAPITAINERIE DU PORT
SERVICES TECHNIQUES
GARE D'ARENC (Marchandises)
AB1 AB2 AB3
Pepot
RADOUB BASIN
Dry Docks 1 — 7
ATELIER
HANGAR 11
DET
Reefer Warehouse
Ro/Ro
QUAI DE LA PINEDE
Newsprint Warehouse
MOLE D
Ro/Ro Berth
HANGAR 8
HANGAR 7
HANGAR 6
MOLE BC
HANGAR 5
HANGAR 4
TRAVERSE DE L'ABATTOIR
Ro/Ro Berths
HANGAR 2
MOLE A
HANGAR 1
SILO A PLAT
PINEDE BASIN
NATIONAL BASIN
D'ARENC BASIN
CHENAL A
Naval Repairs
Port Offices
Clinkers
Tug Berths
Outer Mole
0 50 100 250 500 750 1,000 metres



NANTES – ST. NAZAIRE

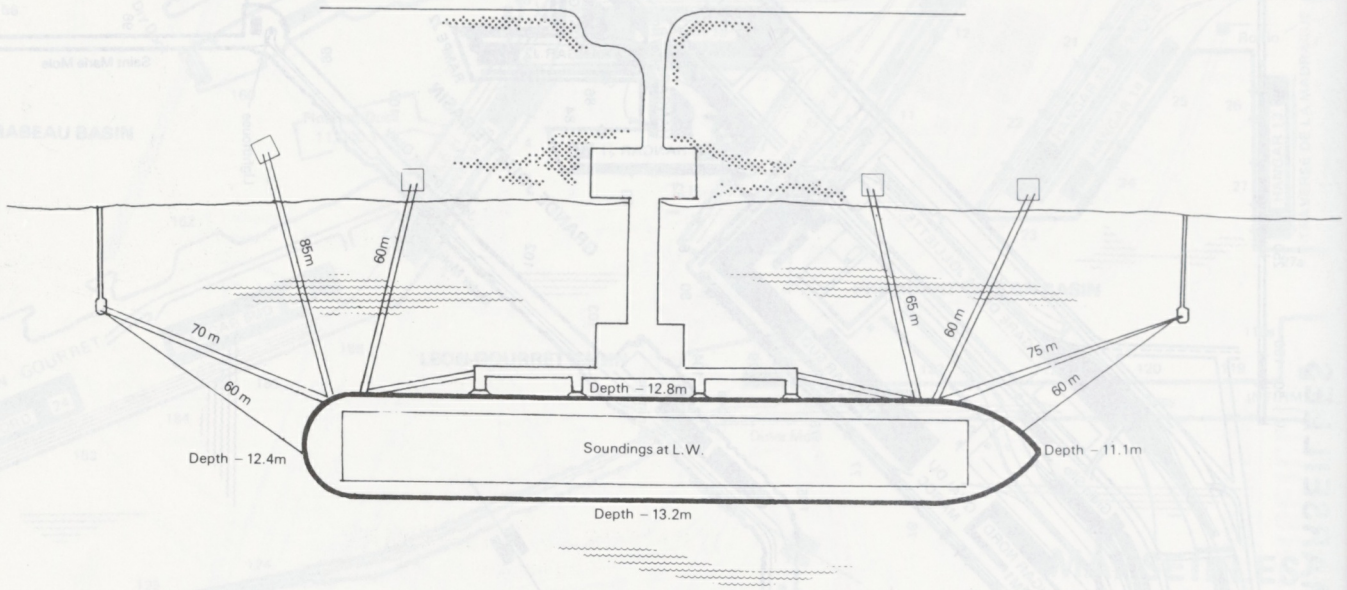
(MONTOIR)



NANTES – ST. NAZAIRE

(MONTOIR)

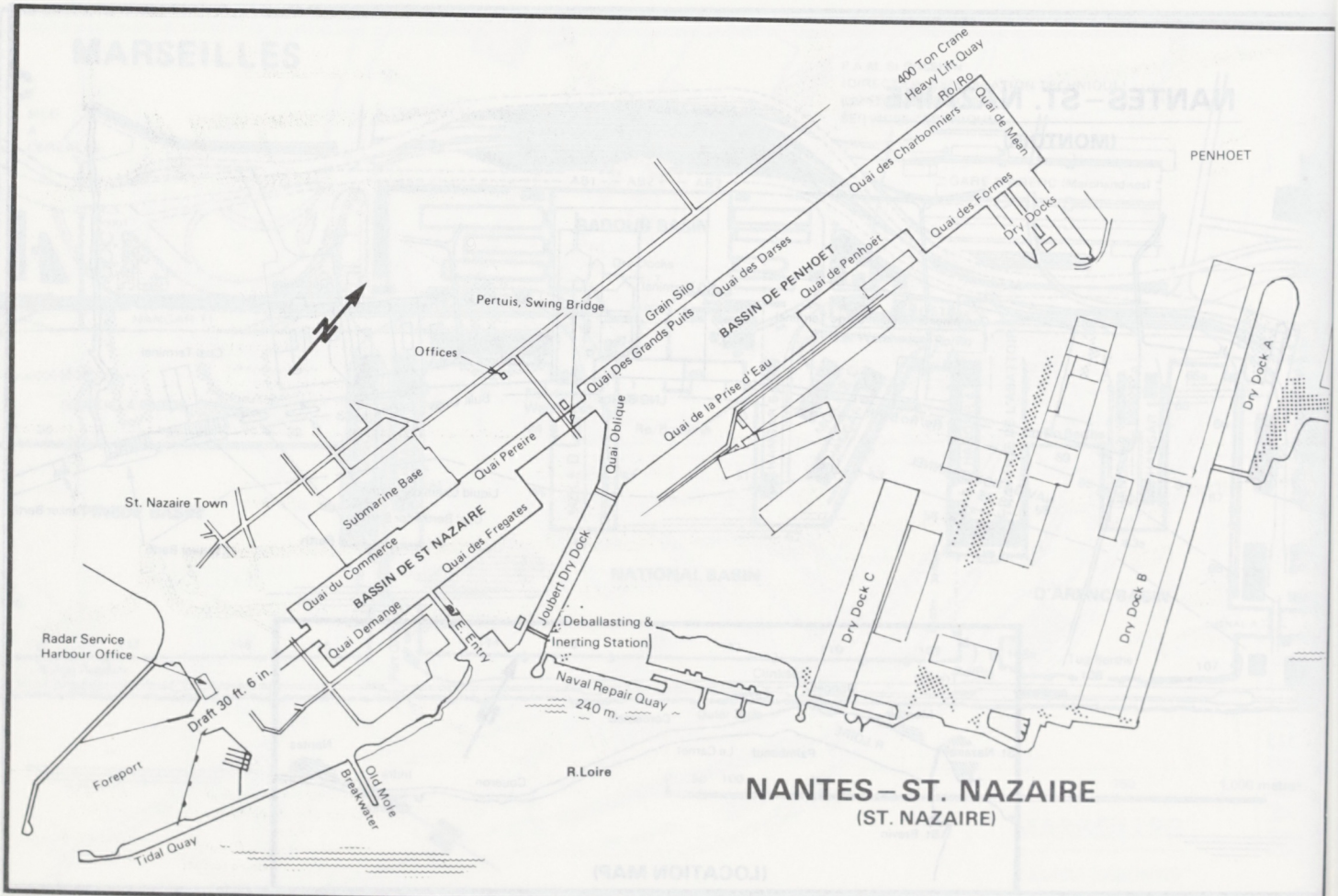
MOORING DIAGRAM



Note: Current approaches 4 knots at ebb and flood

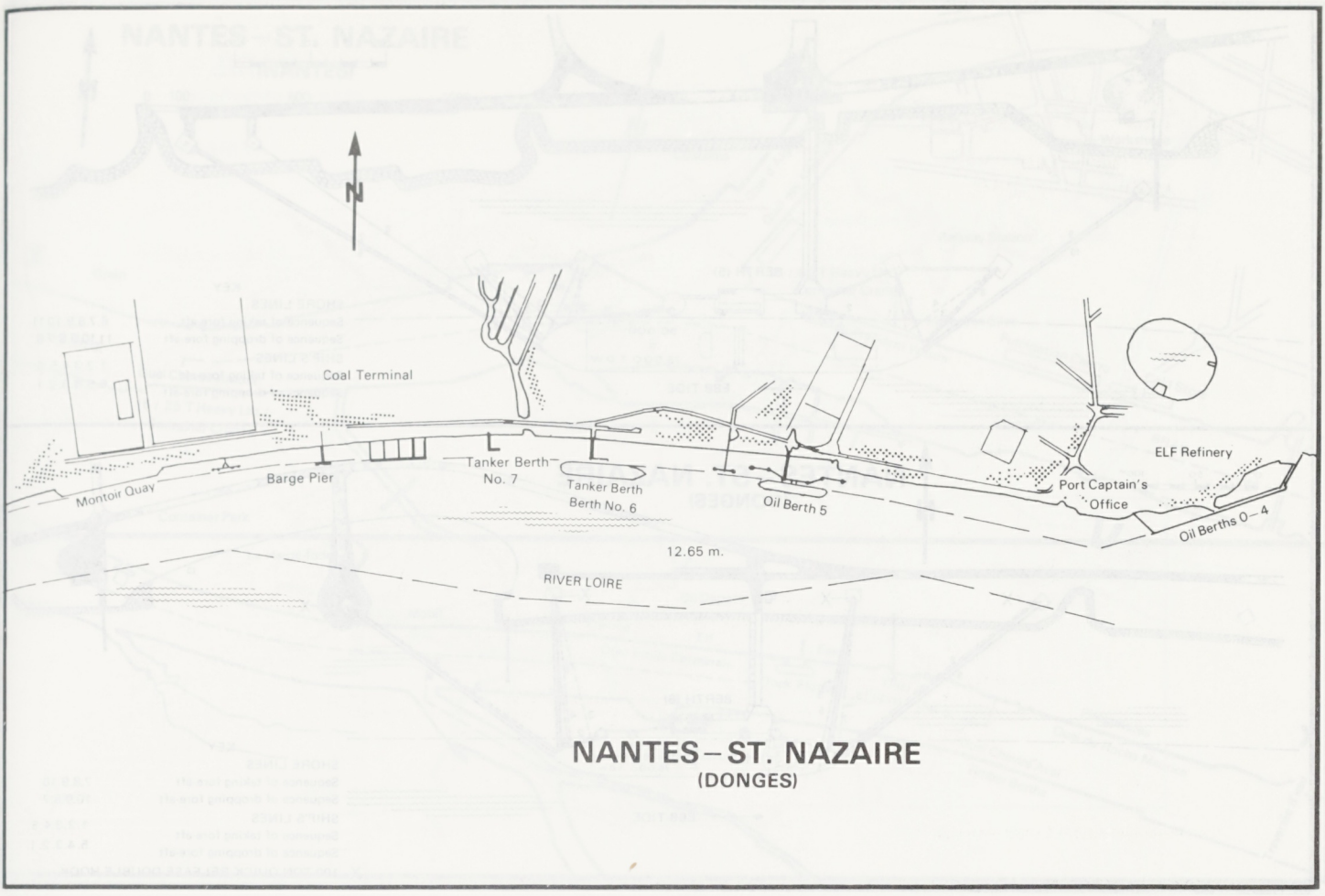
River Loire

"Plan supplied by Ship's Master

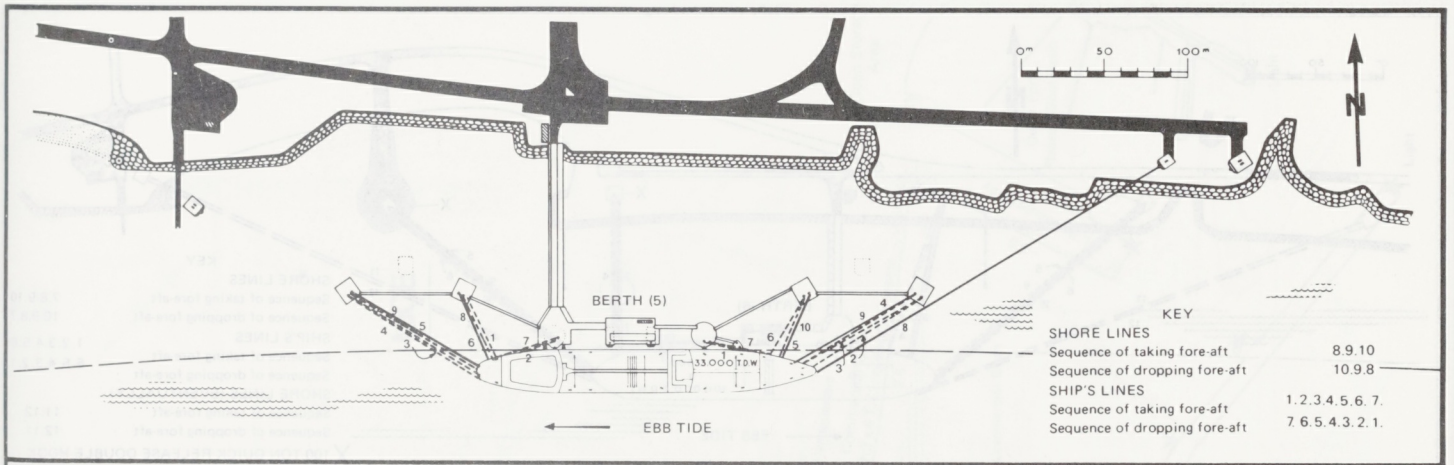


NANTES – ST. NAZAIRE

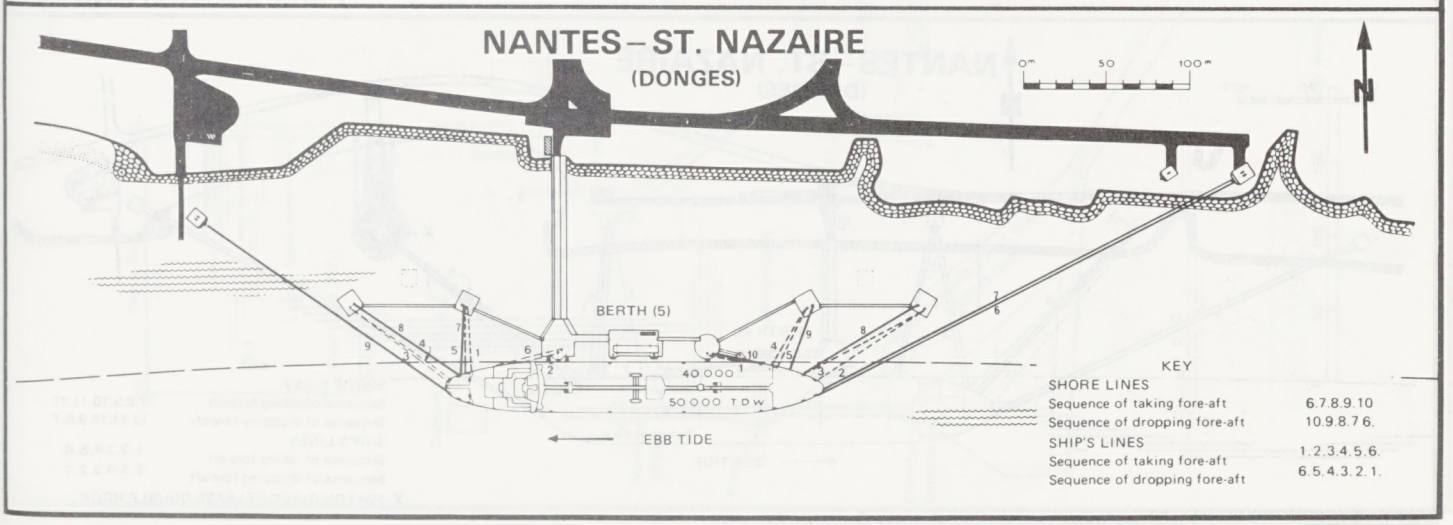
(ST. NAZAIRE)

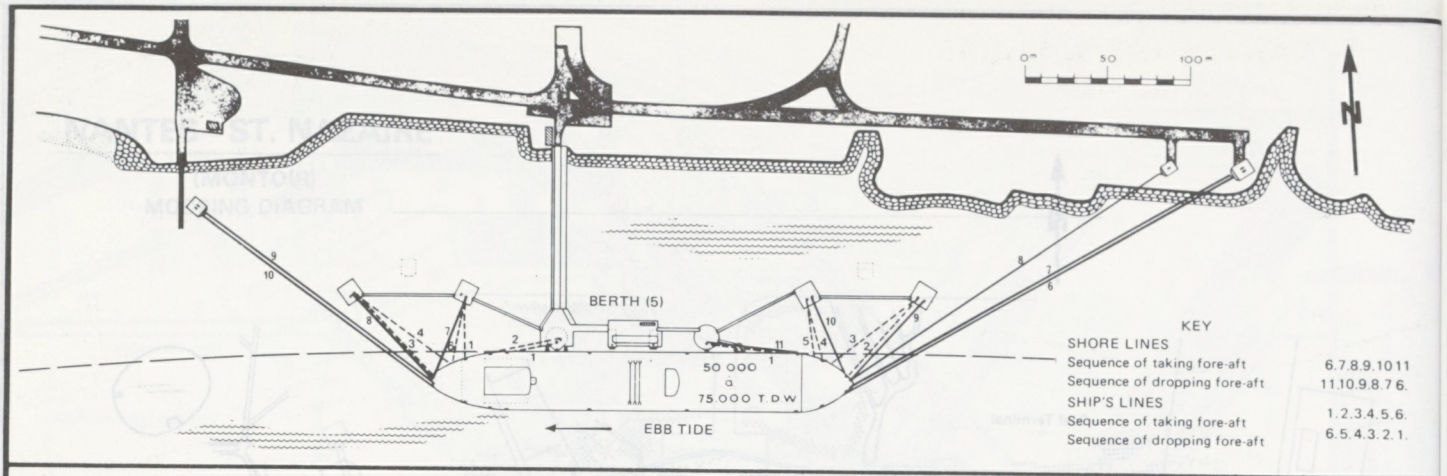


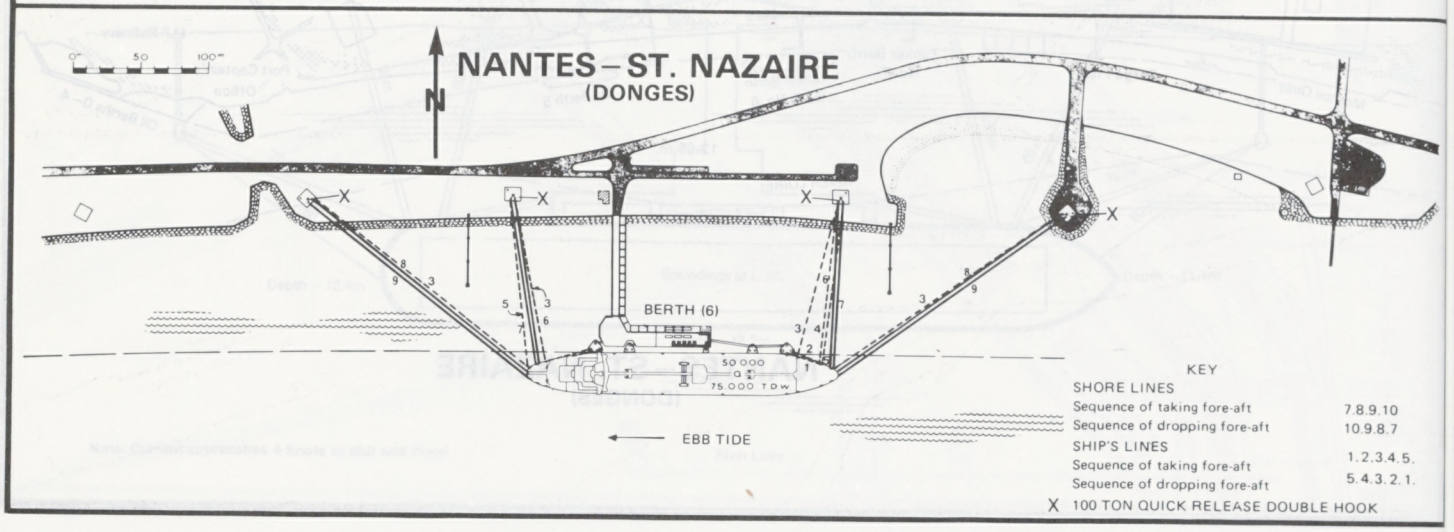
NANTES–ST. NAZAIRE
(DONGES)

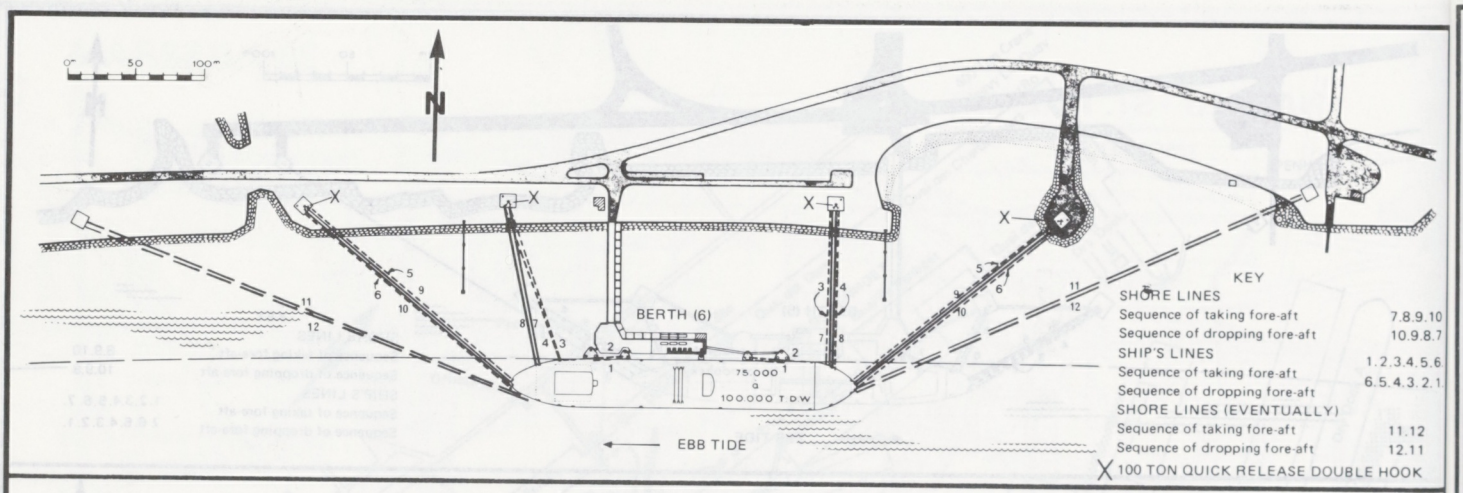


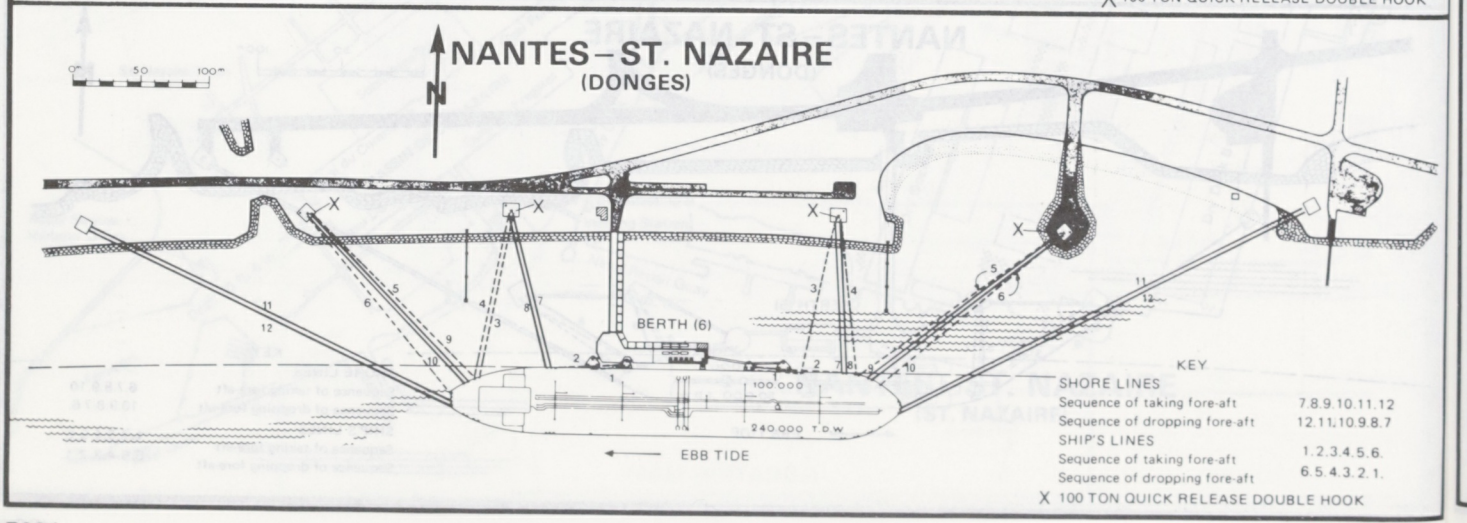
NANTES–ST. NAZAIRE
(DONGES)

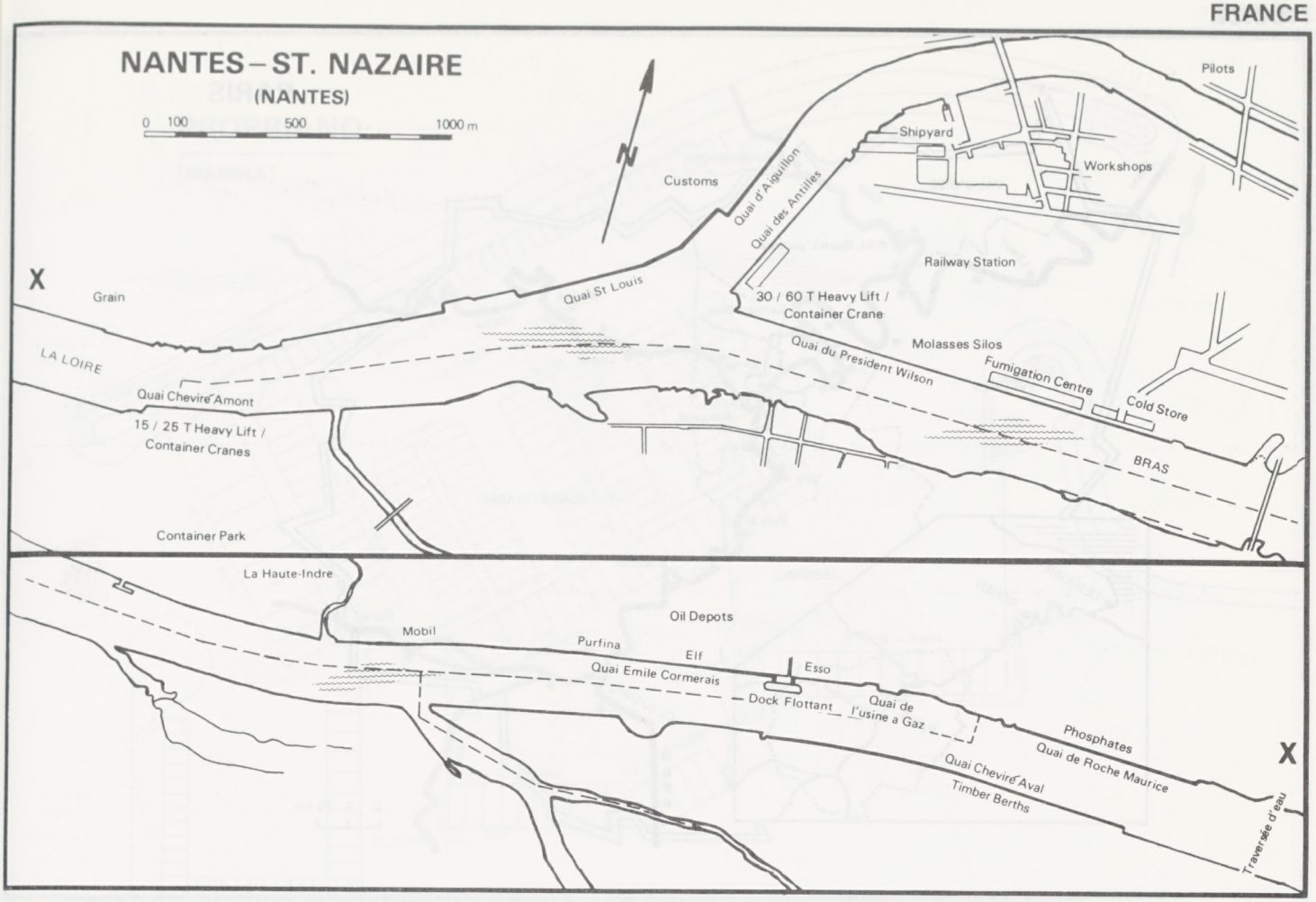


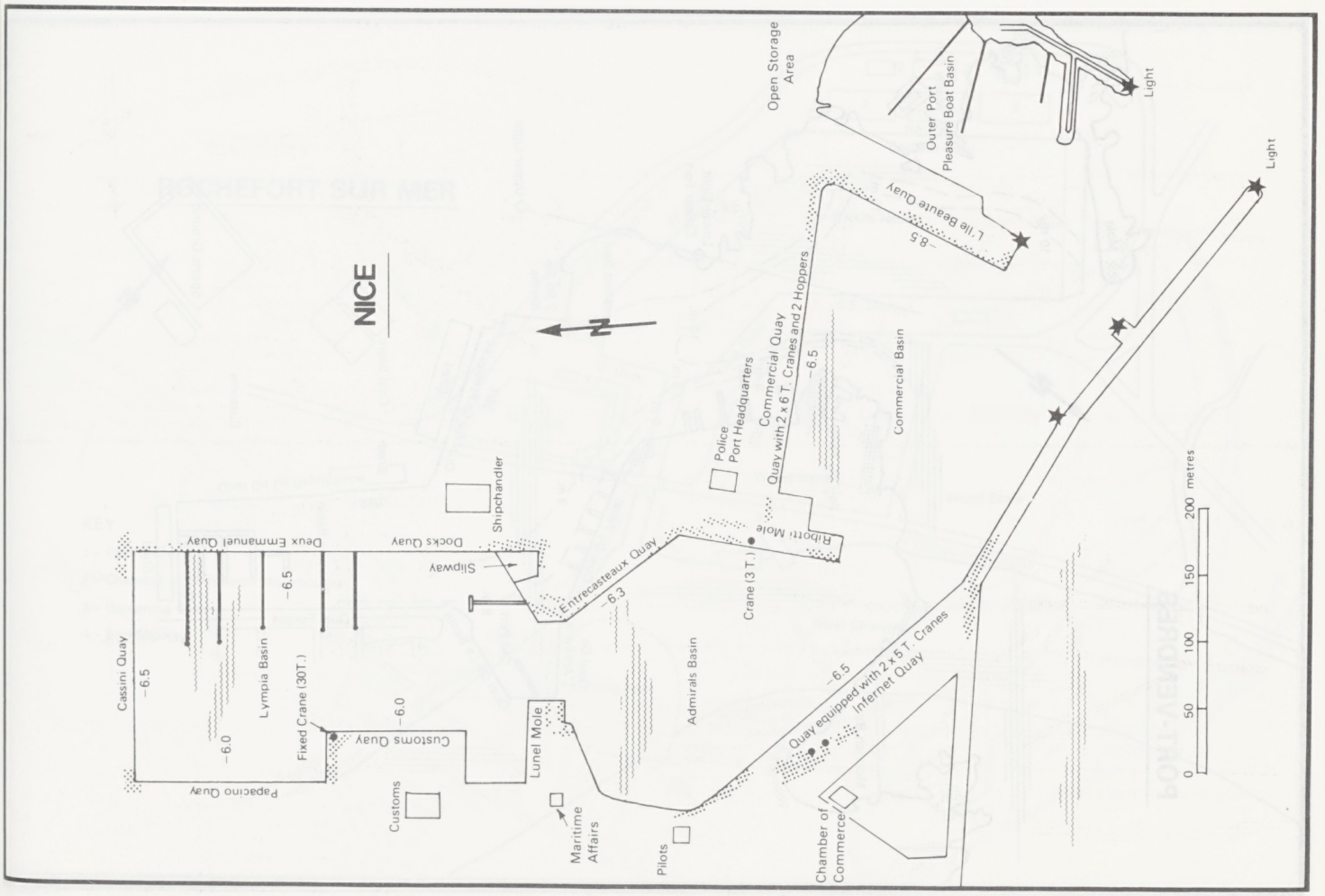

BERTH (5)
50 000
a
75.000 T.D.W
EBB TIDE
KEY
SHORE LINES
Sequence of taking fore-aft 6.7.8.9.10 11
Sequence of dropping fore-aft 11.10.9.8.7 6.
SHIP'S LINES
Sequence of taking fore-aft 1.2.3.4.5.6.
Sequence of dropping fore-aft 6.5.4.3.2.1.

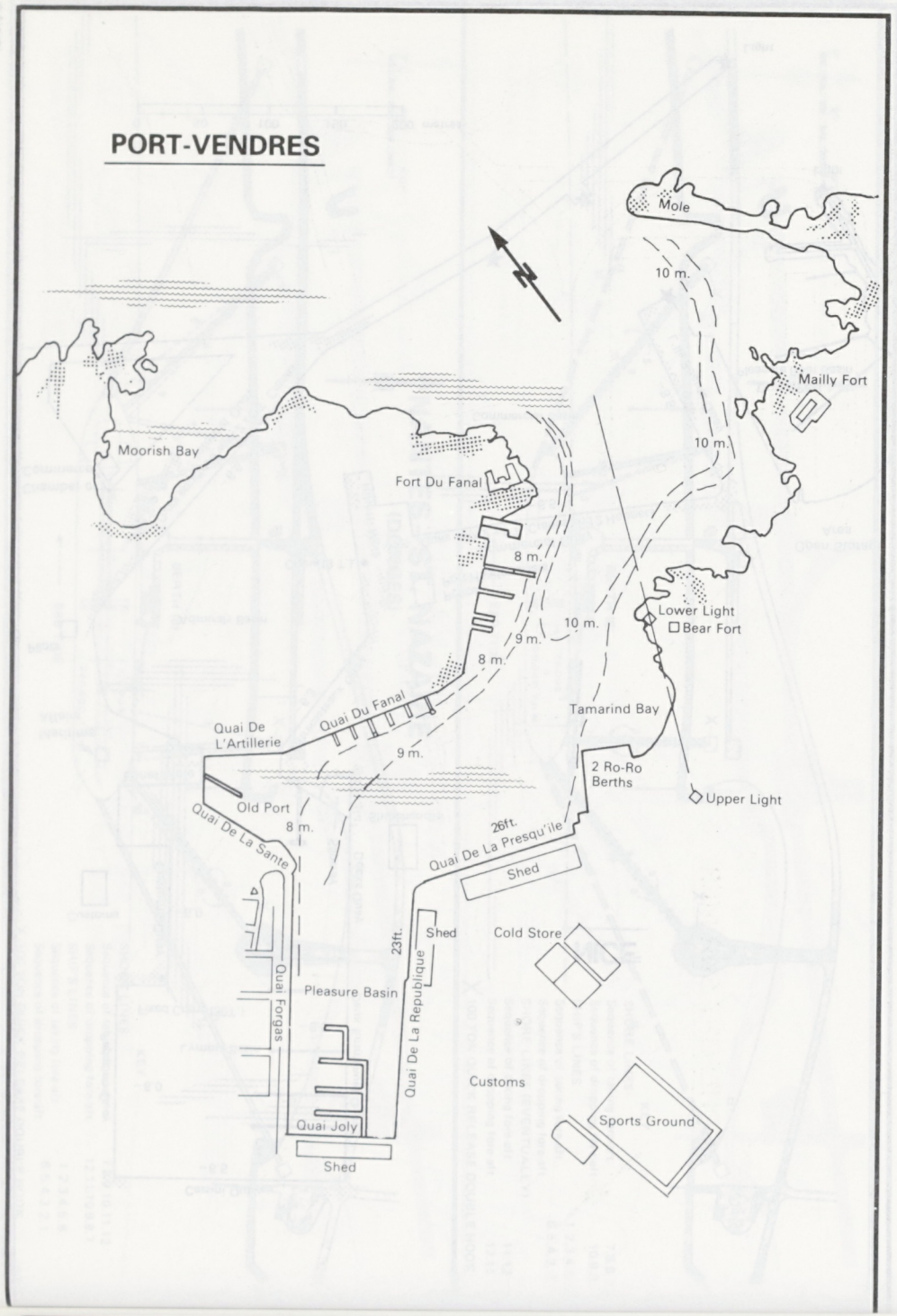

NANTES – ST. NAZAIRE
(DONGES)
BERTH (6)
50.000
a
75.000 T.D.W
EBB TIDE
KEY
SHORE LINES
Sequence of taking fore-aft 7.8.9.10
Sequence of dropping fore-aft 10.9.8.7
SHIP'S LINES
Sequence of taking fore-aft 1.2.3.4.5.
Sequence of dropping fore-aft 5.4.3.2.1.
X 100 TON QUICK RELEASE DOUBLE HOOK

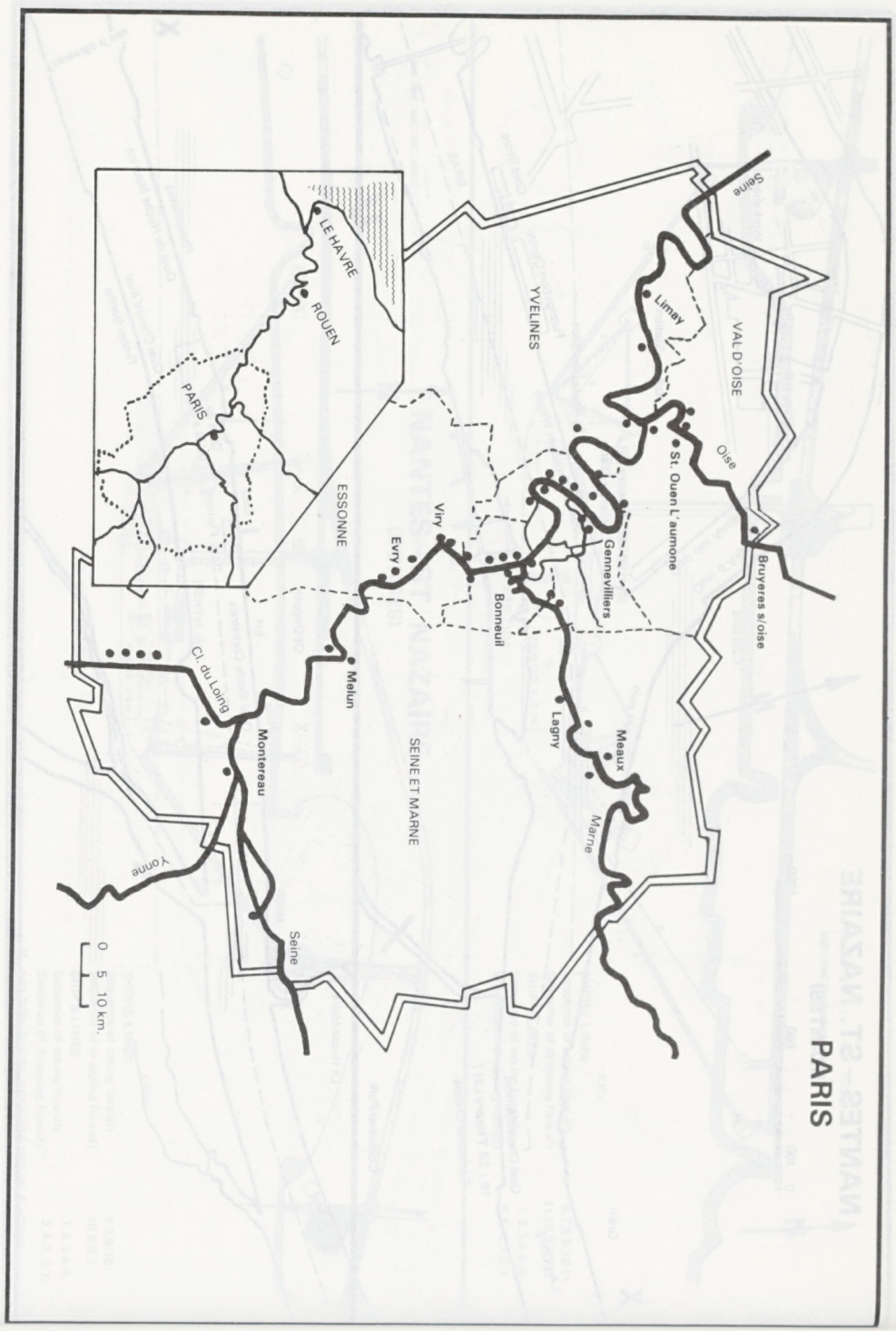

BERTH (6)
75.000
a
100.000 T.D.W
EBB TIDE
KEY
SHORE LINES
Sequence of taking fore-aft 7.8.9.10
Sequence of dropping fore-aft 10.9.8.7
SHIP'S LINES
Sequence of taking fore-aft 1.2.3.4.5.6
Sequence of dropping fore-aft 6.5.4.3.2.1
SHORE LINES (EVENTUALLY)
Sequence of taking fore-aft 11.12
Sequence of dropping fore-aft 12.11
X 100 TON QUICK RELEASE DOUBLE HOOK


NANTES – ST. NAZAIRE
(DONGES)
BERTH (6)
100.000
a
240.000 T.D.W
EBB TIDE
KEY
SHORE LINES
Sequence of taking fore-aft 7.8.9.10.11.12
Sequence of dropping fore-aft 12.11.10.9.8.7
SHIP'S LINES
Sequence of taking fore-aft 1.2.3.4.5.6.
Sequence of dropping fore-aft 6.5.4.3.2.1.
X 100 TON QUICK RELEASE DOUBLE HOOK


NANTES – ST. NAZAIRE
(NANTES)
0 100 500 1000 m
N
Pilots
Shipyard
Workshops
Customs
Quai d'Aiguillon
Quai des Antilles
Railway Station
X
Grain
Quai St Louis
30 / 60 T Heavy Lift / Container Crane
LA LOIRE
Molasses Silos
Quai du President Wilson
Fumigation Centre
Cold Store
Quai Chevire Amont
15 / 25 T Heavy Lift / Container Cranes
BRAS
Container Park
La Haute-Indre
Oil Depots
Mobil
Purfina
Elf
Esso
Quai Emile Cormerais
Dock Flottant
Quai de l'usine a Gaz
Phosphates
Quai de Roche Maurice
Quai Chevire Aval
Timber Berths
X
Traversée d'eau

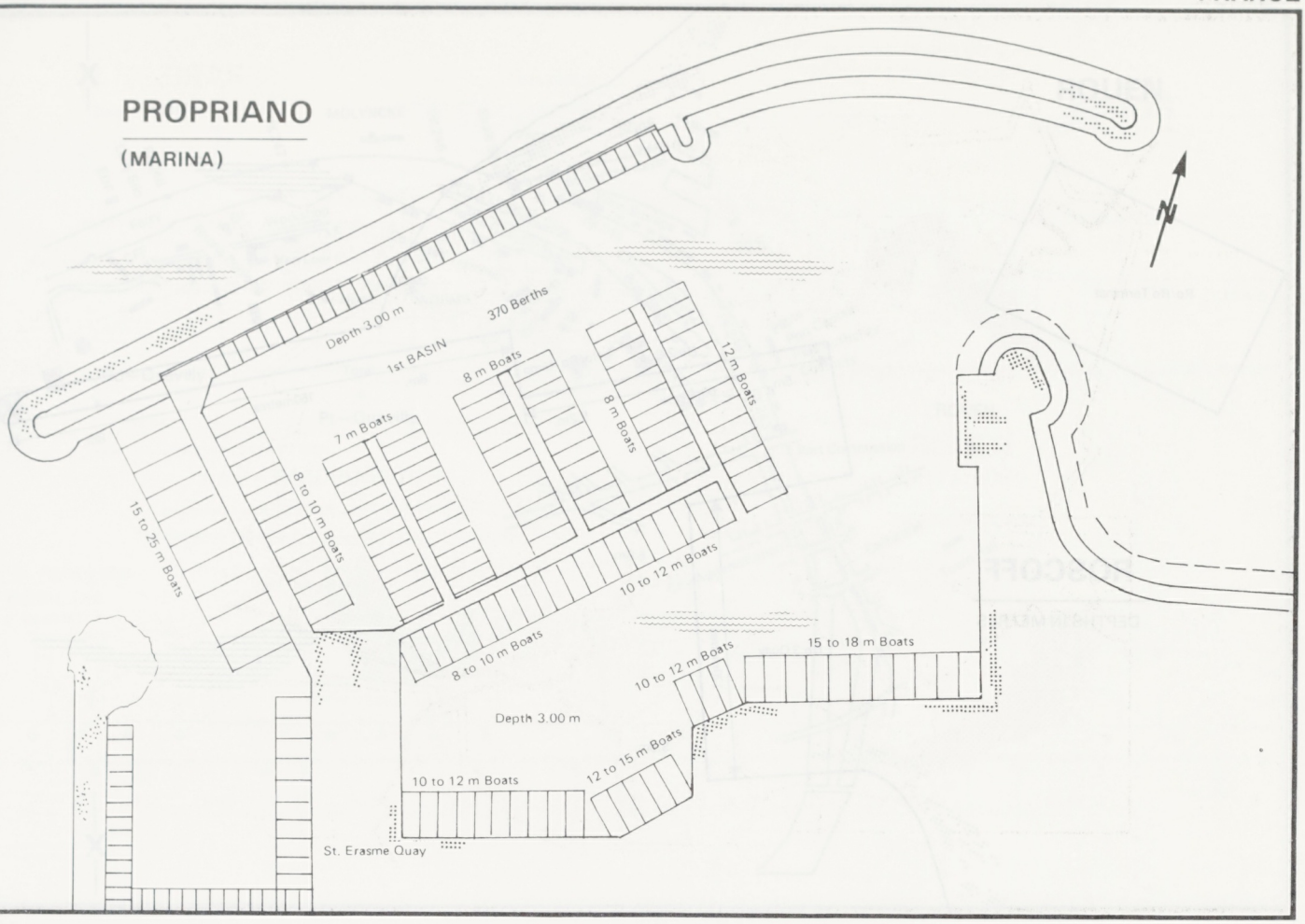

NICE
N
Open Storage Area
Outer Port Pleasure Boat Basin
Light
Light
L'Ile Beaute Quay
-8.5
Commercial Quay
Quay with 2 x 6 T. Cranes and 2 Hoppers
-6.5
Commercial Basin
Police Port Headquarters
Shipchandler
Ribotti Mole
Crane (3 T.)
Entrecasteaux Quay
-6.3
Admirals Basin
Quay equipped with 2 x 5 T. Cranes
Infernet Quay
-6.5
Chamber of Commerce
Pilots
Maritime Affairs
Customs
Lunel Mole
Customs Quay
-6.0
Fixed Crane (30T.)
Lympia Basin
-6.5
-6.0
Cassini Quay
-6.5
Papacino Quay
Docks Quay
Deux Emmanuel Quay
Slipway
0 50 100 150 200 metres


PORT-VENDRES
Mole
10 m.
Mailly Fort
10 m.
Moorish Bay
Fort Du Fanal
8 m.
Lower Light
Bear Fort
10 m.
9 m.
8 m.
Tamarind Bay
Quai Du Fanal
Quai De L'Artillerie
9 m.
2 Ro-Ro Berths
Upper Light
Old Port
8 m.
26ft.
Quai De La Presqu'ile
Quai De La Sante
Shed
23ft.
Shed
Cold Store
Quai Forgas
Pleasure Basin
Quai De La Republique
Customs
Quai Joly
Sports Ground
Shed

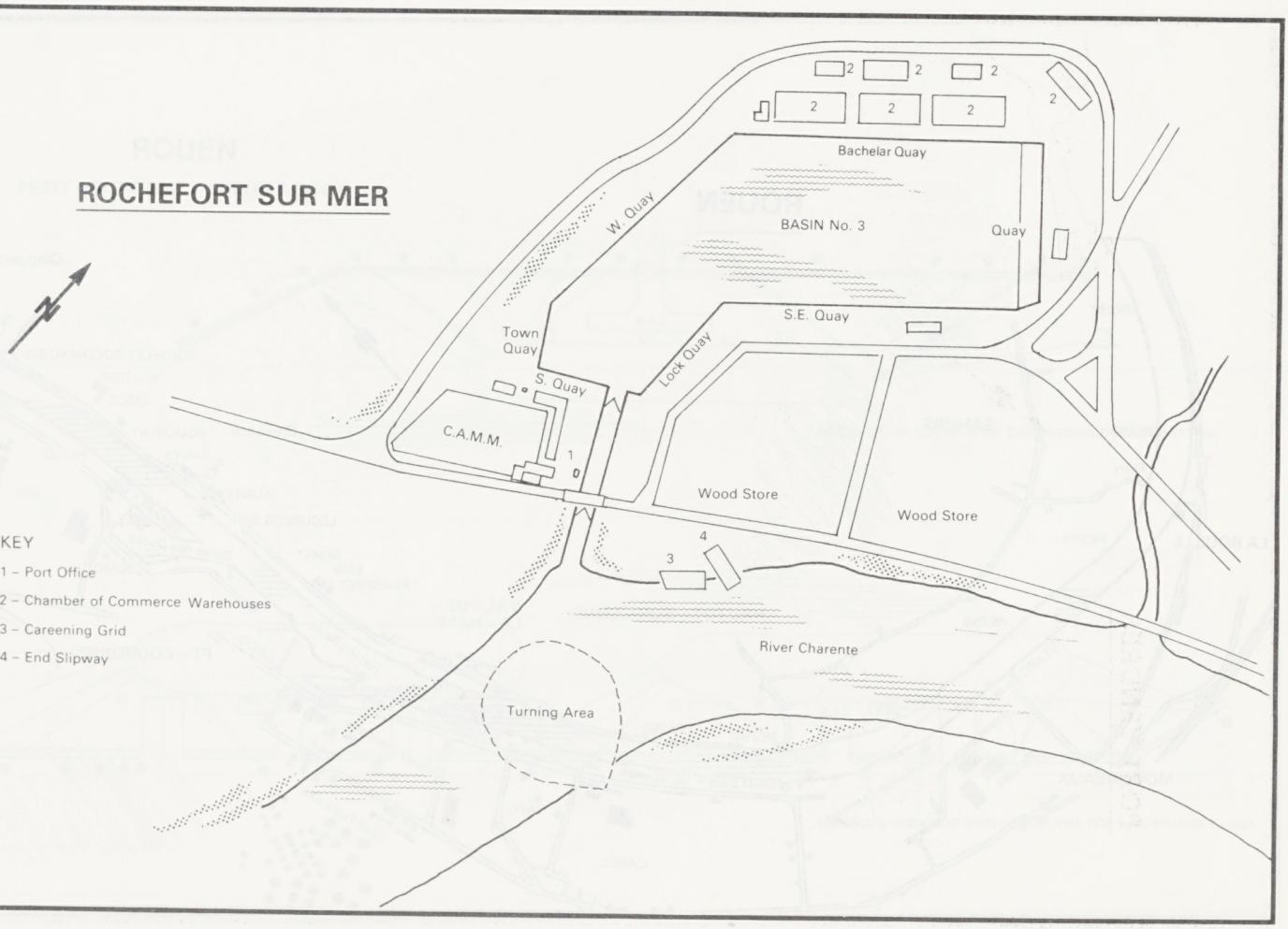

FRANCE
PARIS
LE HAVRE
ROUEN
PARIS
YVELINES
ESSONNE
VAL D'OISE
SEINE ET MARNE
Seine
Limay
Oise
St. Ouen L'aumone
Bruyeres s/oise
Viry
Evry
Gennevilliers
Bonneuil
Melun
Cl. du Loing
Montereau
Yonne
Seine
Lagny
Meaux
Marne
0 5 10 km.

PROPRIANO

(MARINA)



ROCHEFORT SUR MER



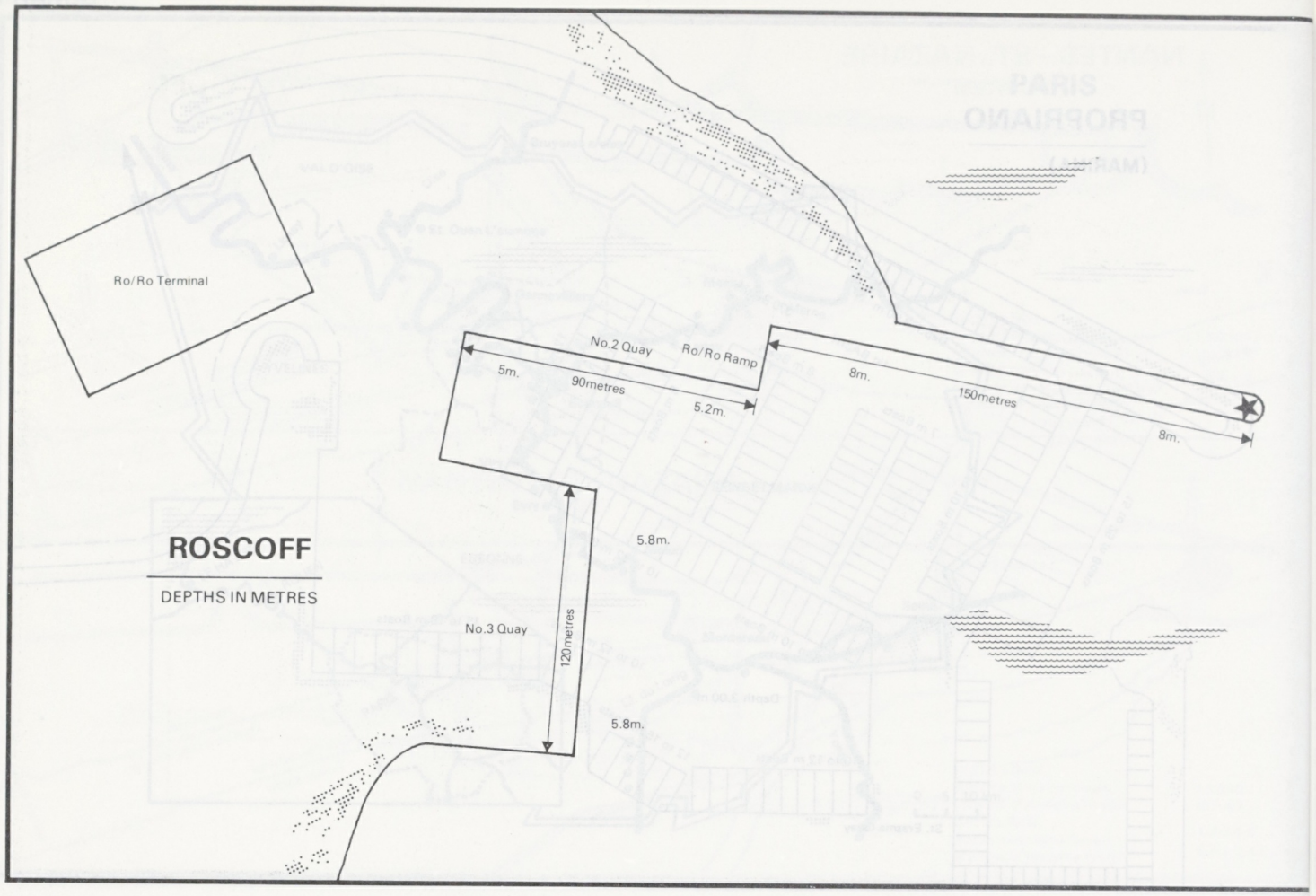
KEY

1 – Port Office

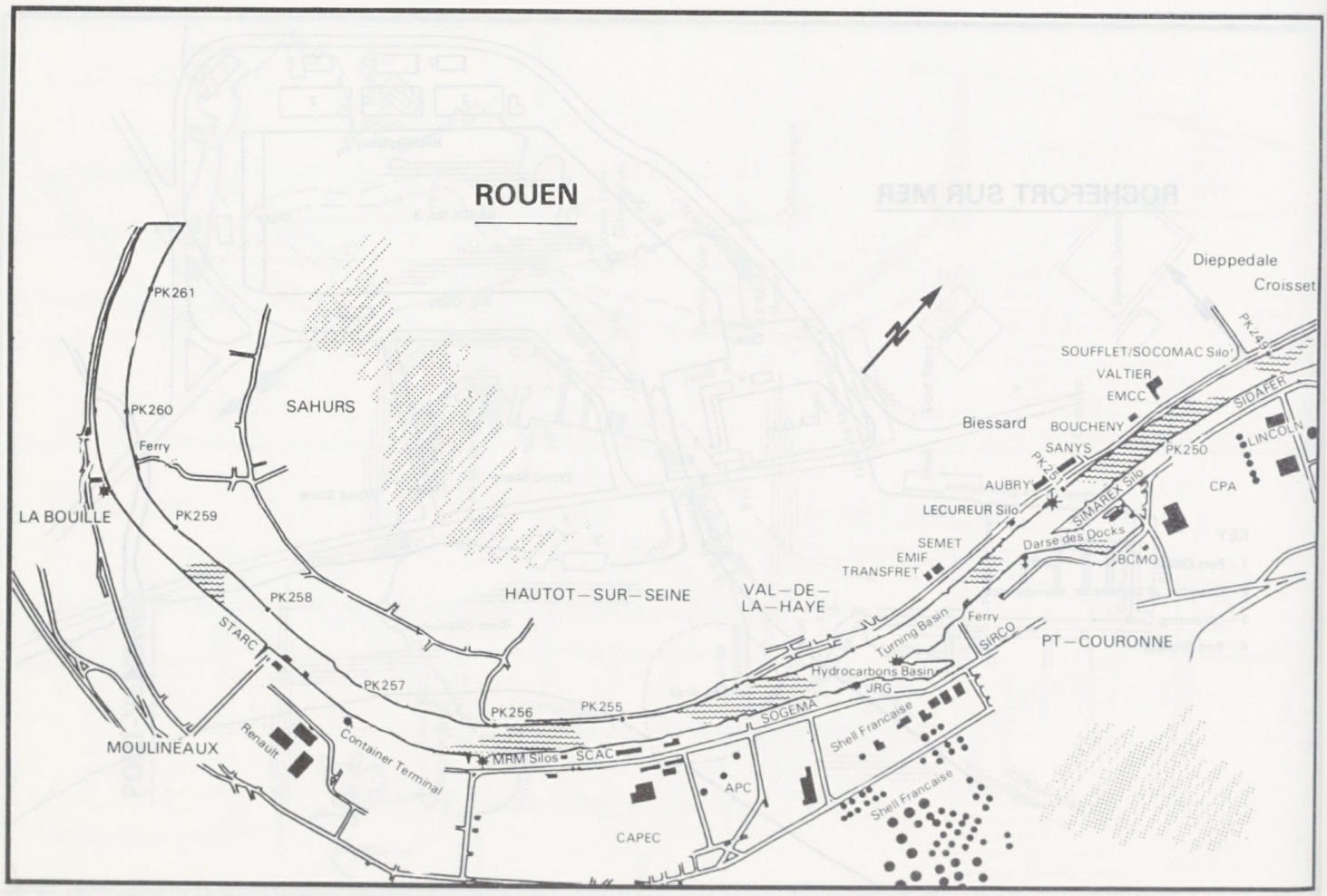
2 – Chamber of Commerce Warehouses

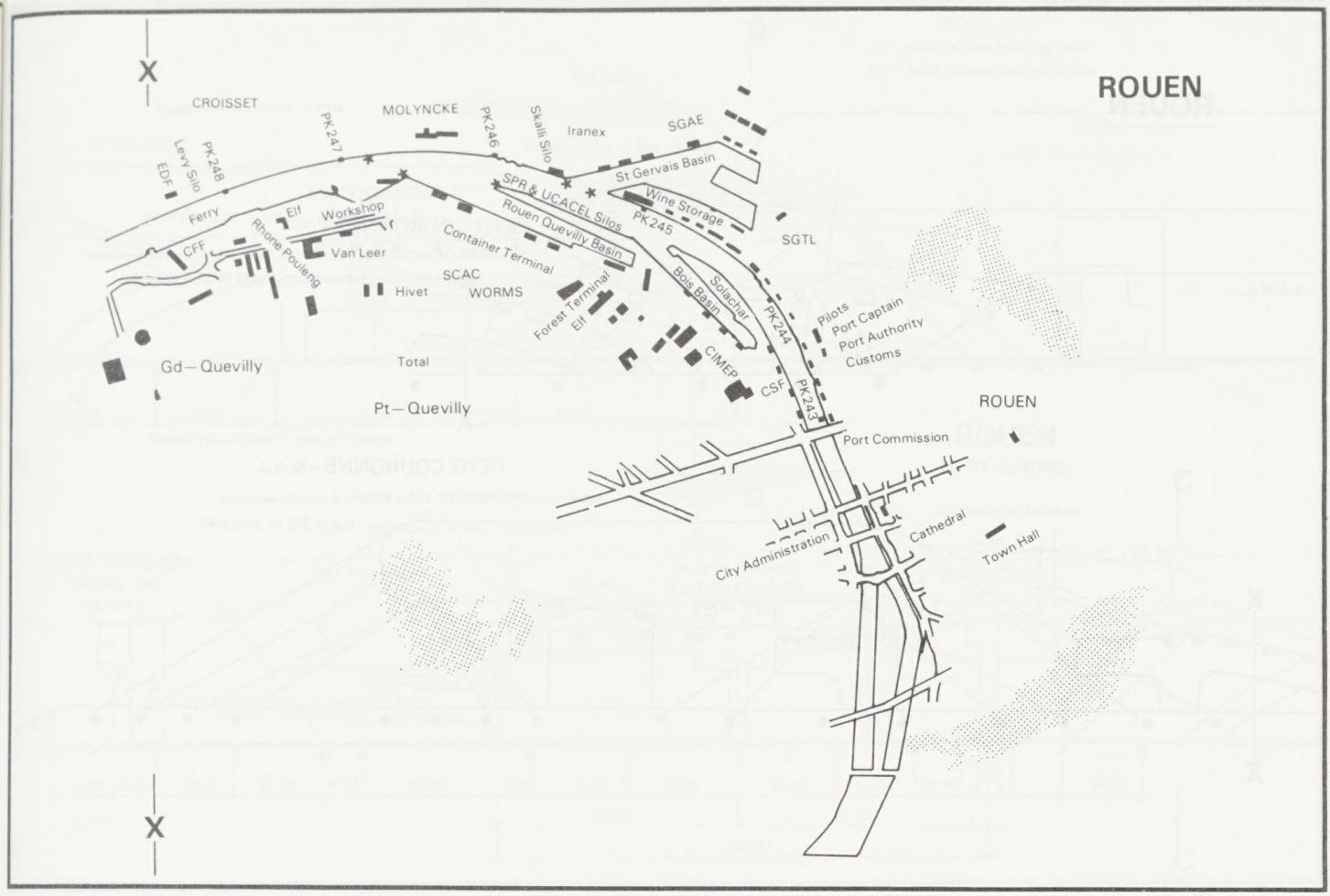
3 – Careening Grid

4 – End Slipway



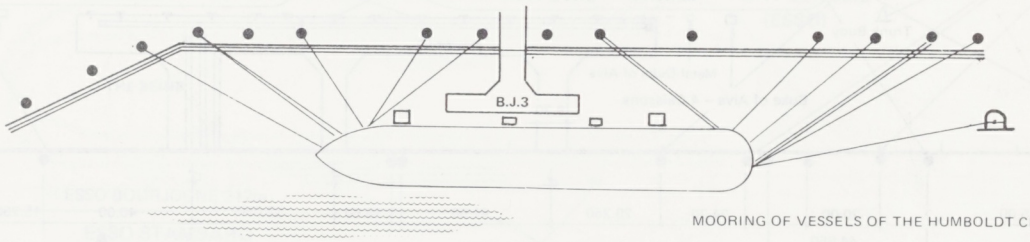
"Plan supplied by Ship's Maste



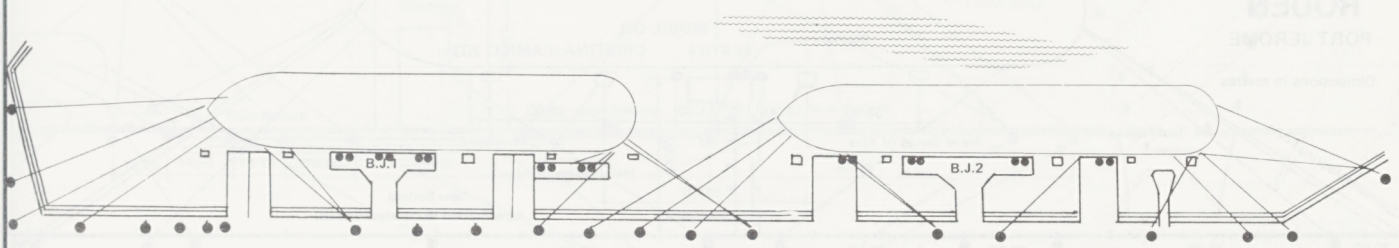


ROUEN

PETIT COURONNE – JUPITER DOCK

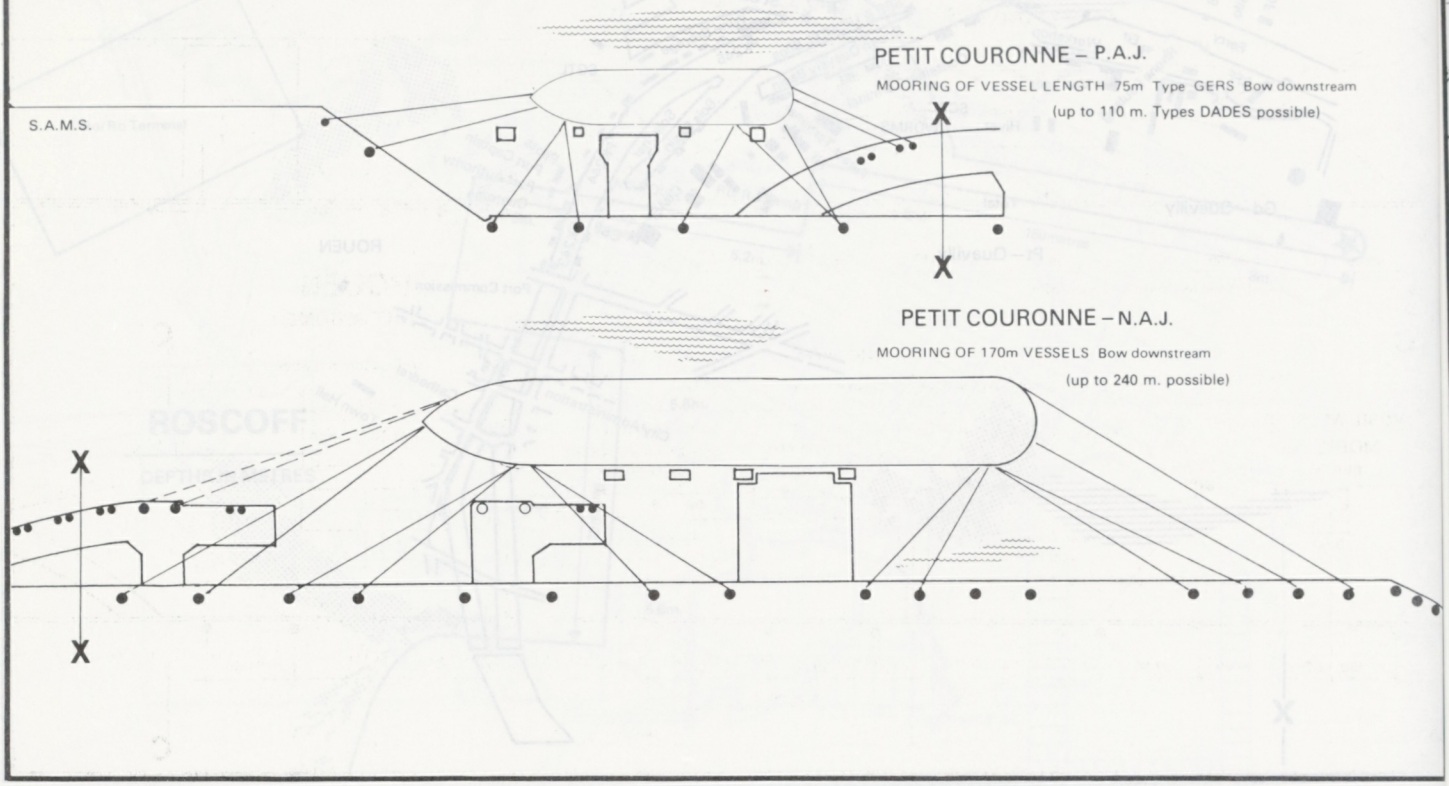


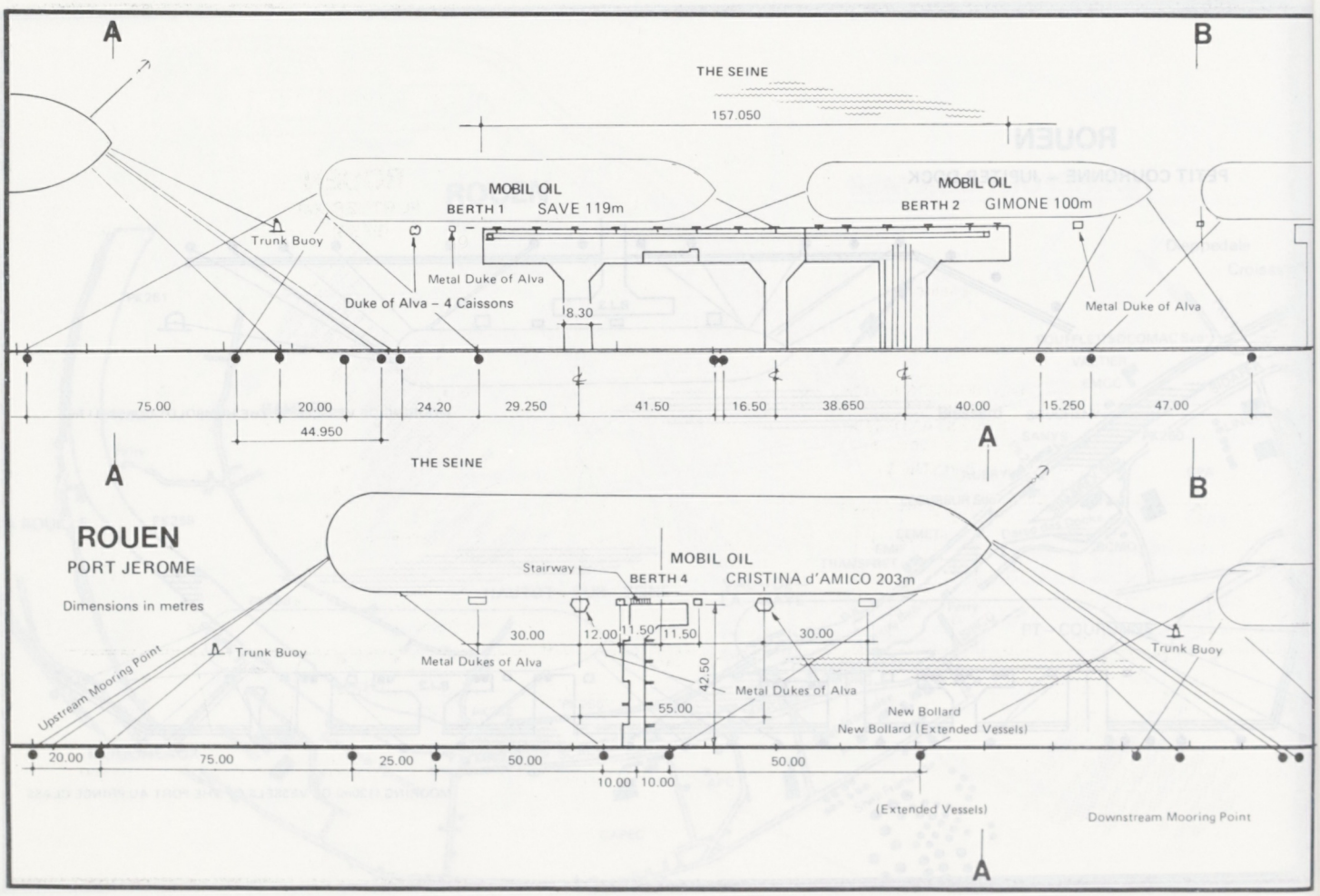
MOORING OF VESSELS OF THE HUMBOLDT CLASS (117m)

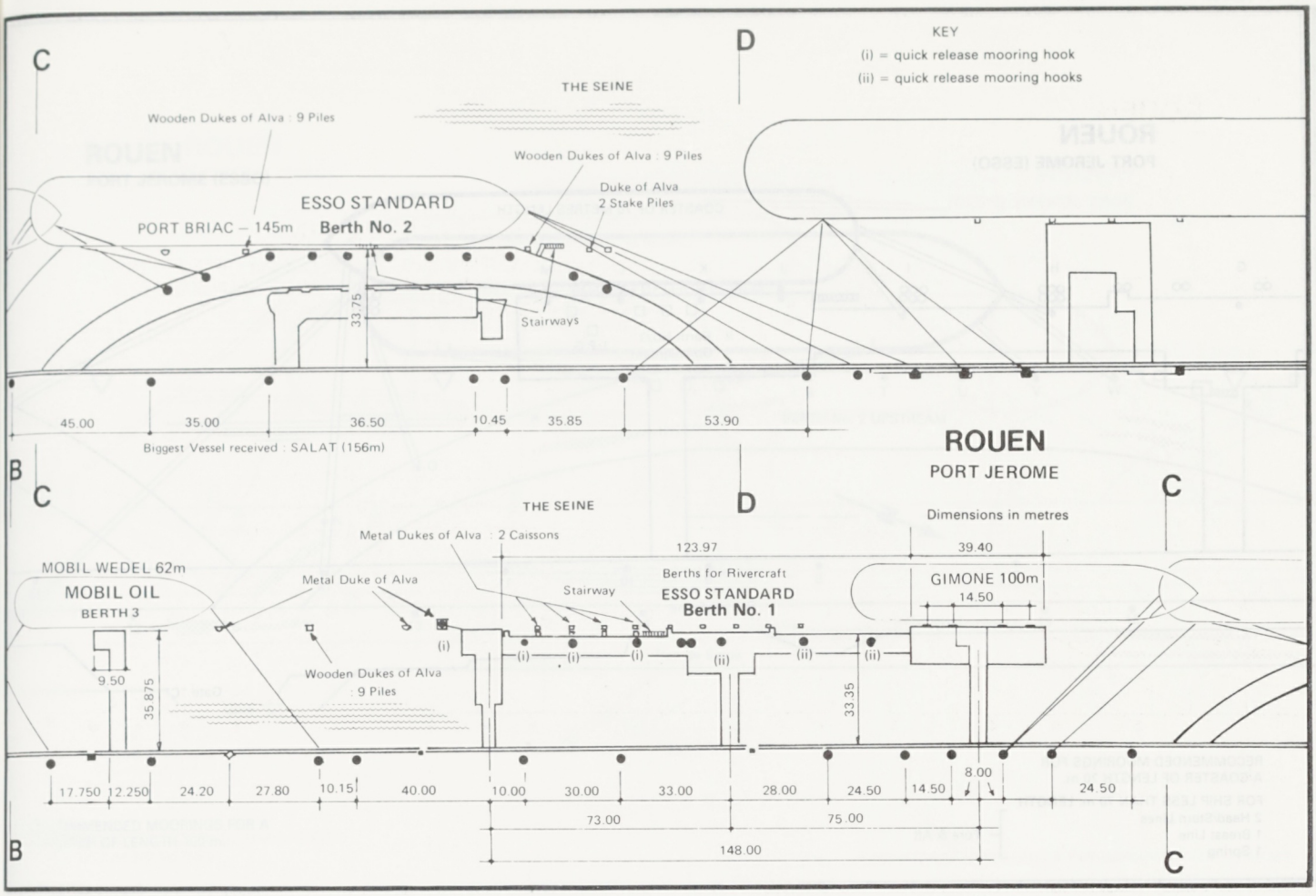


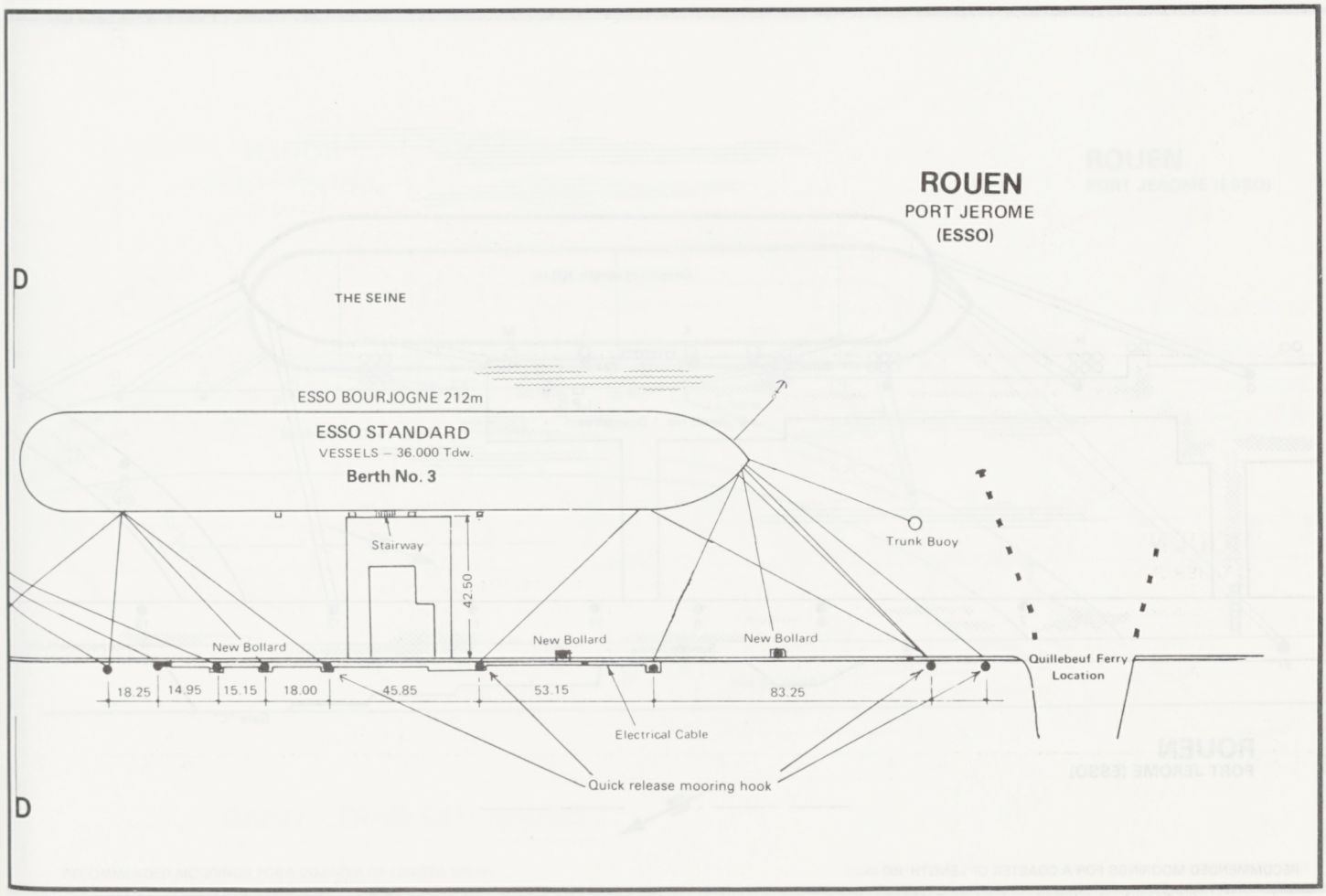
MOORING (120m) OF VESSELS OF THE PORT AU PRINCE CLASS

ROUEN

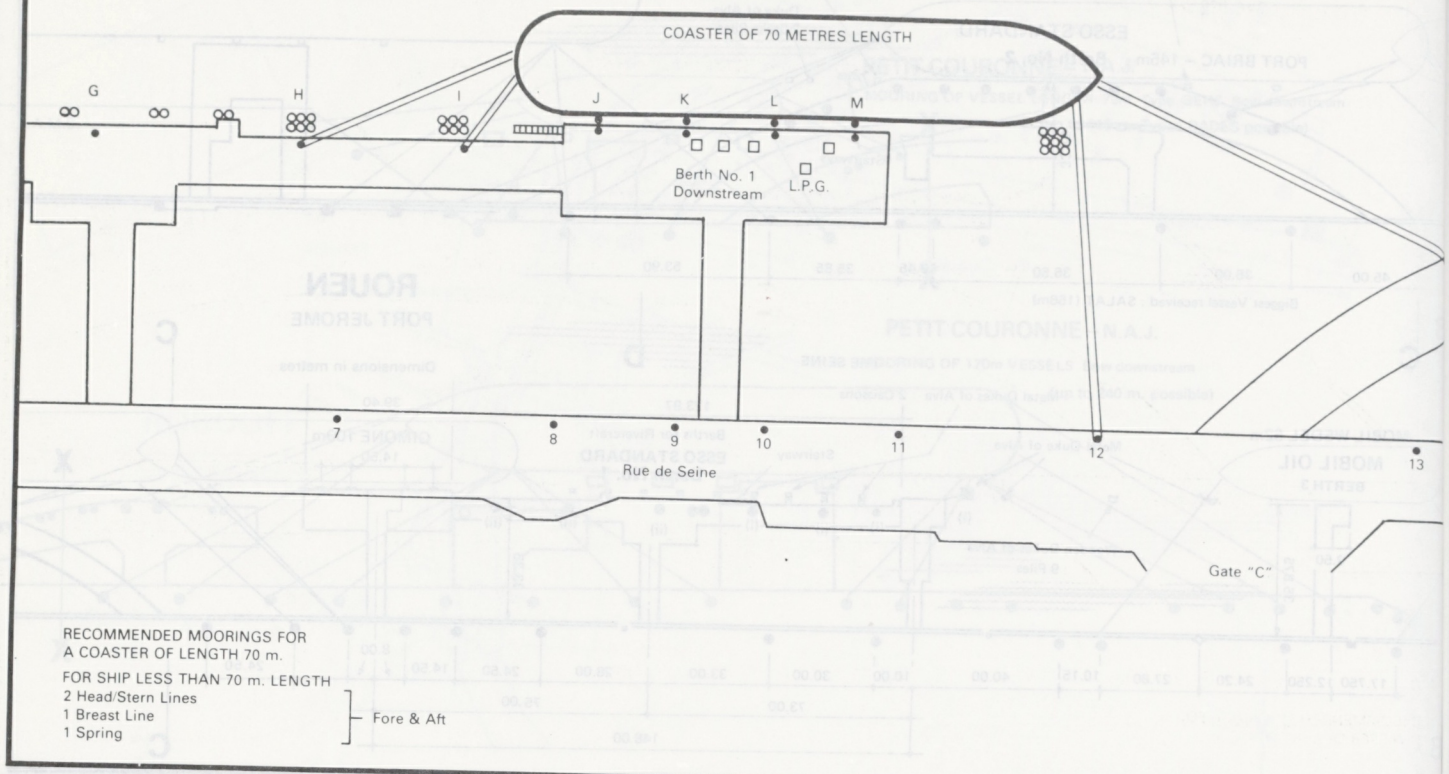

PETIT COURONNE – P.A.J.
MOORING OF VESSEL LENGTH 75m Type GERS Bow downstream
(up to 110 m. Types DADES possible)
S.A.M.S.
X
X
PETIT COURONNE – N.A.J.
MOORING OF 170m VESSELS Bow downstream
(up to 240 m. possible)
X
X


A
B
THE SEINE
157.050
MOBIL OIL
BERTH 1 SAVE 119m
MOBIL OIL
BERTH 2 GIMONE 100m
Trunk Buoy
Metal Duke of Alva
Duke of Alva – 4 Caissons
8.30
Metal Duke of Alva
75.00
20.00
24.20
29.250
41.50
16.50
38.650
40.00
15.250
47.00
44.950
A
B
THE SEINE
ROUEN
PORT JEROME
Dimensions in metres
MOBIL OIL
Stairway
BERTH 4 CRISTINA d'AMICO 203m
30.00
12.00
11.50
11.50
30.00
Trunk Buoy
Metal Dukes of Alva
42.50
Metal Dukes of Alva
55.00
Upstream Mooring Point
Trunk Buoy
New Bollard
New Bollard (Extended Vessels)
20.00
75.00
25.00
50.00
50.00
10.00
10.00
(Extended Vessels)
Downstream Mooring Point
A


KEY
(i) = quick release mooring hook
(ii) = quick release mooring hooks
THE SEINE
Wooden Dukes of Alva : 9 Piles
Wooden Dukes of Alva : 9 Piles
Duke of Alva
2 Stake Piles
ESSO STANDARD
PORT BRIAC – 145m Berth No. 2
33.75
Stairways
45.00
35.00
36.50
10.45
35.85
53.90
Biggest Vessel received : SALAT (156m)
ROUEN
PORT JEROME
Dimensions in metres
THE SEINE
Metal Dukes of Alva : 2 Caissons
123.97
39.40
MOBIL WEDEL 62m
MOBIL OIL
BERTH 3
Metal Duke of Alva
Stairway
Berths for Rivercraft
ESSO STANDARD
Berth No. 1
GIMONE 100m
14.50
Wooden Dukes of Alva
: 9 Piles
9.50
35.875
33.35
8.00
17.750
12.250
24.20
27.80
10.15
40.00
10.00
30.00
33.00
28.00
24.50
14.50
24.50
73.00
75.00
148.00

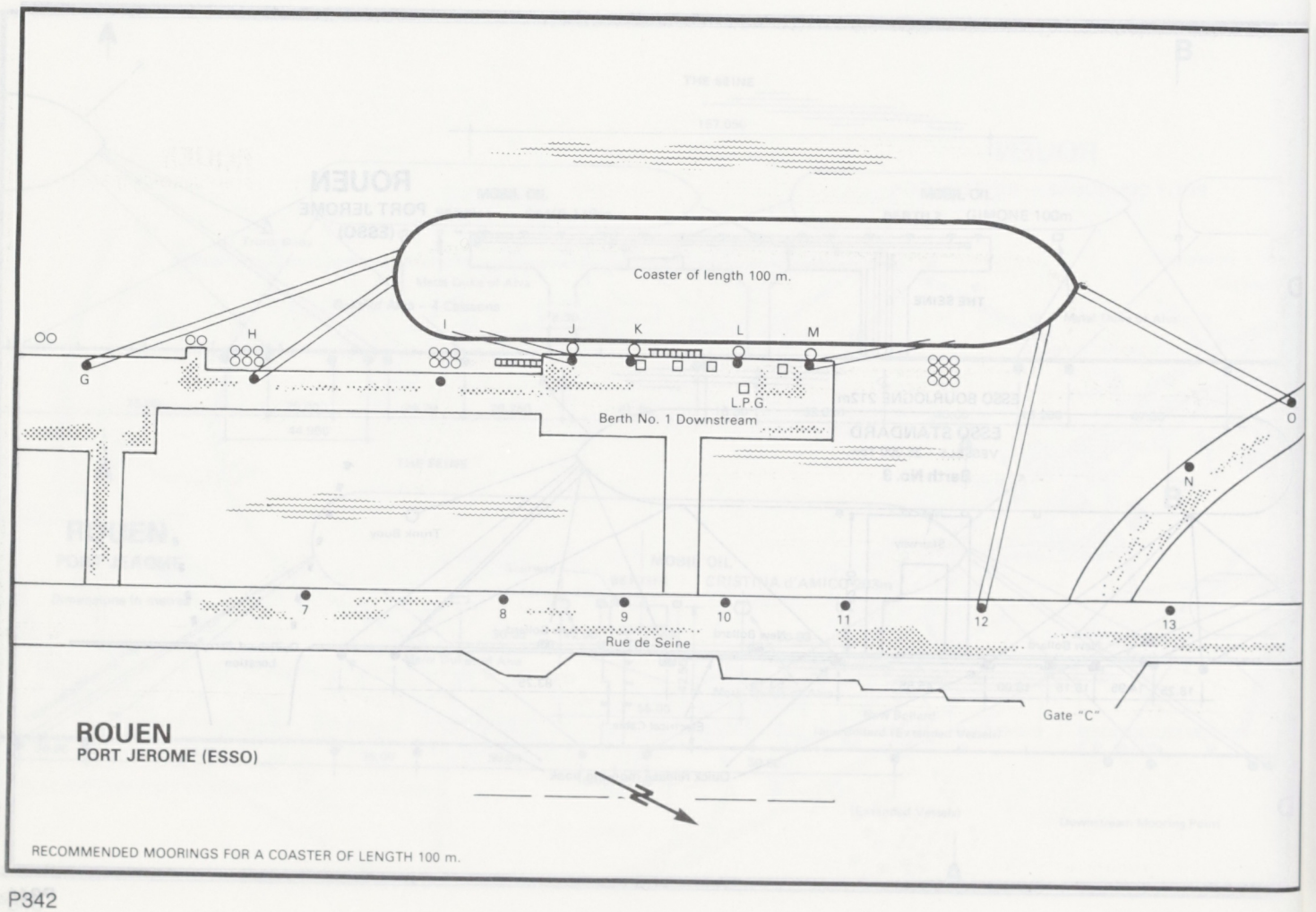

ROUEN
PORT JEROME
(ESSO)
THE SEINE
ESSO BOURJOGNE 212m
ESSO STANDARD
VESSELS – 36.000 Tdw.
Berth No. 3
Stairway
42.50
Trunk Buoy
New Bollard
New Bollard
New Bollard
Quillebeuf Ferry
Location
18.25
14.95
15.15
18.00
45.85
53.15
83.25
Electrical Cable
Quick release mooring hook

ROUEN
PORT JEROME (ESSO)



RECOMMENDED MOORINGS FOR
A COASTER OF LENGTH 70 m.

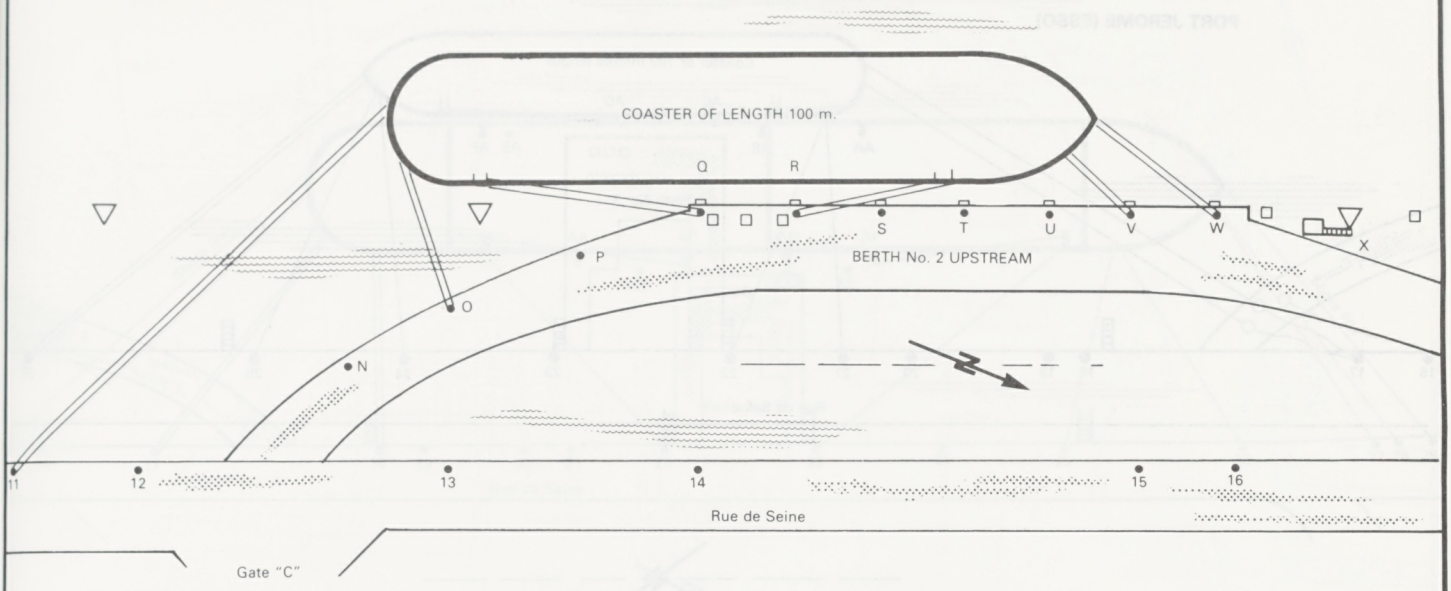
FOR SHIP LESS THAN 70 m. LENGTH
2 Head/Stern Lines
1 Breast Line
1 Spring
} Fore & Aft



ROUEN
PORT JEROME (ESSO)

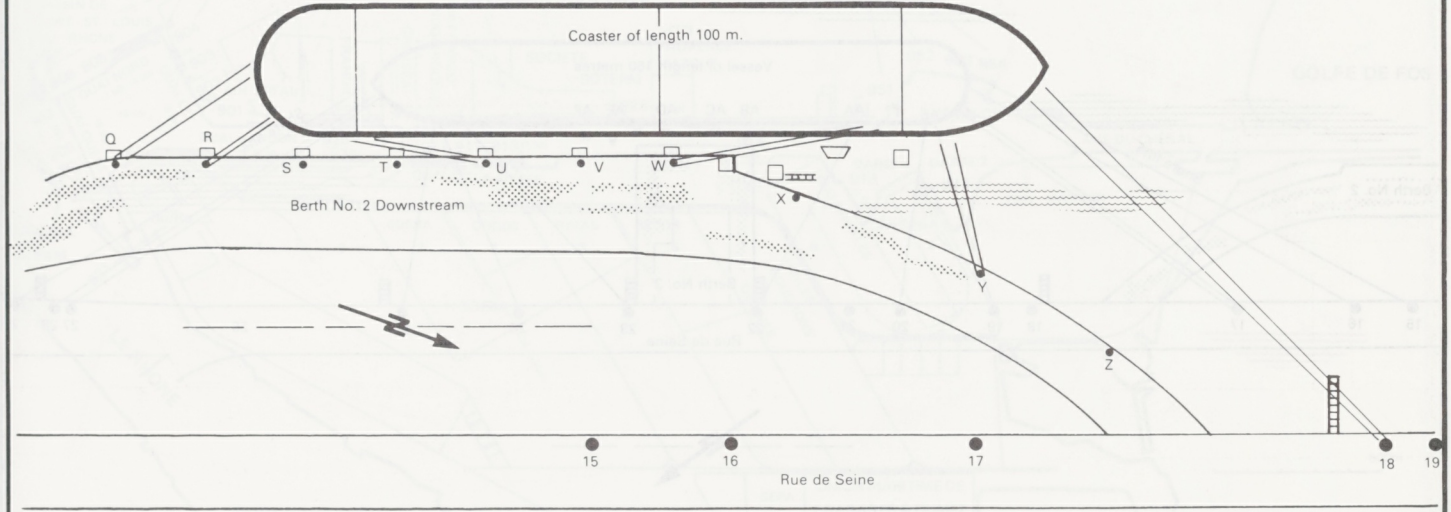
RECOMMENDED MOORINGS FOR A COASTER OF LENGTH 100 m.

ROUEN
PORT JEROME (ESSO)



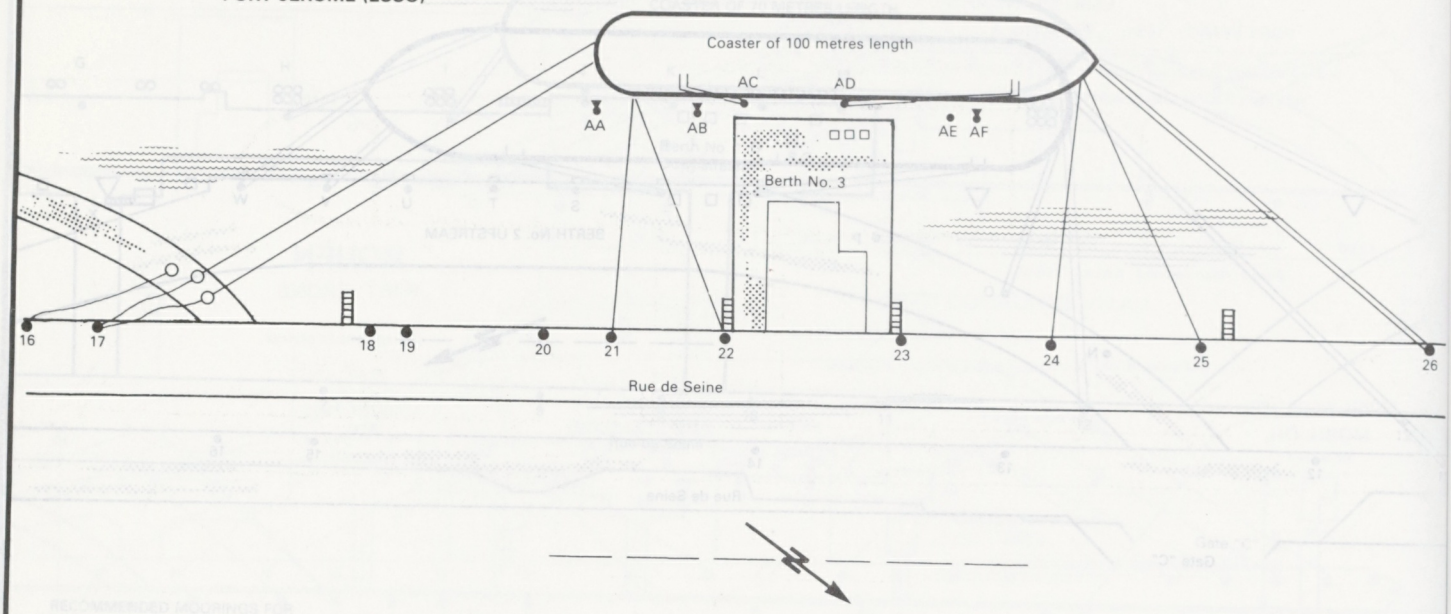
RECOMMENDED MOORINGS FOR A
COASTER OF LENGTH 100 m.

ROUEN
PORT JEROME (ESSO)



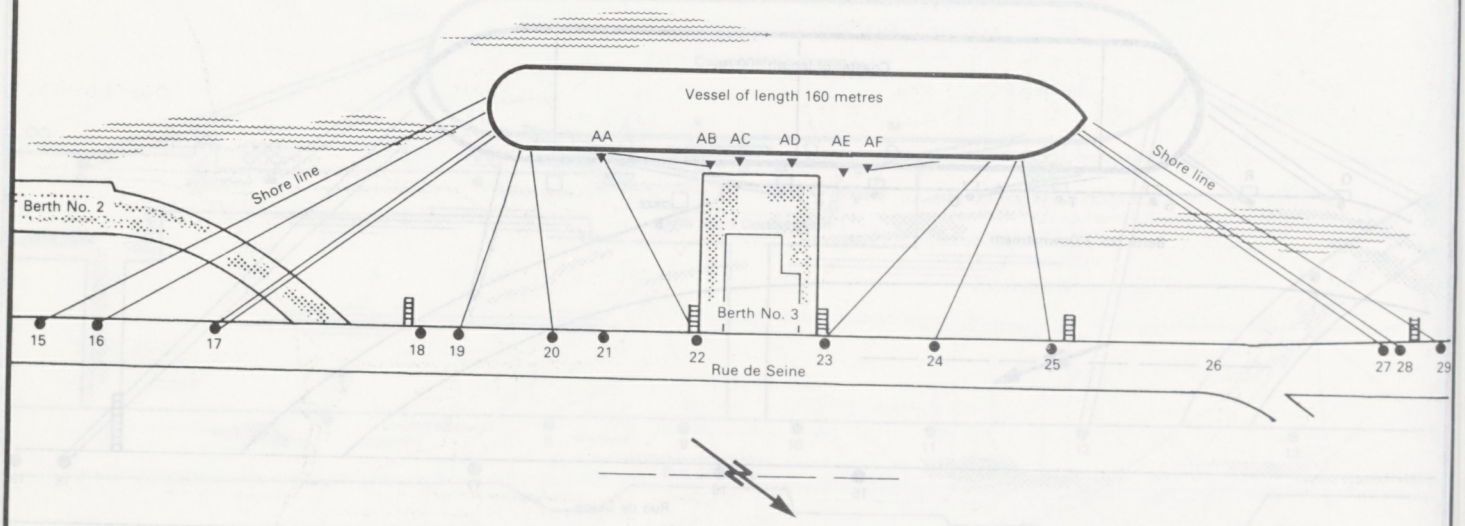
RECOMMENDED MOORINGS FOR A COASTER OF LENGTH 100 m.

ROUEN
PORT JEROME (ESSO)



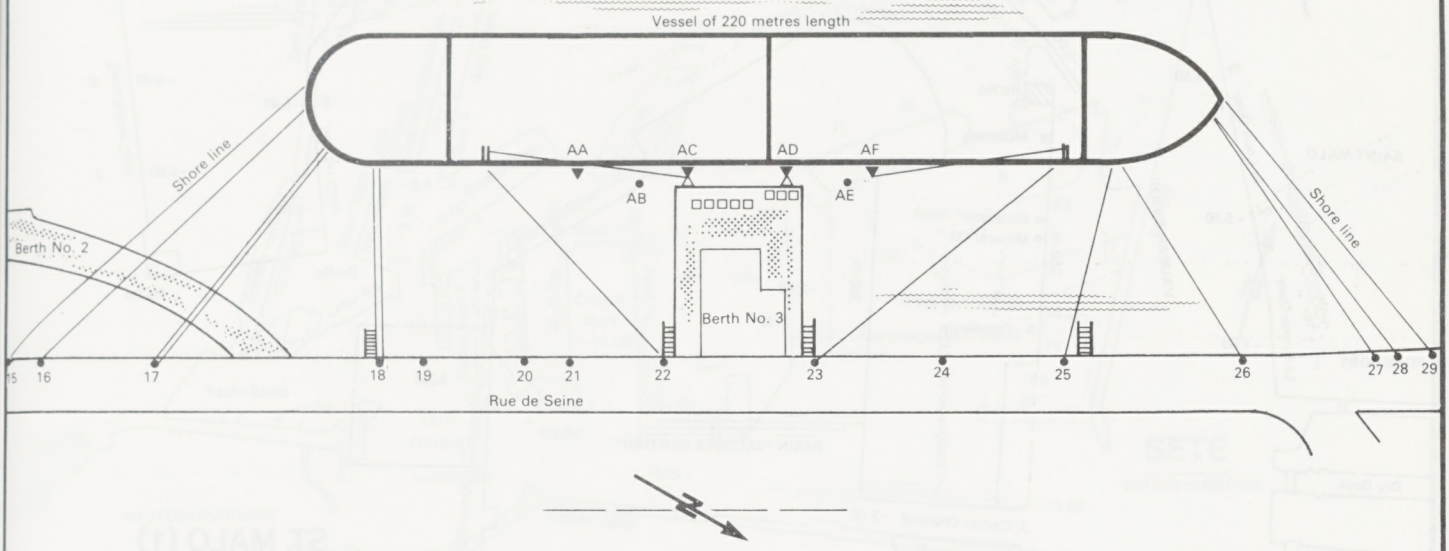
RECOMMENDED MOORINGS FOR A COASTER OF LENGTH 100 m.

ROUEN
PORT JEROME (ESSO)

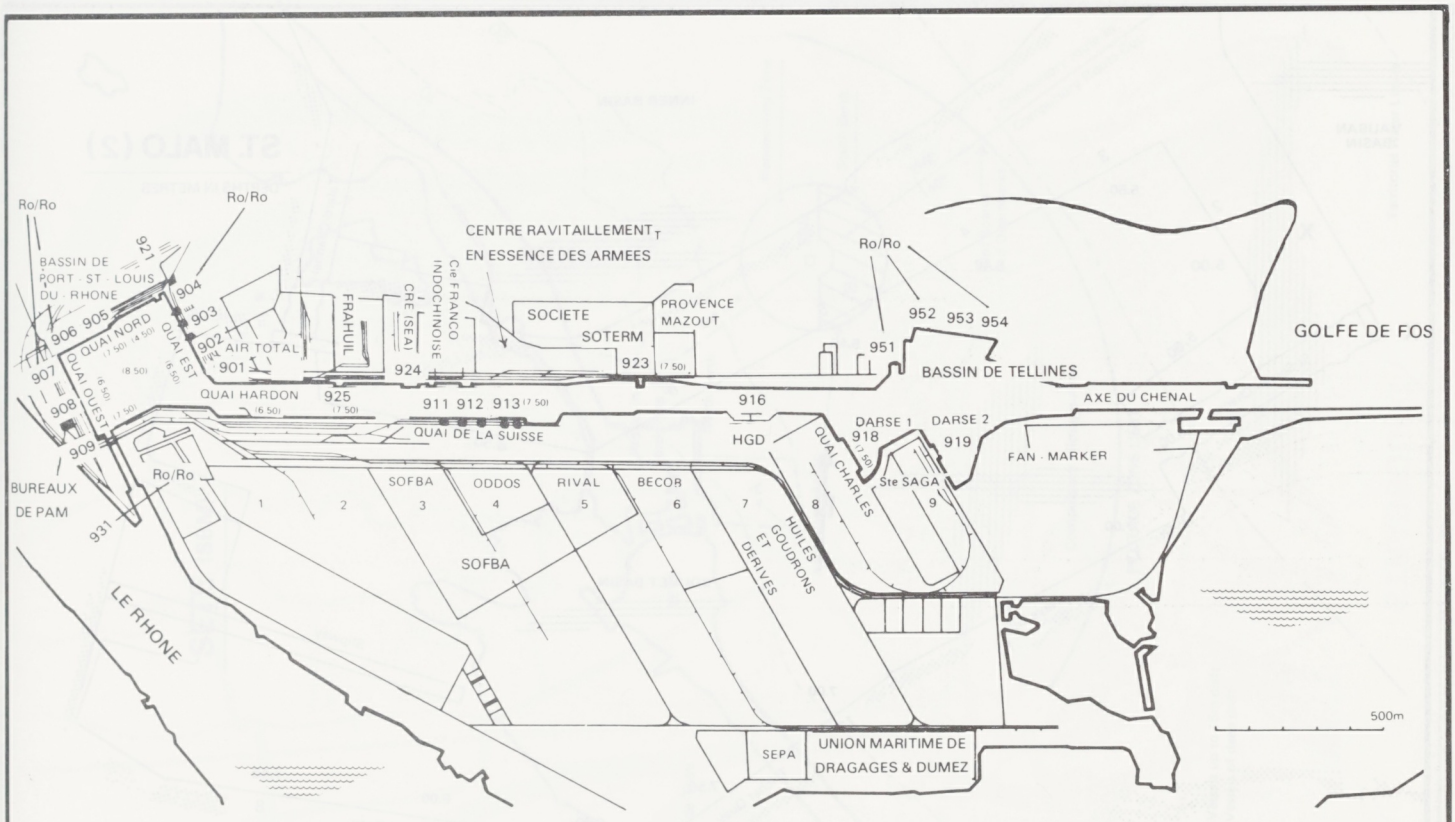


RECOMMENDED MOORINGS FOR A VESSEL OF LENGTH 160 METRES

ROUEN
PORT JEROME (ESSO)

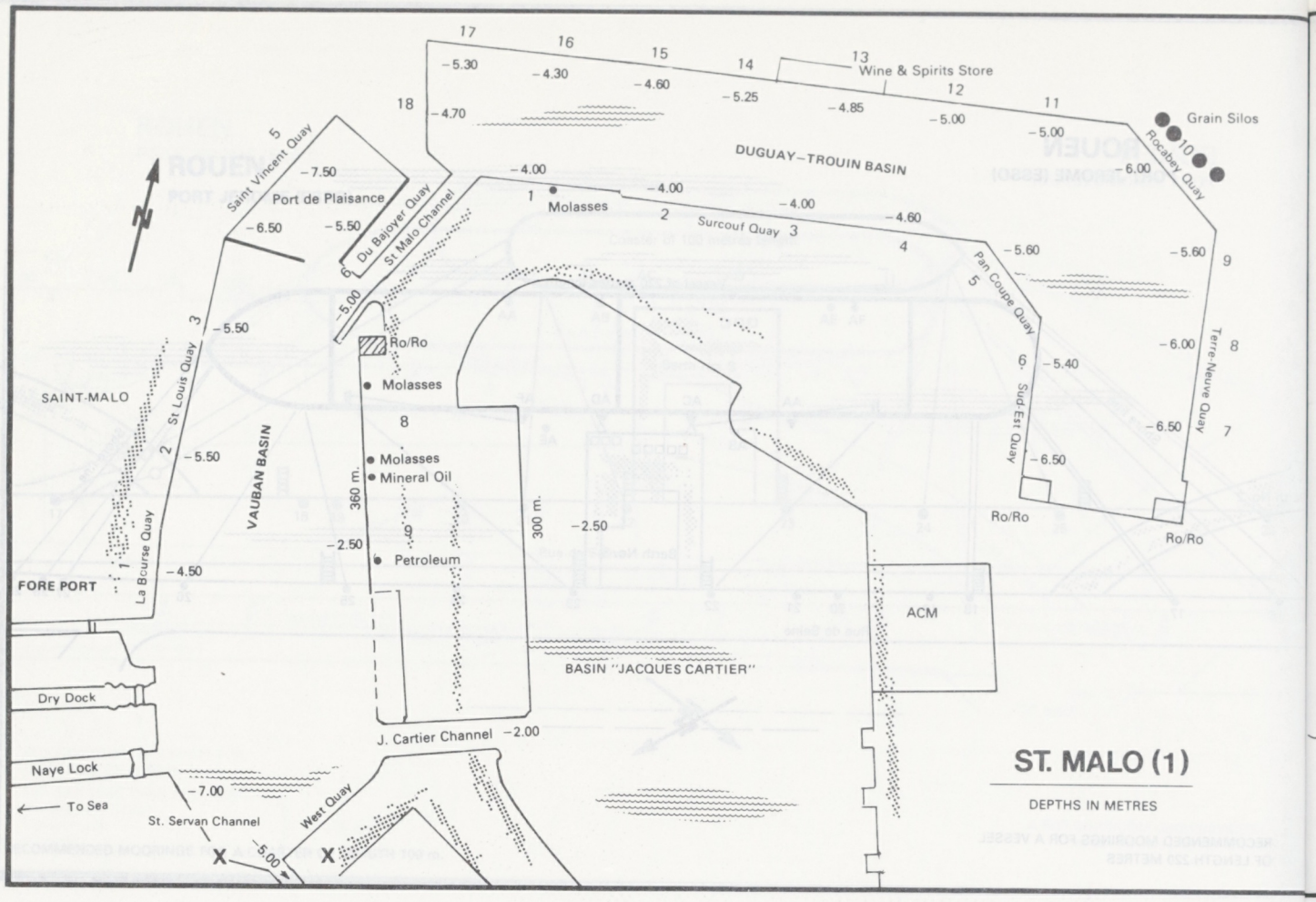


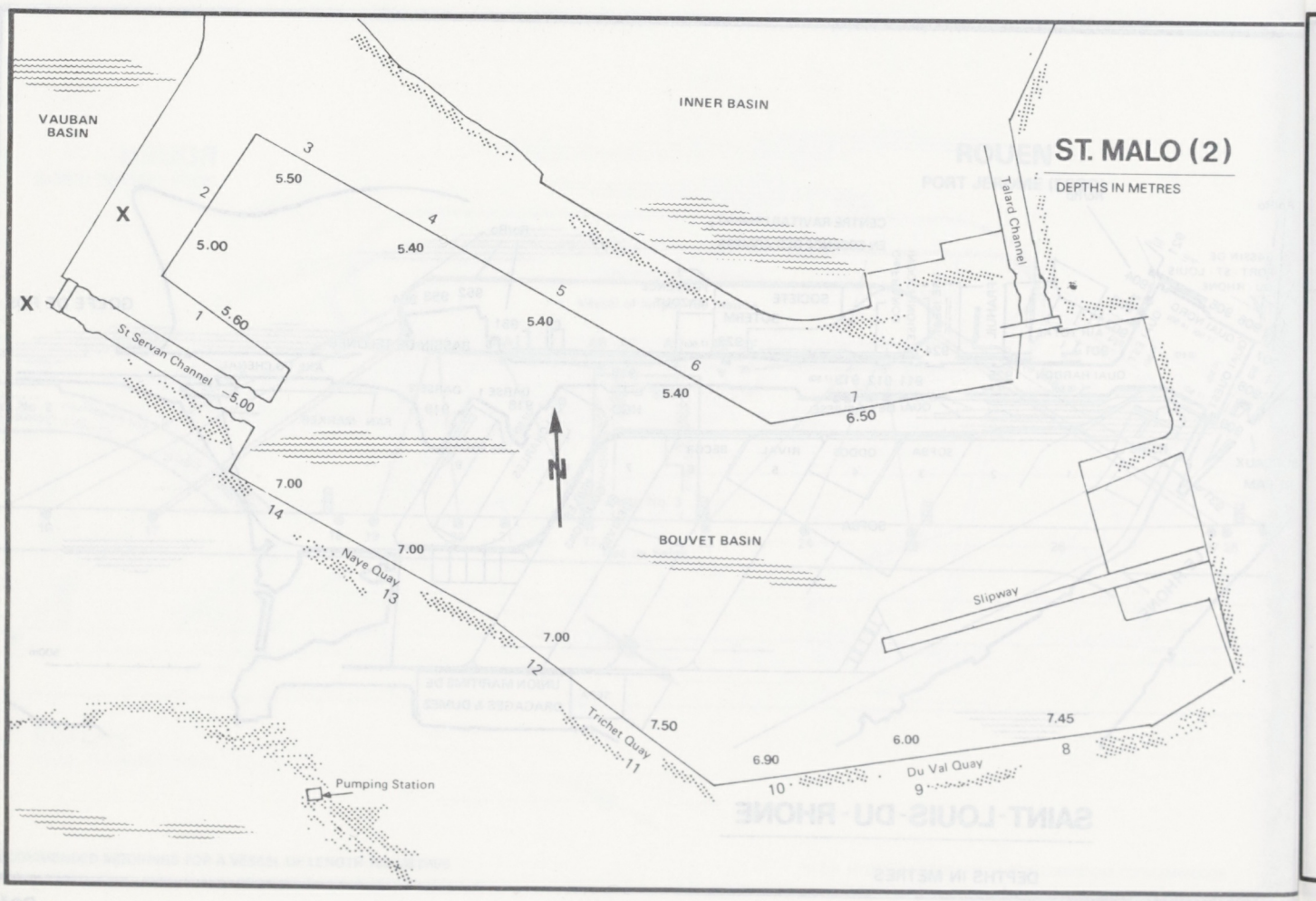
RECOMMENDED MOORINGS FOR A VESSEL
OF LENGTH 220 METRES

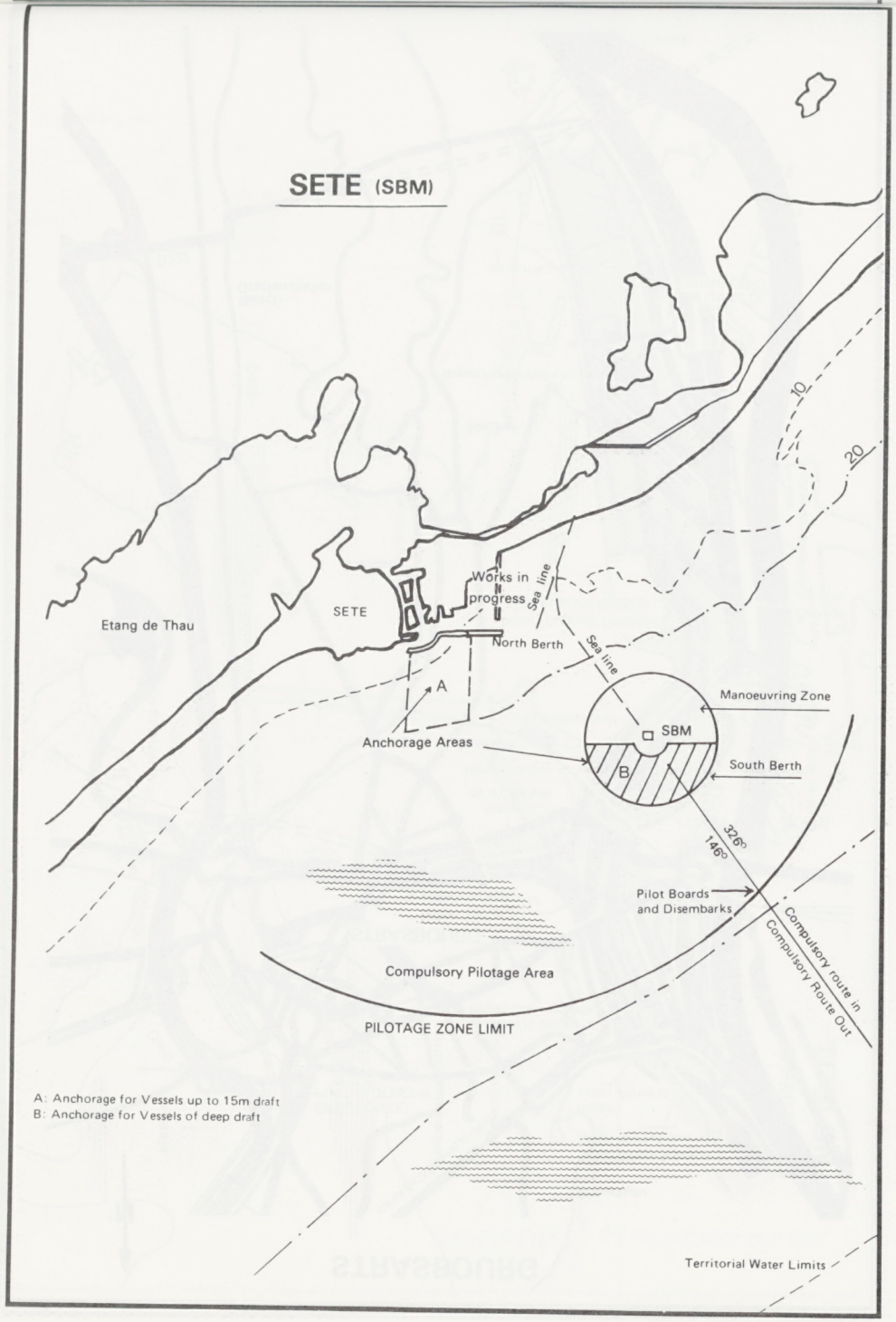


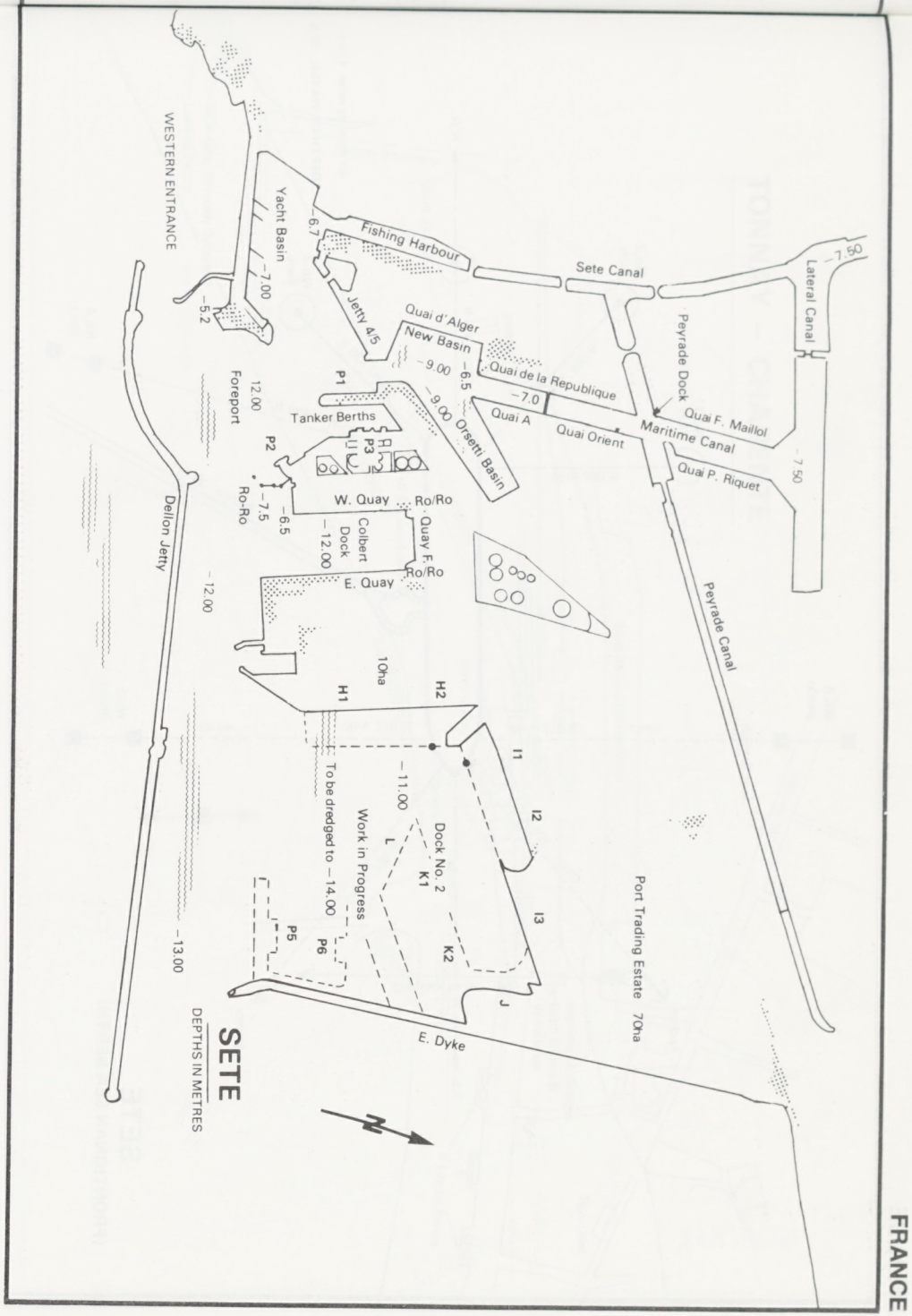
SAINT-LOUIS-DU-RHONE

DEPTHS IN METRES


ST. MALO (1)
DEPTHS IN METRES
DUGUAY–TROUIN BASIN
Wine & Spirits Store
Grain Silos
Rocabey Quay
Surcouf Quay
Pan Coupe Quay
Sud-Est Quay
Terre Neuve Quay
Port de Plaisance
Saint Vincent Quay
Du Bajoyer Quay
St Malo Channel
SAINT-MALO
St Louis Quay
La Bourse Quay
FORE PORT
VAUBAN BASIN
Ro/Ro
Molasses
Mineral Oil
Petroleum
360 m.
300 m.
ACM
BASIN "JACQUES CARTIER"
J. Cartier Channel
Dry Dock
Naye Lock
To Sea
St. Servan Channel
West Quay


ST. MALO (2)
DEPTHS IN METRES
VAUBAN BASIN
INNER BASIN
Talard Channel
St Servan Channel
BOUVET BASIN
Naye Quay
Trichet Quay
Du Val Quay
Slipway
Pumping Station

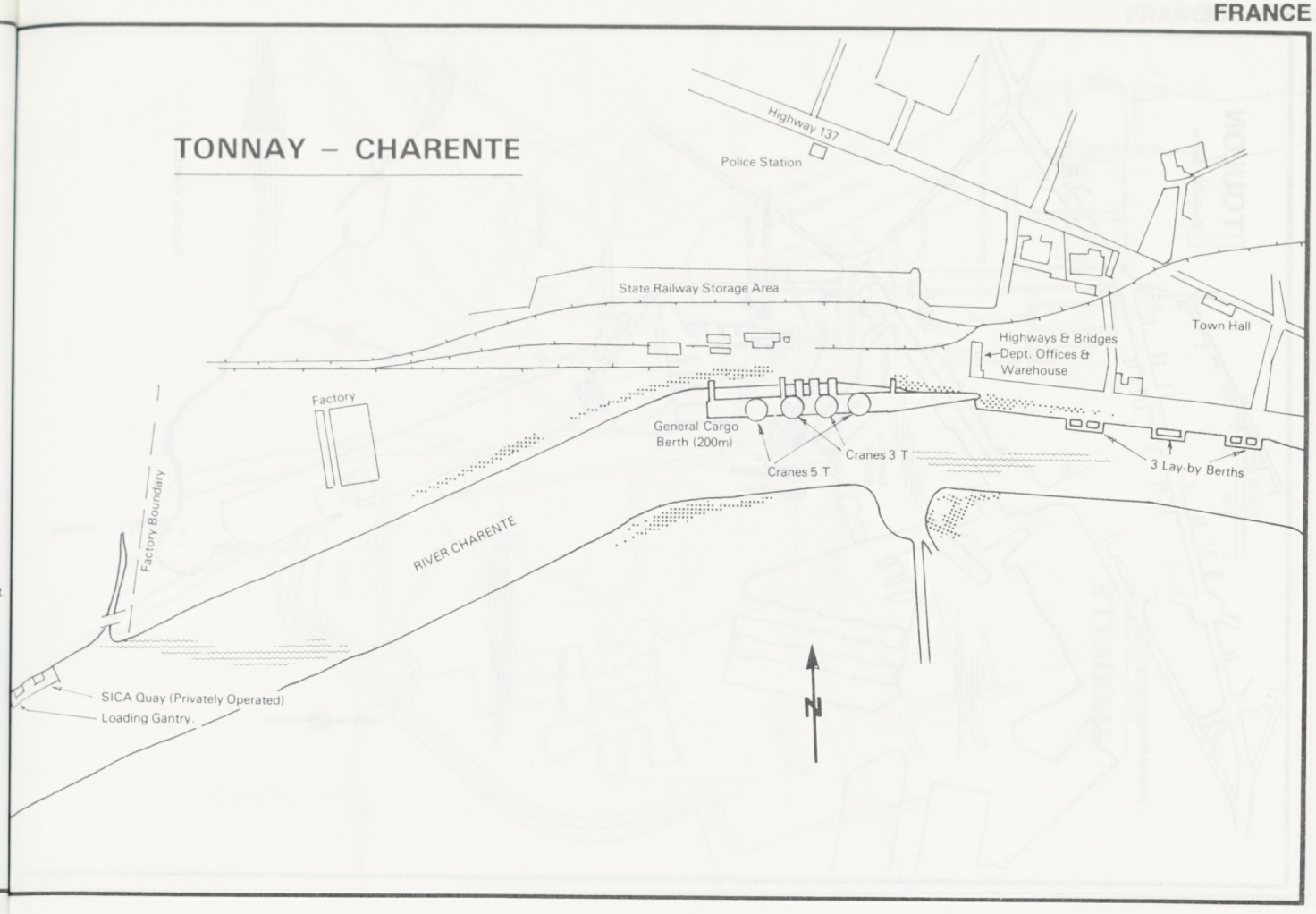

SETE (SBM)
Etang de Thau
SETE
Works in progress
Sea line
North Berth
Sea line
A
Anchorage Areas
Manoeuvring Zone
SBM
B
South Berth
326°
146°
Pilot Boards and Disembarks
Compulsory route in
Compulsory Route Out
Compulsory Pilotage Area
PILOTAGE ZONE LIMIT
10
20
A: Anchorage for Vessels up to 15m draft
B: Anchorage for Vessels of deep draft
Territorial Water Limits

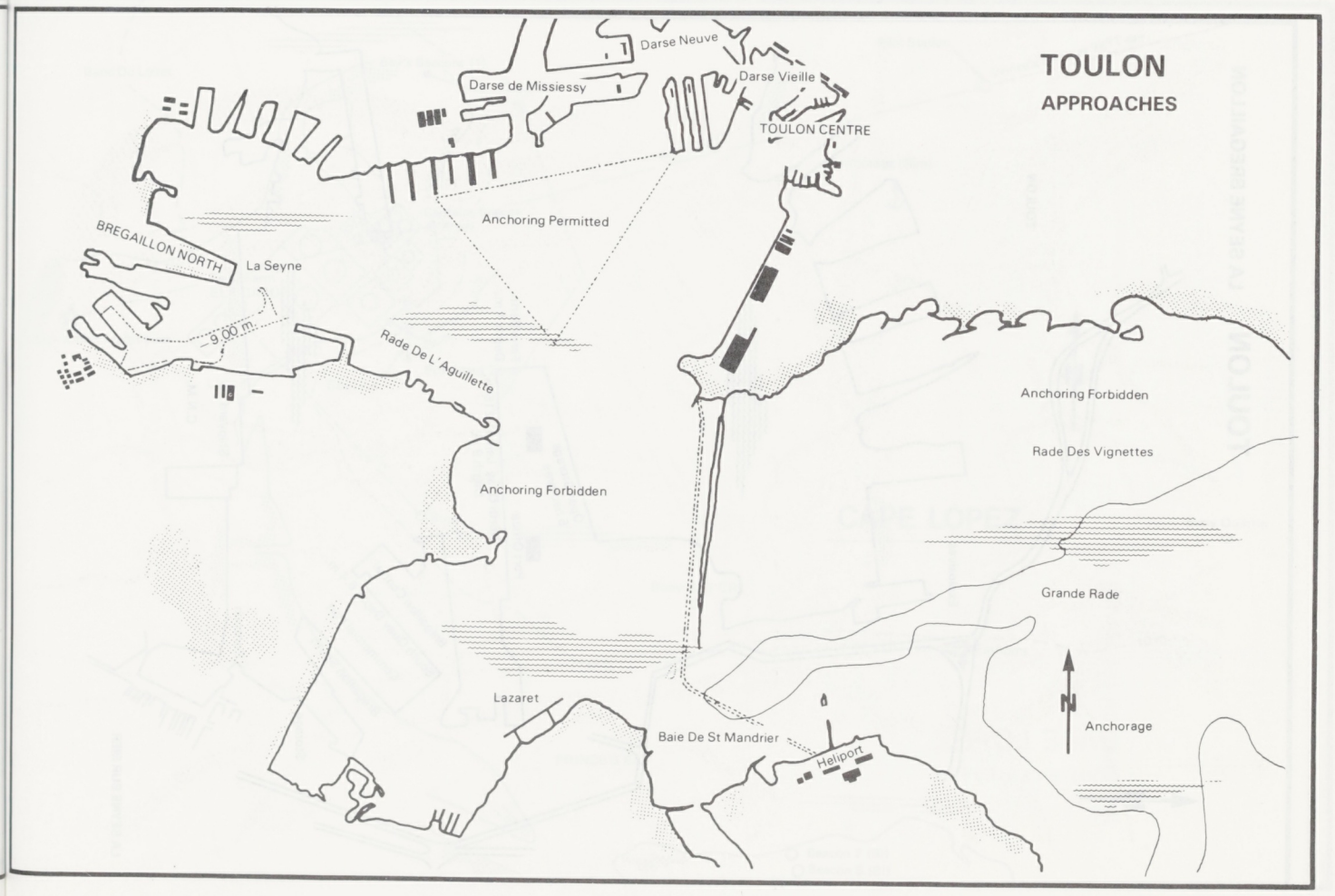

WESTERN ENTRANCE
Yacht Basin
-6.7
-7.00
-5.2
Fishing Harbour
Jetty 4/5
Quai d'Alger
New Basin
-9.00
-6.5
Quai de la Republique
-7.0
Quai A
Quai Orient
Sete Canal
Lateral Canal
-7.50
Peyrade Dock
Quai F. Maillol
Maritime Canal
Quai P. Riquet
-7.50
P1
Tanker Berths
P2
P3
Foreport
12.00
-9.00 Orsetti Basin
Ro-Ro
-7.5
-6.5
W. Quay
Ro/Ro
Colbert Dock
-12.00
Quay F
Ro/Ro
E. Quay
-12.00
Dellon Jetty
10ha
H1
H2
I1
I2
I3
J
To be dredged to -14.00
Work in Progress
-11.00
L
Dock No. 2
K1
K2
P5
P6
-13.00
Peyrade Canal
Port Trading Estate 70ha
E. Dyke
SETE
DEPTHS IN METRES
N

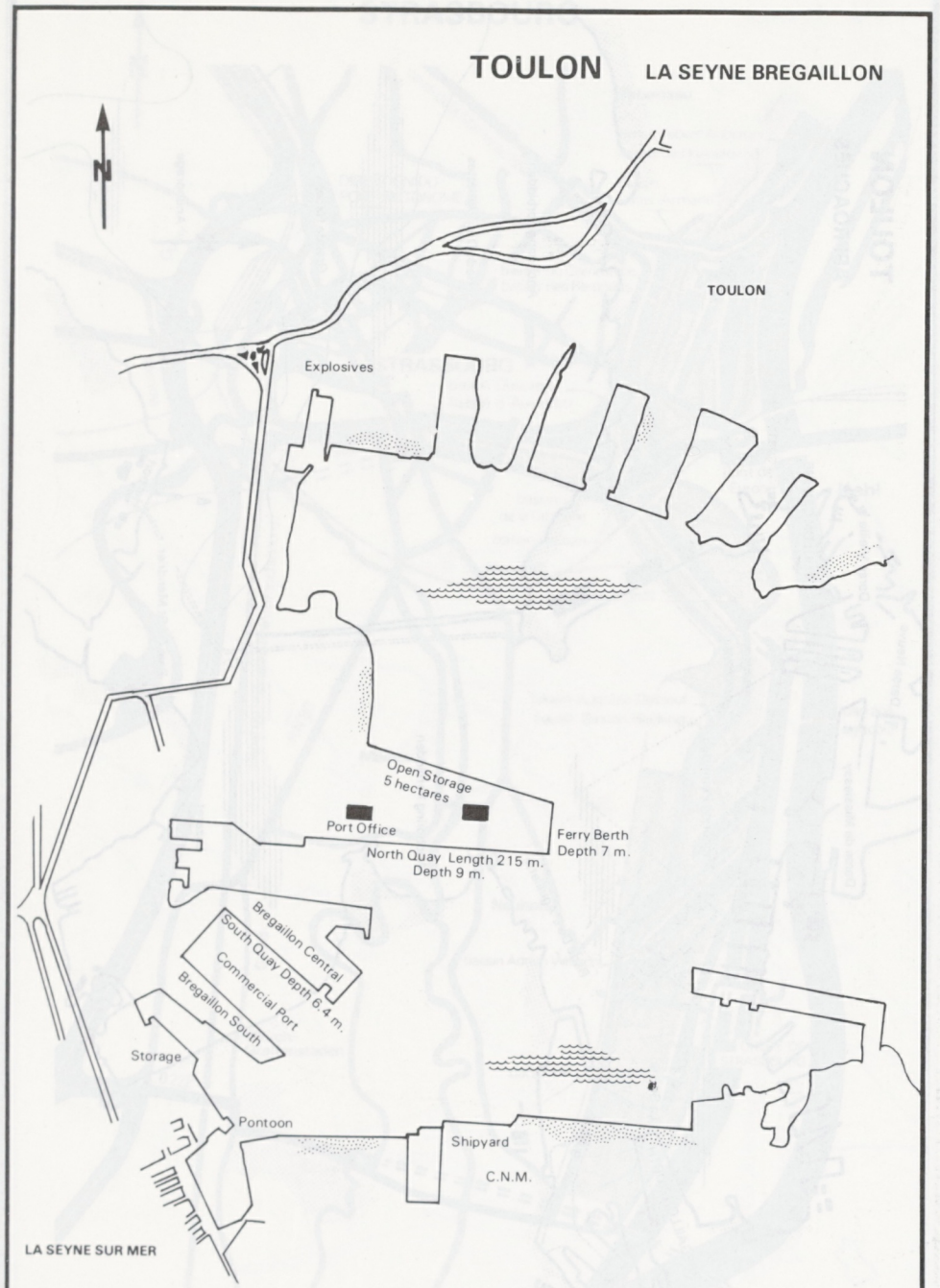
FRANCE

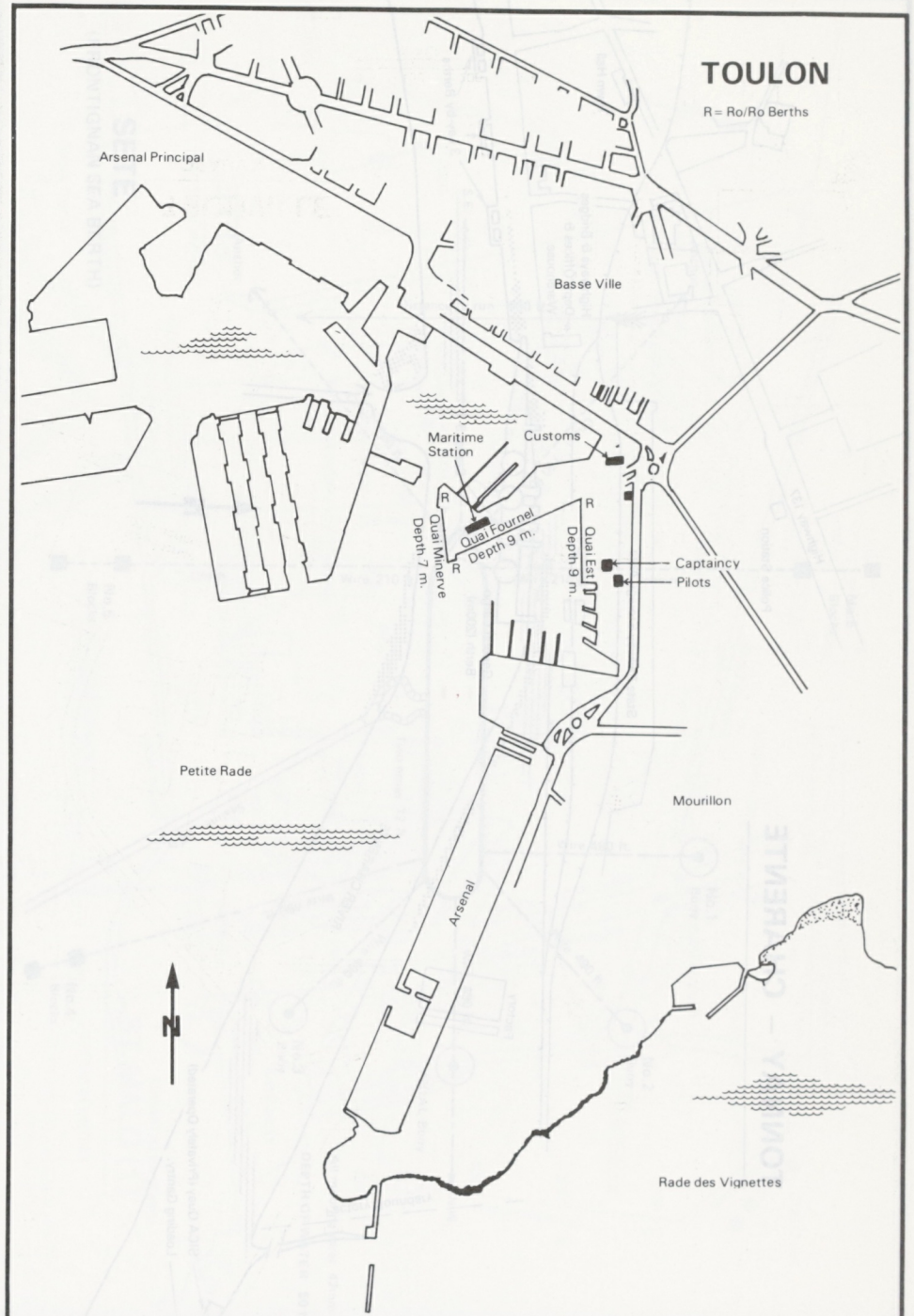
STRASBOURG

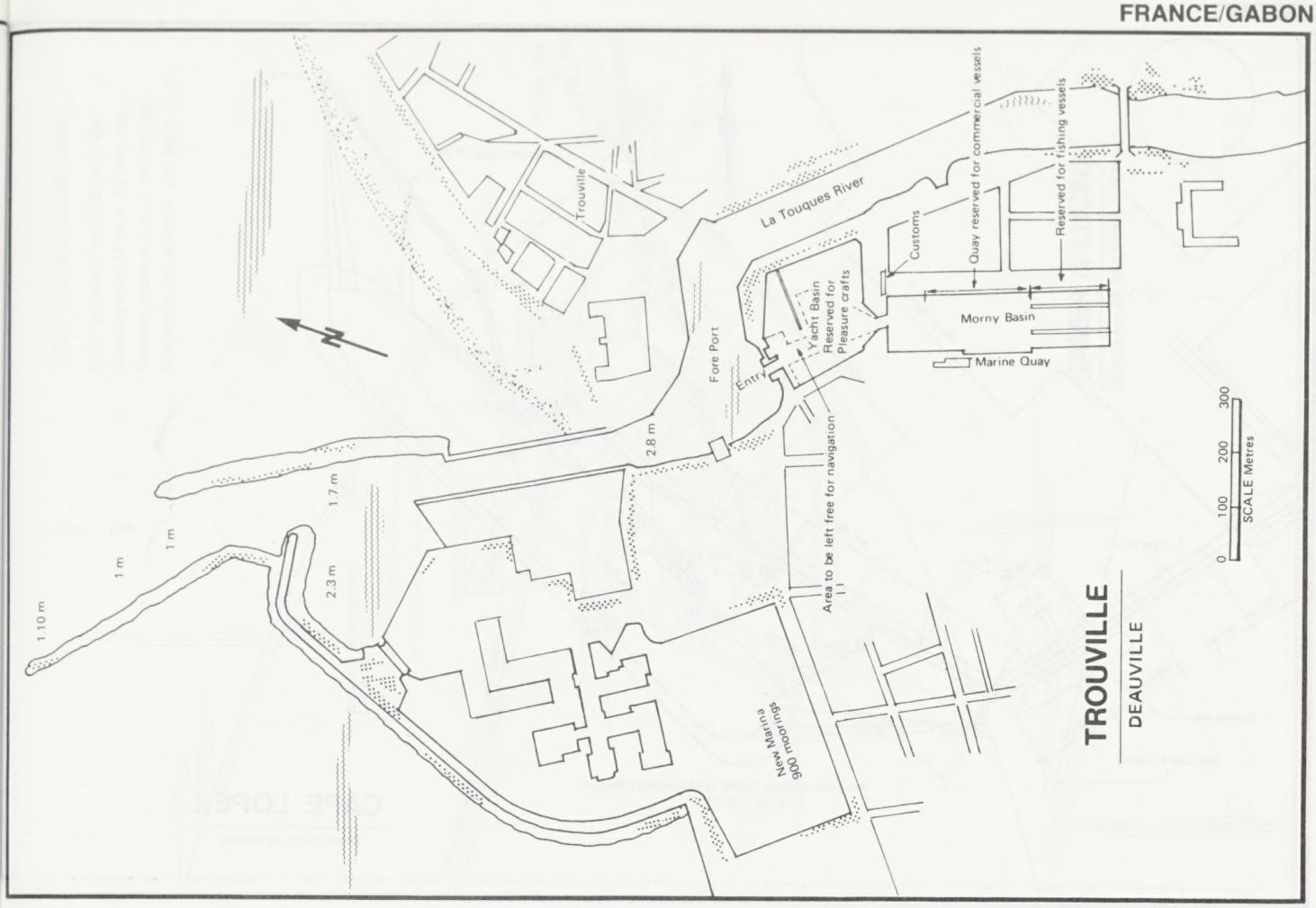
SETE
(FRONTIGNAN SEA BERTH)

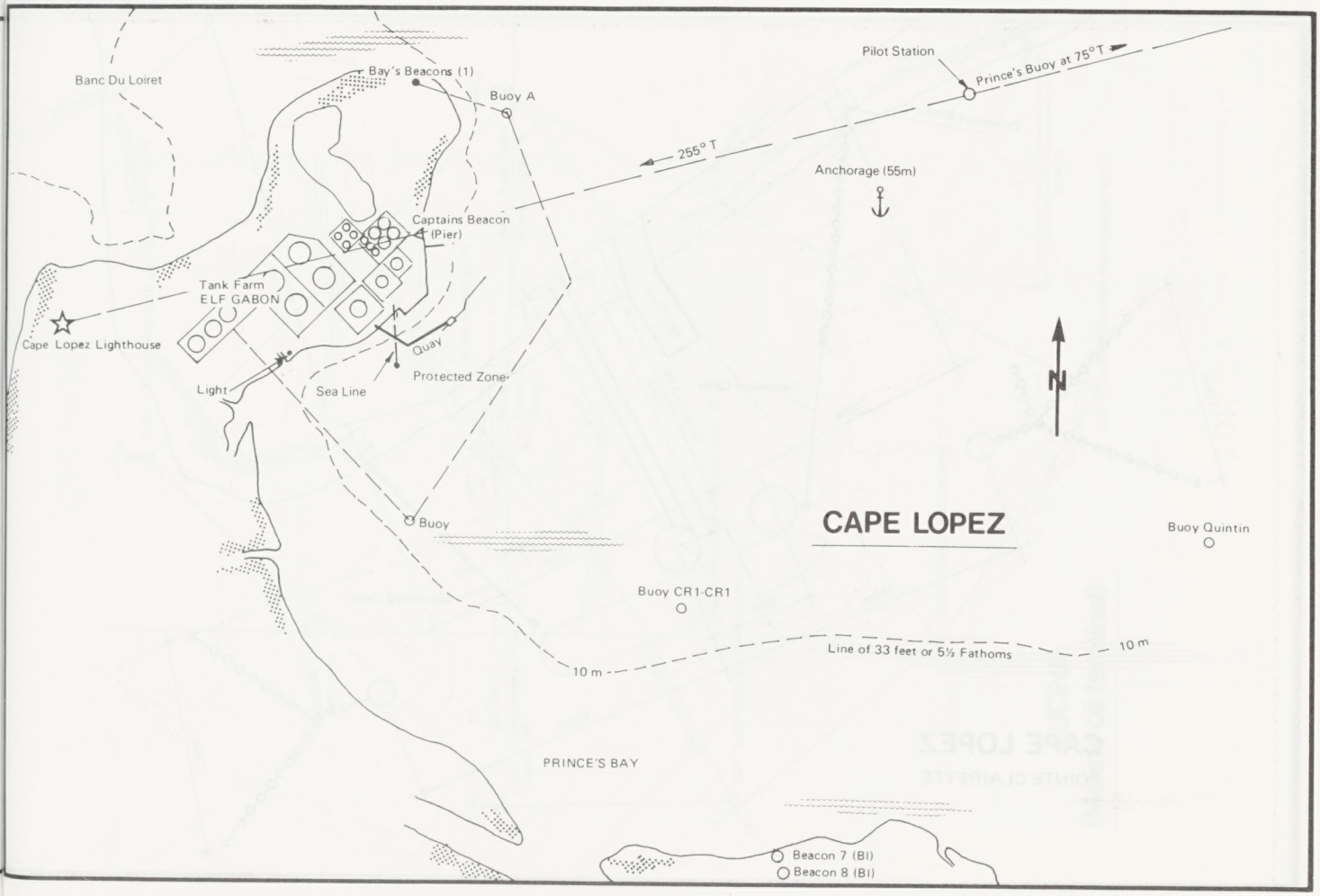

TONNAY – CHARENTE
Highway 137
Police Station
State Railway Storage Area
Town Hall
Highways & Bridges
Dept. Offices &
Warehouse
Factory
General Cargo
Berth (200m)
Cranes 3 T
Cranes 5 T
3 Lay-by Berths
Factory Boundary
RIVER CHARENTE
SICA Quay (Privately Operated)
Loading Gantry.
N

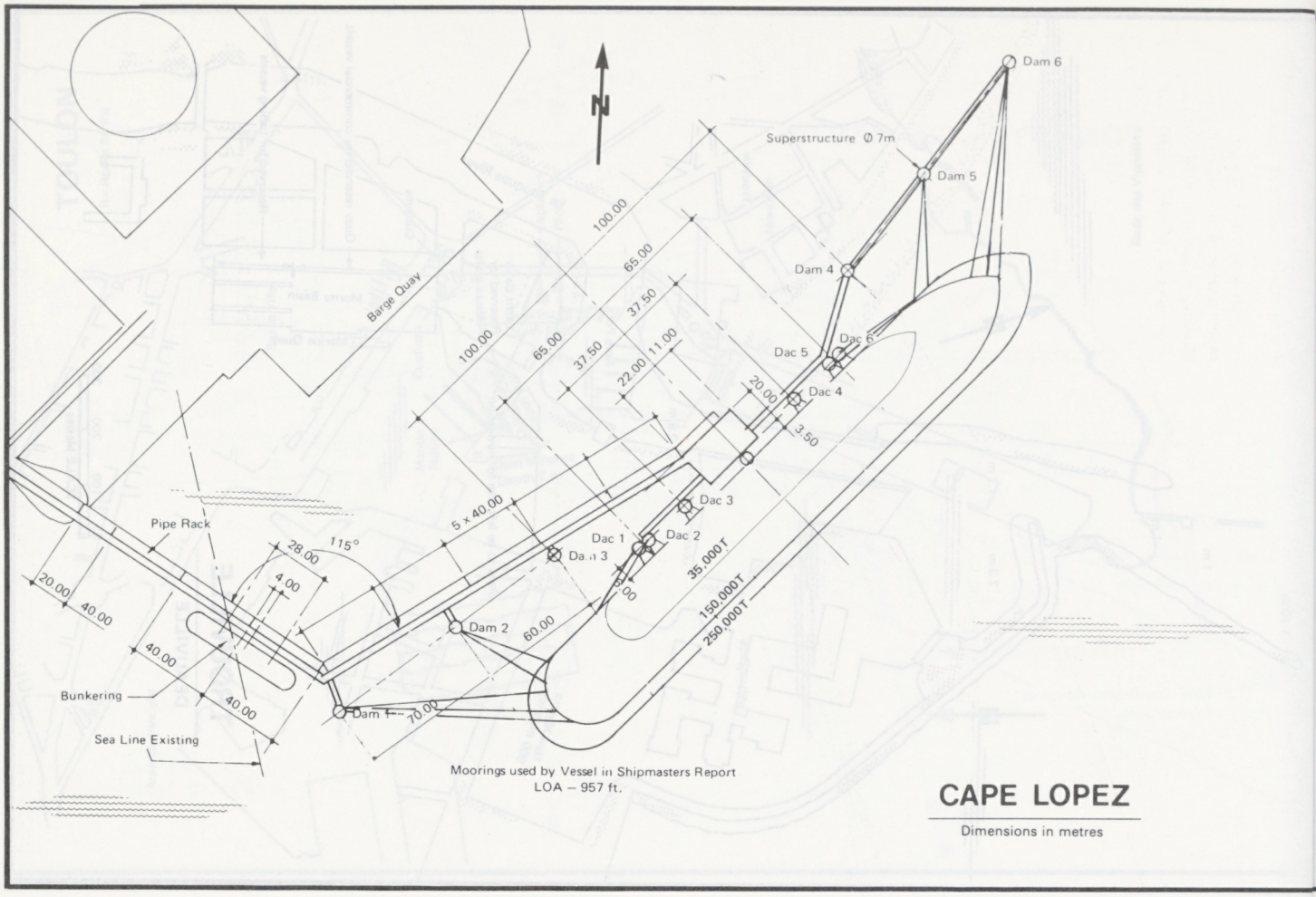

TOULON
APPROACHES
Darse Neuve
Darse de Missiessy
Darse Vieille
TOULON CENTRE
Anchoring Permitted
BREGAILLON NORTH
La Seyne
9.00 m.
Rade De L'Aguillette
Anchoring Forbidden
Anchoring Forbidden
Rade Des Vignettes
Grande Rade
Lazaret
Baie De St Mandrier
Heliport
N
Anchorage

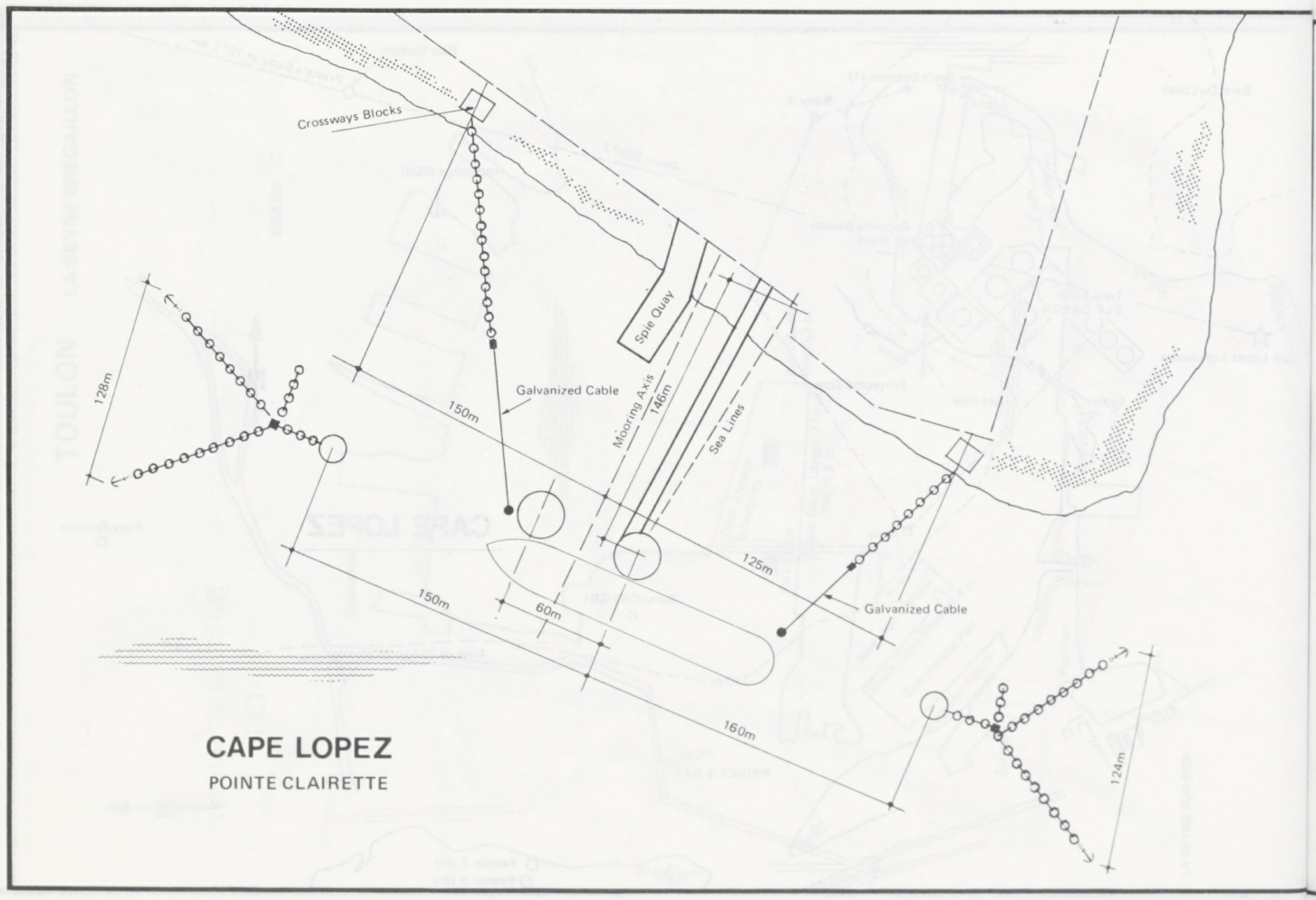

TOULON
LA SEYNE BREGAILLON
N
TOULON
Explosives
Open Storage
5 hectares
Port Office
Ferry Berth
Depth 7 m.
North Quay Length 215 m.
Depth 9 m.
Bregaillon Central
South Quay Depth 6.4 m.
Commercial Port
Bregaillon South
Storage
Pontoon
Shipyard
C.N.M.
LA SEYNE SUR MER

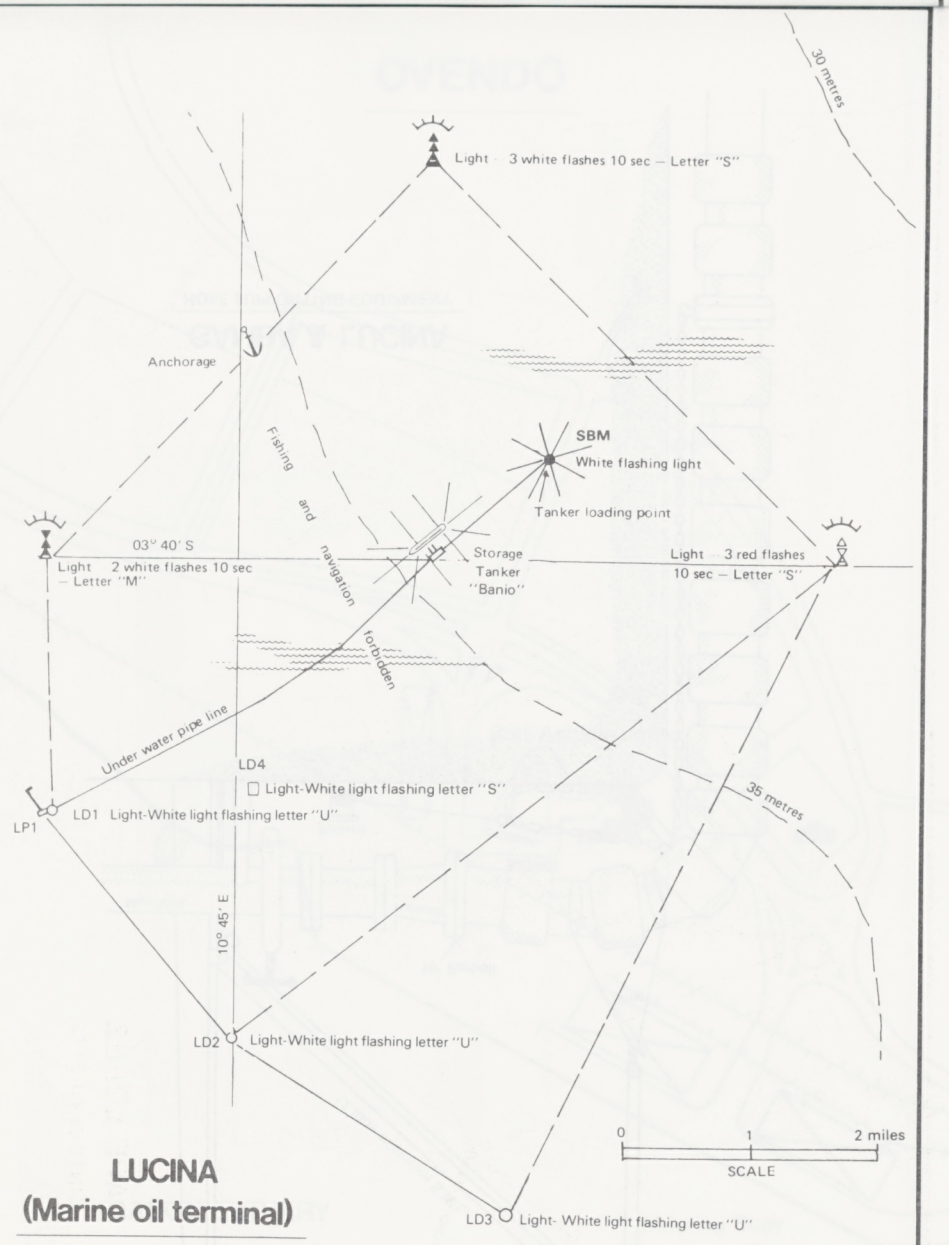

TOULON
R = Ro/Ro Berths
Arsenal Principal
Basse Ville
Maritime Station
Customs
R
Quai Fournel
Depth 9 m.
Quai Minerve
Depth 7 m.
Quai Est
Depth 9 m.
Captaincy
Pilots
Petite Rade
Mourillon
Arsenal
N
Rade des Vignettes


Trouville
La Touques River
Customs
Quay reserved for commercial vessels
Reserved for fishing vessels
Yacht Basin Reserved for Pleasure crafts
Morny Basin
Marine Quay
Fore Port
Entry
2.8 m
1.7 m
1 m
1 m
2.3 m
1.10 m
Area to be left free for navigation
New Marina 900 moorings
0 100 200 300
SCALE Metres
TROUVILLE
DEAUVILLE


Banc Du Loiret
Bay's Beacons (1)
Buoy A
Pilot Station
Prince's Buoy at 75°T
255° T
Anchorage (55m)
Captains Beacon (Pier)
Tank Farm ELF GABON
Cape Lopez Lighthouse
Quay
Light
Sea Line
Protected Zone
N
Buoy
CAPE LOPEZ
Buoy Quintin
Buoy CR1-CR1
Line of 33 feet or 5½ Fathoms
10 m
10 m
PRINCE'S BAY
Beacon 7 (Bl)
Beacon 8 (Bl)


N
Dam 6
Superstructure Ø 7m
Dam 5
Dam 4
Dac 6
Dac 5
Dac 4
Dac 3
Dac 2
Dac 1
Dam 3
Dam 2
Dam 1
Barge Quay
Pipe Rack
Bunkering
Sea Line Existing
100.00
65.00
37.50
22.00
11.00
20.00
3.50
5 x 40.00
28.00
115°
4.00
20.00
40.00
40.00
40.00
70.00
60.00
35,000T
150,000T
250,000T
Moorings used by Vessel in Shipmasters Report
LOA – 957 ft.
CAPE LOPEZ
Dimensions in metres

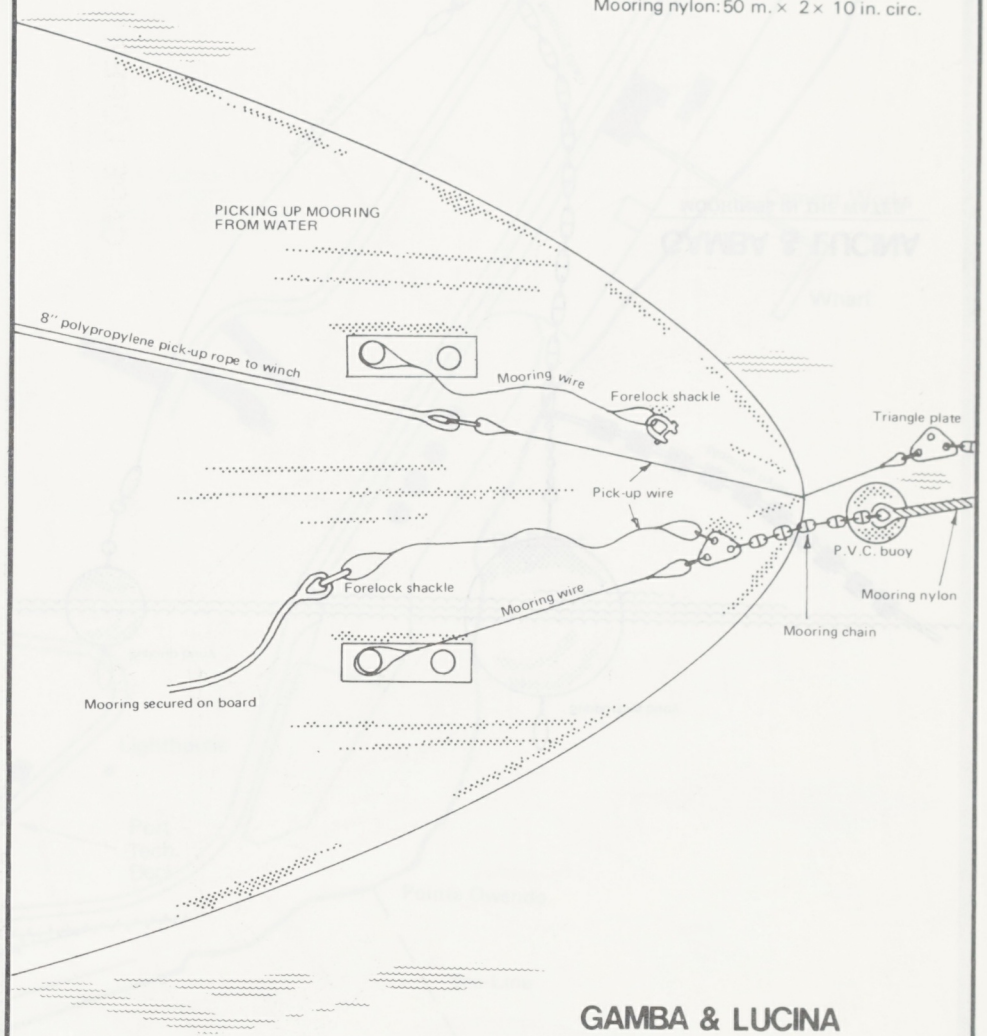

Crossways Blocks
Spie Quay
Galvanized Cable
Mooring Axis
146m
Sea Lines
150m
128m
125m
150m
60m
160m
Galvanized Cable
124m
CAPE LOPEZ
POINTE CLAIRETTE



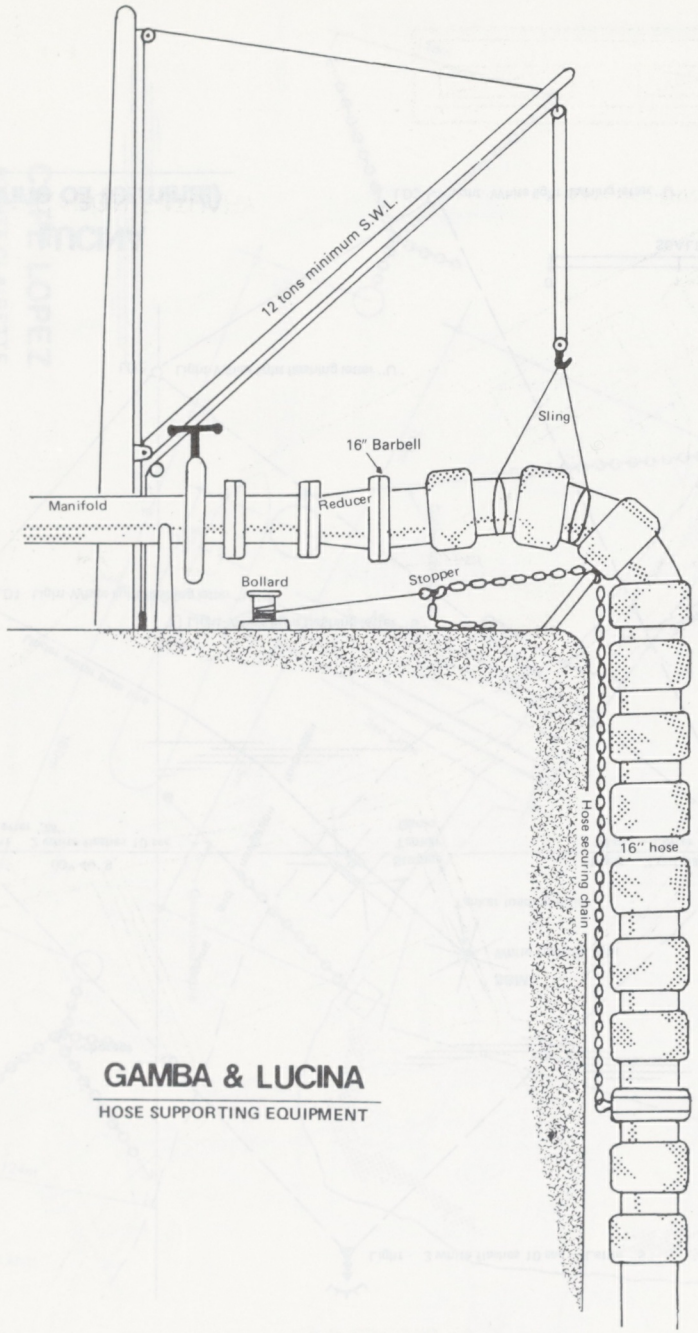
LUCINA
(Marine oil terminal)

S.B.M. Gamba and S.B.M. Lucina

Pick—up wire: 7 m. × 32 mm. dia.
Mooring wire: 14 m. × 42 mm. dia.
Mooring chain: 4.5 m. × 54 mm. dia.
Mooring nylon: 50 m. × 2× 10 in. circ.

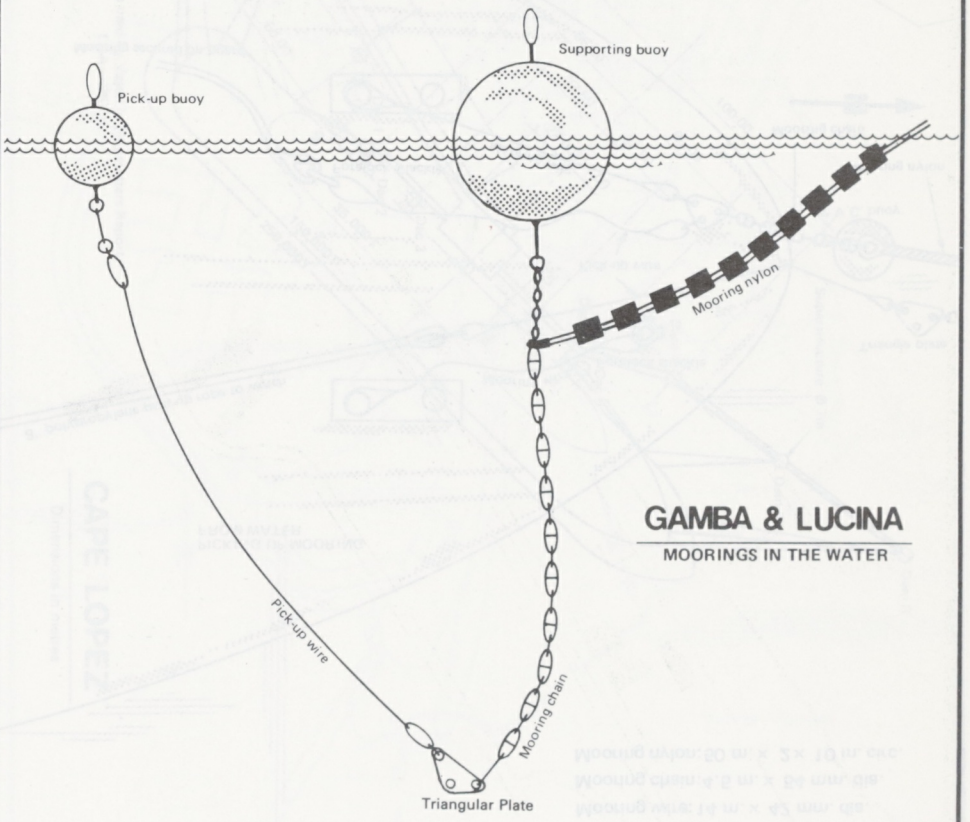


GAMBA & LUCINA
DIAGRAM OF MOORING SYSTEM



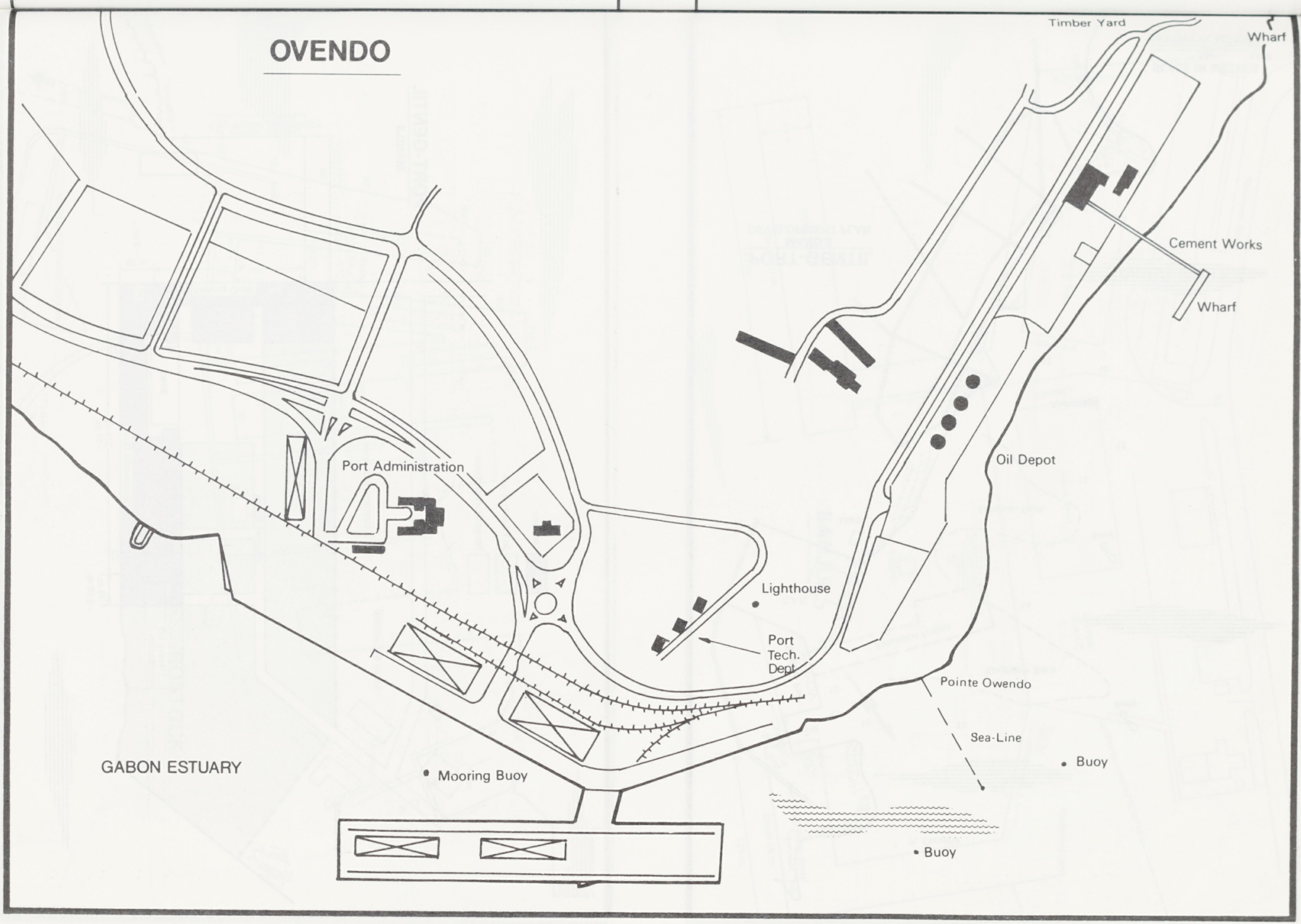
GAMBA & LUCINA

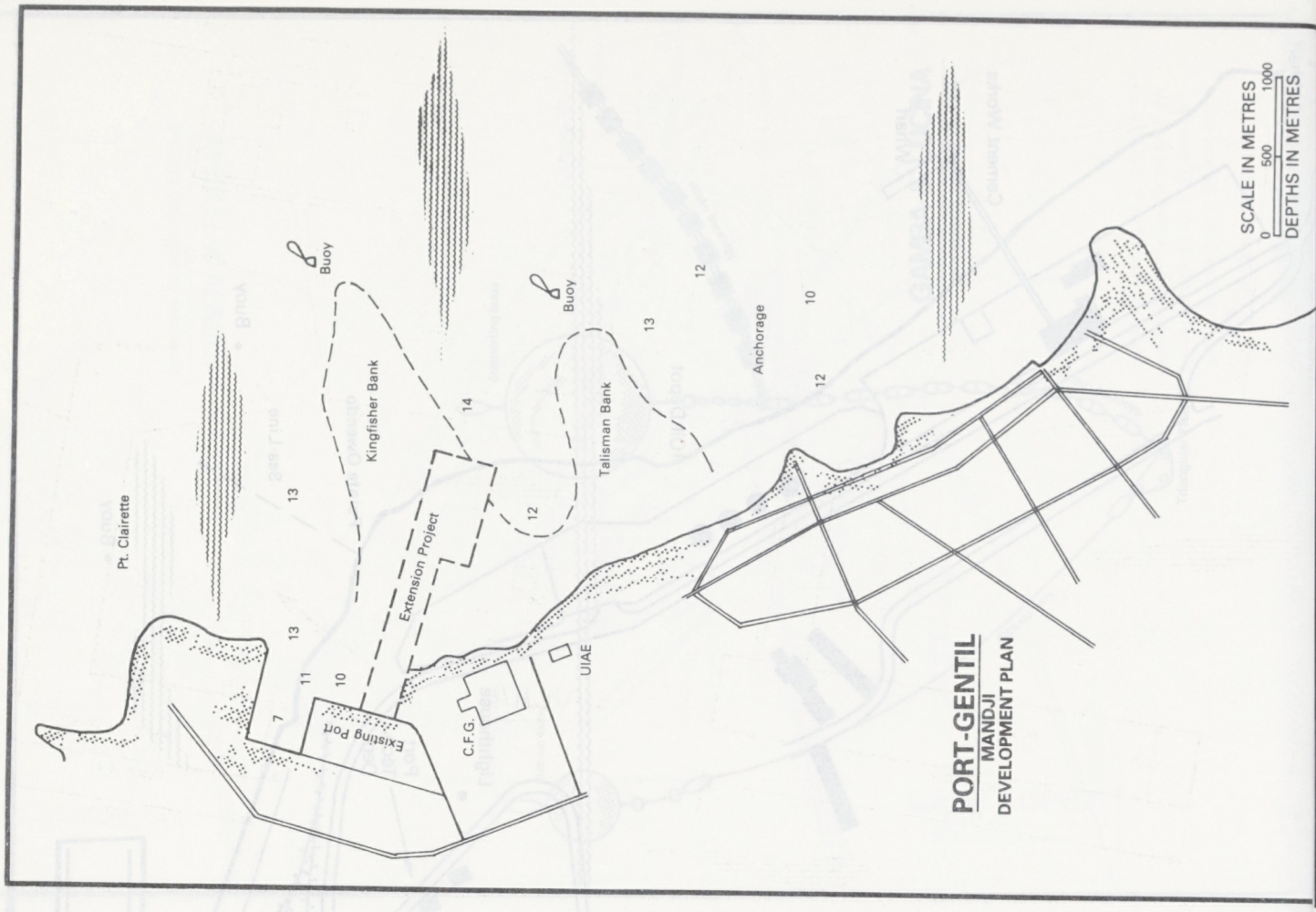
HOSE SUPPORTING EQUIPMENT

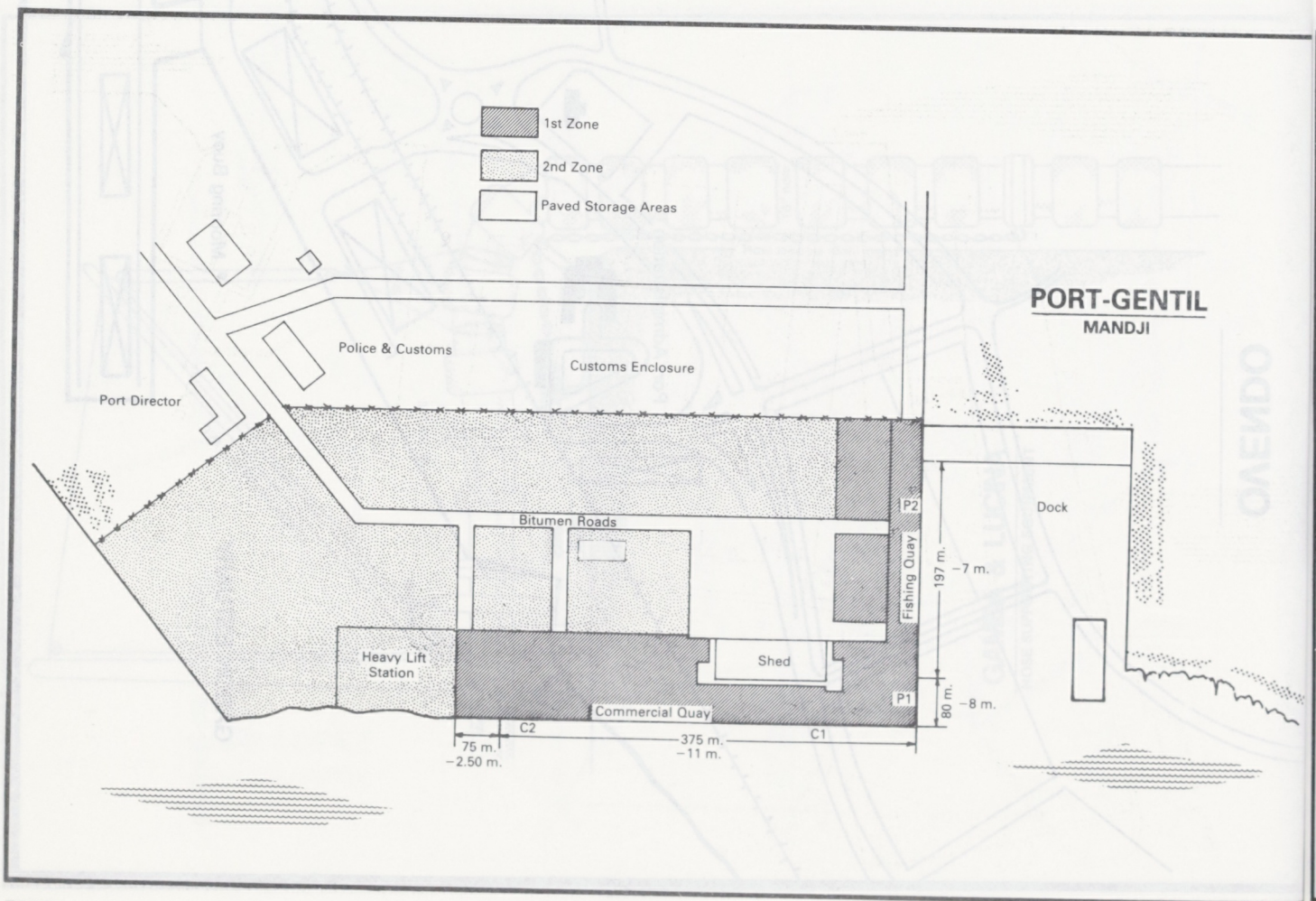


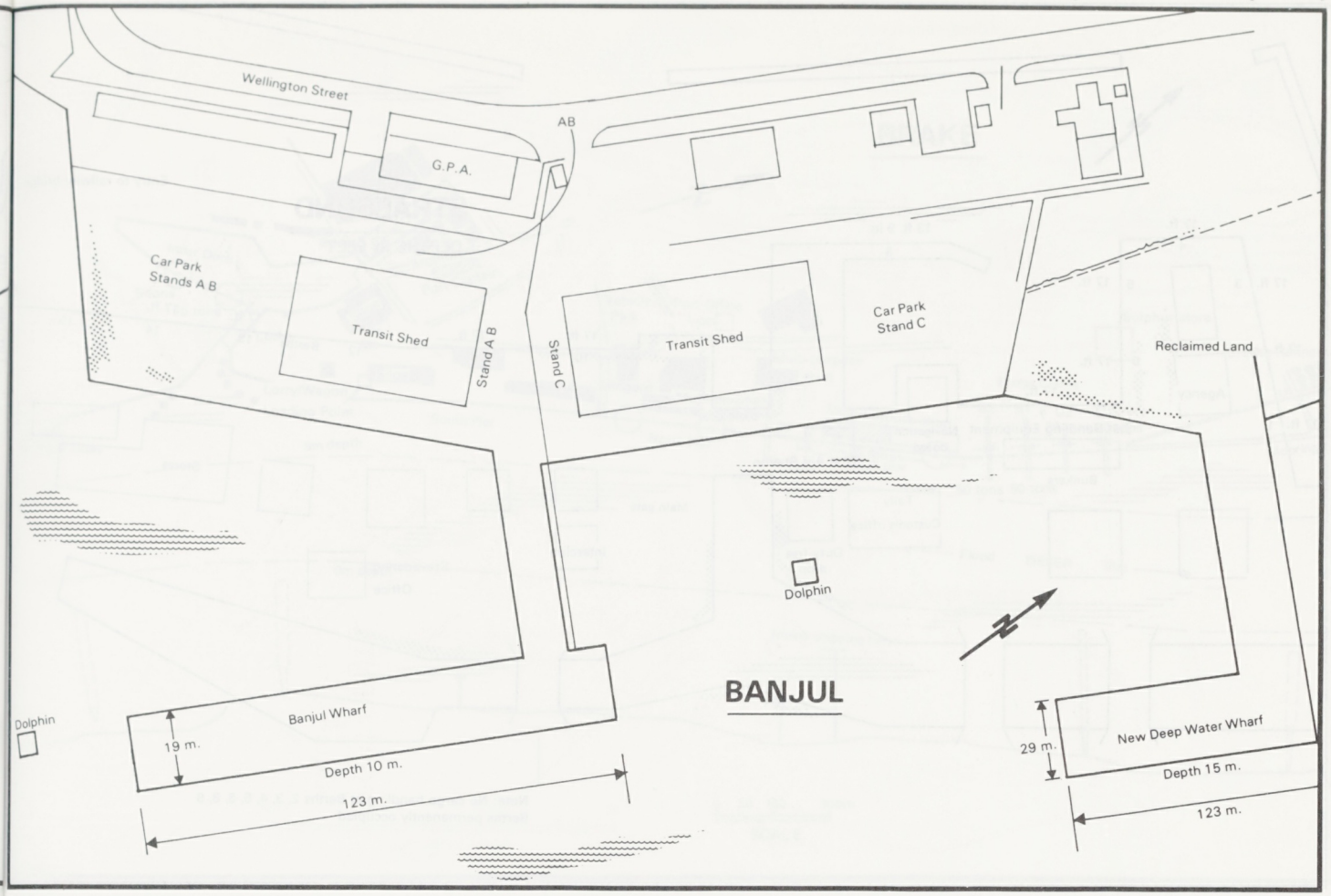
GAMBA & LUCINA

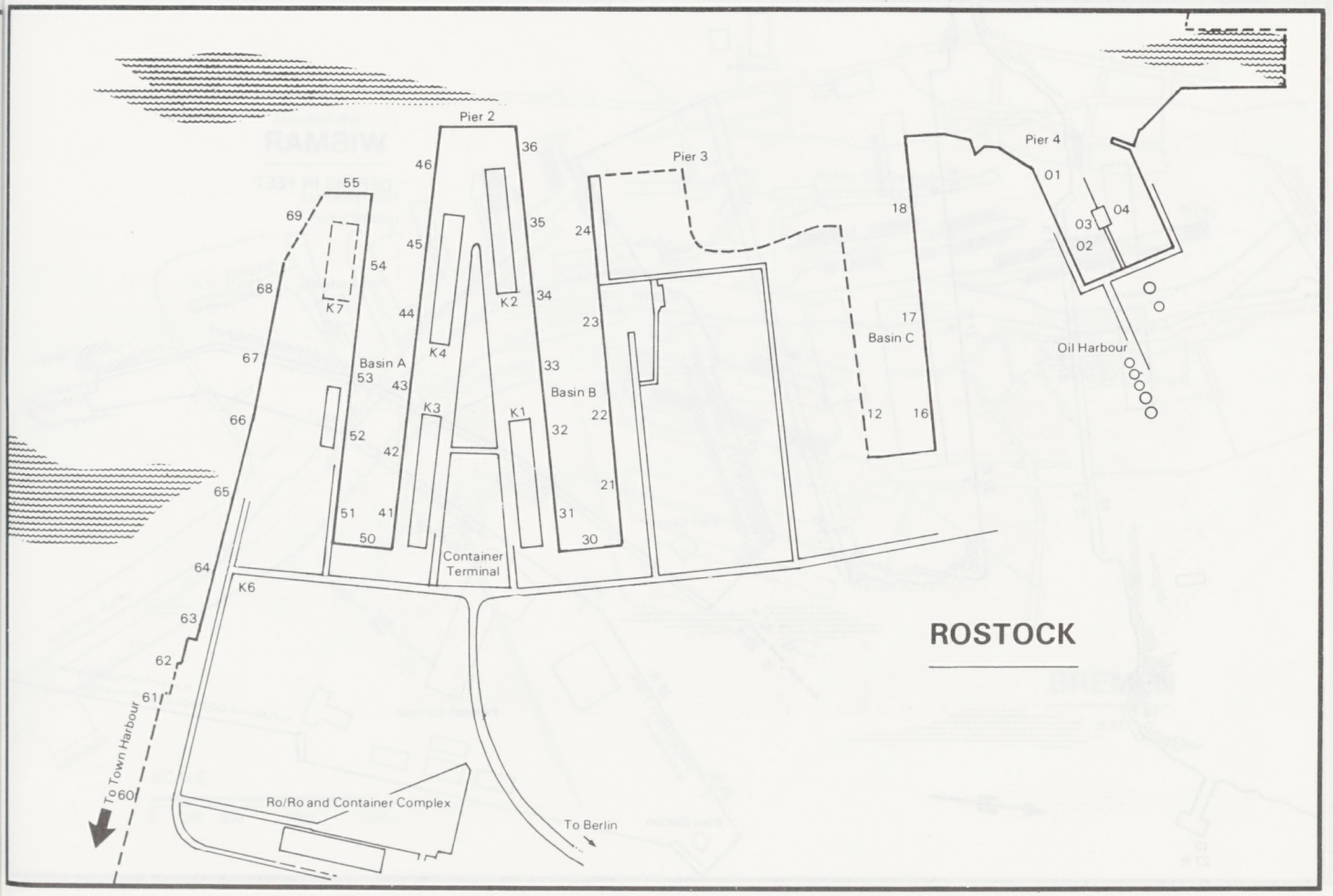
MOORINGS IN THE WATER

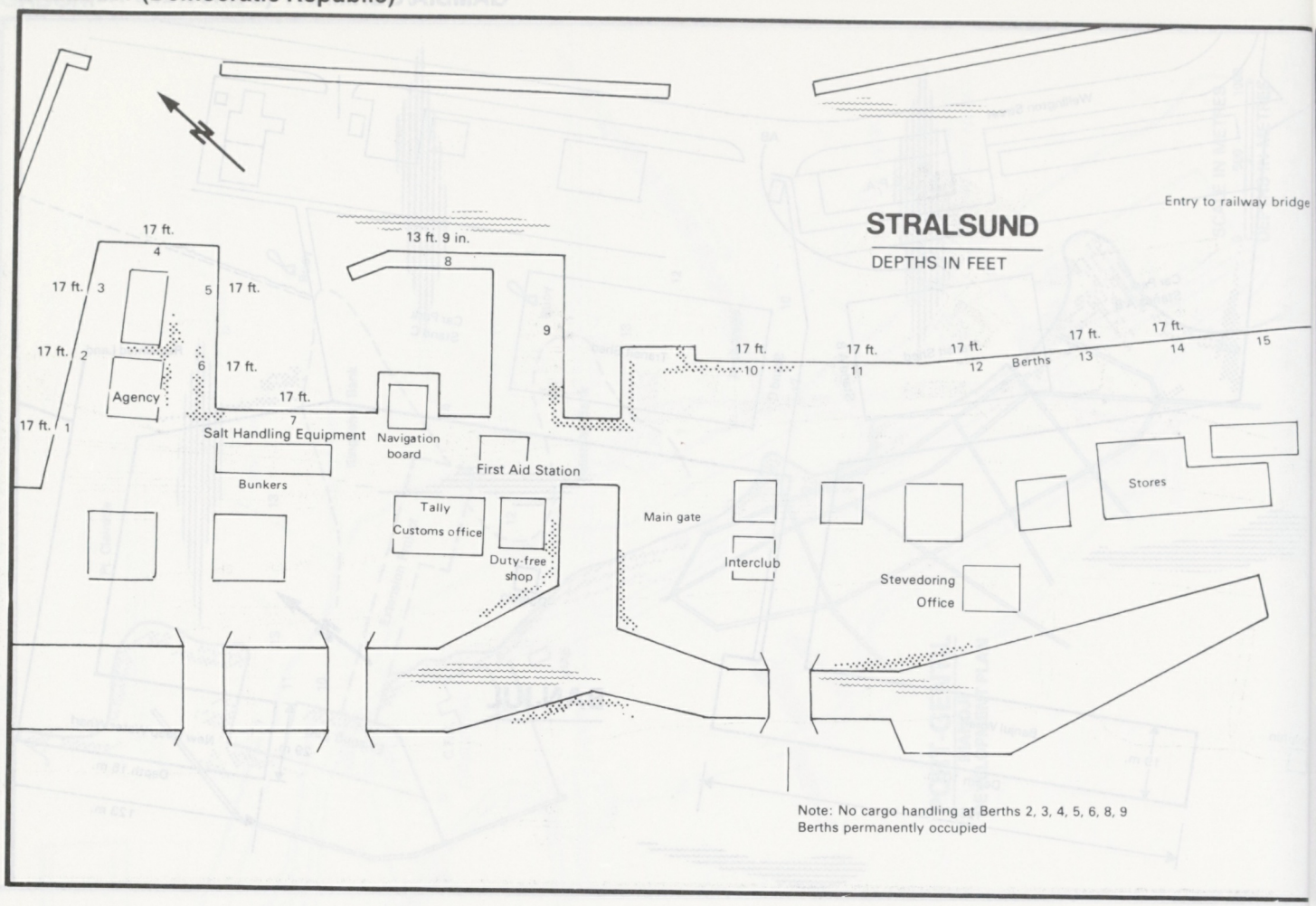

OVENDO
Timber Yard
Wharf
Cement Works
Wharf
Oil Depot
Port Administration
Lighthouse
Port
Tech.
Dept
Pointe Owendo
Sea-Line
Buoy
GABON ESTUARY
Mooring Buoy
Buoy

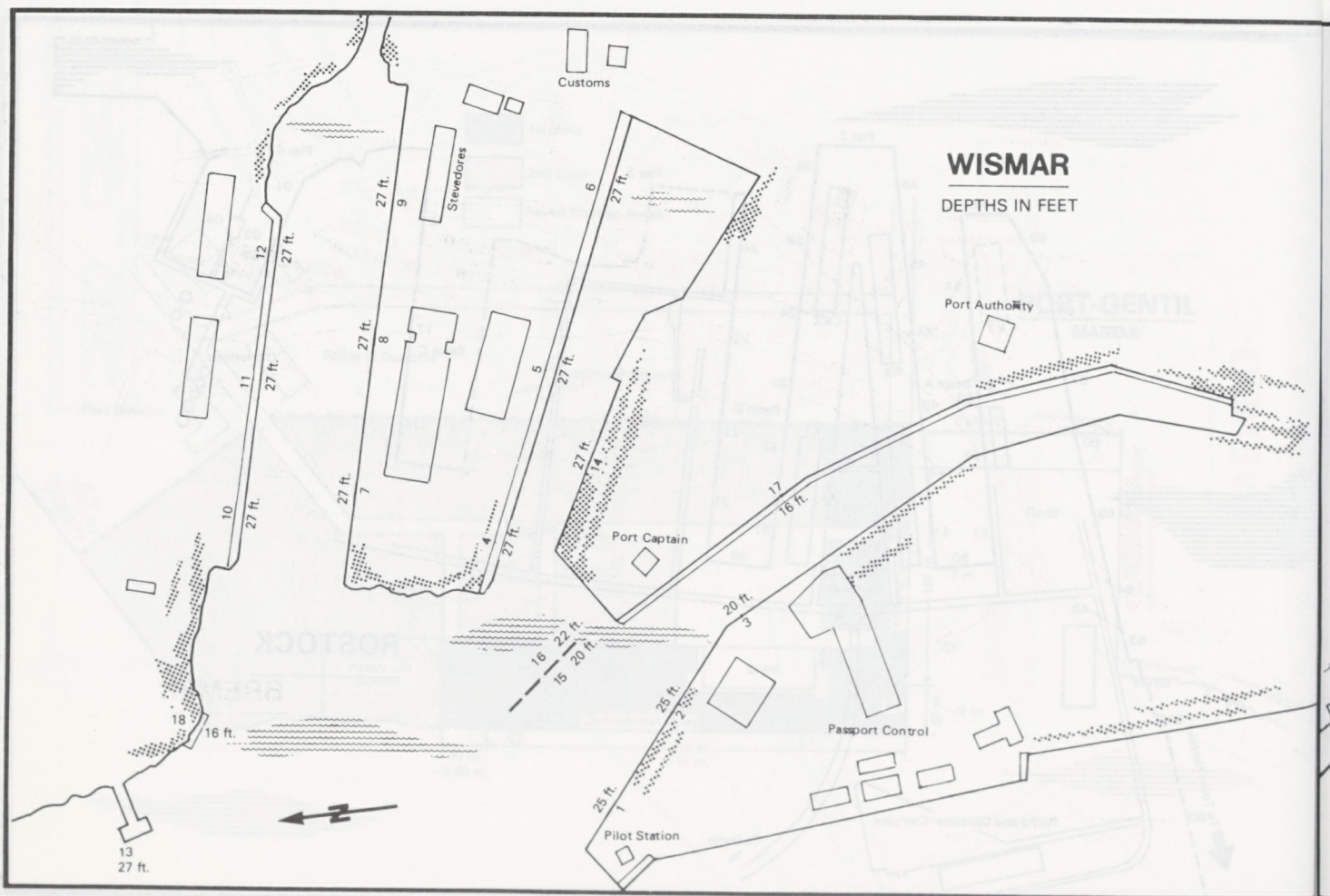

SCALE IN METRES
0
500
1000
DEPTHS IN METRES
Buoy
Buoy
Kingfisher Bank
Talisman Bank
Anchorage
Extension Project
Pt. Clairette
Existing Port
C.F.G.
UIAE
PORT-GENTIL
MANDJI
DEVELOPMENT PLAN

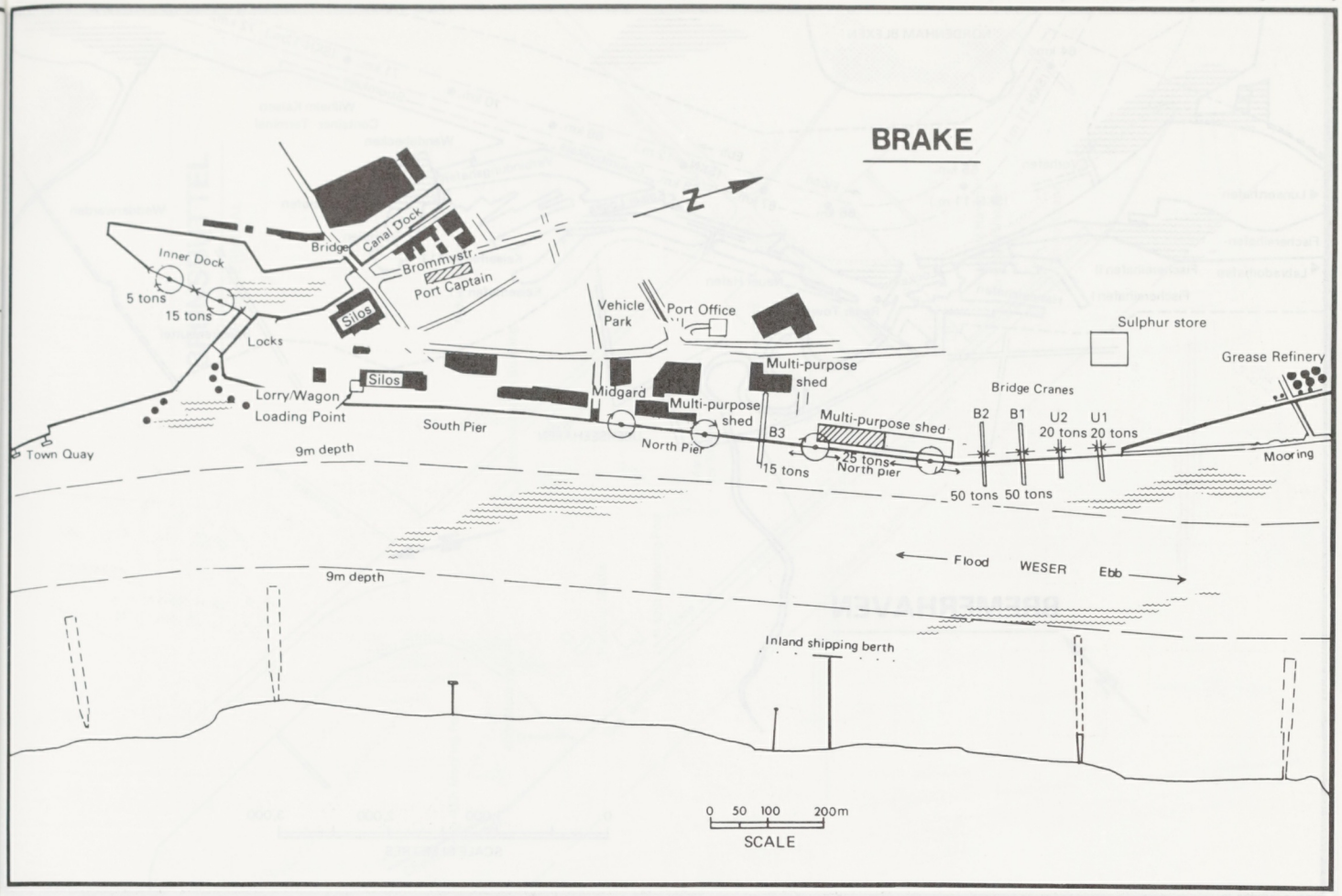

1st Zone
2nd Zone
Paved Storage Areas
PORT-GENTIL
MANDJI
Police & Customs
Customs Enclosure
Port Director
Bitumen Roads
Dock
P2
Fishing Quay
197 m.
−7 m.
Heavy Lift Station
Shed
P1
80 m.
−8 m.
Commercial Quay
C2
C1
75 m.
−2.50 m.
375 m.
−11 m.

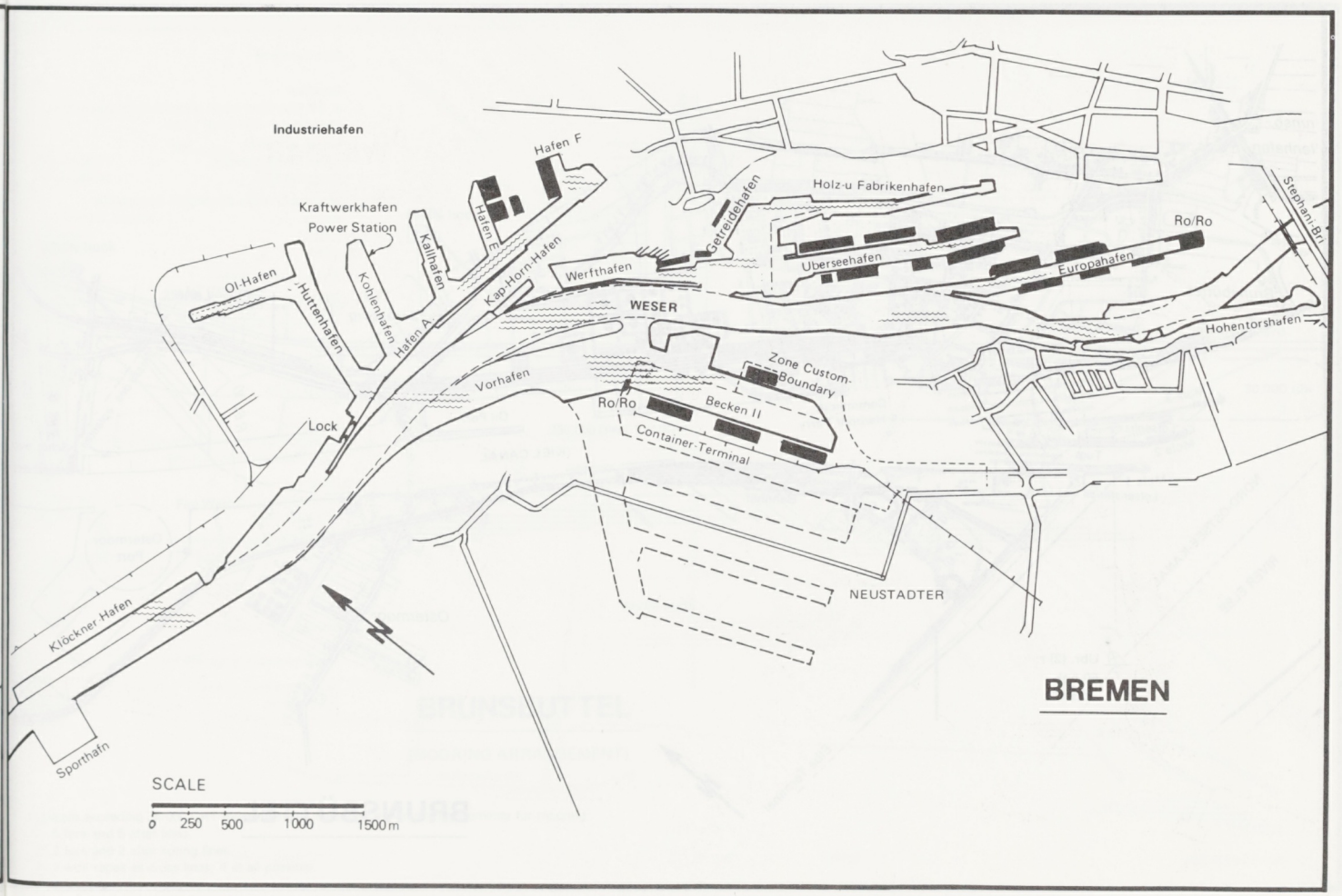

Wellington Street
A B
G.P.A.
Car Park
Stands A B
Transit Shed
Stand A B
Stand C
Transit Shed
Car Park
Stand C
Reclaimed Land
Dolphin
N
BANJUL
Dolphin
Banjul Wharf
19 m.
Depth 10 m.
123 m.
29 m.
New Deep Water Wharf
Depth 15 m.
123 m.

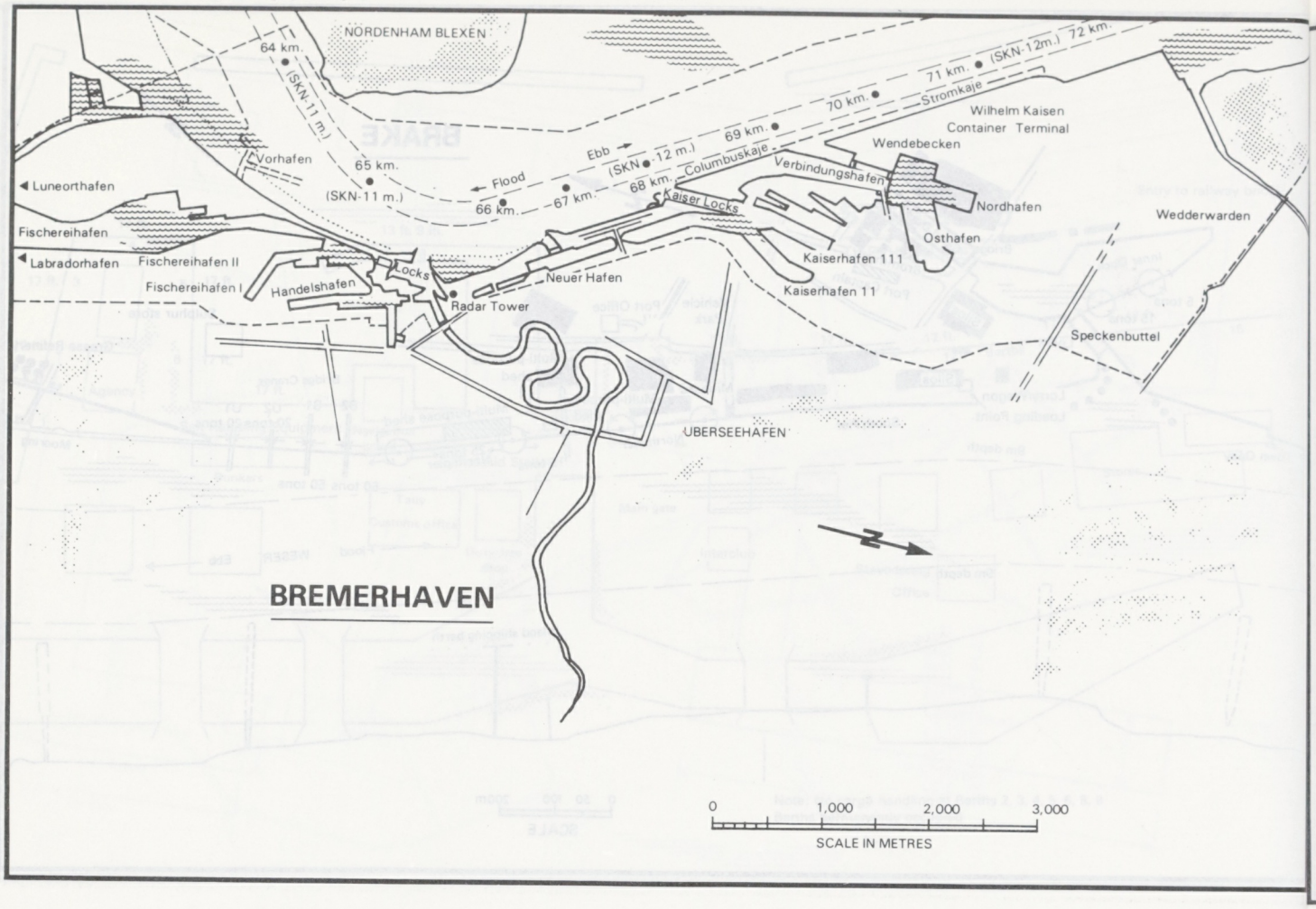

Pier 2
Pier 3
Pier 4
Basin A
Basin B
Basin C
Container
Terminal
Oil Harbour
K1
K2
K3
K4
K6
K7
ROSTOCK
To Town Harbour
Ro/Ro and Container Complex
To Berlin

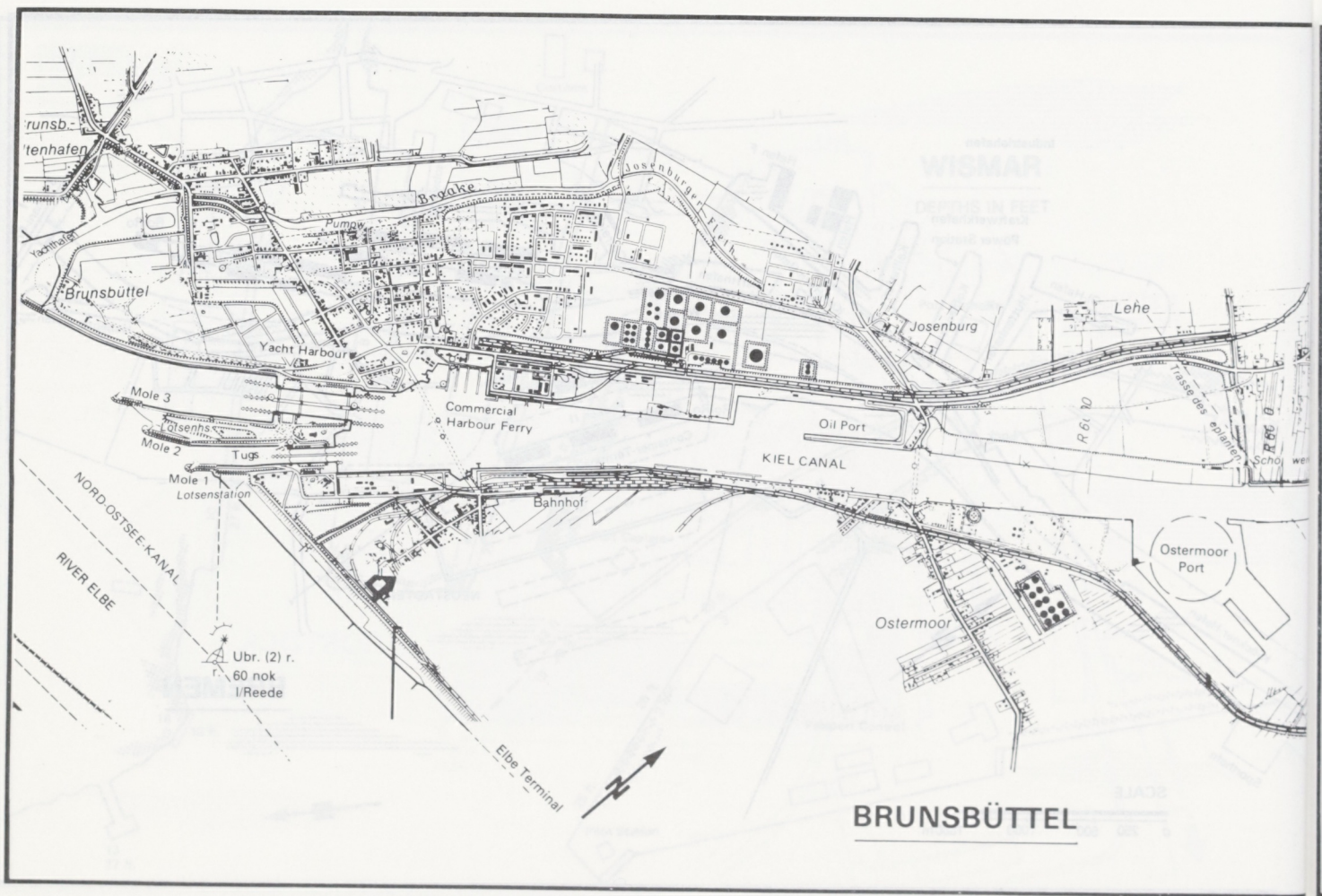

STRALSUND
DEPTHS IN FEET
Entry to railway bridge
17 ft.
13 ft. 9 in.
Agency
Salt Handling Equipment
Navigation board
First Aid Station
Bunkers
Tally
Customs office
Duty-free shop
Main gate
Interclub
Stevedoring Office
Stores
Berths
Note: No cargo handling at Berths 2, 3, 4, 5, 6, 8, 9
Berths permanently occupied

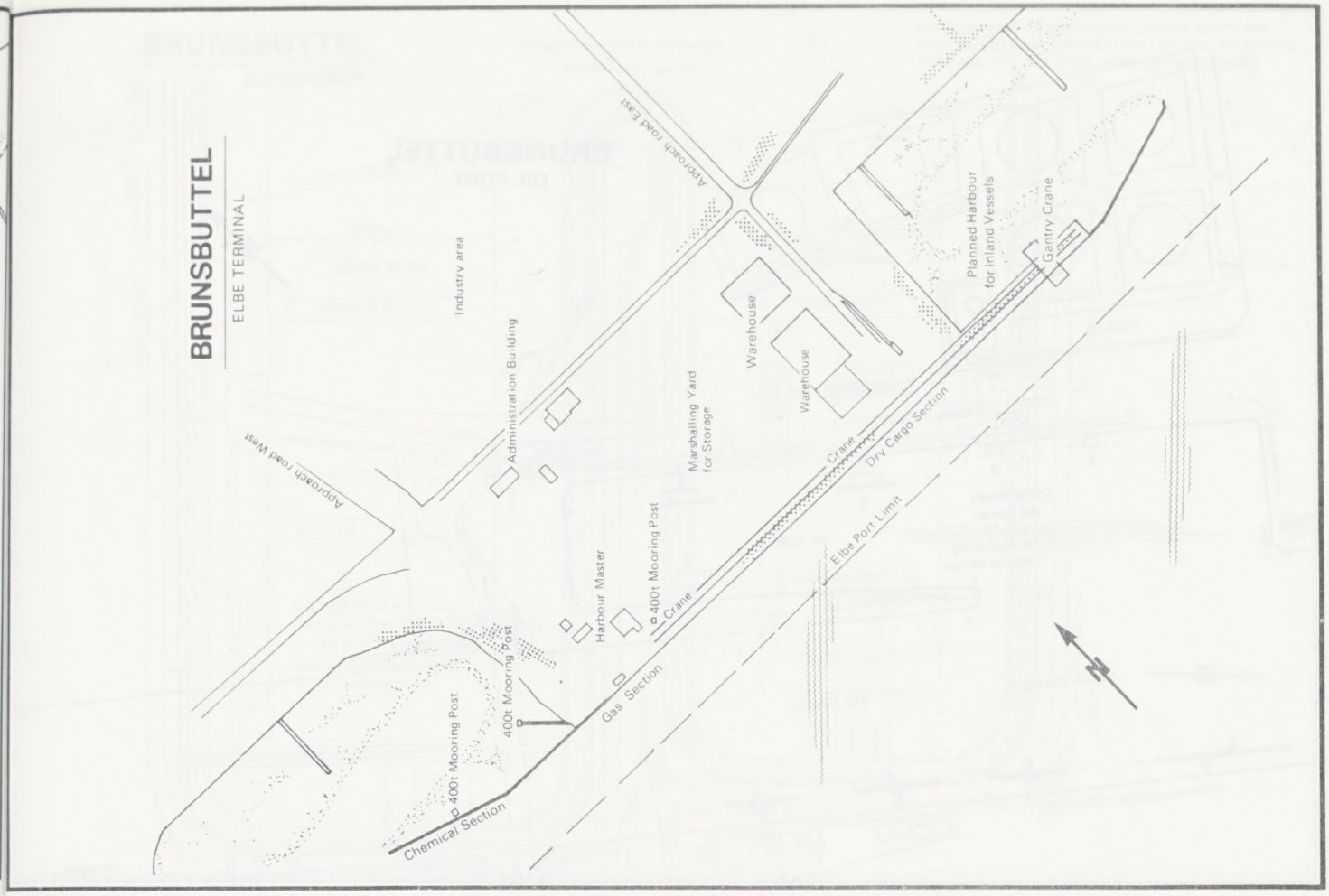

WISMAR
DEPTHS IN FEET
Customs
Stevedores
Port Authority
Port Captain
Passport Control
Pilot Station
27 ft.
16 ft.
20 ft.
22 ft.
25 ft.

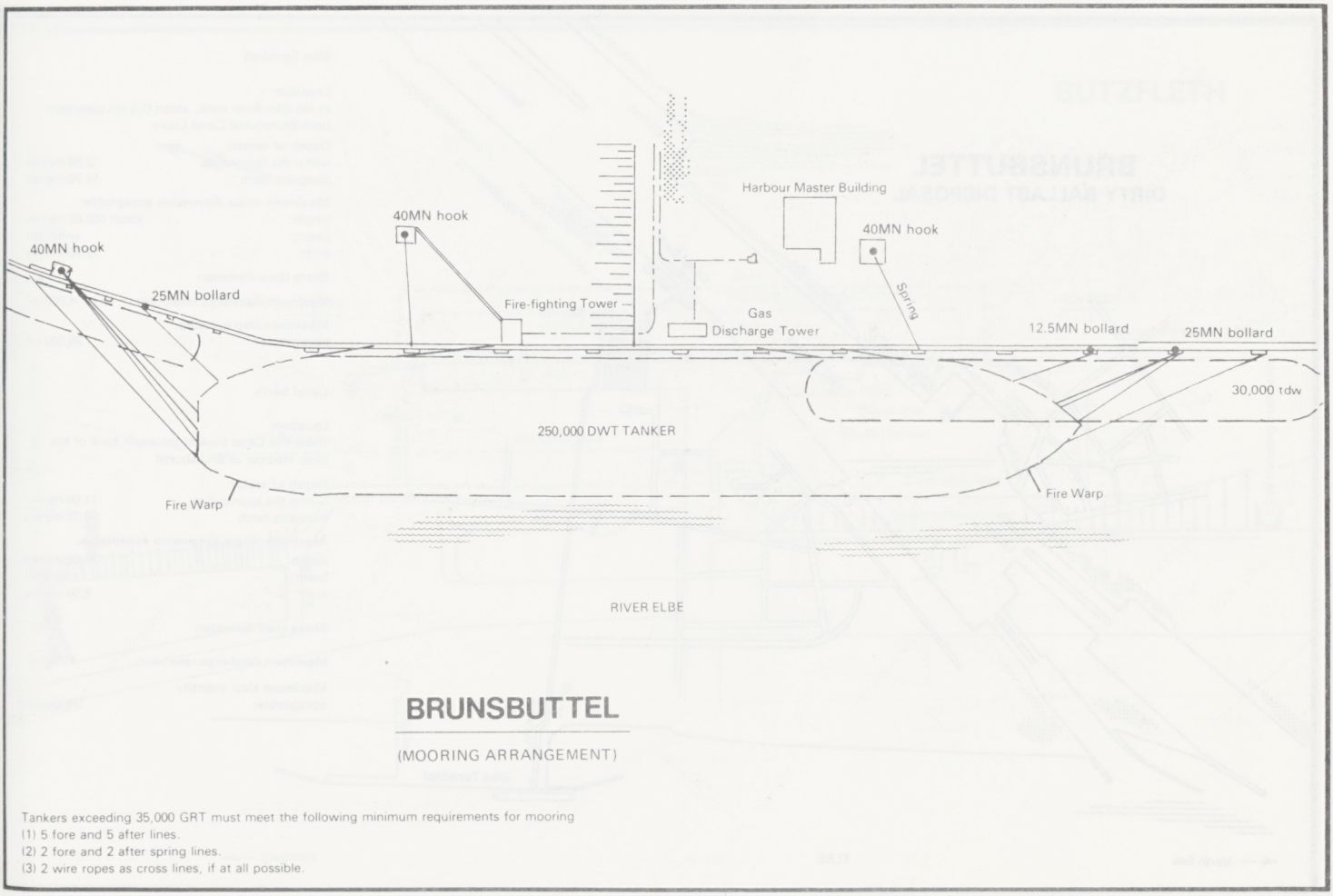

BRAKE
N
Inner Dock
5 tons
15 tons
Bridge
Canal Dock
Brommystr.
Port Captain
Silos
Locks
Silos
Lorry/Wagon
Loading Point
Vehicle
Park
Port Office
Sulphur store
Grease Refinery
Midgard
Multi-purpose
shed
Multi-purpose
shed
Multi-purpose shed
Bridge Cranes
B2
B1
U2
U1
20 tons
20 tons
B3
25 tons
North pier
15 tons
50 tons
50 tons
South Pier
North Pier
Town Quay
9m depth
Mooring
Flood
WESER
Ebb
9m depth
Inland shipping berth
0 50 100 200m
SCALE


Industriehafen
Hafen F
Kraftwerkhafen
Power Station
Hafen M
Kaihafen
Getreidehafen
Holz-u Fabrikenhafen
Stephani-Br.
Ro/Ro
Ol-Hafen
Huttenhafen
Kohlenhafen
Hafen A
Kap-Horn-Hafen
Werfthafen
Uberseehafen
Europahafen
WESER
Hohentorshafen
Zone Custom-
Boundary
Vorhafen
Ro/Ro
Becken II
Container-Terminal
Lock
NEUSTADTER
Klöckner Hafen
Sporthafn
N
BREMEN
SCALE
0 250 500 1000 1500m


NORDENHAM BLEXEN
64 km.
(SKN-11 m.)
Vorhafen
65 km.
(SKN-11 m.)
Luneorthafen
Fischereihafen
Labradorhafen
Fischereihafen II
Fischereihafen I
Handelshafen
Locks
Radar Tower
Neuer Hafen
Flood
66 km.
67 km.
Ebb
(SKN-12 m.)
68 km.
69 km.
70 km.
71 km.
(SKN-12m.)
72 km.
Columbuskaje
Stromkaje
Wilhelm Kaisen
Container Terminal
Wendebecken
Verbindungshafen
Kaiser Locks
Nordhafen
Osthafen
Wedderwarden
Kaiserhafen III
Kaiserhafen II
Speckenbuttel
UBERSEEHAFEN
BREMERHAVEN
0
1,000
2,000
3,000
SCALE IN METRES


Brunsbüttel
Yachthafen
Brooke
Pumpw.
Josenburger Fleth
Yacht Harbour
Mole 3
Lotsenhs.
Mole 2
Tugs
Mole 1
Lotsenstation
Commercial
Harbour Ferry
Bahnhof
Oil Port
KIEL CANAL
Josenburg
Lehe
Trasse des geplanten
NORD-OSTSEE-KANAL
RIVER ELBE
Ubr. (2) r.
60 nok
I/Reede
Elbe Terminal
Ostermoor
Ostermoor Port
BRUNSBÜTTEL

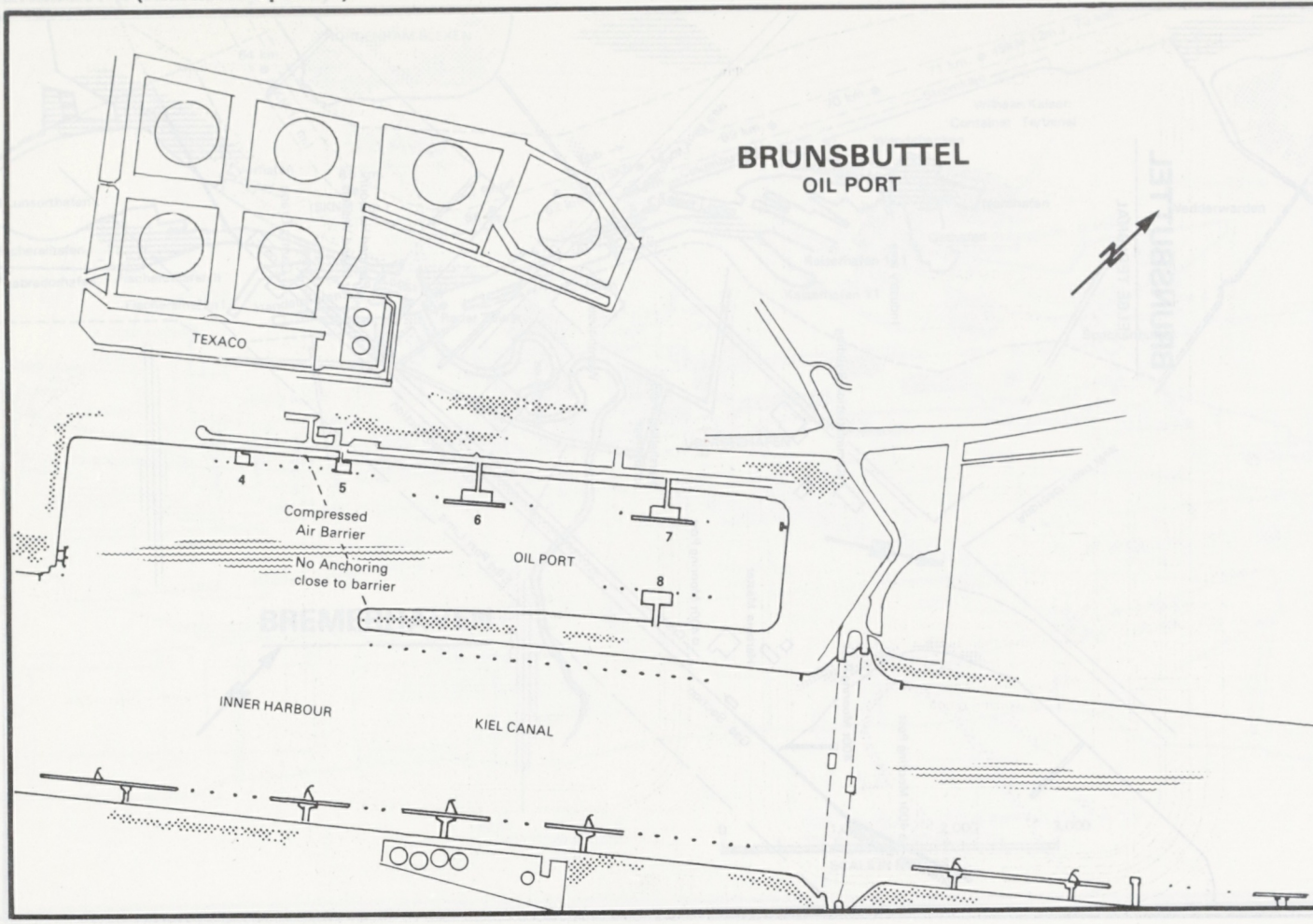


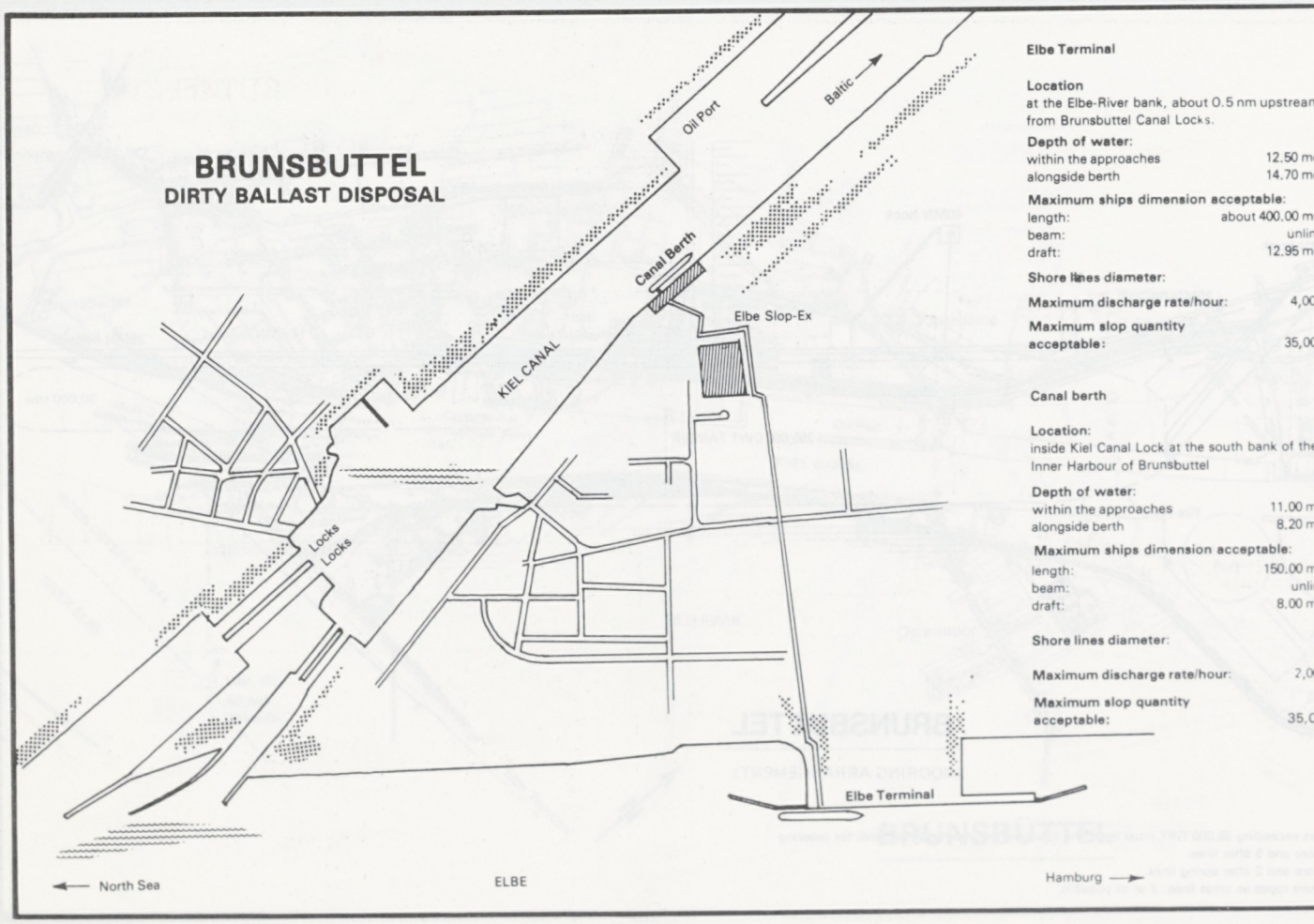


BRUNSBUTTEL

(MOORING ARRANGEMENT)

Tankers exceeding 35,000 GRT must meet the following minimum requirements for mooring
(1) 5 fore and 5 after lines.
(2) 2 fore and 2 after spring lines.
(3) 2 wire ropes as cross lines, if at all possible.





Elbe Terminal

Location
at the Elbe-River bank, about 0.5 nm upstrean
from Brunsbuttel Canal Locks.

Depth of water:
within the approaches 12.50 m
alongside berth 14.70 m

Maximum ships dimension acceptable:
length: about 400.00 m
beam: unlin
draft: 12.95 m

Shore lines diameter:

Maximum discharge rate/hour: 4,0

Maximum slop quantity acceptable: 35,0

Canal berth

Location:
inside Kiel Canal Lock at the south bank of the
Inner Harbour of Brunsbuttel

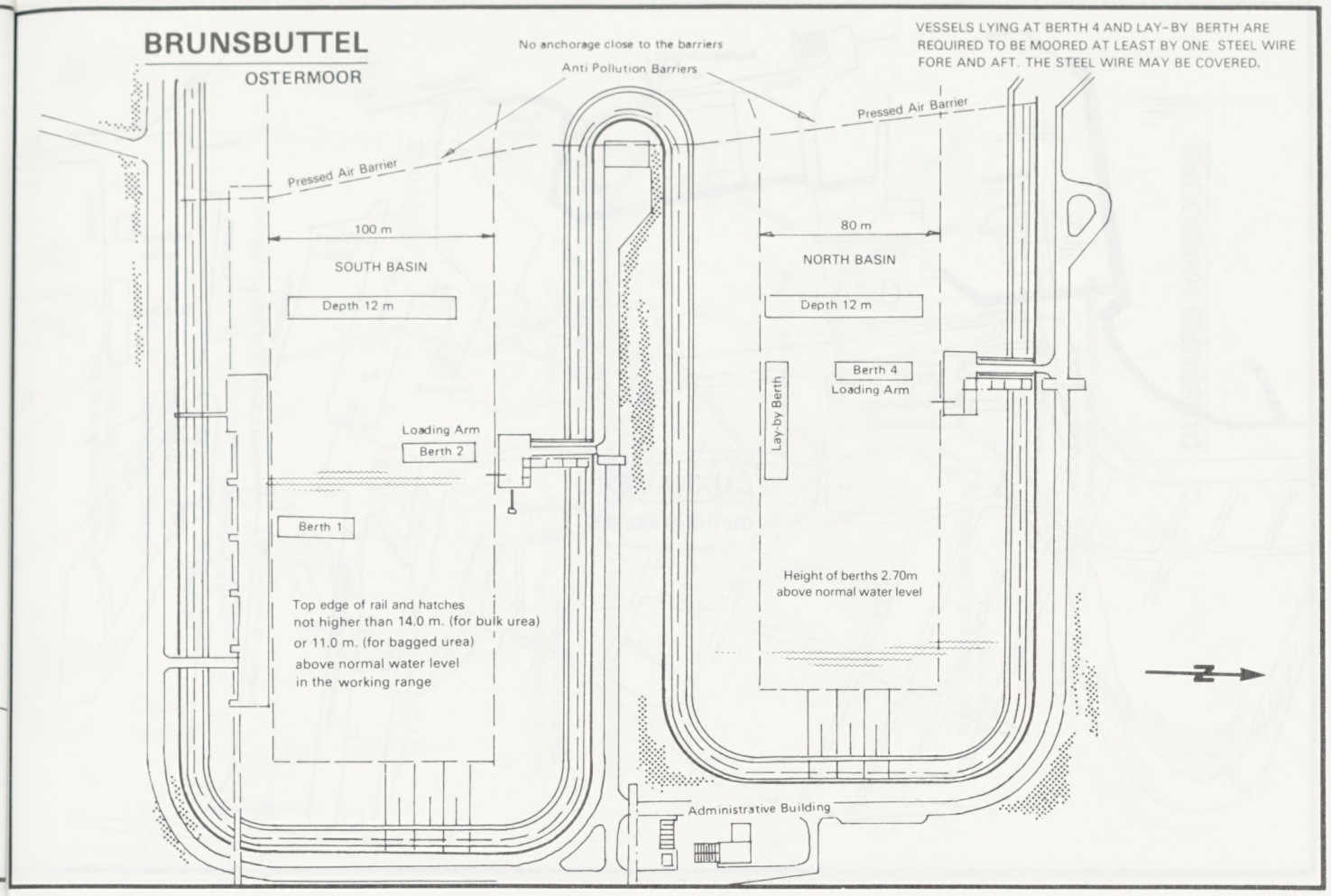
Depth of water:
within the approaches 11.00 m
alongside berth 8.20 m

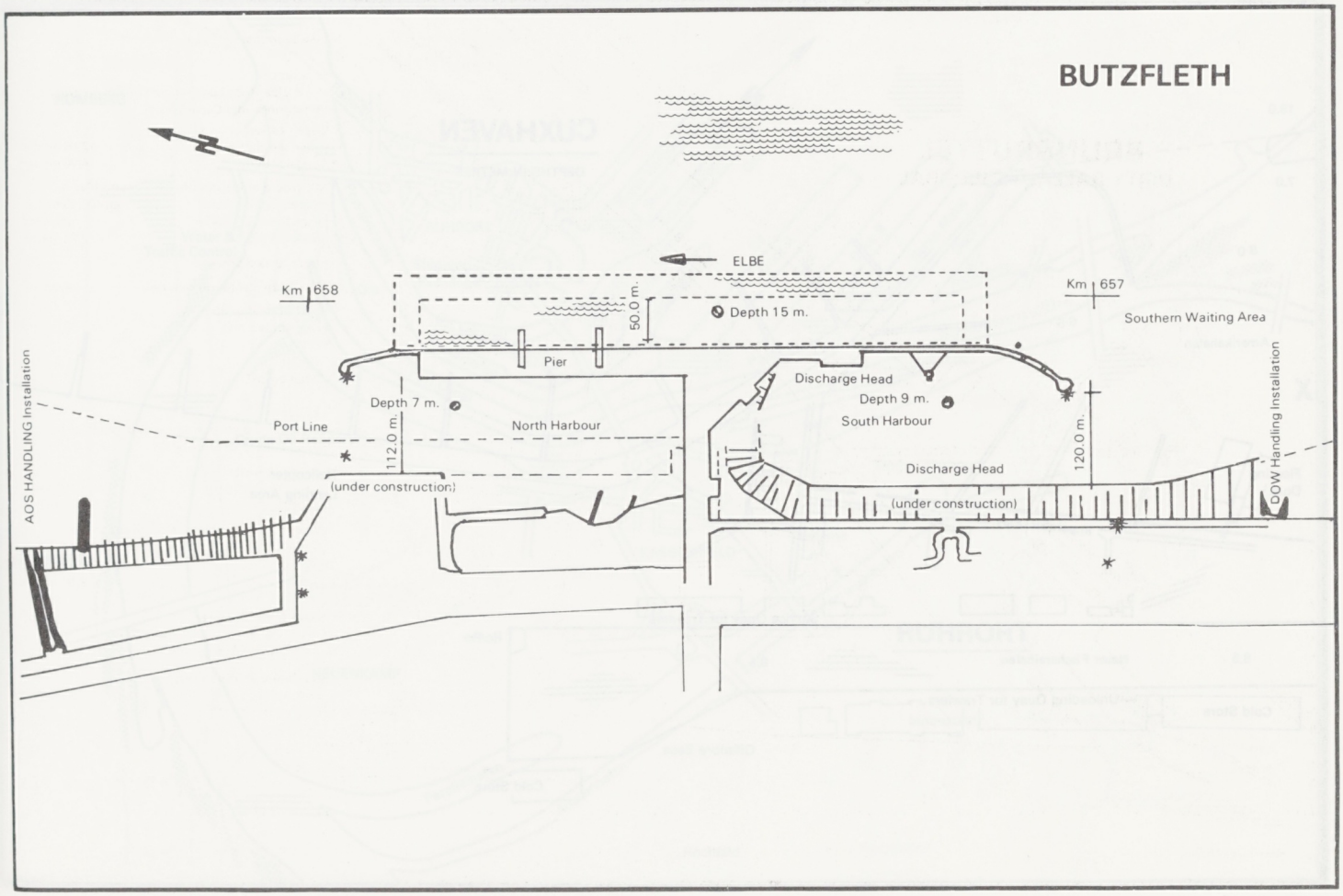
Maximum ships dimension acceptable:
length: 150.00 m
beam: unli
draft: 8.00 m

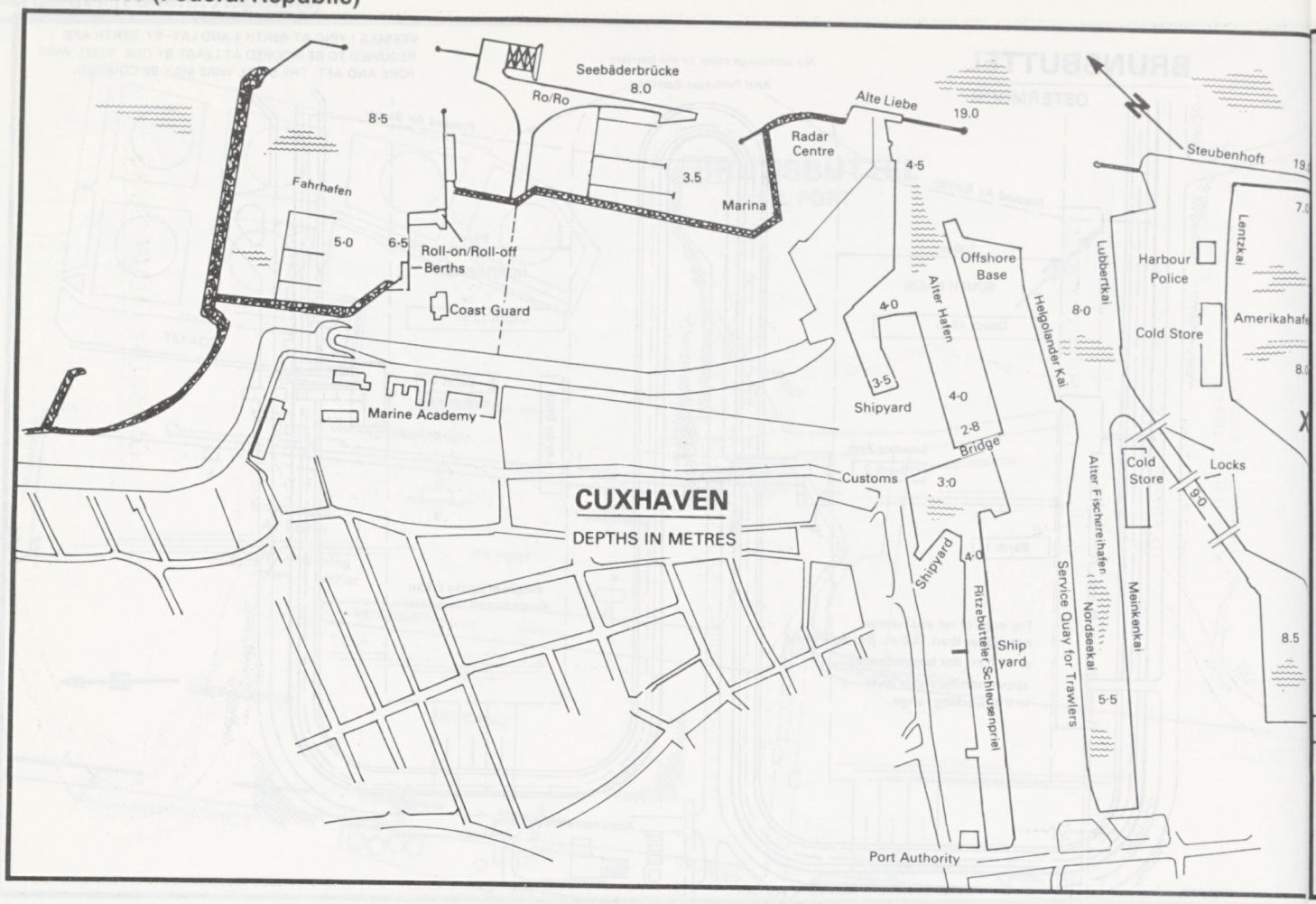
Shore lines diameter:

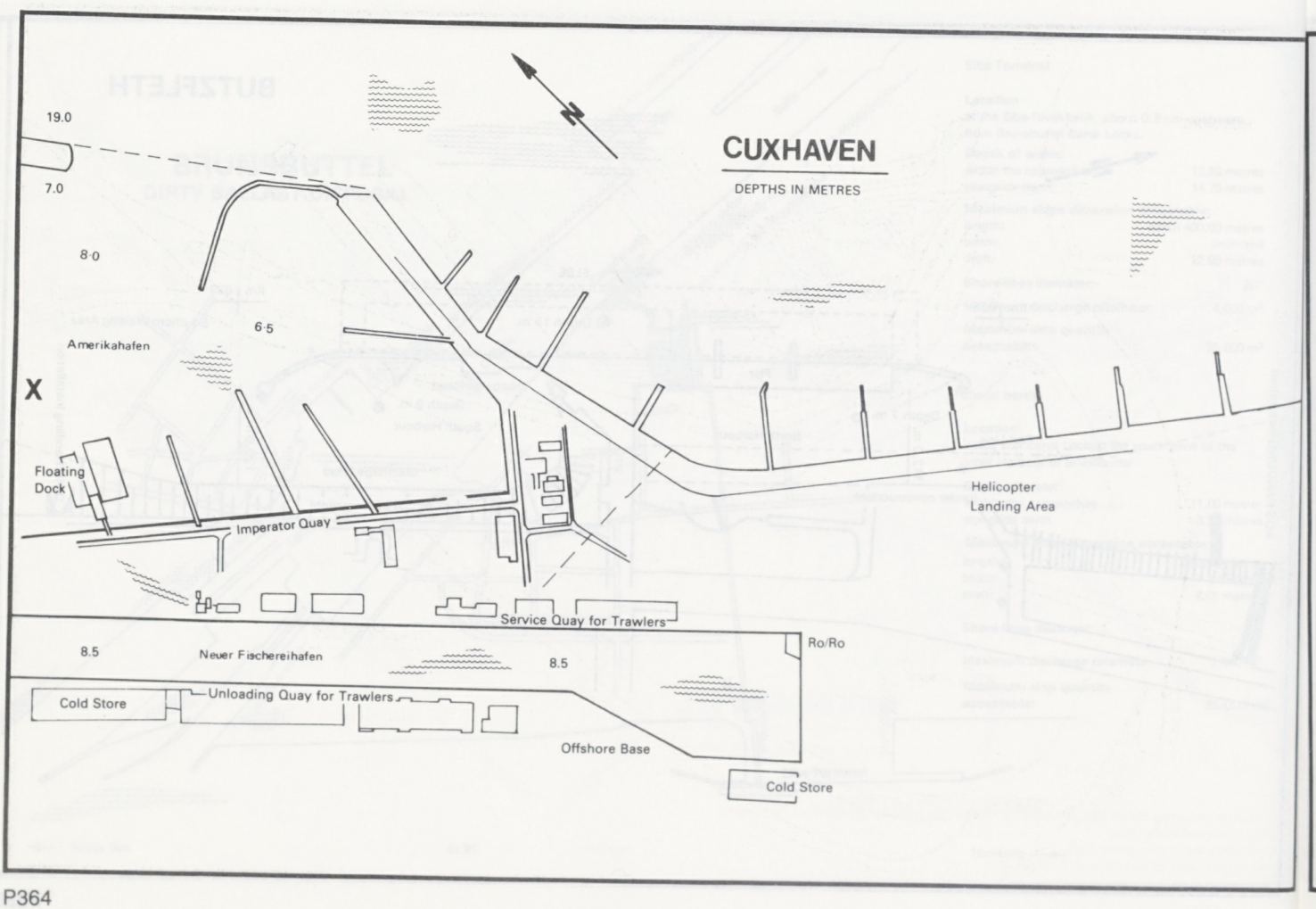
Maximum discharge rate/hour: 2,0

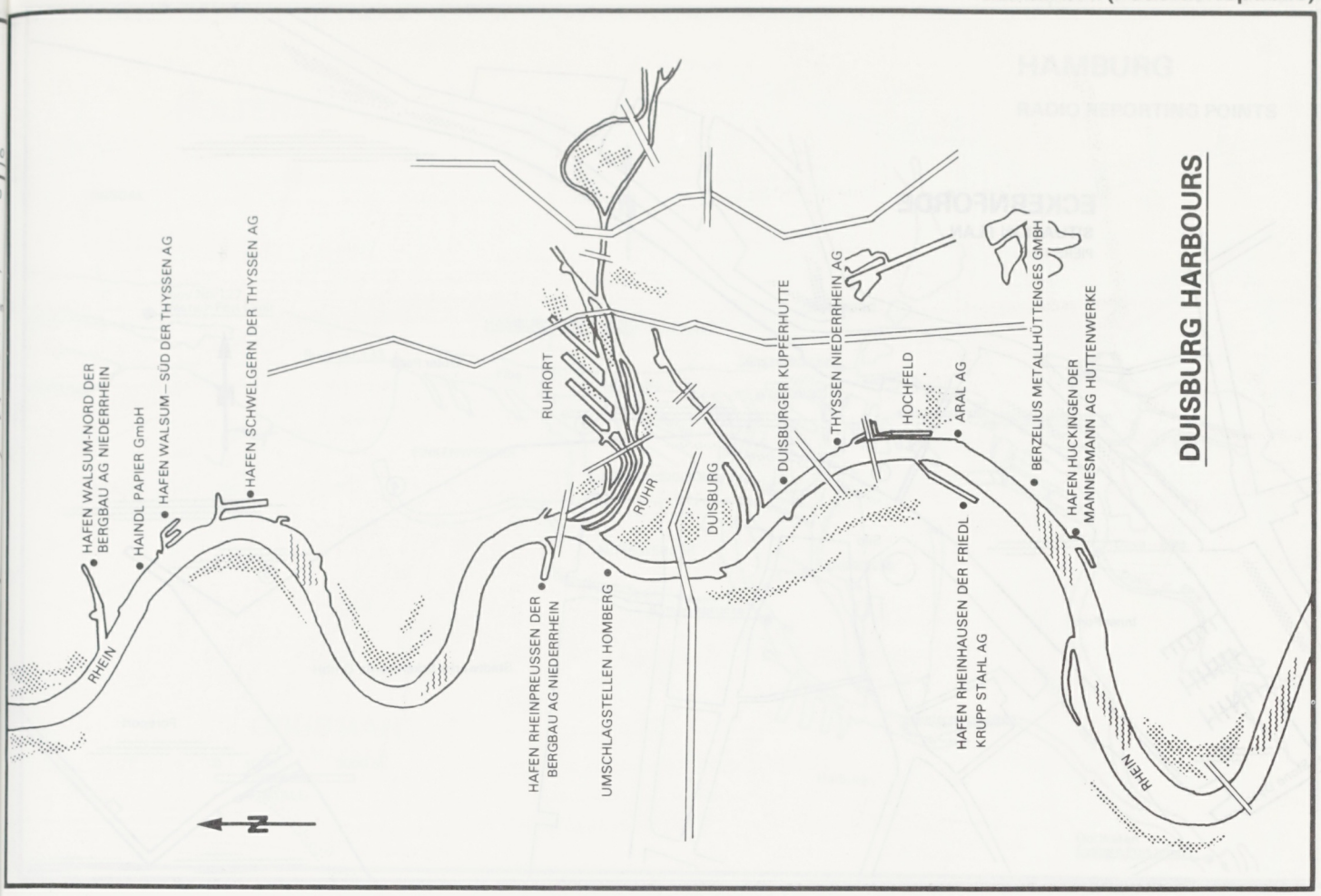
Maximum slop quantity acceptable: 35,0

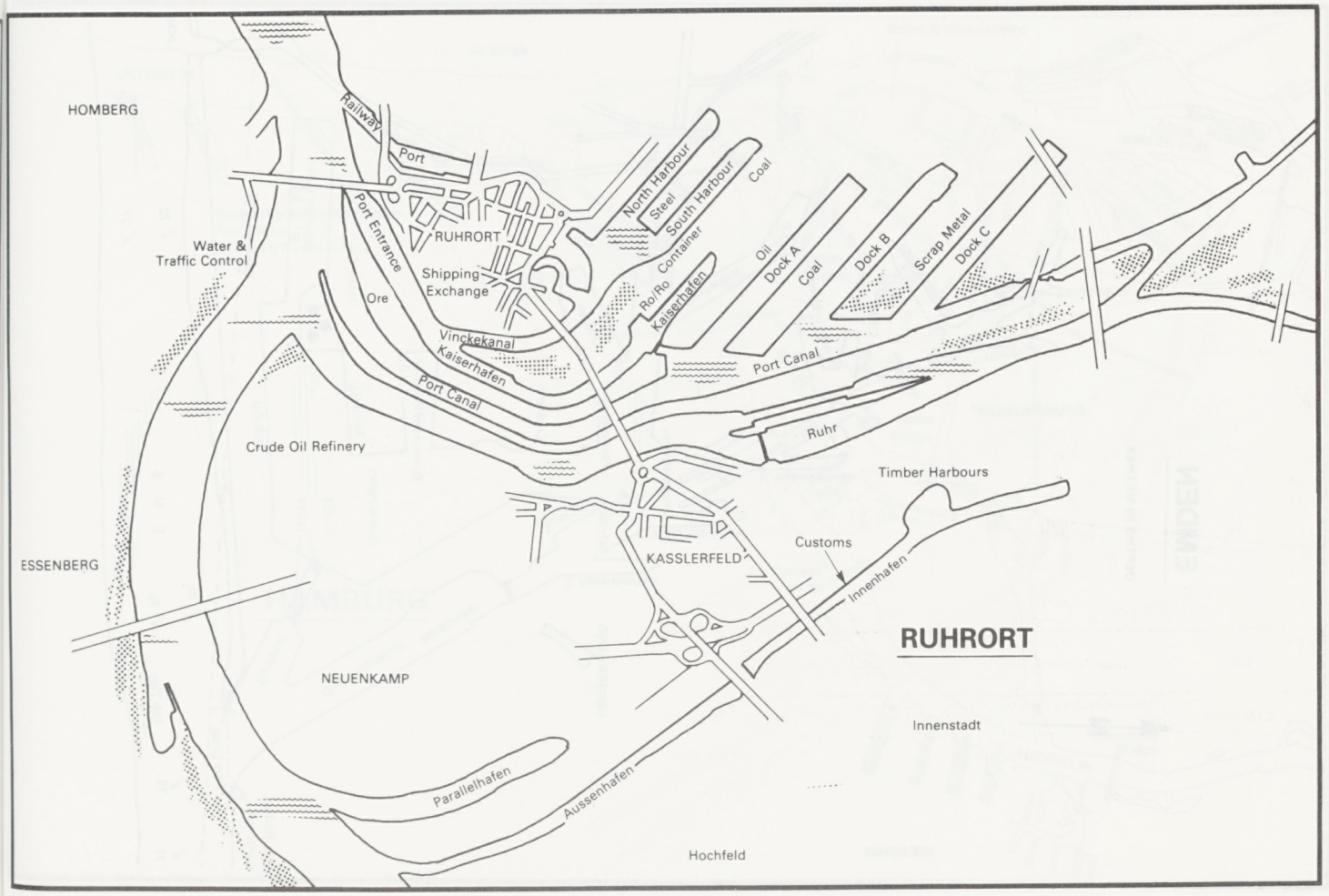

BRUNSBUTTEL
OSTERMOOR
No anchorage close to the barriers
Anti Pollution Barriers
VESSELS LYING AT BERTH 4 AND LAY-BY BERTH ARE REQUIRED TO BE MOORED AT LEAST BY ONE STEEL WIRE FORE AND AFT. THE STEEL WIRE MAY BE COVERED.
Pressed Air Barrier
Pressed Air Barrier
100 m
SOUTH BASIN
Depth 12 m
80 m
NORTH BASIN
Depth 12 m
Berth 4
Loading Arm
Lay-by Berth
Loading Arm
Berth 2
Berth 1
Height of berths 2.70m
above normal water level
Top edge of rail and hatches
not higher than 14.0 m. (for bulk urea)
or 11.0 m. (for bagged urea)
above normal water level
in the working range
N
Administrative Building

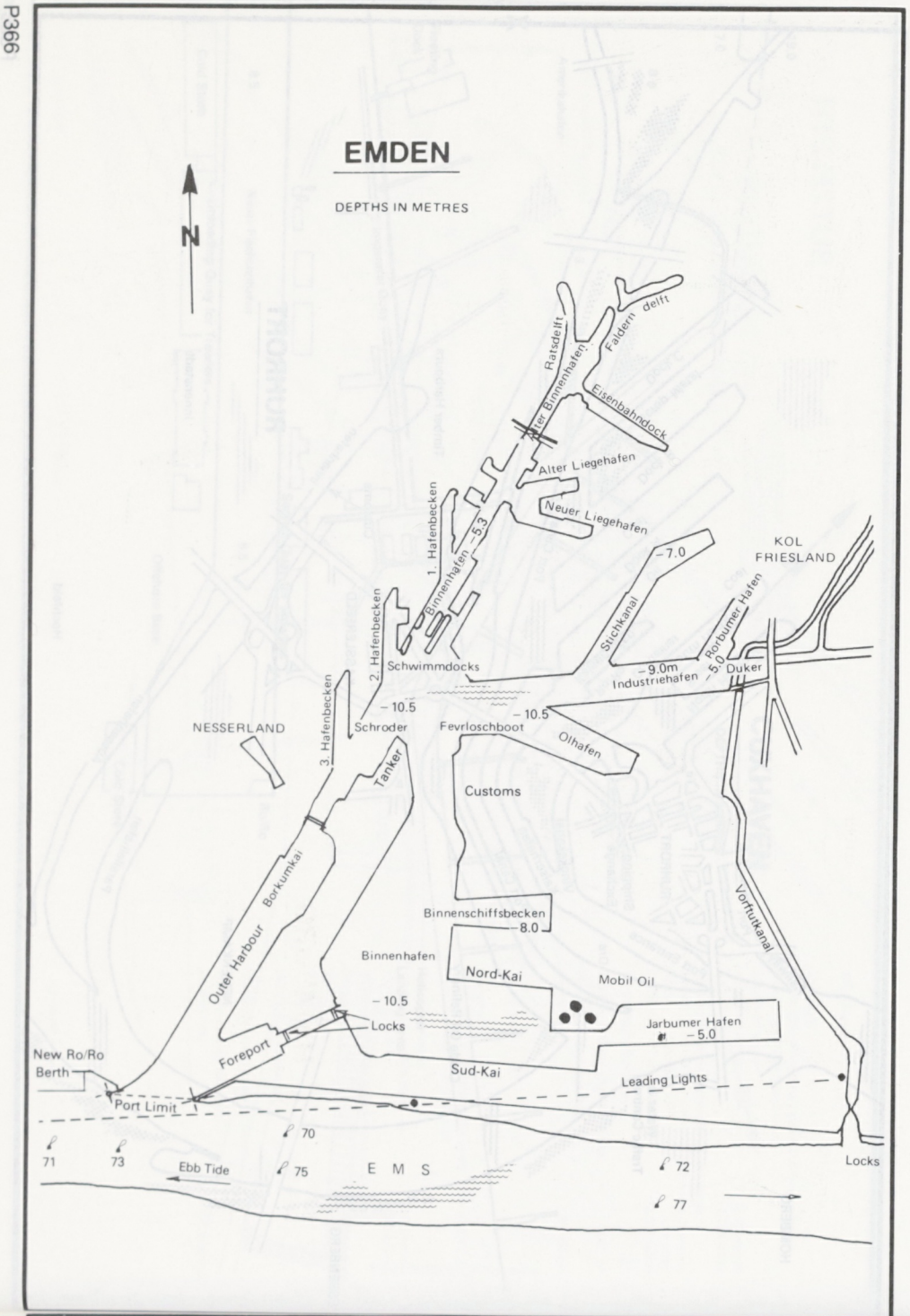

BUTZFLETH
N
ELBE
Km 658
Km 657
50.0 m.
Depth 15 m.
Southern Waiting Area
Pier
AOS HANDLING Installation
Depth 7 m.
Port Line
112.0 m.
North Harbour
(under construction)
Discharge Head
Depth 9 m.
South Harbour
120.0 m.
Discharge Head
(under construction)
DOW Handling Installation

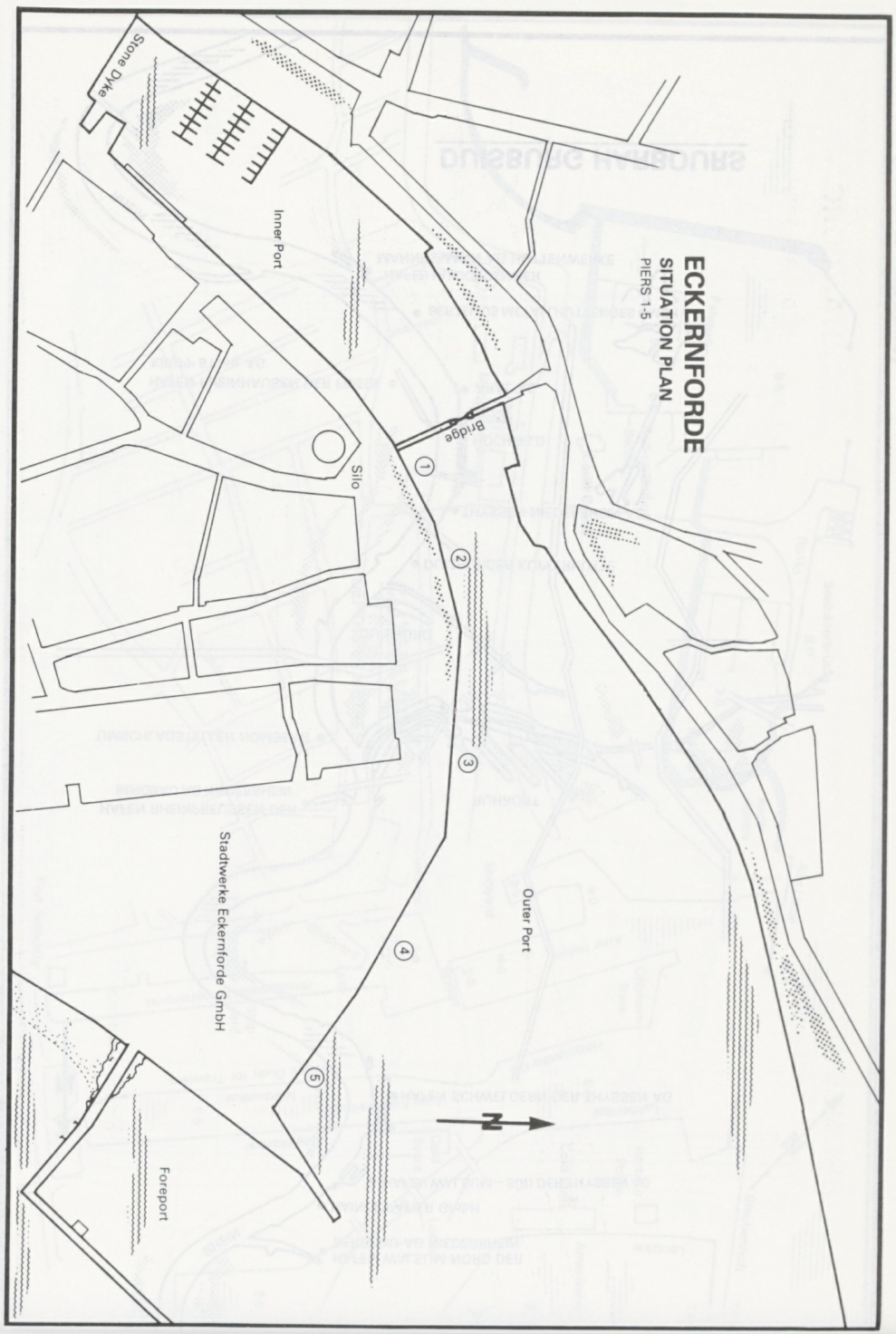

Seebäderbrücke
8.0
Ro/Ro
Alte Liebe
19.0
Radar Centre
Steubenhoft
8·5
Fahrhafen
3.5
Marina
4·5
5·0
6·5
Roll-on/Roll-off Berths
Coast Guard
Offshore Base
Alter Hafen
Lubbertkai
Harbour Police
Lentzkai
Amerikahafen
Helgolander Kai
8·0
Cold Store
4·0
3·5
Shipyard
Marine Academy
2·8
Bridge
Customs
Cold Store
Locks
CUXHAVEN
DEPTHS IN METRES
3·0
9·0
Shipyard
4·0
Alter Fischereihafen
Service Quay for Trawlers
Nordseekai
Mainkenkai
Ritzebutteler Schleusenpriel
Ship yard
5·5
8.5
Port Authority

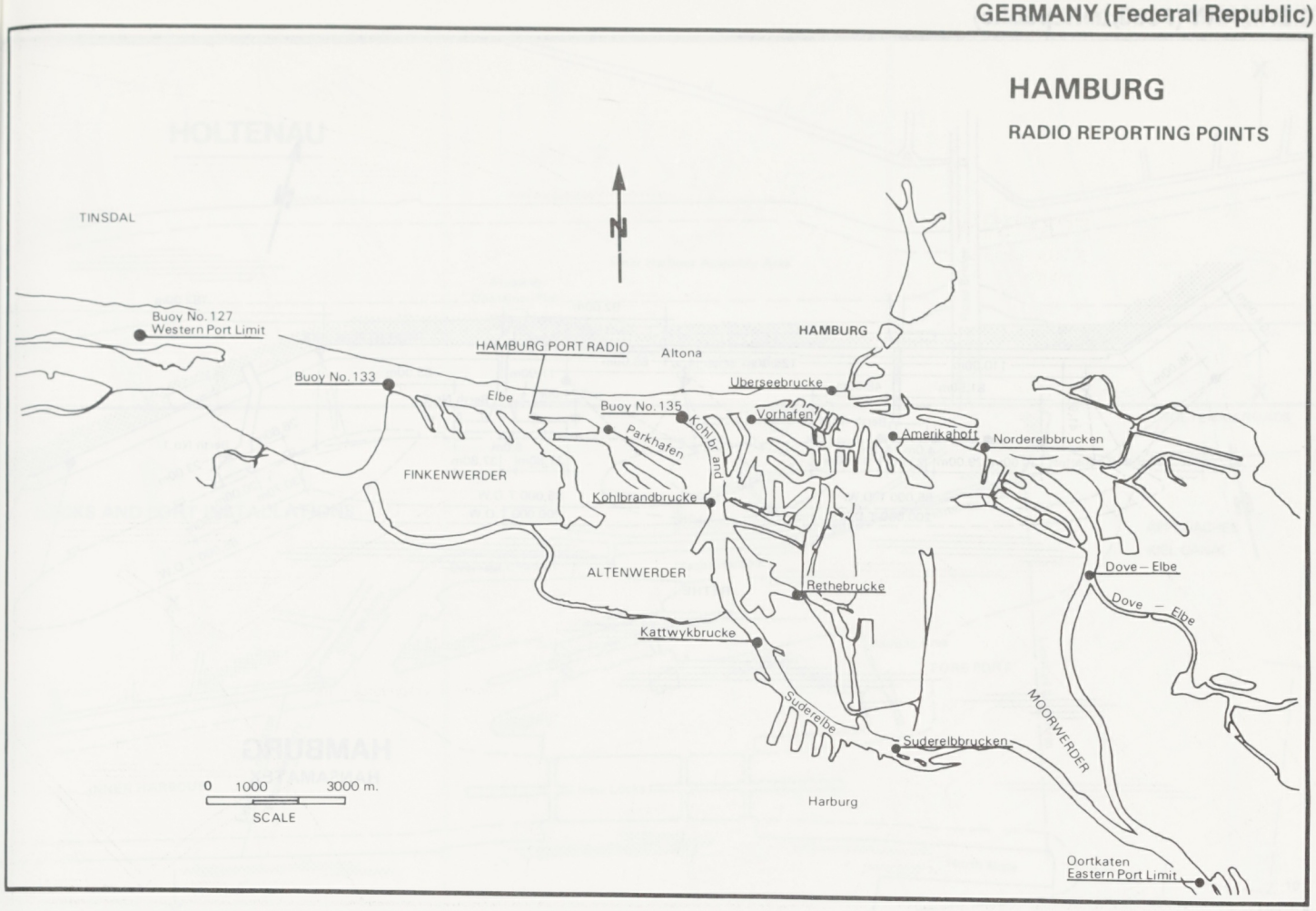

19.0
7.0
CUXHAVEN
DEPTHS IN METRES
8·0
6·5
Amerikahafen
X
Floating Dock
Helicopter Landing Area
Imperator Quay
Service Quay for Trawlers
8.5
Neuer Fischereihafen
8.5
Ro/Ro
Cold Store
Unloading Quay for Trawlers
Offshore Base
Cold Store

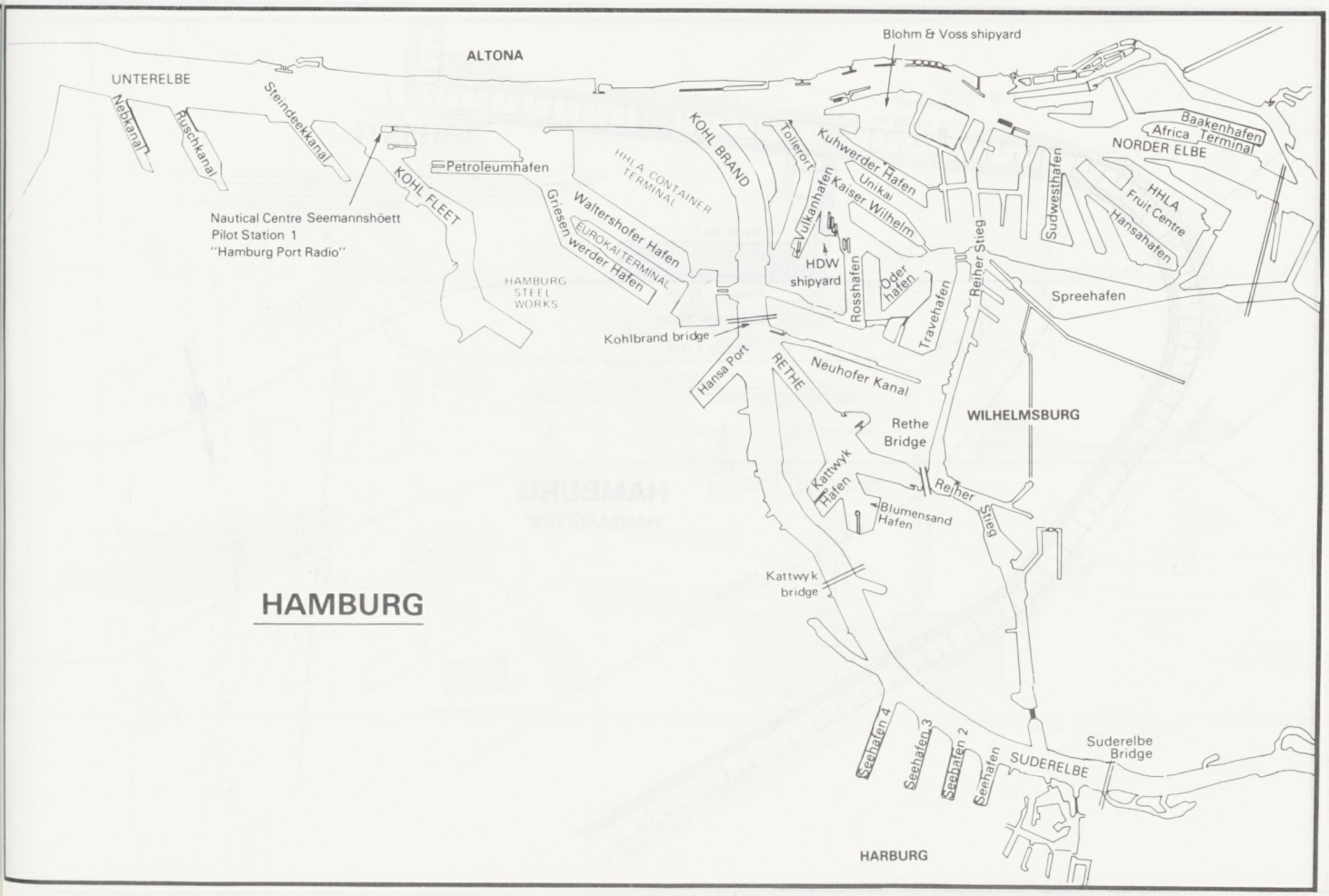

DUISBURG HARBOURS
HAFEN WALSUM-NORD DER BERGBAU AG NIEDERRHEIN
HAINDL PAPIER GmbH
HAFEN WALSUM – SÜD DER THYSSEN AG
HAFEN SCHWELGERN DER THYSSEN AG
RUHRORT
RUHR
DUISBURG
DUISBURGER KUPFERHÜTTE
THYSSEN NIEDERRHEIN AG
HOCHFELD
ARAL AG
BERZELIUS METALLHÜTTENGES GMBH
HAFEN HUCKINGEN DER MANNESMANN AG HÜTTENWERKE
HAFEN RHEINPREUSSEN DER BERGBAU AG NIEDERRHEIN
UMSCHLAGSTELLEN HOMBERG
HAFEN RHEINHAUSEN DER FRIEDL KRUPP STAHL AG
RHEIN
RHEIN
N

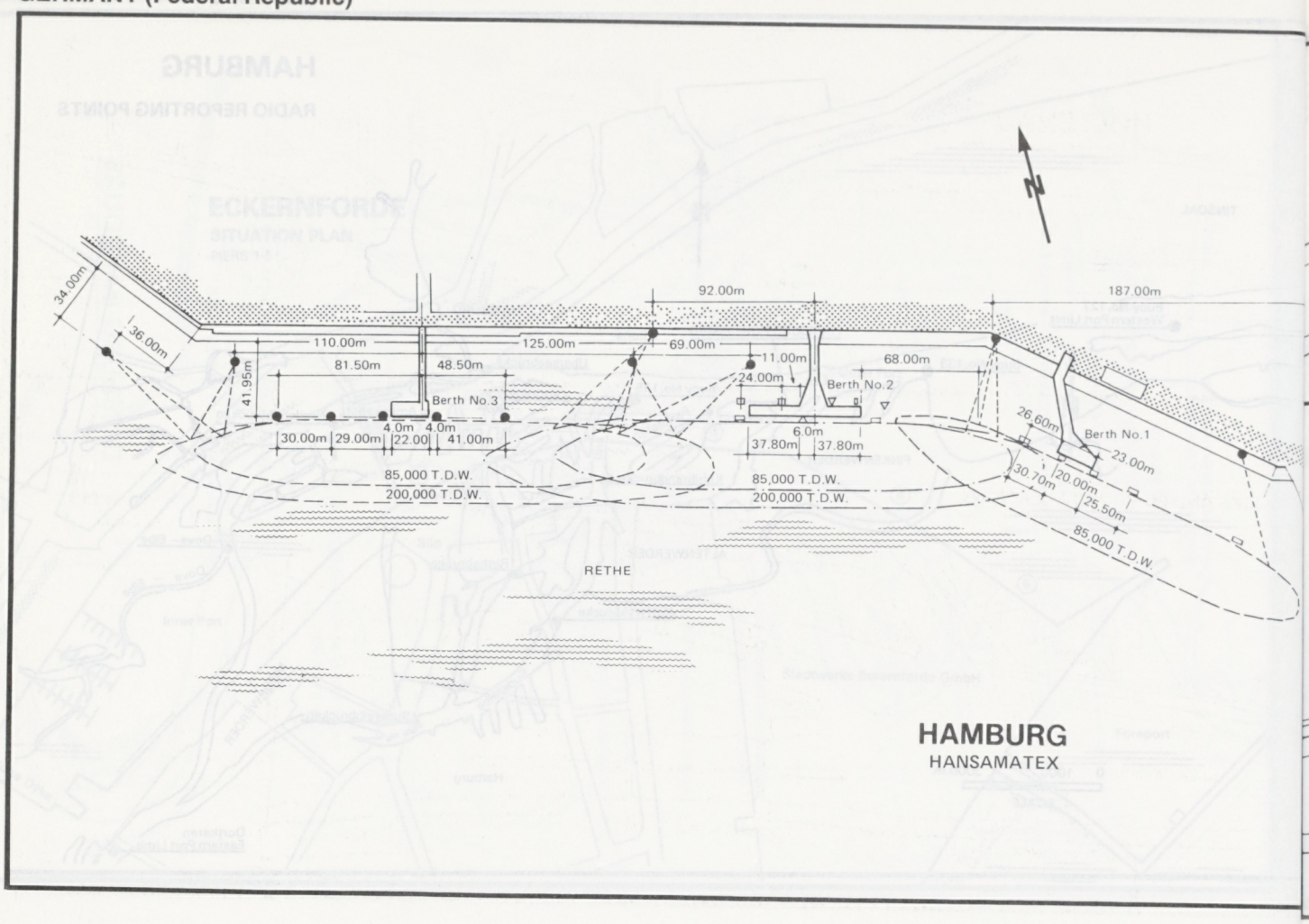

HOMBERG
Railway
Port
Port Entrance
RUHRORT
Water & Traffic Control
Shipping Exchange
Ore
Vinckekanal
Kaiserhafen
Port Canal
North Harbour
Steel
South Harbour
Coal
Container
Ro/Ro
Kaiserhafen
Oil
Dock A
Coal
Dock B
Scrap Metal
Dock C
Port Canal
Ruhr
Crude Oil Refinery
Timber Harbours
Customs
KASSLERFELD
Innenhafen
ESSENBERG
RUHRORT
NEUENKAMP
Innenstadt
Parallelhafen
Aussenhafen
Hochfeld

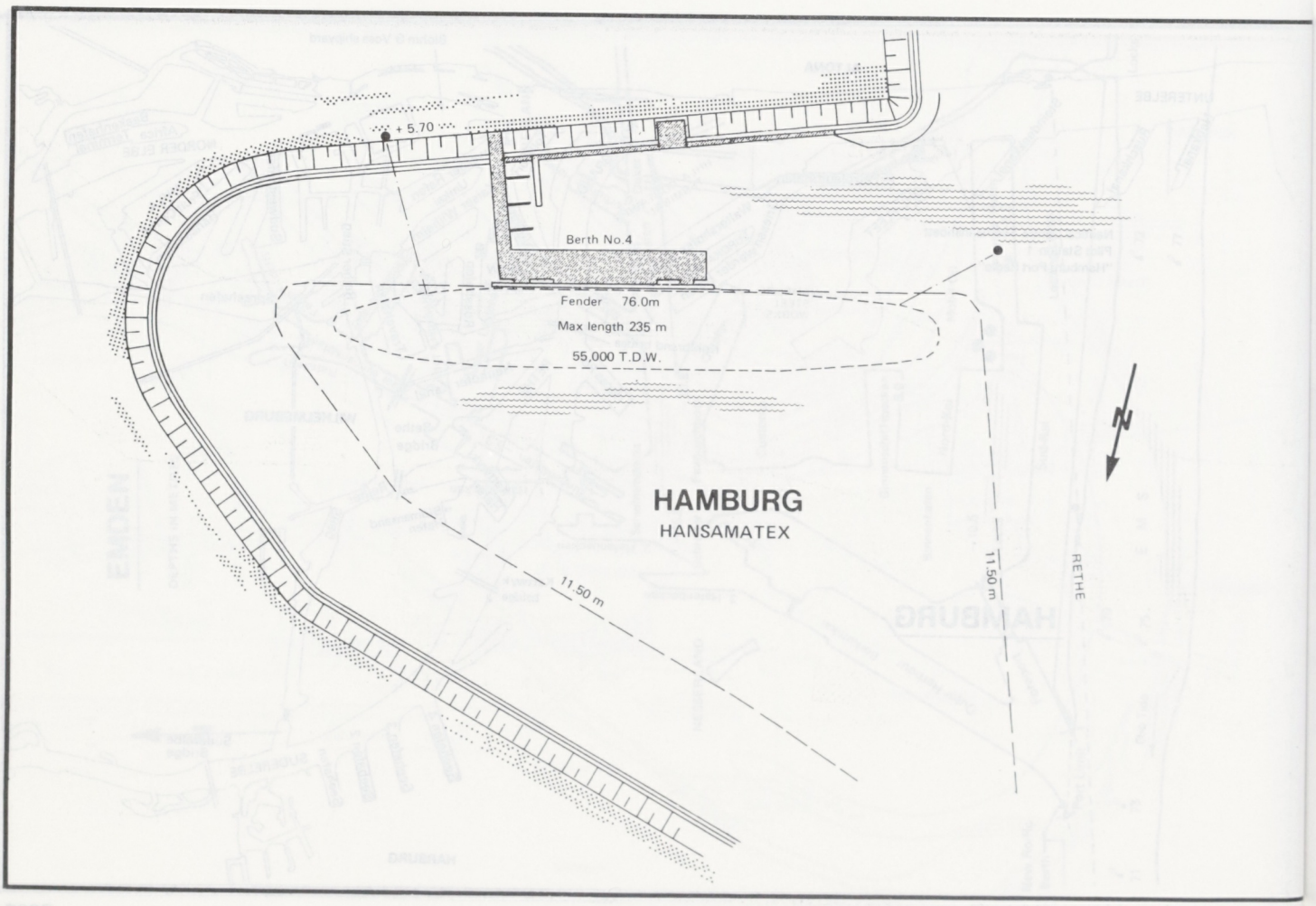

EMDEN
DEPTHS IN METRES
N
Ratsdelft
Faldern delft
Alter Binnenhafen
Eisenbahndock
Alter Liegehafen
Neuer Liegehafen
1. Hafenbecken
Binnenhafen
-5.3
-7.0
KOL FRIESLAND
Stichkanal
Rorbumer Hafen
-5.0
Duker
2. Hafenbecken
Schwimmdocks
-9.0m
Industriehafen
-10.5
Schroder
Fevrloschboot
-10.5
Olhafen
NESSERLAND
3. Hafenbecken
Tanker
Customs
Borkumkai
Outer Harbour
Binnenschiffsbecken
-8.0
Vorfluthkanal
Binnenhafen
Nord-Kai
Mobil Oil
-10.5
Locks
Jarbumer Hafen
-5.0
Foreport
New Ro/Ro
Berth
Sud-Kai
Leading Lights
Port Limit
71
73
Ebb Tide
70
75
E M S
72
77
Locks

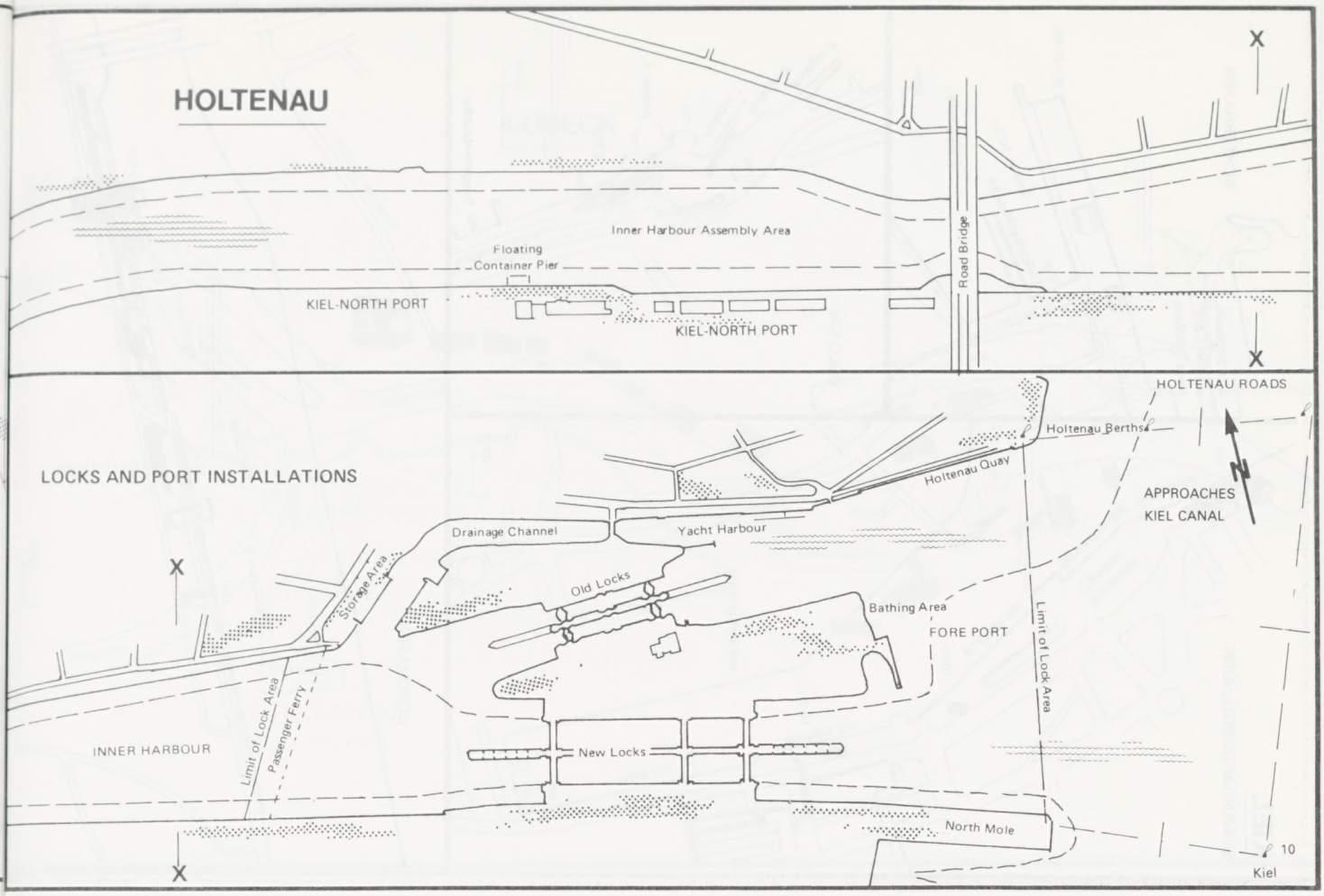

ECKERNFORDE
SITUATION PLAN
PIERS 1-5
Stone Dyke
Inner Port
Silo
Bridge
1
2
3
4
5
Stadtwerke Eckernforde GmbH
Outer Port
N
Foreport

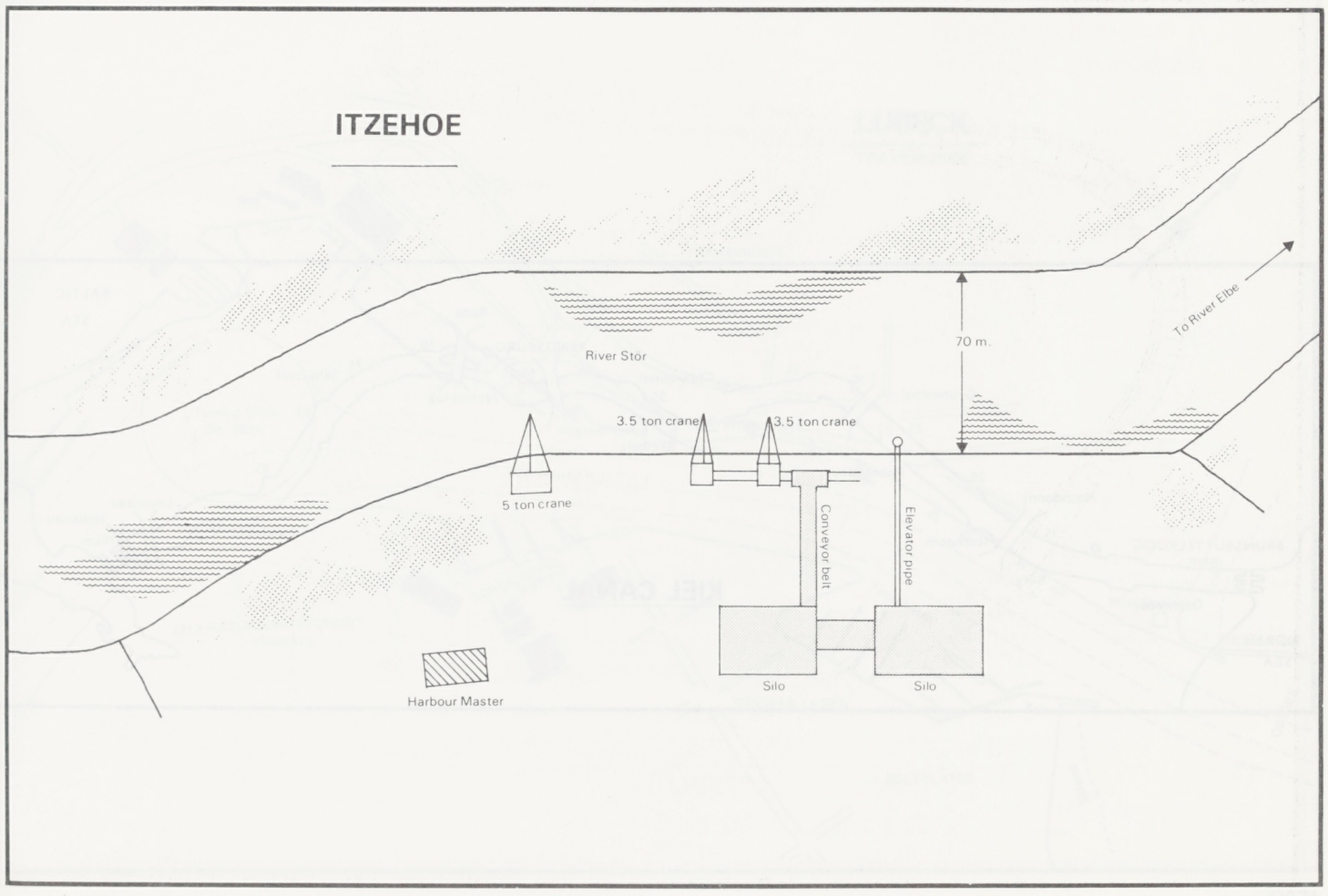

HAMBURG
RADIO REPORTING POINTS
TINSDAL
N
Buoy No. 127
Western Port Limit
Buoy No. 133
HAMBURG PORT RADIO
Altona
HAMBURG
Elbe
Buoy No. 135
Uberseebrucke
Vorhafen
Kohlbrand
Parkhafen
Amerikahoft
Norderelbbrucken
FINKENWERDER
Kohlbrandbrucke
ALTENWERDER
Rethebrucke
Dove – Elbe
Dove – Elbe
Kattwykbrucke
Suderelbe
MOORWERDER
Suderelbbrucken
0 1000 3000 m.
SCALE
Harburg
Oortkaten
Eastern Port Limit

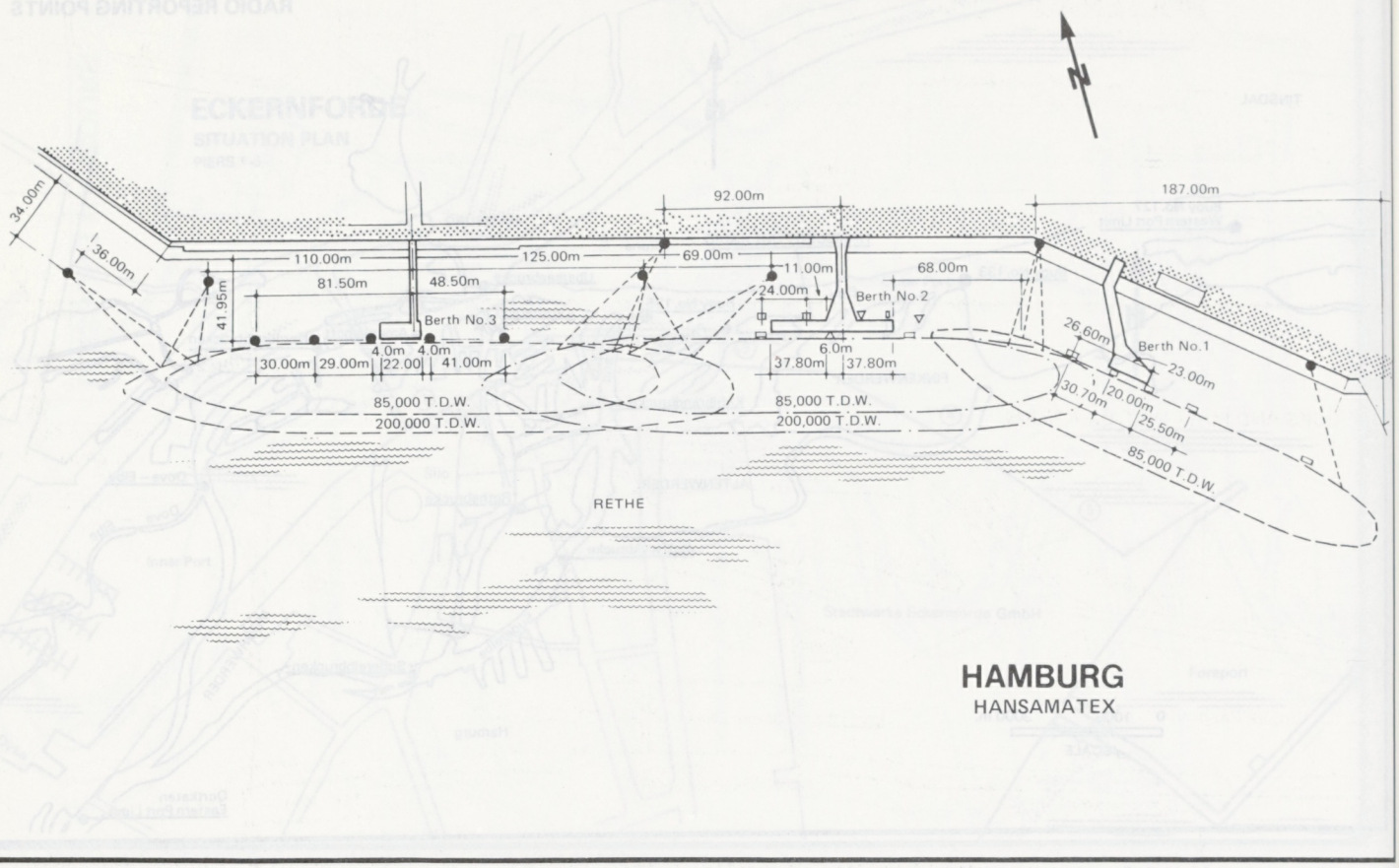

HAMBURG
ALTONA
Blohm & Voss shipyard
UNTERELBE
Nebkanal
Buschkanal
Steindeekkanal
KOHL FLEET
Petroleumhafen
Nautical Centre Seemannshöett
Pilot Station 1
"Hamburg Port Radio"
HHLA CONTAINER TERMINAL
Waltershofer Hafen
EUROKAI TERMINAL
Griesenwerder Hafen
HAMBURG STEEL WORKS
KOHL BRAND
Tollerort
Kuhwerder Hafen
Unikai
Kaiser Wilhelm
Vulkanhafen
HDW shipyard
Rosshafen
Oder hafen
Travehafen
Reiher Stieg
Sudwesthafen
Baakenhafen
Africa Terminal
NORDER ELBE
HHLA Fruit Centre
Hansahafen
Spreehafen
Kohlbrand bridge
Hansa Port
RETHE
Neuhofer Kanal
Rethe Bridge
WILHELMSBURG
Kattwyk Hafen
Blumensand Hafen
Reiher Stieg
Kattwyk bridge
Seehafen 4
Seehafen 3
Seehafen 2
Seehafen
SUDERELBE
Suderelbe Bridge
HARBURG

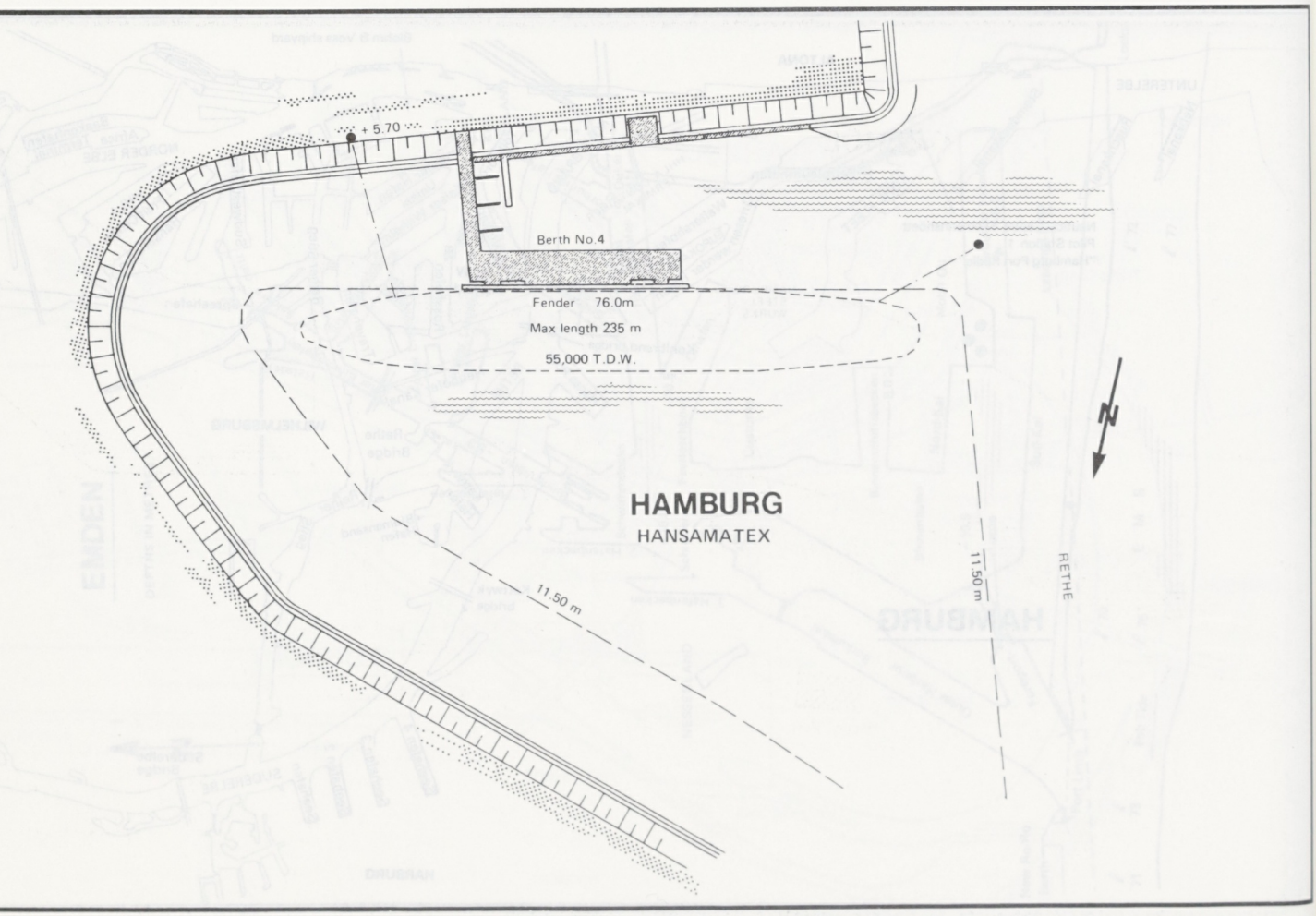

34.00m
36.00m
41.95m
110.00m
81.50m
48.50m
125.00m
92.00m
69.00m
11.00m
24.00m
68.00m
187.00m
Berth No.3
Berth No.2
Berth No.1
4.0m
4.0m
30.00m
29.00m
22.00
41.00m
6.0m
37.80m
37.80m
26.60m
23.00m
30.70m
20.00m
25.50m
85,000 T.D.W.
200,000 T.D.W.
85,000 T.D.W.
200,000 T.D.W.
85,000 T.D.W.
RETHE
HAMBURG
HANSAMATEX


+ 5.70
Berth No.4
Fender 76.0m
Max length 235 m
55,000 T.D.W.
HAMBURG
HANSAMATEX
11.50 m
11.50 m
RETHE

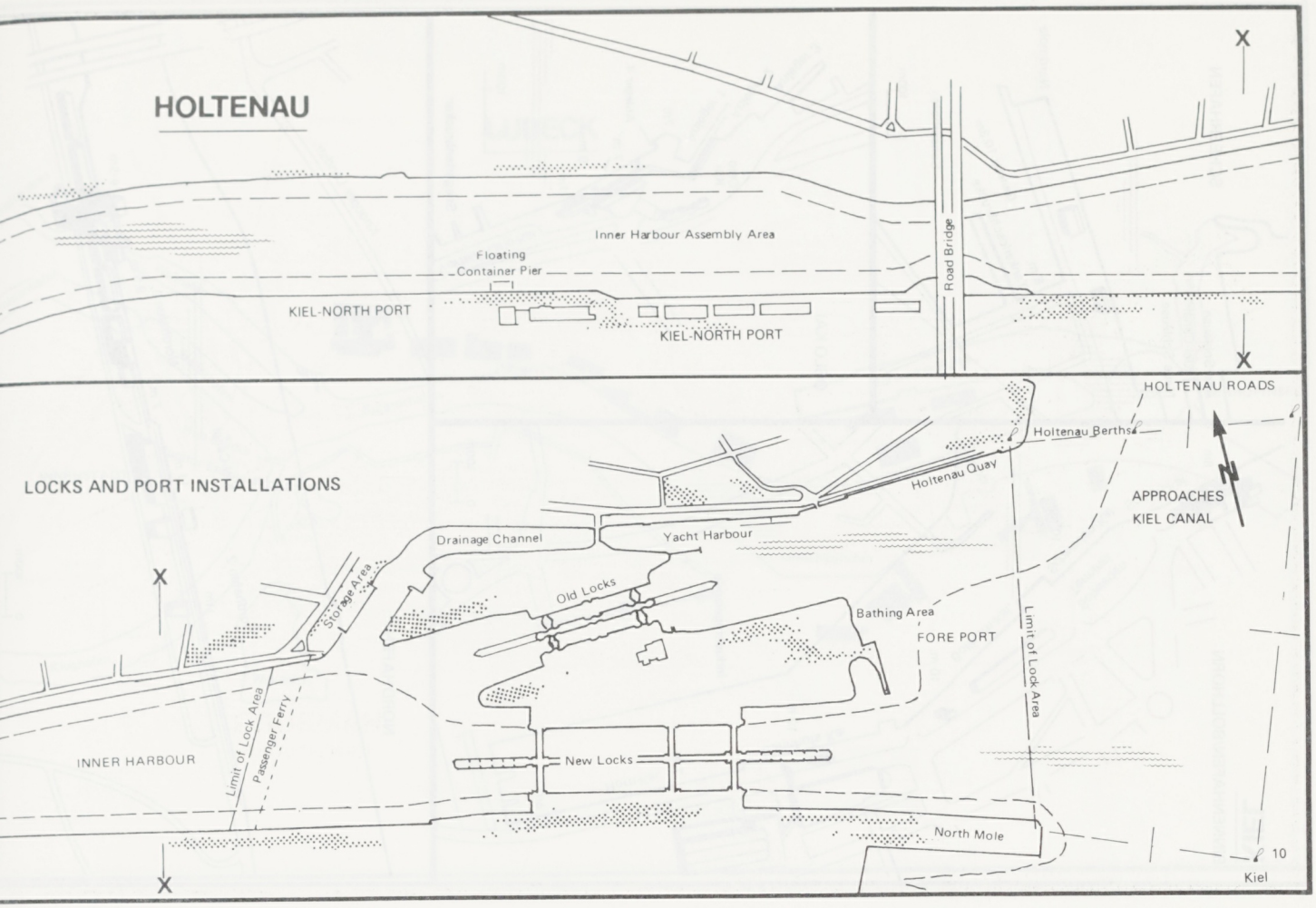

HOLTENAU
Inner Harbour Assembly Area
Floating
Container Pier
KIEL-NORTH PORT
KIEL-NORTH PORT
Road Bridge
X
X
LOCKS AND PORT INSTALLATIONS
HOLTENAU ROADS
Holtenau Berths
Holtenau Quay
APPROACHES
KIEL CANAL
Drainage Channel
Yacht Harbour
Storage Area
Old Locks
Bathing Area
FORE PORT
Limit of Lock Area
INNER HARBOUR
Limit of Lock Area
Passenger Ferry
New Locks
North Mole
10
Kiel
X
X


ITZEHOE
River Stor
70 m.
To River Elbe
3.5 ton crane
3.5 ton crane
5 ton crane
Conveyor belt
Elevator pipe
Harbour Master
Silo
Silo

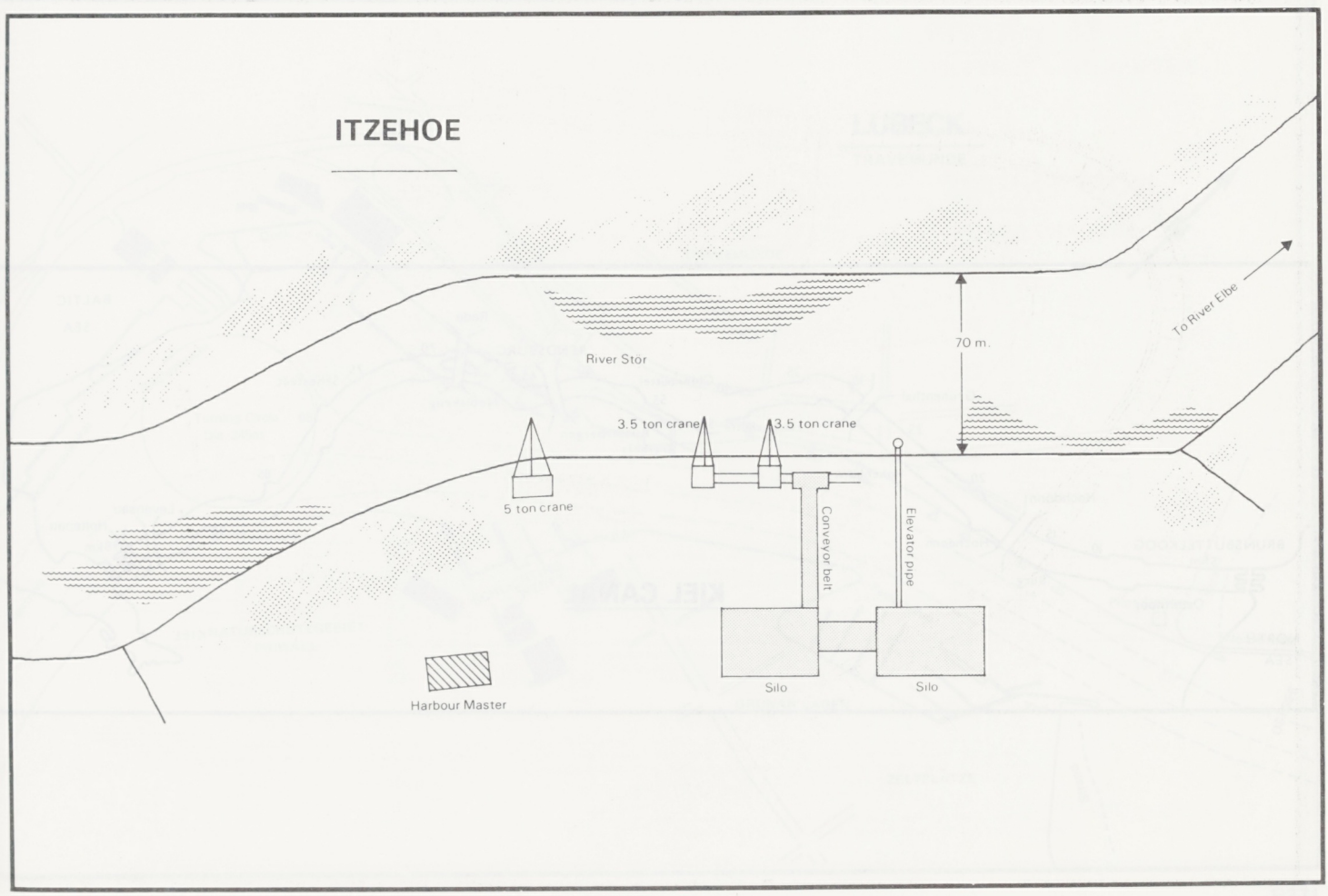

34.00m
36.00m
41.95m
110.00m
81.50m
48.50m
Berth No.3
4.0m
4.0m
30.00m
29.00m
22.00
41.00m
92.00m
125.00m
69.00m
11.00m
24.00m
Berth No.2
68.00m
6.0m
37.80m
37.80m
187.00m
26.60m
Berth No.1
23.00m
30.70m
20.00m
25.50m
85,000 T.D.W.
200,000 T.D.W.
85,000 T.D.W.
200,000 T.D.W.
85,000 T.D.W.
RETHE
HAMBURG
HANSAMATEX

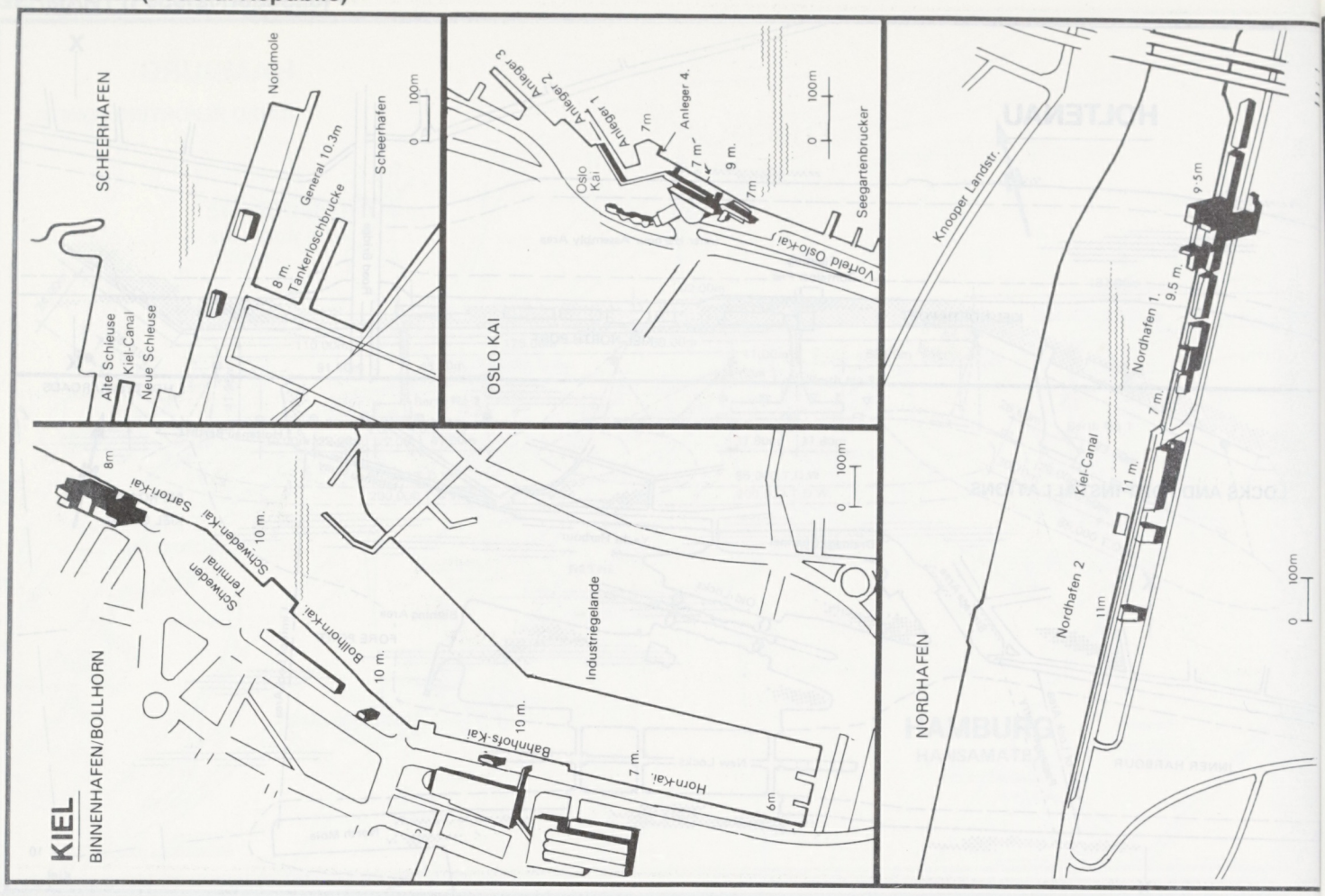

+ 5.70
Berth No.4
Fender 76.0m
Max length 235 m
55,000 T.D.W.
HAMBURG
HANSAMATEX
11.50 m
11.50 m
RETHE

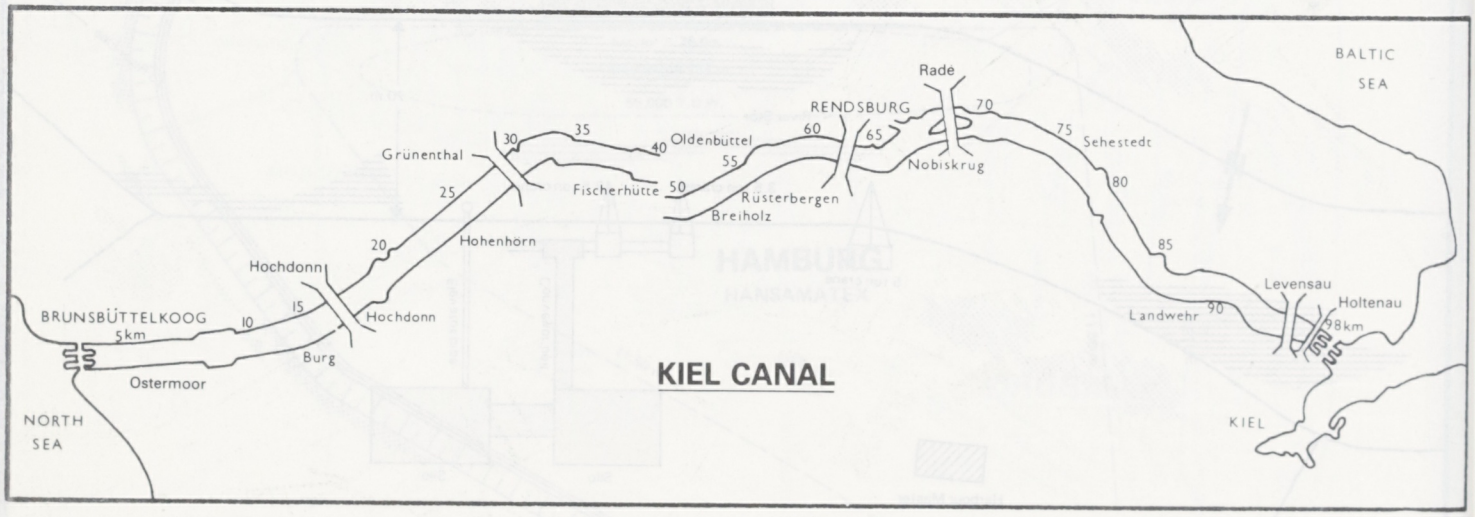
HOLTENAU



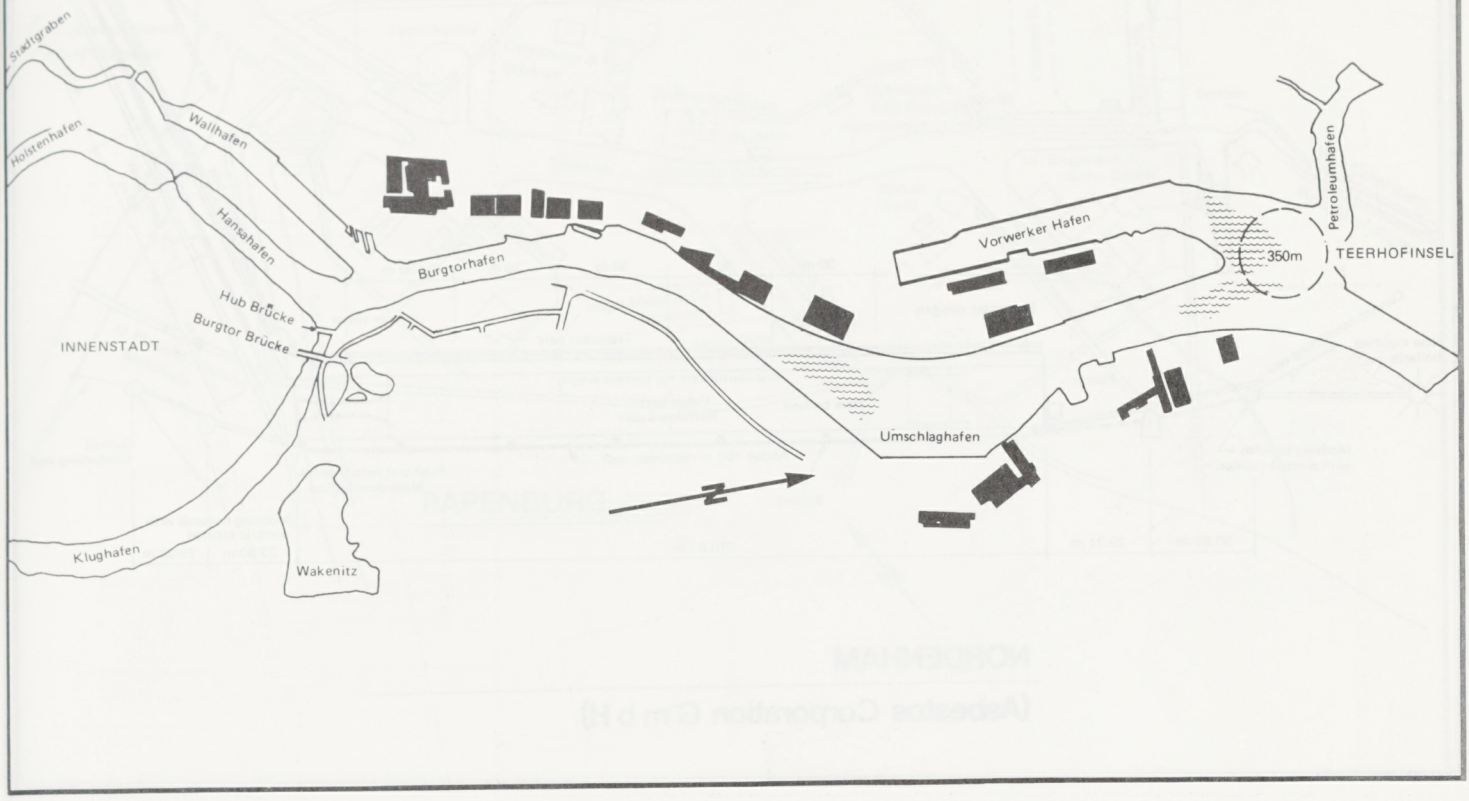
ITZEHOE




SCHEERHAFEN
Nordmole
General 10.3m
Scheerhafen
8 m.
Tankerloschbrucke
Alte Schleuse
Kiel-Canal
Neue Schleuse
0 100m
OSLO KAI
Anleger 3
Anleger 2
Anleger 1
Anleger 4.
7m
7 m
9 m.
7m
Oslo Kai
Vorfeld Oslo-Kai
Seegartenbrucker
0 100m
Knooper Landstr.
Nordhafen 1.
9.5m
9.5 m
7 m.
Kiel-Canal
11 m.
Nordhafen 2
11m
NORDHAFEN
0 100m
KIEL
BINNENHAFEN/BOLLHORN
8m
Sartori-Kai
10 m.
Schwedenkai
Schweden Terminal
Bollhornkai
10 m.
Industriegelande
10 m.
Bahnhofs-Kai
7 m.
Hornkai
6m
0 100m

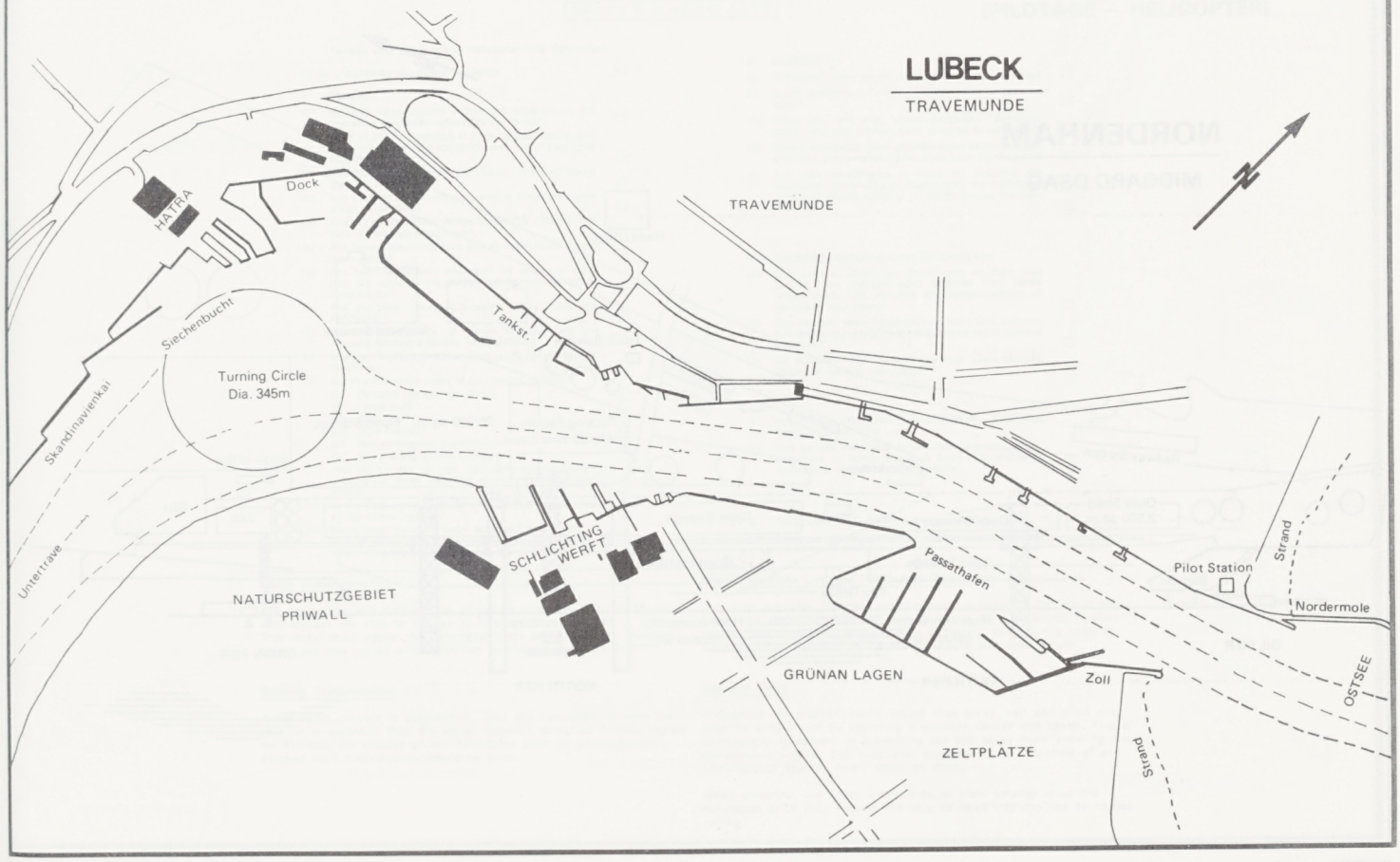

BALTIC SEA
Rade
RENDSBURG
70
75
Sehestedt
80
85
Nobiskrug
60
65
Oldenbüttel
55
40
35
30
Grünenthal
25
Fischerhütte
50
Rüsterbergen
Breiholz
20
Hohenhörn
Hochdonn
Hochdonn
15
10
BRUNSBÜTTELKOOG
5km
Burg
Ostermoor
NORTH SEA
KIEL CANAL
Levensau
Holtenau
90
Landwehr
8km
KIEL

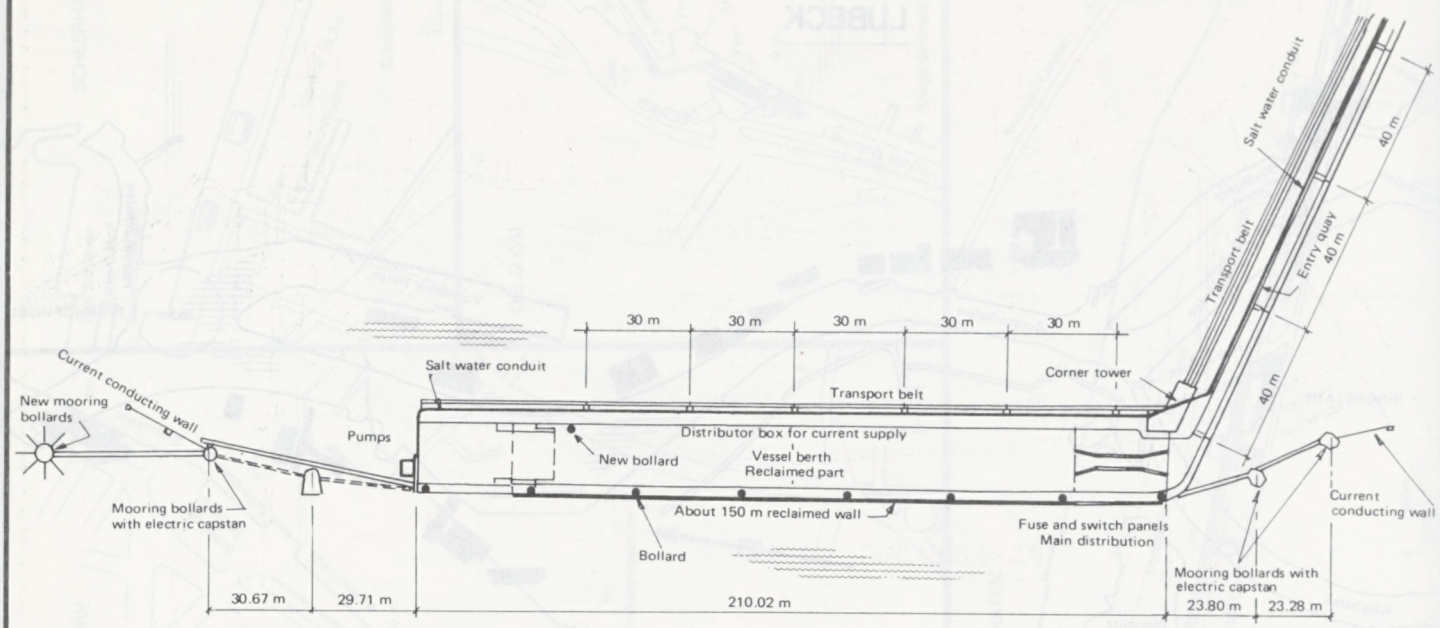
LUBECK



LUBECK

TRAVEMUNDE



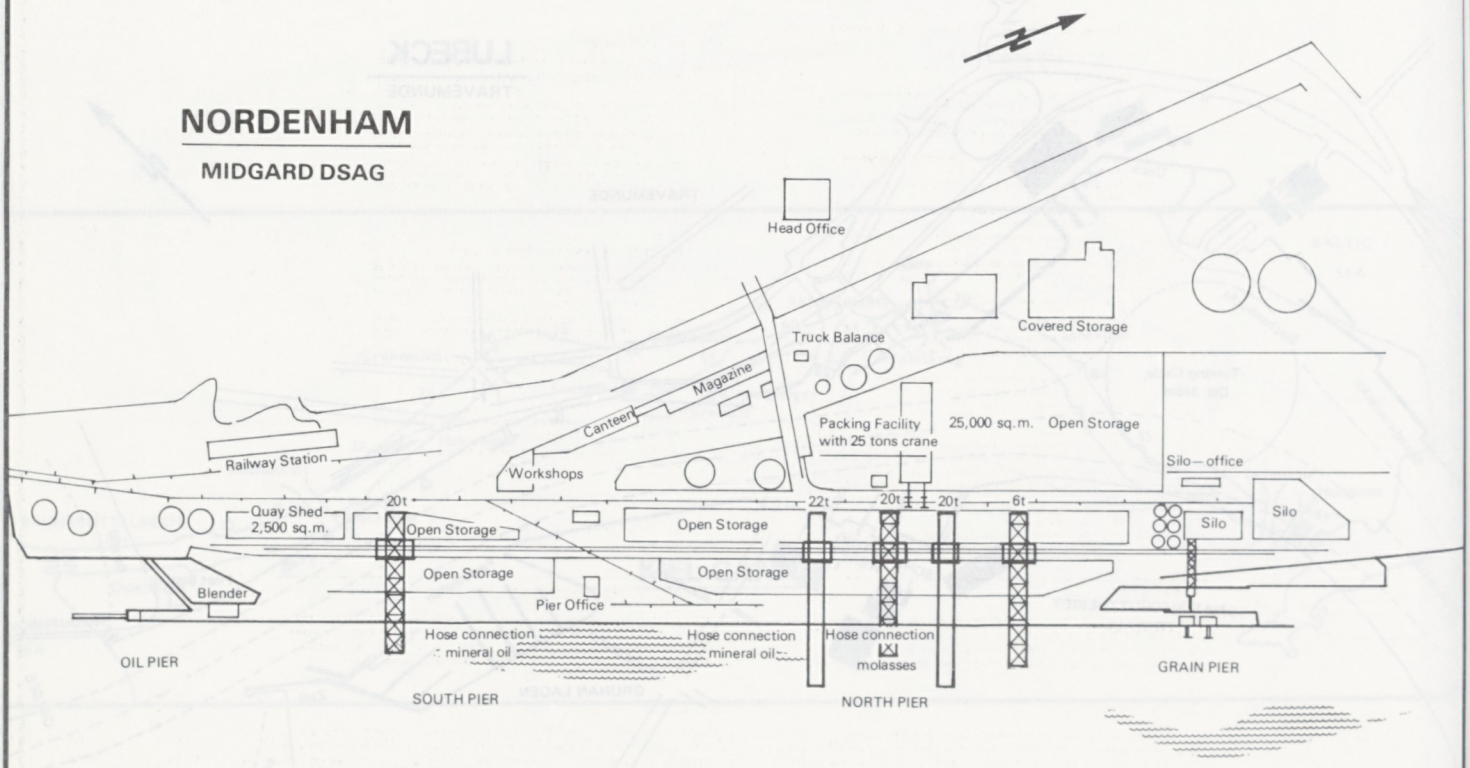


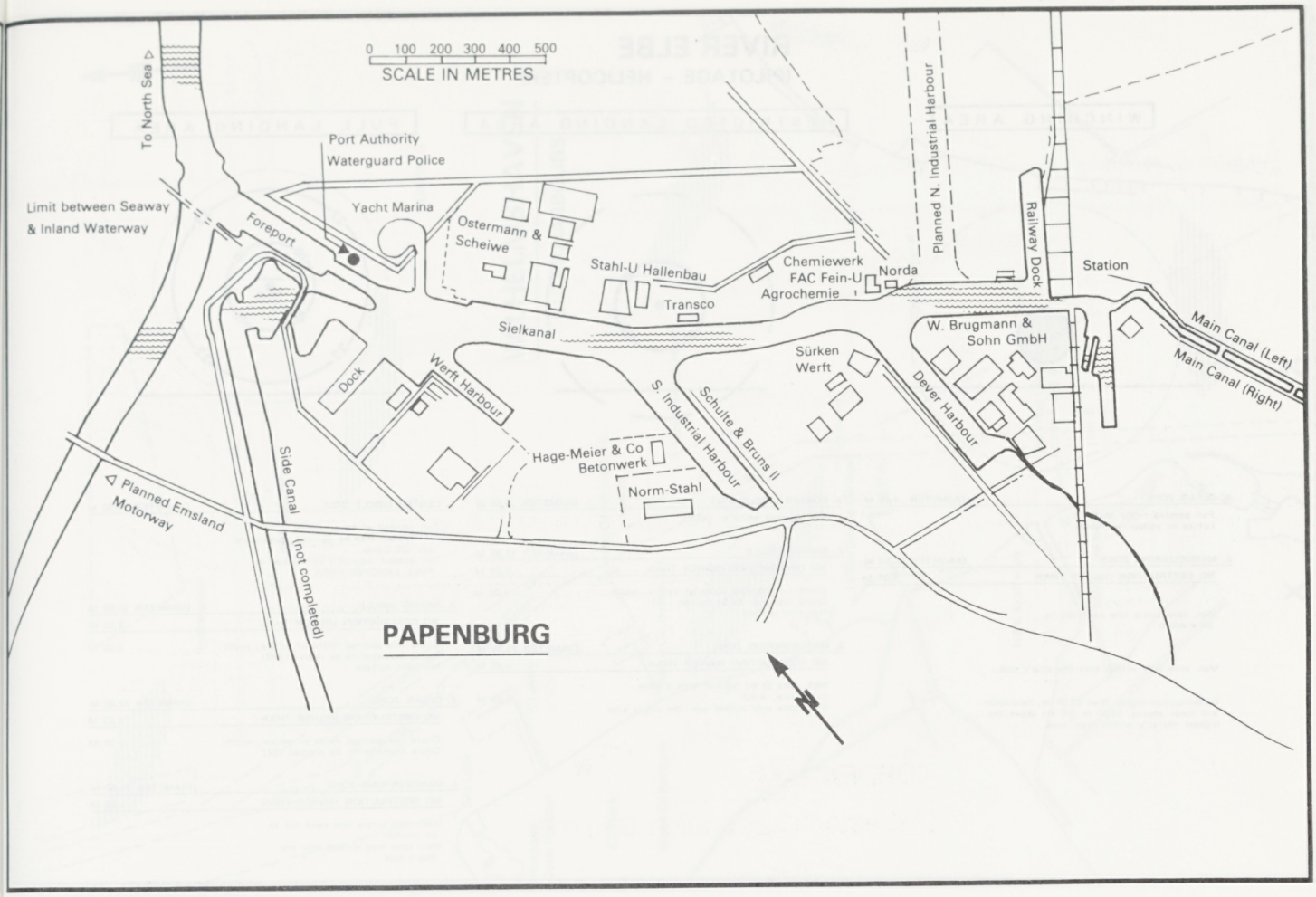
NORDENHAM

(Asbestos Corporation G m b H)

NORDENHAM

MIDGARD DSAG





RIVER ELBE

(PILOTAGE – HELICOPTER)

SAFETY CHECK LIST

For use with ICS Guide to Helicopter/Ship Operations

To be checked by the officer in charge. ☐

1. GENERAL

(a) Have all loose objects within and adjacent to the operating area been secured or removed? ☐

(b) Have all aerials, standing or running gear above, and in the vicinity of, the operating area been lowered or secured? ☐

(c) Has the officer of the watch been consulted about the ship's readiness? ☐

(d) Are the fire pumps running and is there adequate pressure on deck? ☐

(e) Are fire hoses ready, (hoses should be near to, but clear of the operating area)? ☐

(f) Are foam hoses, monitors and portable foam equipment ready? ☐

(g) Are foam equipment operators, of whom at least two are wearing the prescribed firemen's outfits, standing by? ☐

(h) Are the foam nozzles pointing away from the helicopter? ☐

(i) Has a rescue party, of whom at least two are wearing firemen's outfits, been detailed? ☐

(j) Is a man overboard rescue boat ready for immediate lowering? ☐

(k) Are the following items of equipment to hand?
- (i) Portable fire extinguishers? ☐
- (ii) Large axe? ☐
- (iii) Crow bar? ☐
- (iv) Wire cutters? ☐
- (v) Red emergency signal/torch? ☐
- (vi) Marshalling batons (at night)? ☐

(l) Has the correct lighting, (including special navigation lights), been switched on prior to night operations? ☐

(m) Is the deck party ready, and are all passengers clear of the operating area? ☐

(n) Have hook handlers been equipped with helmets, strong rubber or suitable gloves and rubber soled shoes to avoid the danger of static discharge? ☐

2. LANDING ON

(a) Is the deck party aware that a landing is to be made? ☐

(b) Is the operating area free of heavy spray or seas on deck? ☐

(c) Have side rails and, where necessary, awnings, stanchions and derricks been lowered or removed? ☐

(d) Where applicable, have portable pipes been removed and have the remaining apex ends been blanked off? ☐

(e) Are rope messengers to hand for securing the helicopter, if necessary? (Note: only the helicopter pilot may decide whether or not to secure the helicopter). ☐

3. TANKERS: Additional Items for Check List

(a) Gas control, ships not fitted with an Inert Gas System: has pressure been released from tanks within thirty (30) minutes of commencement of helicopter operations? ☐

(b) Gas control, ships fitted with an Inert Gas System: has pressure in cargo tanks reduced to slight positive pressure? ☐

(c) All tankers: have all tank openings been secured following venting operations? ☐

4. BULK AND COMBINATION CARRIERS: Additional Items for Check List

(a) Has surface ventilation to dry bulk cargoes ceased, and have all hatch openings been fully battened down prior to helicopter operations? ☐

5. GAS CARRIERS: Additional Items for Check List

(a) Have all precautions been taken to prevent gas emission on deck? ☐

Radio Communication

The helicopter will contact the vessel on VHF-FM channel 16 and will request the ship to change to channel 9 or 70.
The vessel shall advise the helicopter pilot of its position, heading, speed and the actual wind direction and speed over the deck.

Bearing Transmissions

After radio contact is established, until the helicopter is over the ship, it is essential that the vessel transmit direction finding signals on 410 kcs. On request of the helicopter pilot an uninterrupted (locked key) transmission should be given.

Wind Conditions Limiting Helicopter Operations

For most purposes the best relative wind is between 35° abaft the beam and ahead with speeds normally from 10 - 50 knots. However, certain sea conditions may make it necessary to obtain a relative wind which is between 35° abaft the beam and dead astern.

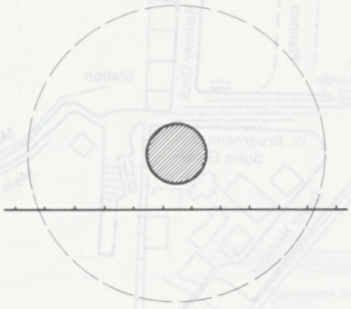
Sea and Swell

If possible the master should ensure that spray, roll and pitch are kept to a minimum by selecting a suitable course and speed. This is particularly important in preventing sea and spray from entering the helicopter's engine. The helicopter pilot should be informed of any likelihood of seas or heavy spray on deck.

When personnel are being winched to or from smaller ships the helicopter pilot may request the ship to head into the sea to reduce rolling.

RIVER ELBE
(PILOTAGE – HELICOPTER)

WINCHING AREA



1. CLEAR ZONE — DIAMETER 4,60 M
   Full painted circle spot (white or yellow, non-skid)

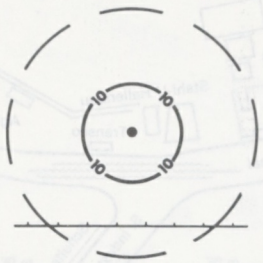
2. MANOEUVRING ZONE — DIAMETER 30,50 M
   NO OBSTRUCTION HIGHER THAN 3,00 M

   Man. zone circle line need not to be marked

   Man. zone may extend over the ship's side.

   If obstruction higher than 03,00 m, helicopter will hover approx. 03,05 m (10 ft) above the highest obstacle within man. zone.

RESTRICTED LANDING AREA

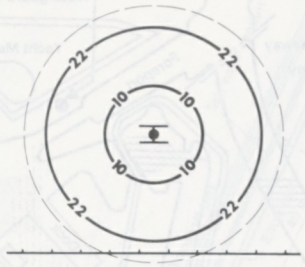


1. CENTER CIRCLE SPOT — DIAMETER 0,50 M
   Full painted white or yellow

2. AIMING CIRCLE — DIAMETER 10,00 M
   NO OBSTRUCTION HIGHER THAN 0,10 M
   Circle line painted white or yellow, width 0,20 M
   Circle diameter to be marked (10)
   Non-skid surface

3. MANOEUVRING ZONE — DIAMETER 25,50 M
   NO OBSTRUCTION HIGHER THAN 1,25 M
   Man. zone to be marked with broken circle line, width 0,20 M
   Man. zone may extend over the ship's side

FULL LANDING AREA

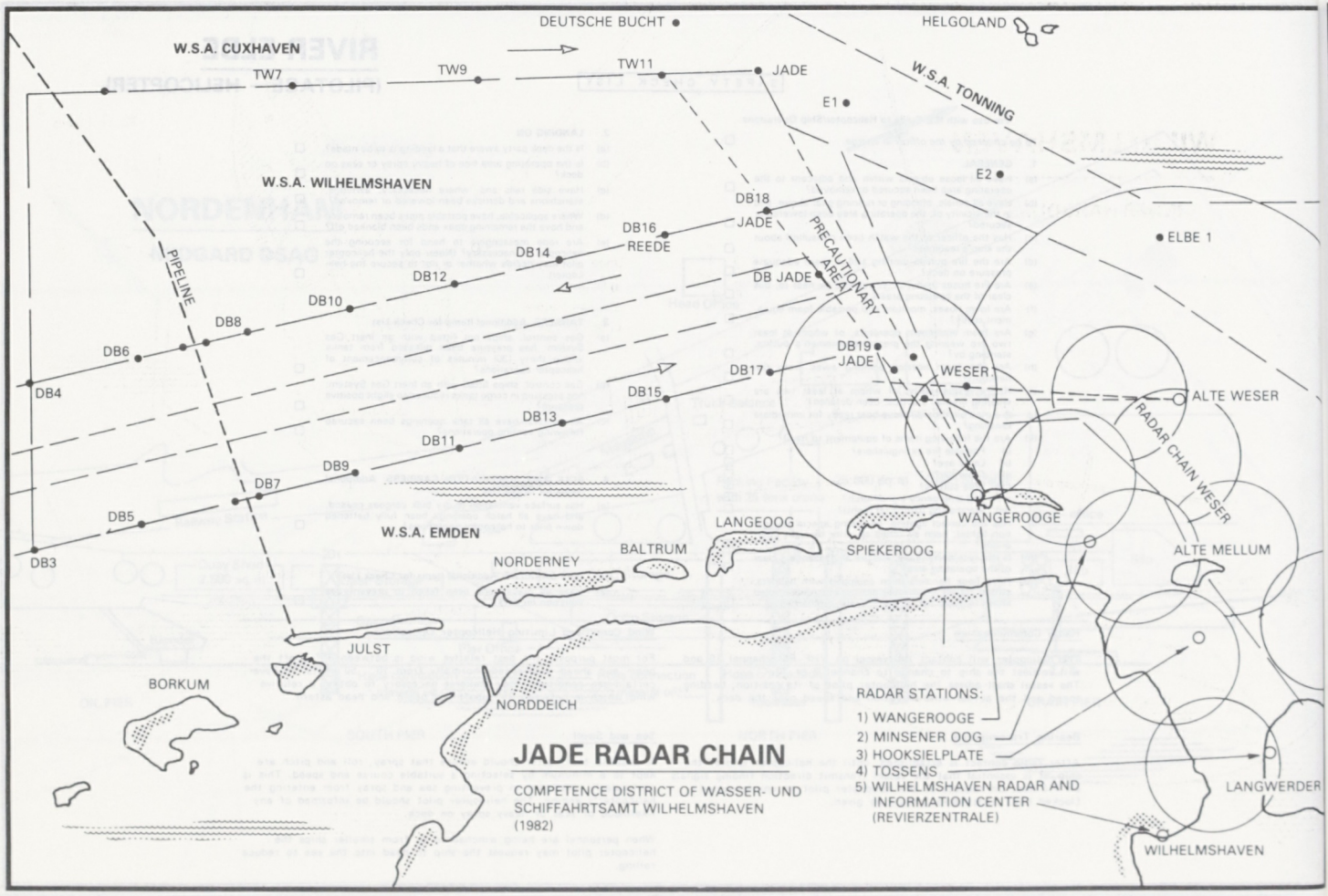


1. CENTER CIRCLE SPOT — DIAMETER 0,50 M
   Full painted white or yellow.
   "H" symbol may be painted, dimensions see ICS Guide.
   "H" symbol may only be marked in FULL LANDING AREA

2. AIMING CIRCLE — DIAMETER 10,00 M
   NO OBSTRUCTION HIGHER THAN 0,10 M
   Circle line painted white or yellow, width 0,20 M
   Circle diameter to be marked (10)
   Non-skid surface

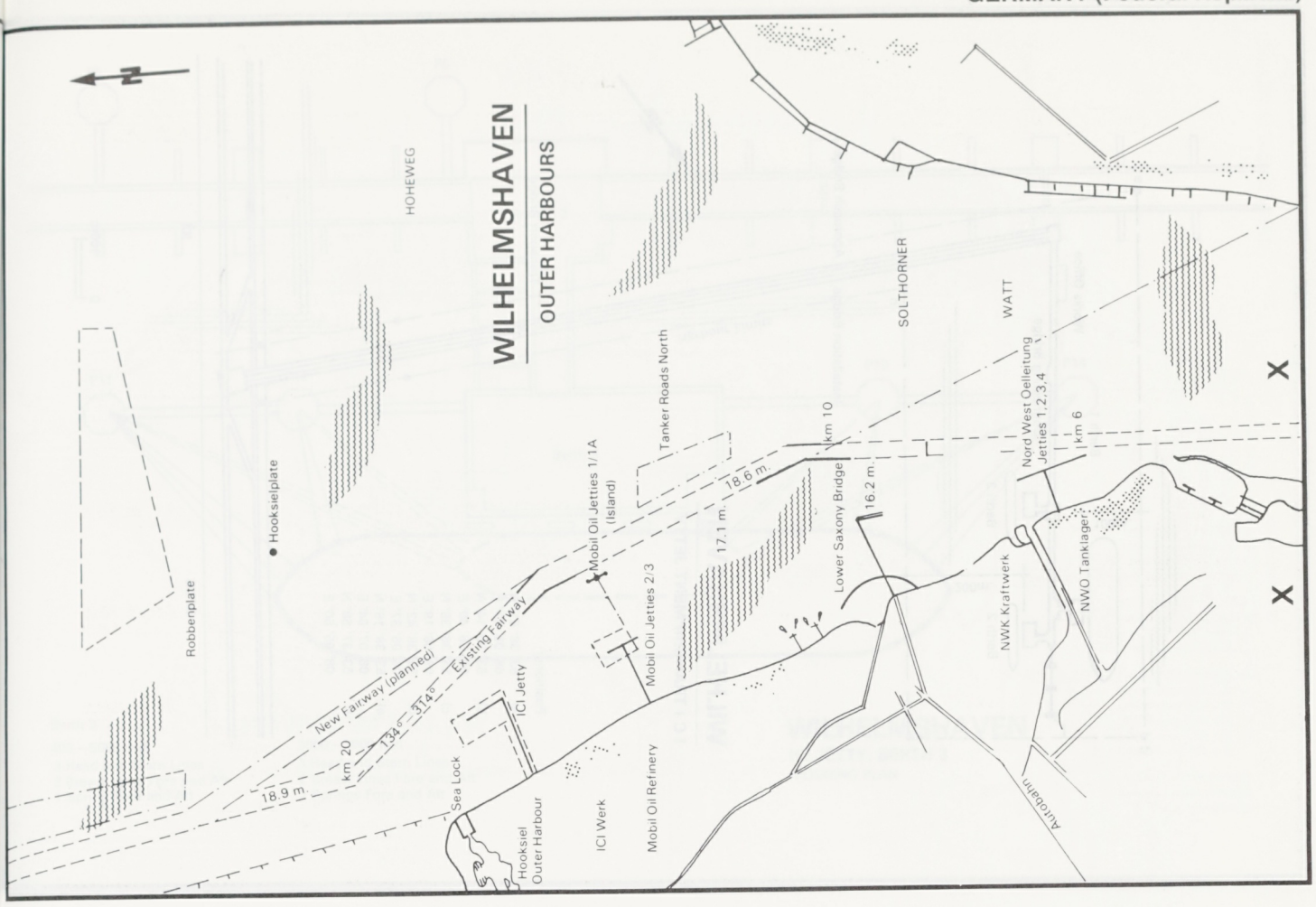
3. CLEAR ZONE — DIAMETER 22,00 M
   NO OBSTRUCTION HIGHER THAN 0,25 M
   Circle line painted white or yellow, width 0,20 M
   Circle diameter to be marked (22)

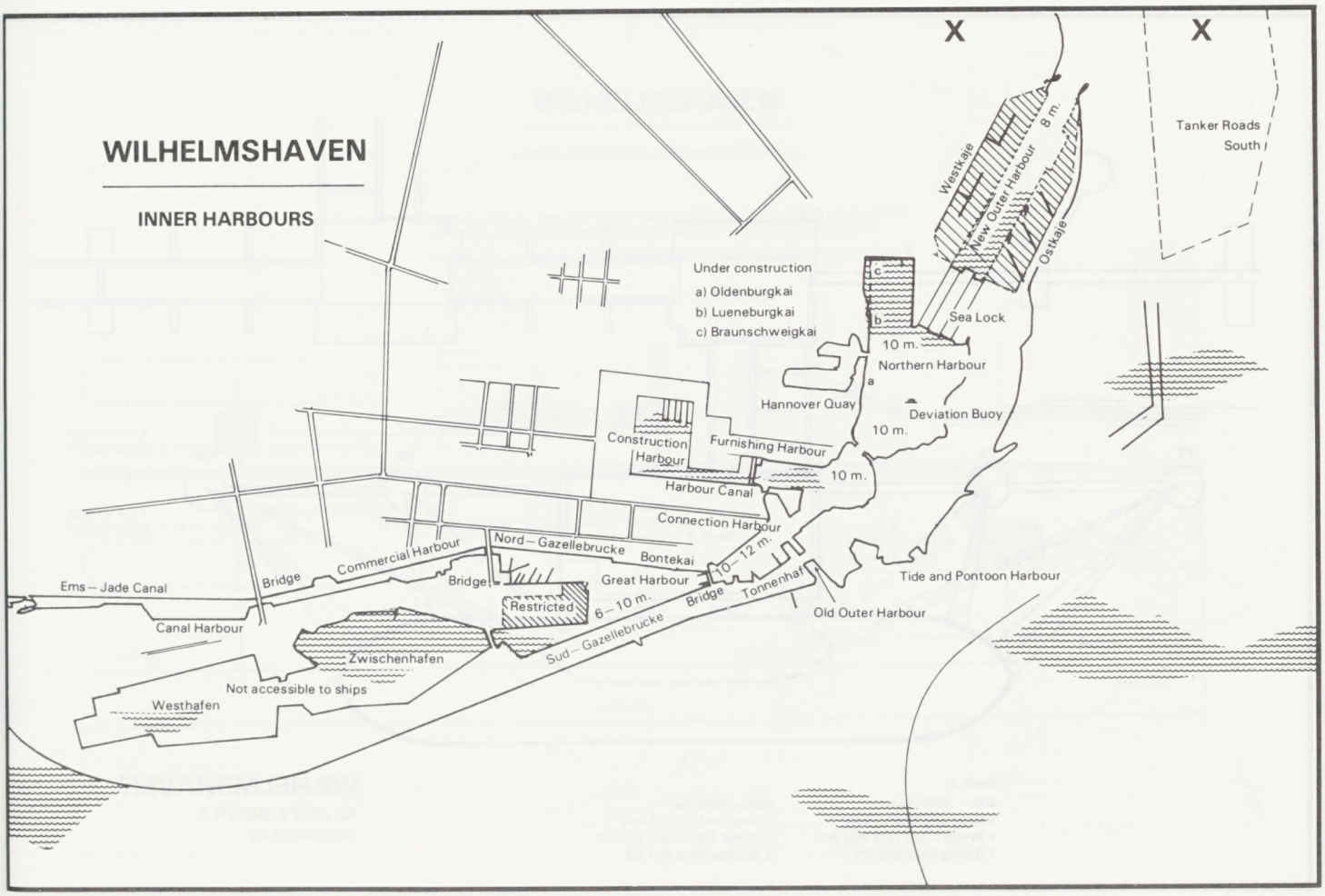
4. MANOEUVRING ZONE — DIAMETER 27,50 M
   NO OBSTRUCTION HIGHER THAN 1,25 M
   Man. zone circle line need not to be marked
   Man. zone may extend over the ship's side

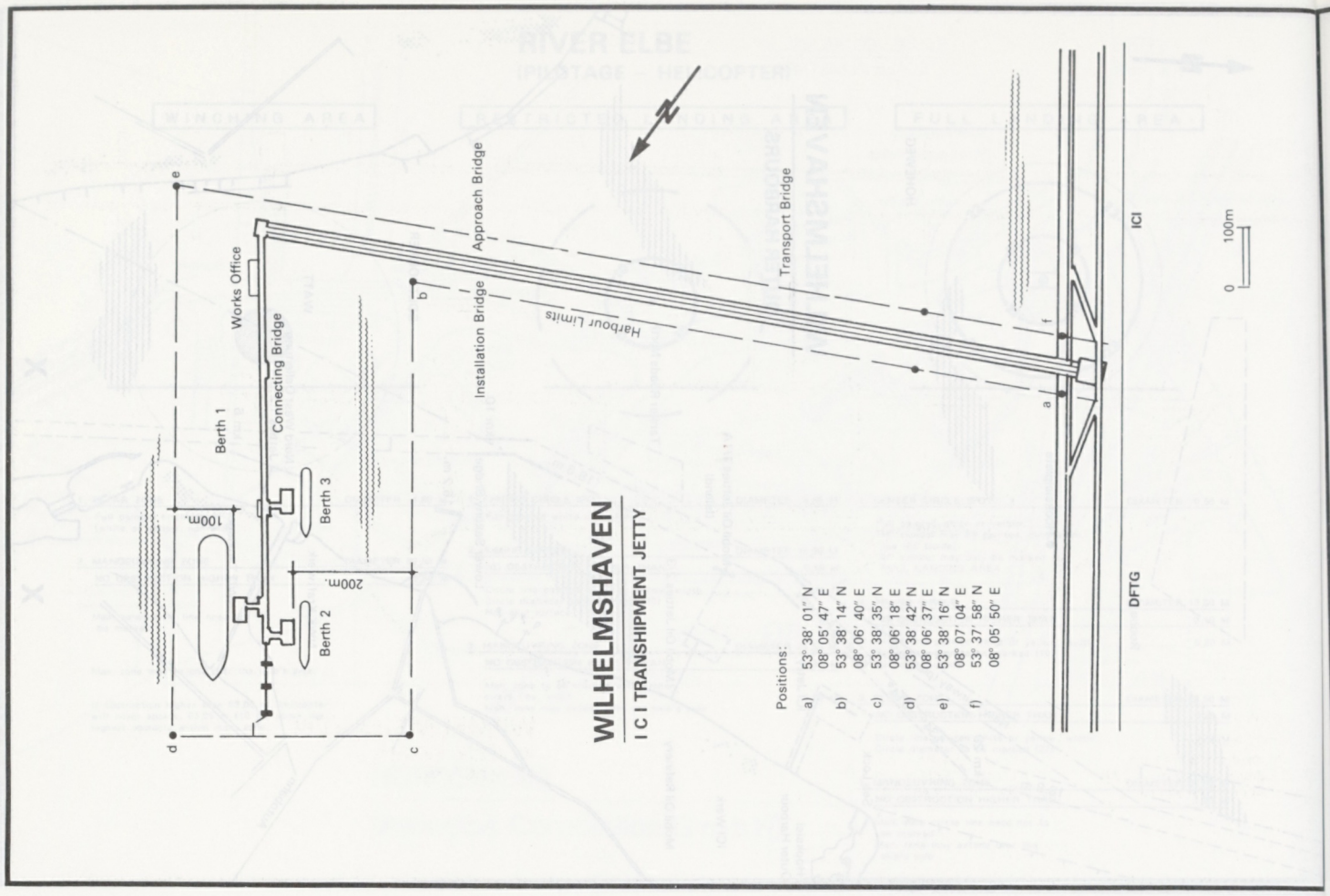


JADE RADAR CHAIN

COMPETENCE DISTRICT OF WASSER- UND SCHIFFAHRTSAMT WILHELMSHAVEN (1982)


WILHELMSHAVEN
OUTER HARBOURS
HOHEWEG
SOLTHORNER
WATT
Tanker Roads North
Nord West Oelleitung
Jetties 1,2,3,4
km 10
km 6
Mobil Oil Jetties 1/1A
(Island)
Mobil Oil Jetties 2/3
Hooksielplate
Robbenplate
18.6 m.
17.1 m.
16.2 m.
Lower Saxony Bridge
NWK Kraftwerk
NWO Tanklager
New Fairway (planned)
Existing Fairway
134° – 314°
km 20
18.9 m
ICI Jetty
Sea Lock
Hooksiel Outer Harbour
ICI Werk
Mobil Oil Refinery
Autobahn


WILHELMSHAVEN
INNER HARBOURS
Tanker Roads South
Westkaje
New Outer Harbour
8 m.
Ostkaje
Under construction
a) Oldenburgkai
b) Lueneburgkai
c) Braunschweigkai
Sea Lock
10 m.
Northern Harbour
Hannover Quay
Deviation Buoy
Construction Harbour
Furnishing Harbour
Harbour Canal
Connection Harbour
Nord – Gazellebrucke
Bontekai
10 – 12 m.
Great Harbour
Tide and Pontoon Harbour
Ems – Jade Canal
Bridge
Commercial Harbour
Canal Harbour
Restricted
6 – 10 m.
Tonnenhaf
Old Outer Harbour
Sud – Gazellebrucke
Zwischenhafen
Not accessible to ships
Westhafen

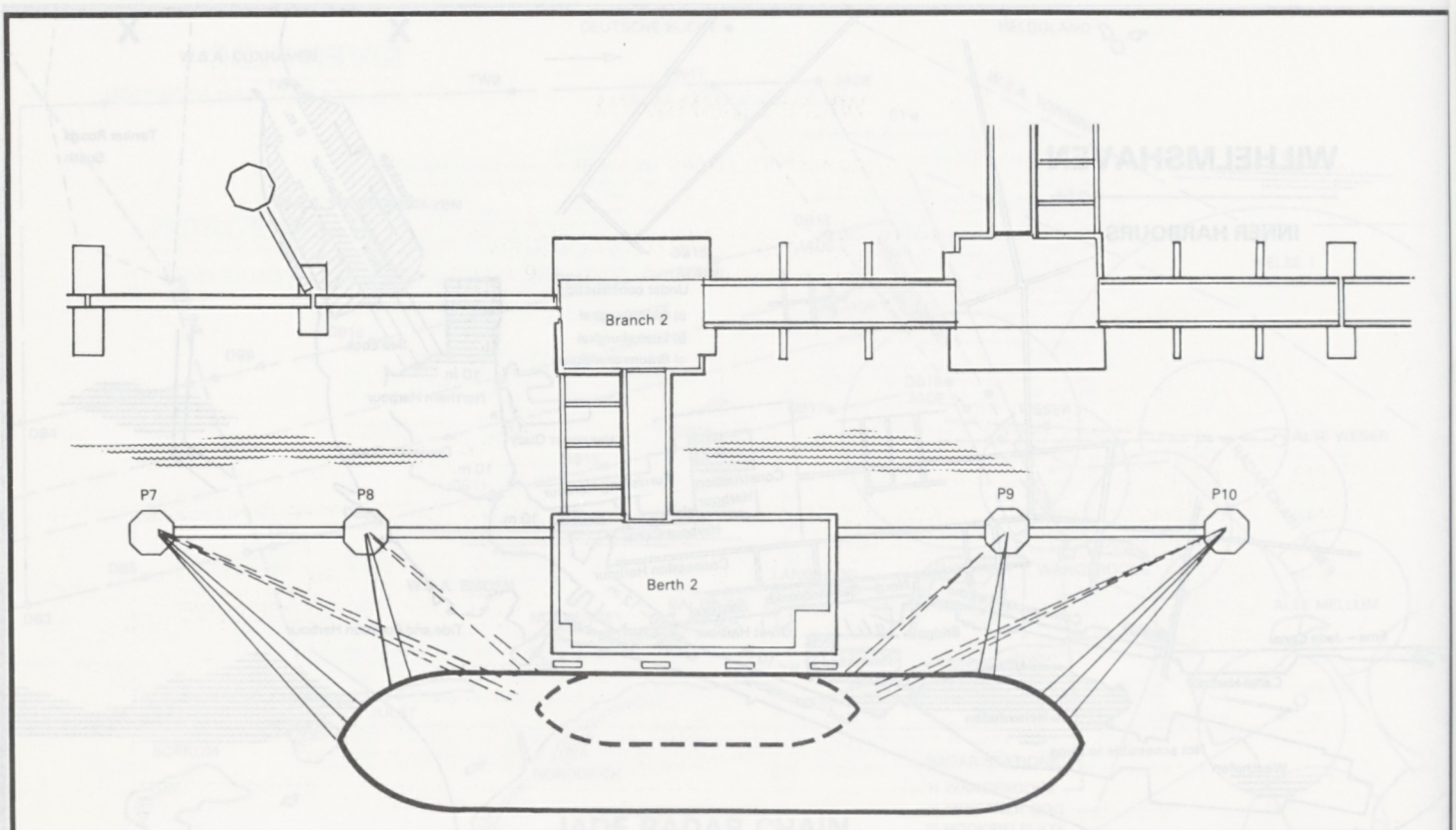


WILHELMSHAVEN

I C I TRANSHIPMENT JETTY

Positions:

a)	53° 38' 01" N	08° 05' 47" E
b)	53° 38' 14" N	08° 06' 40" E
c)	53° 38' 35" N	08° 06' 18" E
d)	53° 38' 42" N	08° 06' 37" E
e)	53° 38' 16" N	08° 07' 04" E
f)	53° 37' 58" N	08° 05' 50" E



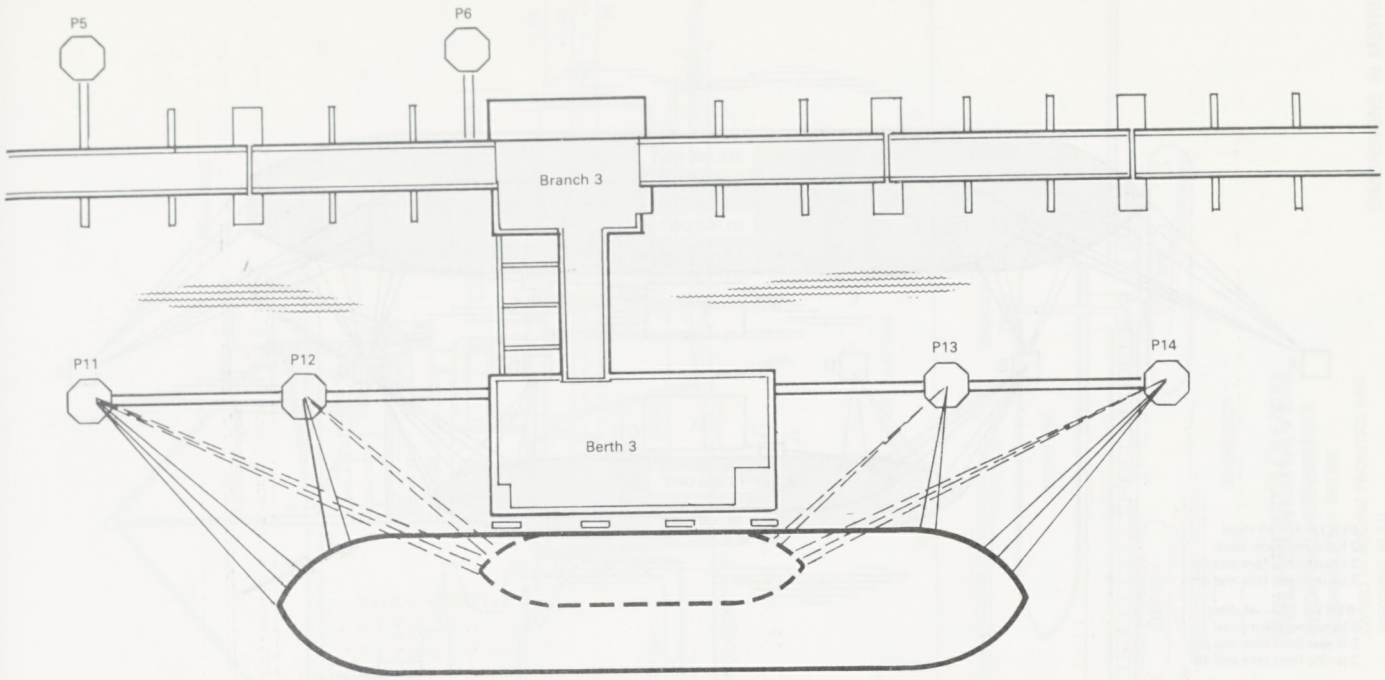
Berth 2

400 – 3000 dwt	3000 – 7000 dwt
3 Head and Stern Lines	3 Head and Stern Lines
2 Breast Lines Fore and Aft	2 Breast Lines Fore and Aft
1 Spring Fore and Aft	2 Springs Fore and Aft

WILHELMSHAVEN

ICI JETTY, BERTH 2

MOORING PLAN



Berth 3

400 – 3000 dwt
3 Head and Stern Lines
2 Breast Lines Fore and Aft
1 Spring Fore and Aft

3000 – 7000 dwt
3 Head and Stern Lines
2 Breast Lines Fore and Aft
2 Springs Fore and Aft

WILHELMSHAVEN

ICI JETTY, BERTH 3

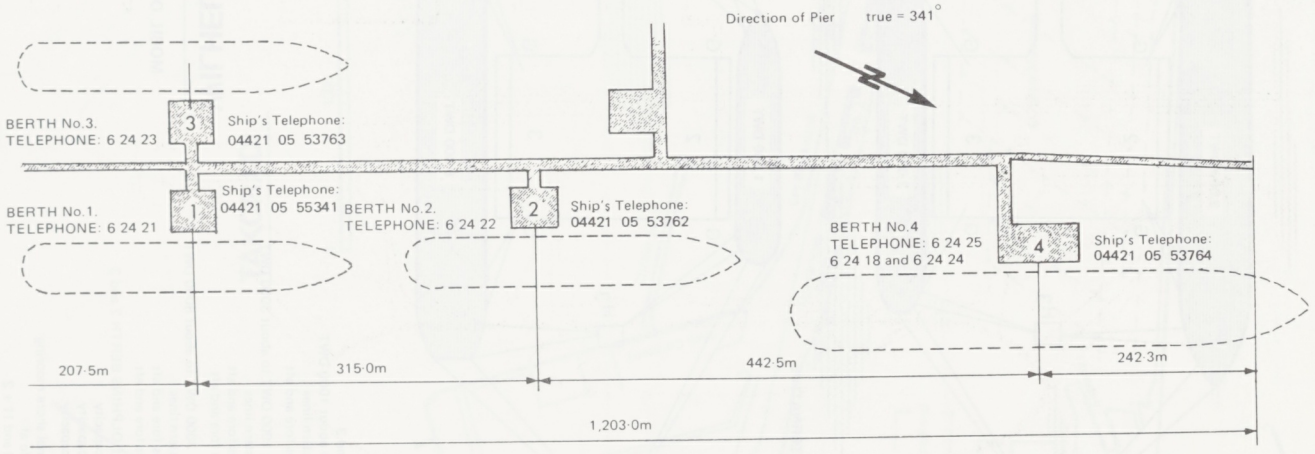
MOORING PLAN

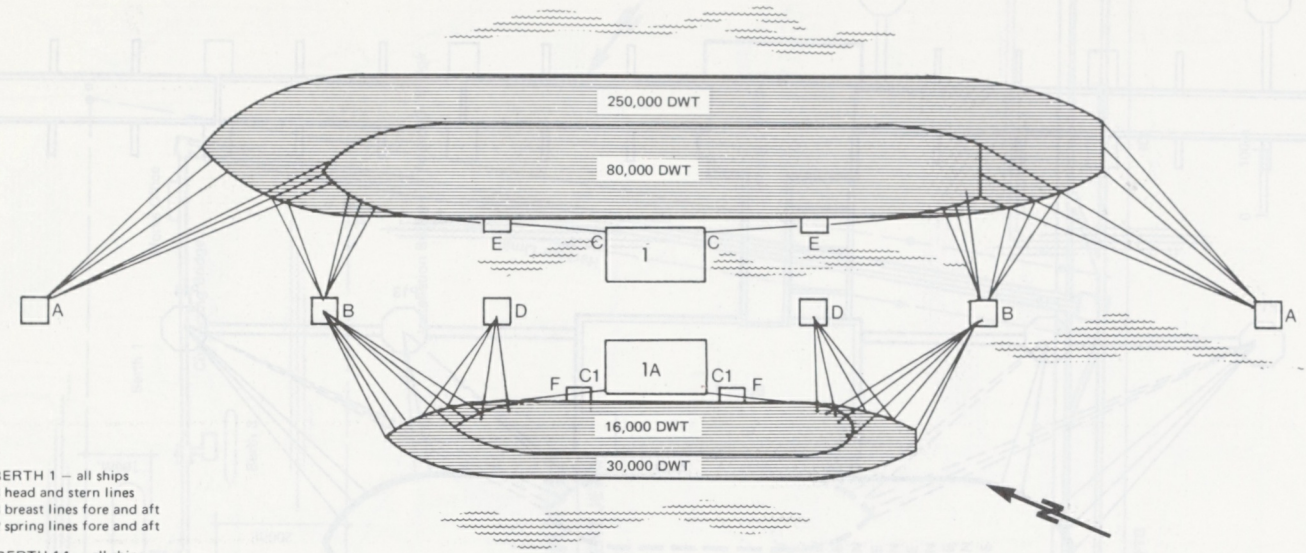
WILHELMSHAVEN

NORD-WEST OELLEITUNG TERMINAL

PIER MASTER – ON DUTY DAY AND NIGHT – TELEPHONE 62461/62462
MUST BE INFORMED IMMEDIATELY ABOUT UNUSUAL INCIDENTS

ALARM: IF SHORE HORN IS SOUNDING – STOP CARGO PUMPS AT ONCE





BERTH 1 – all ships
3 head and stern lines
3 breast lines fore and aft
2 spring lines fore and aft

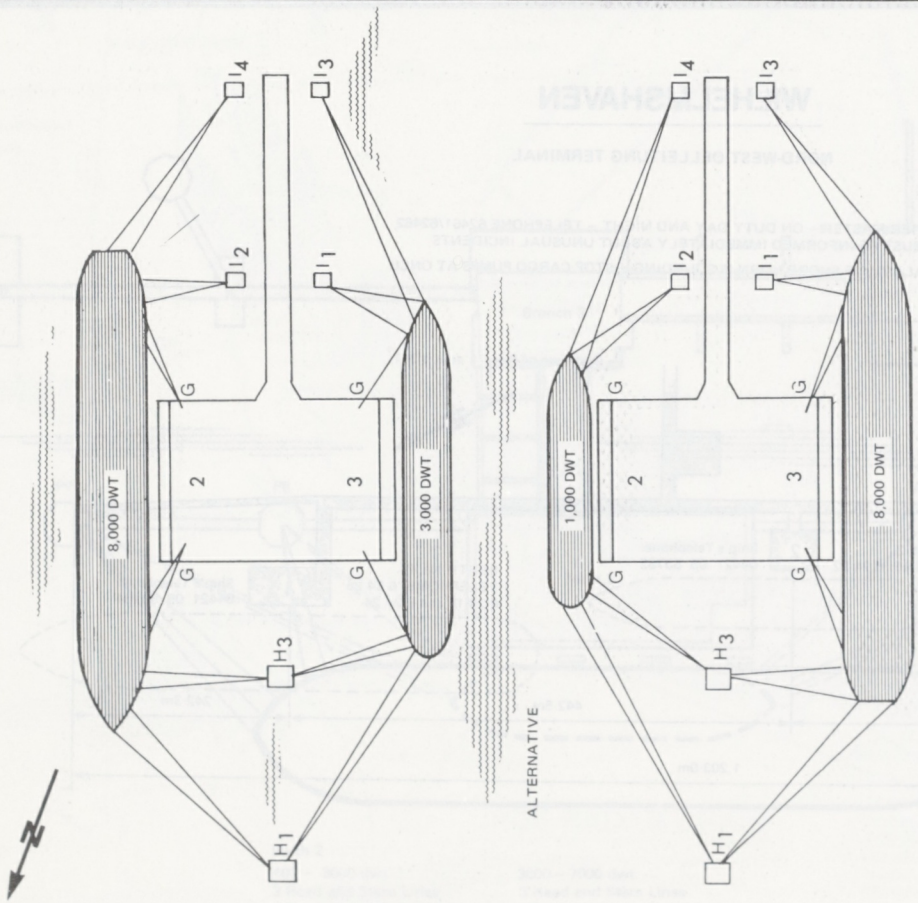
BERTH 1A – all ships
3 head and stern lines
2 breast lines fore and aft
2 spring lines fore and aft

MOORING DOLPHINS BERTHS 1 & 1A
A 3 x 125 tons hooks
B 3 x 125 tons hooks
C 2 x 100 tons hooks
D 2 x 50 tons hooks
2 x 75 tons hooks

One additional shore mooring wire available at dolphins B and D

WILHELMSHAVEN

MOBIL OIL, SEA ISLAND, BERTH 1 & 1A



WILHELMSHAVEN

MOBIL OIL BERTH 2 & 3

BERTH 2 and 3
300 DWT to about 1000 DWT
2 head and stern lines
2 breast lines fore and aft

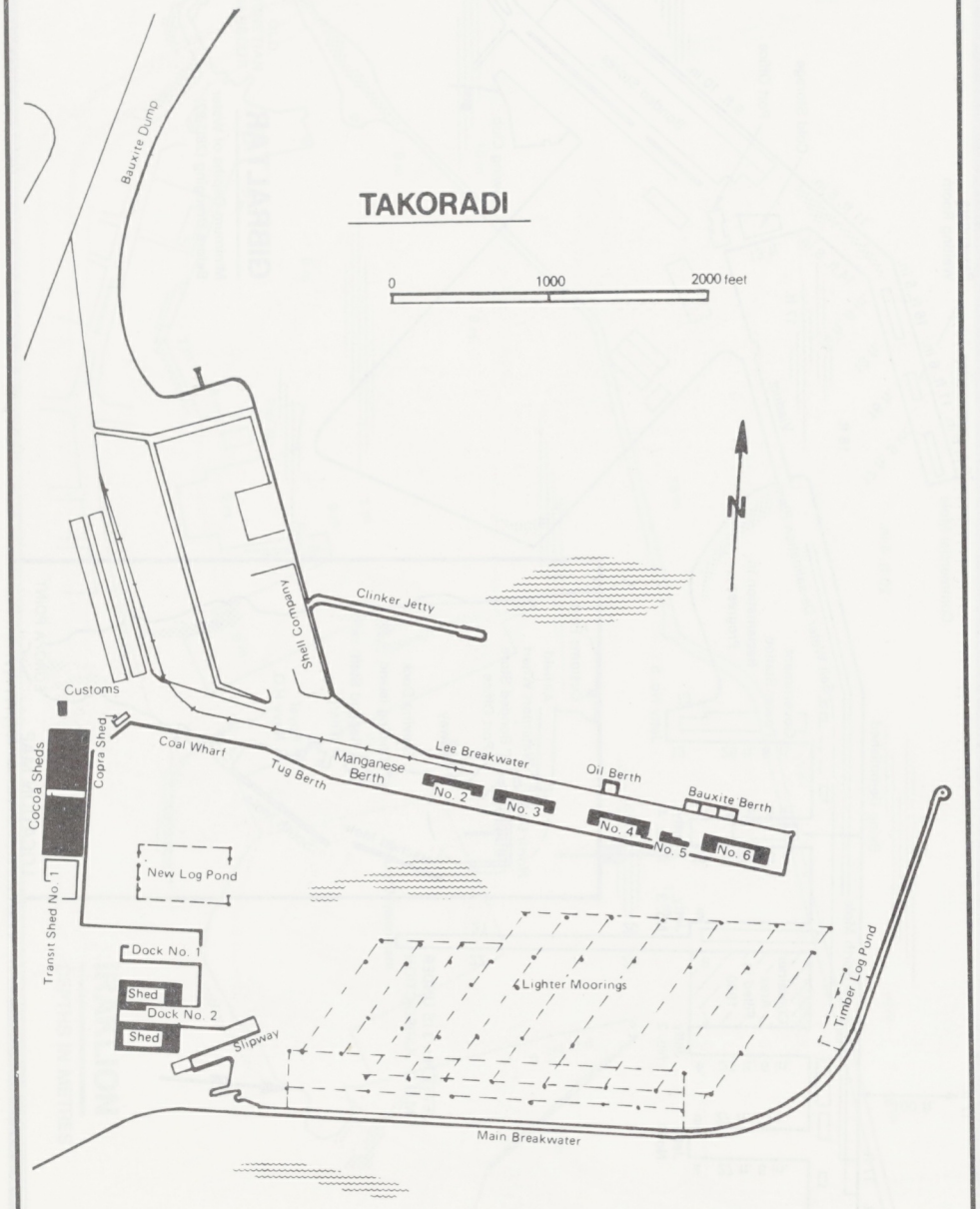
From about 1000 DWT to about 3000 DWT
2 head and stern lines
2 breast lines fore and aft
1 spring line fore and aft

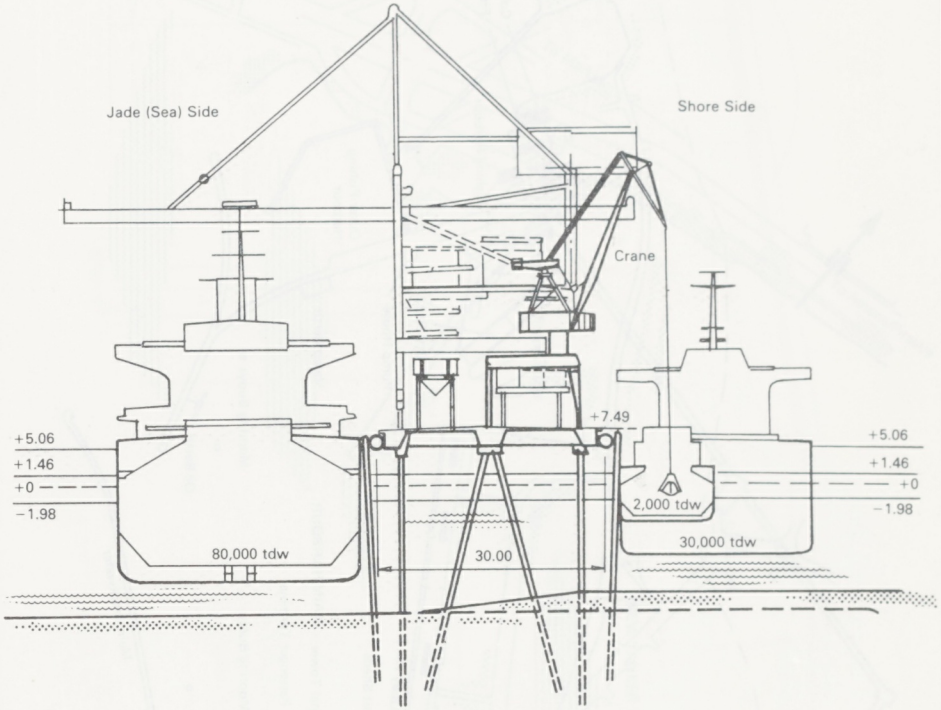
From about 3000 DWT to about 8000 DWT
2 head and stern lines
2 breast lines fore and aft
2 spring lines fore and aft

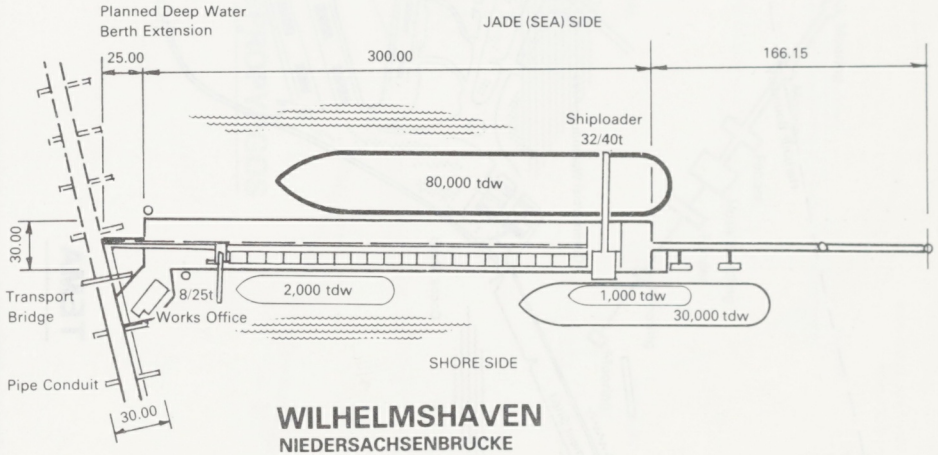
MOORING DOLPHINS BERTH 2 and 3
G 50 tons capacity
H 75 tons capacity
I 50 tons capacity

One additional shore mooring wire available at dolphins H3 and I1 + 2

TAKORADI







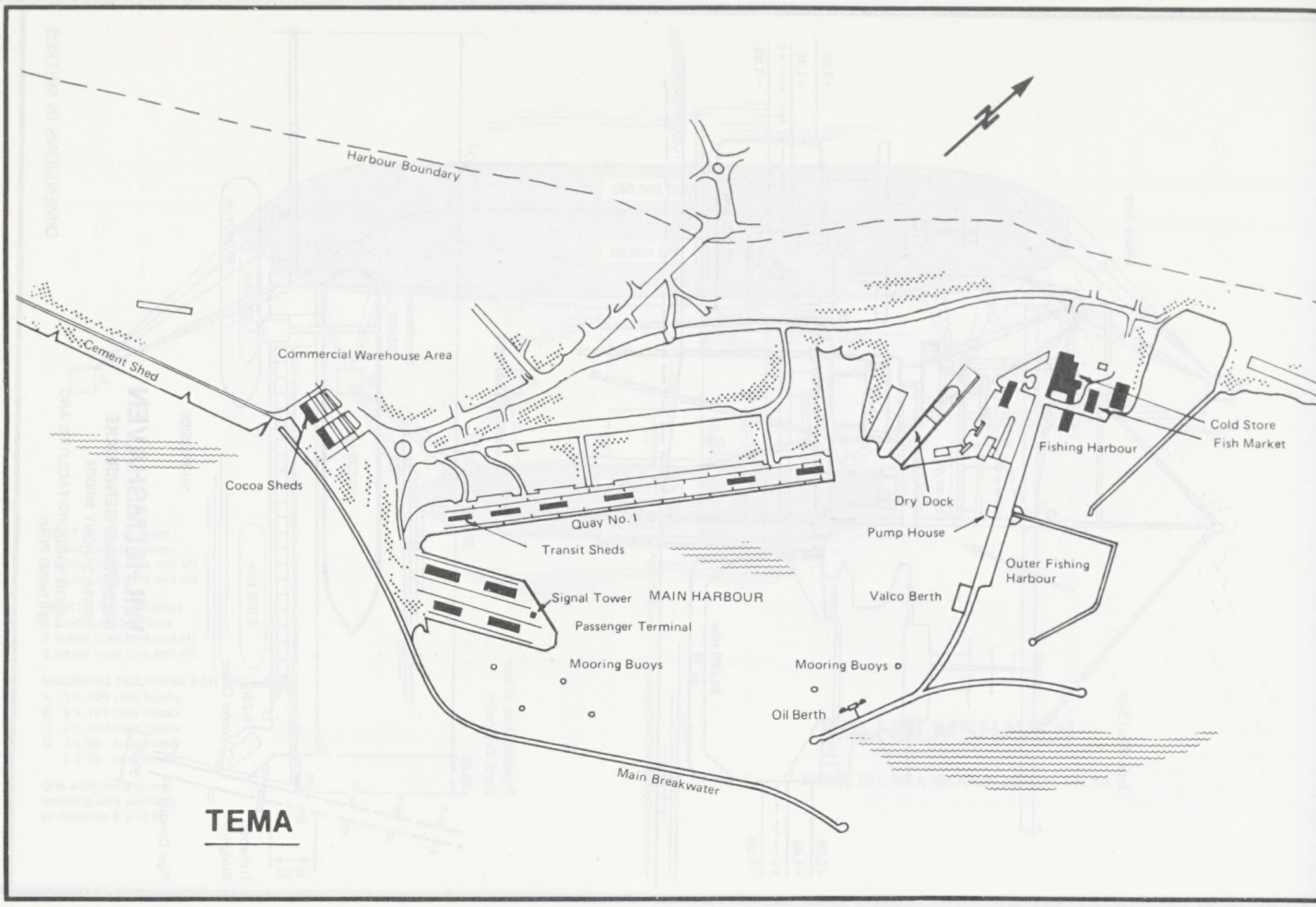
WILHELMSHAVEN

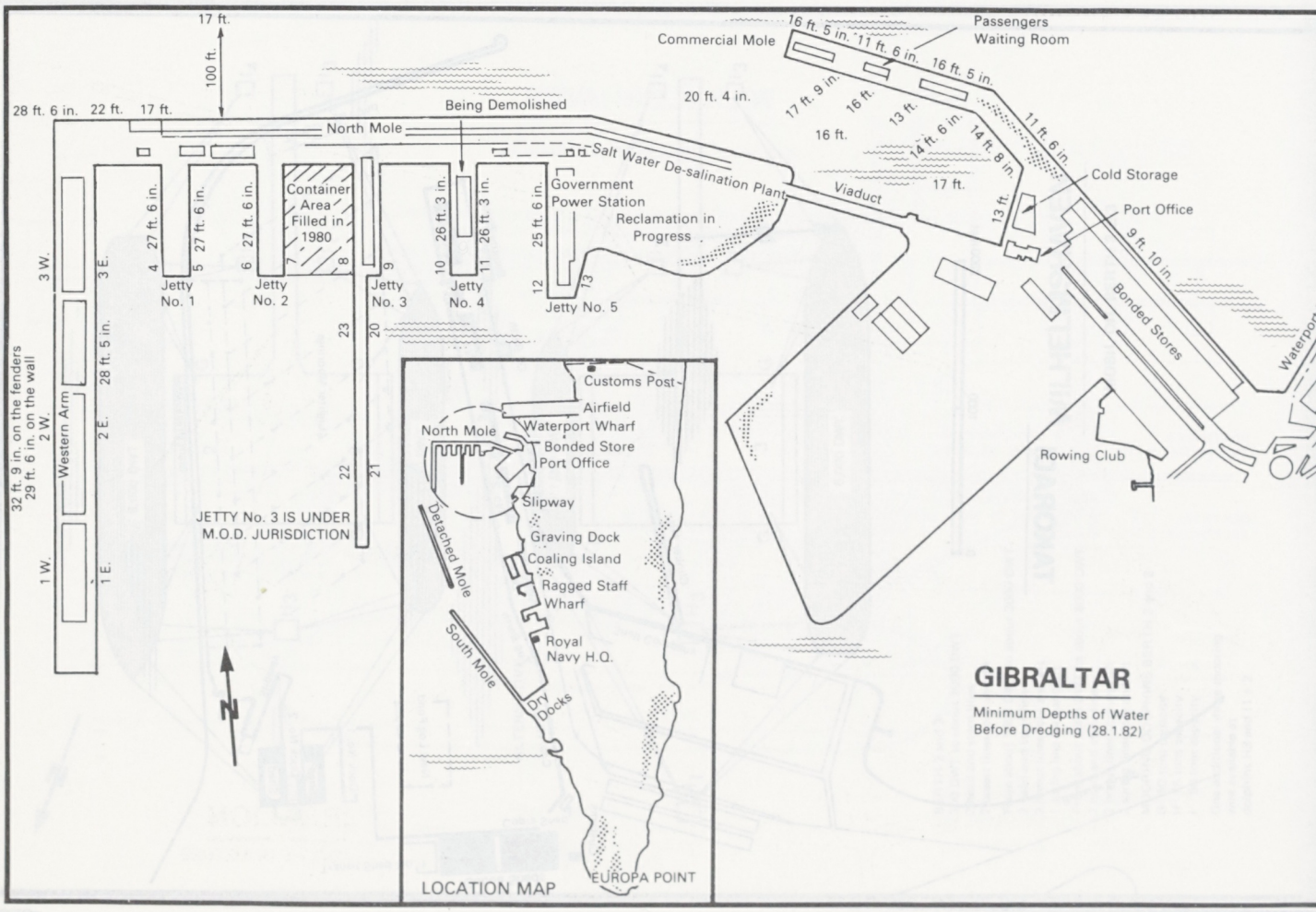
NIEDERSACHSENBRUCKE

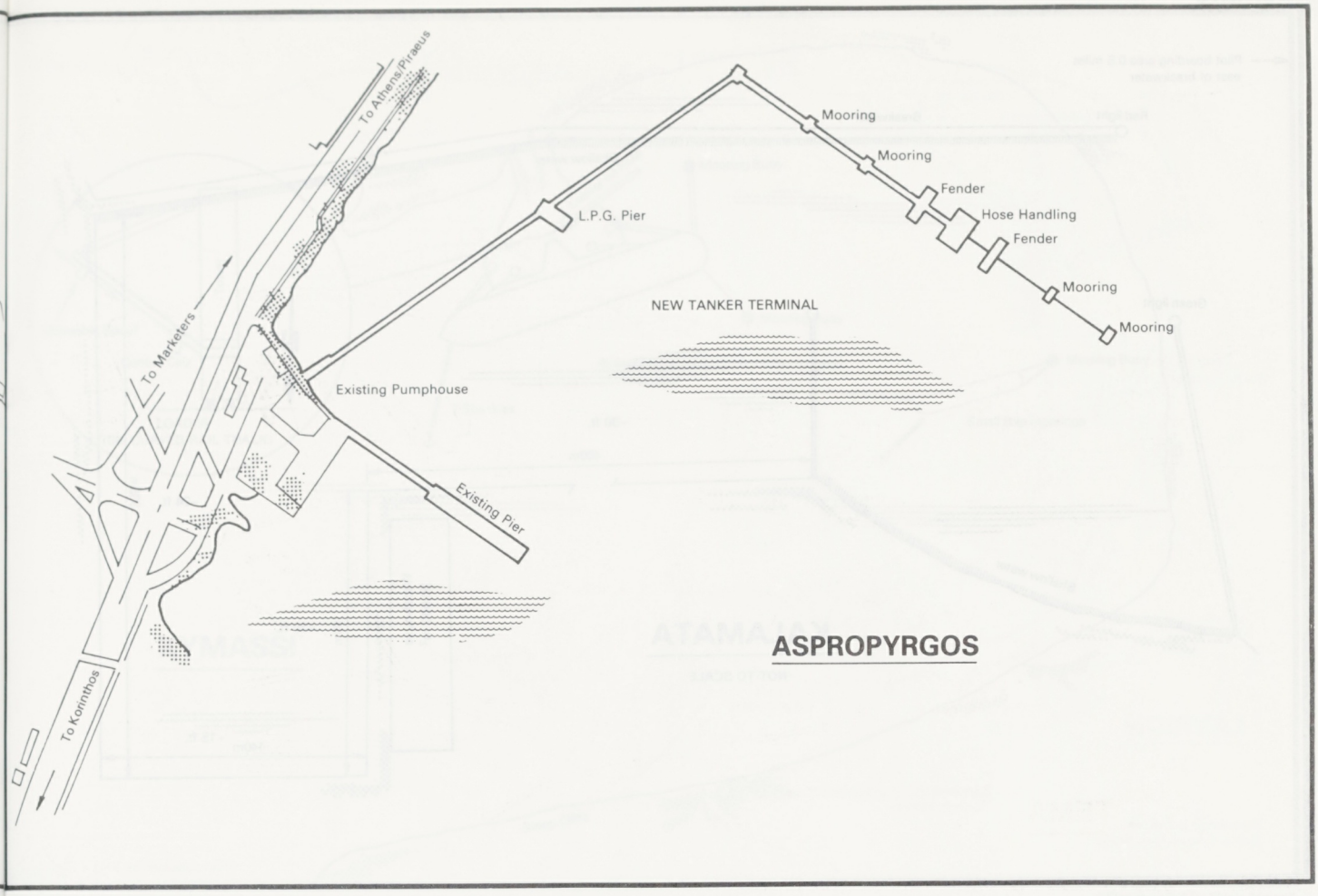
LOWER SAXONY BRIDGE

CARGO HANDLING FACILITIES AND BERTHING PLAN

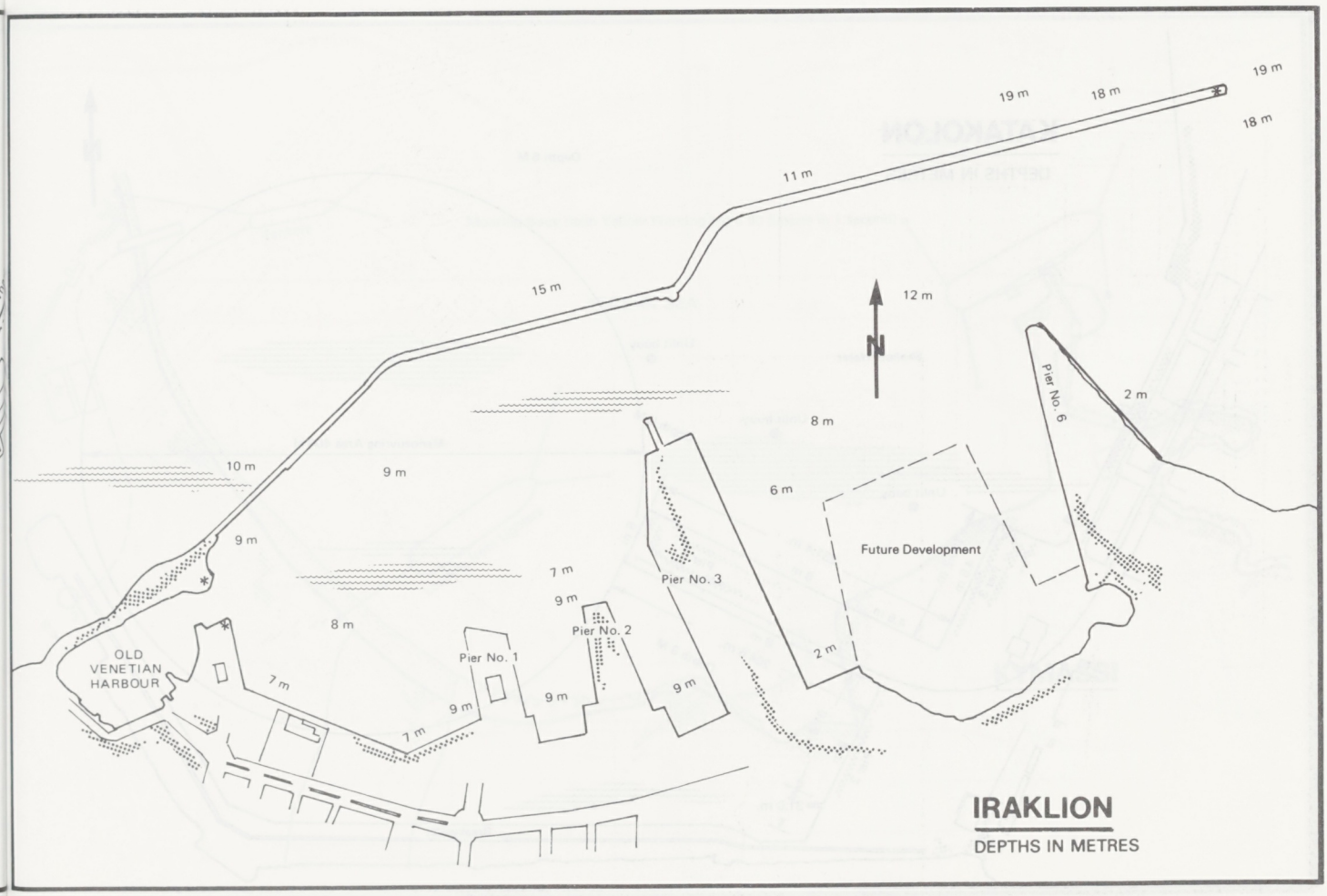
DIMENSIONS IN METRES


Harbour Boundary
N
Cement Shed
Commercial Warehouse Area
Cocoa Sheds
Quay No. 1
Transit Sheds
Signal Tower
MAIN HARBOUR
Passenger Terminal
Mooring Buoys
Mooring Buoys
Oil Berth
Main Breakwater
Dry Dock
Pump House
Fishing Harbour
Cold Store
Fish Market
Outer Fishing Harbour
Valco Berth
TEMA


17 ft.
100 ft.
28 ft. 6 in.
22 ft.
17 ft.
North Mole
Being Demolished
Commercial Mole
16 ft. 5 in.
11 ft. 6 in.
16 ft. 5 in.
Passengers Waiting Room
20 ft. 4 in.
17 ft. 9 in.
16 ft.
13 ft.
14 ft. 6 in.
14 ft. 8 in.
11 ft. 6 in.
16 ft.
17 ft.
13 ft.
Salt Water De-salination Plant
Viaduct
Cold Storage
Port Office
9 ft. 10 in.
Bonded Stores
Container Area Filled in 1980
Government Power Station
Reclamation in Progress
27 ft. 6 in.
27 ft. 6 in.
27 ft. 6 in.
26 ft. 3 in.
26 ft. 3 in.
25 ft. 6 in.
Jetty No. 1
Jetty No. 2
Jetty No. 3
Jetty No. 4
Jetty No. 5
3 W.
3 E.
2 W.
2 E.
1 W.
1 E.
Western Arm
32 ft. 9 in. on the fenders
29 ft. 6 in. on the wall
28 ft. 5 in.
JETTY No. 3 IS UNDER M.O.D. JURISDICTION
Rowing Club
N
Customs Post
Airfield
Waterport Wharf
Bonded Store
Port Office
North Mole
Slipway
Graving Dock
Coaling Island
Ragged Staff Wharf
Royal Navy H.Q.
Detached Mole
South Mole
Dry Docks
EUROPA POINT
LOCATION MAP
GIBRALTAR
Minimum Depths of Water Before Dredging (28.1.82)

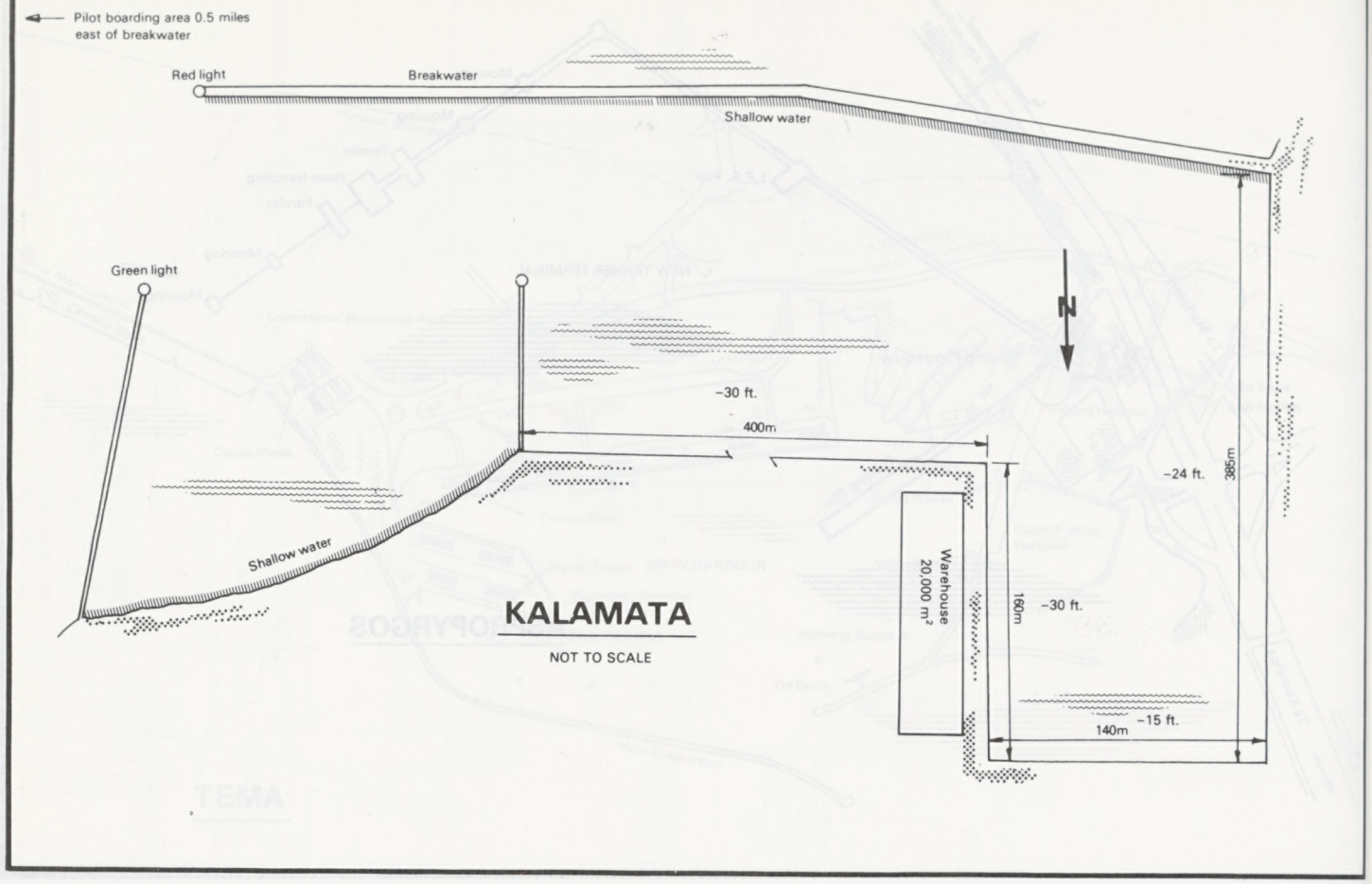


ASPROPYRGOS

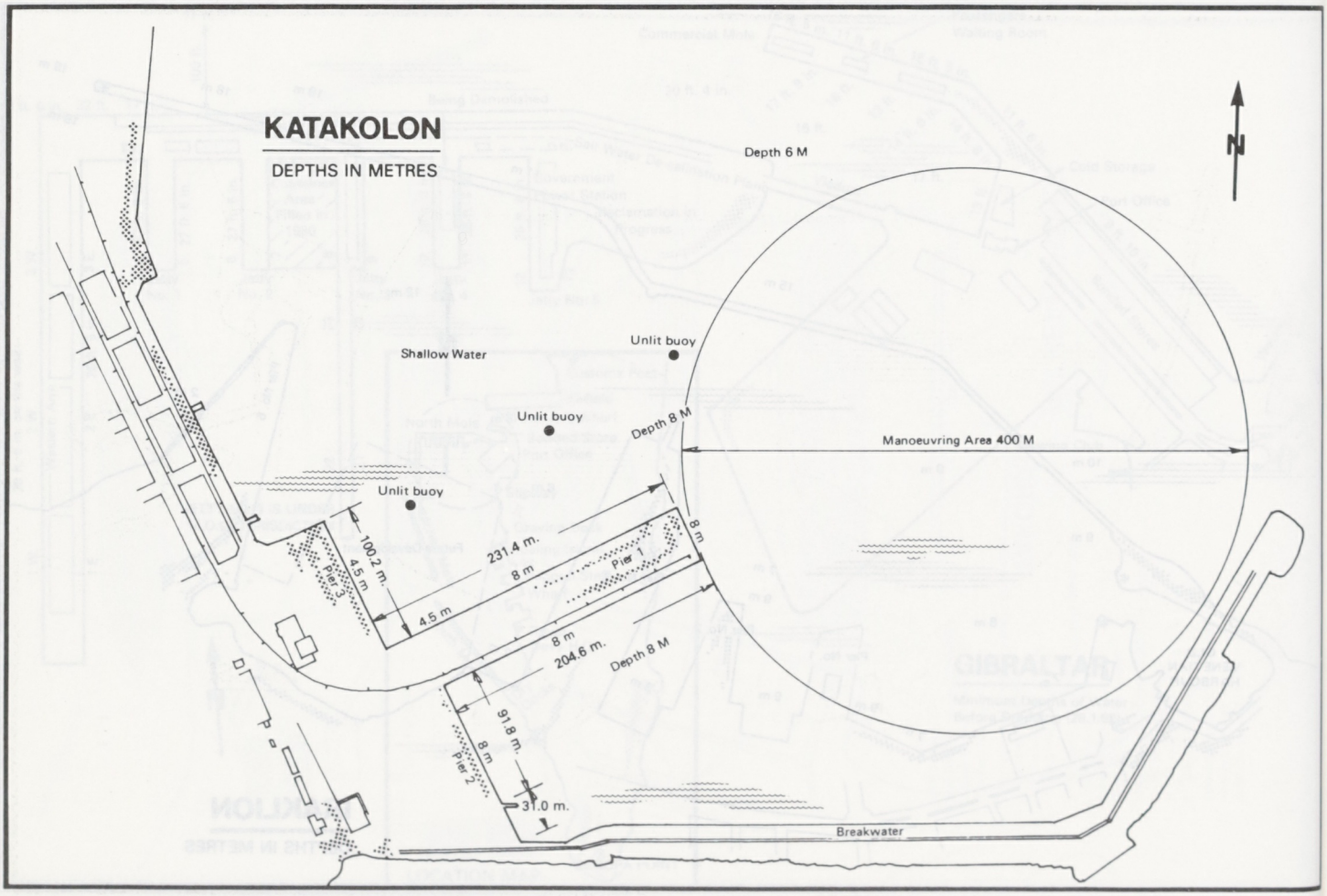


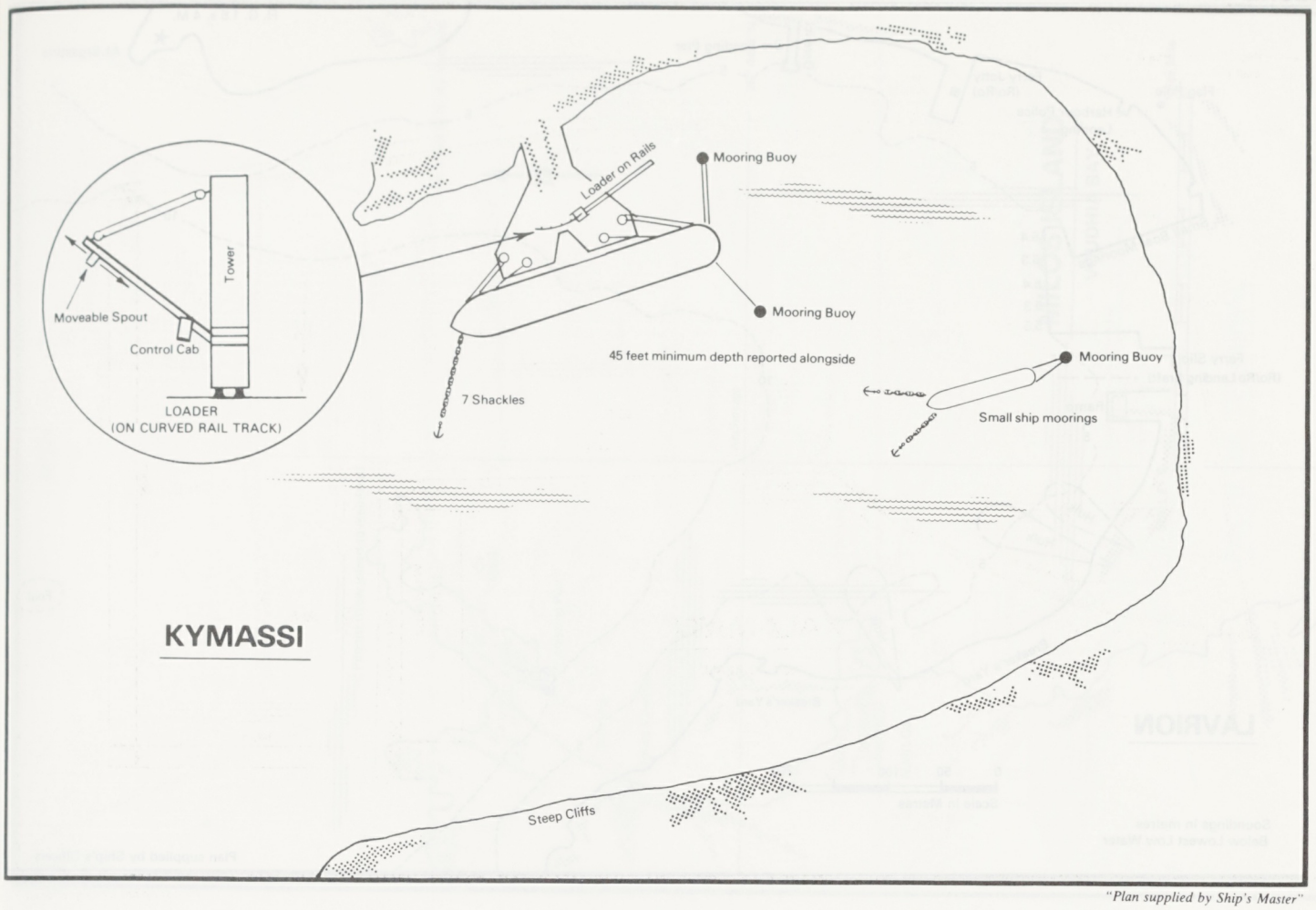
IRAKLION

DEPTHS IN METRES

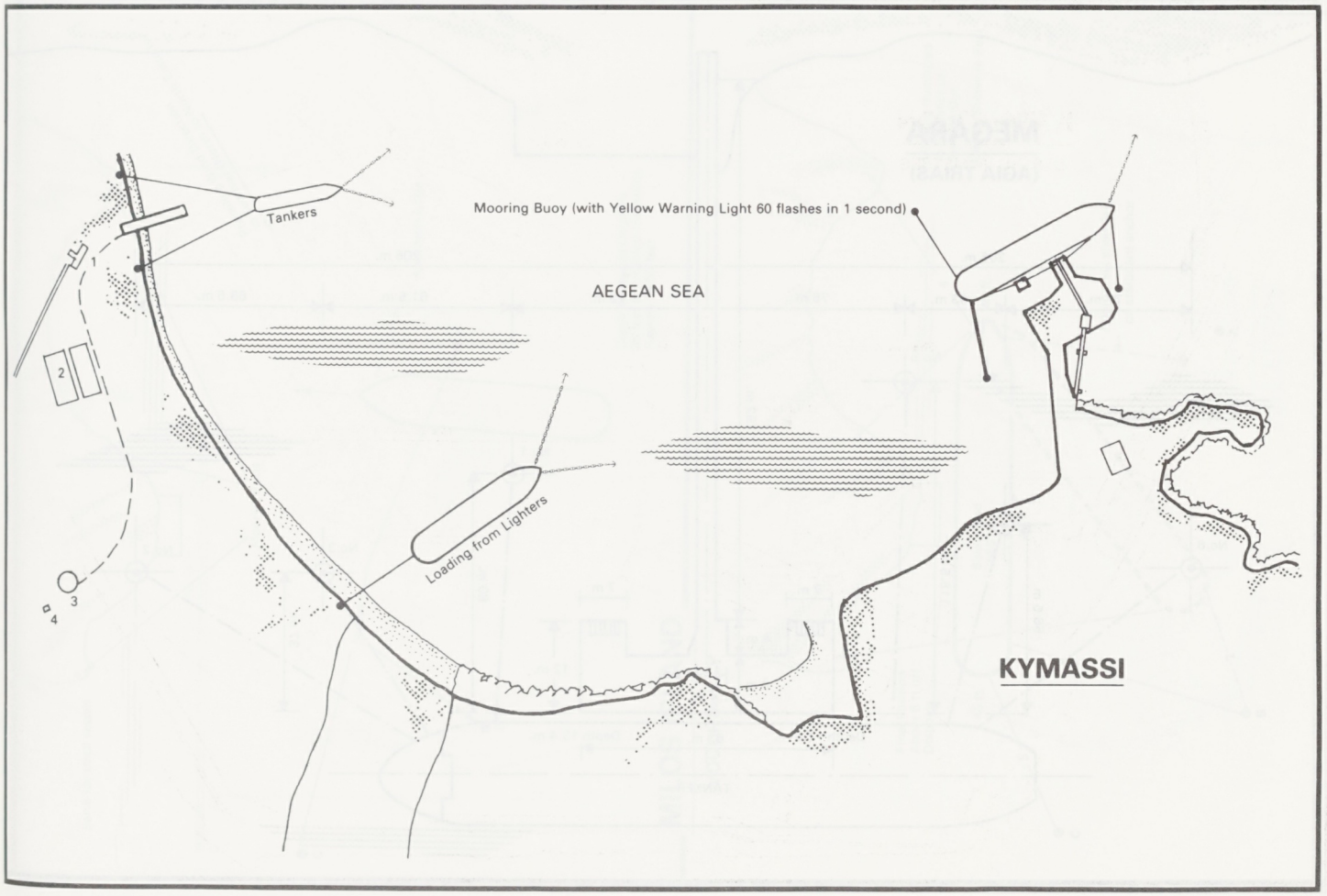


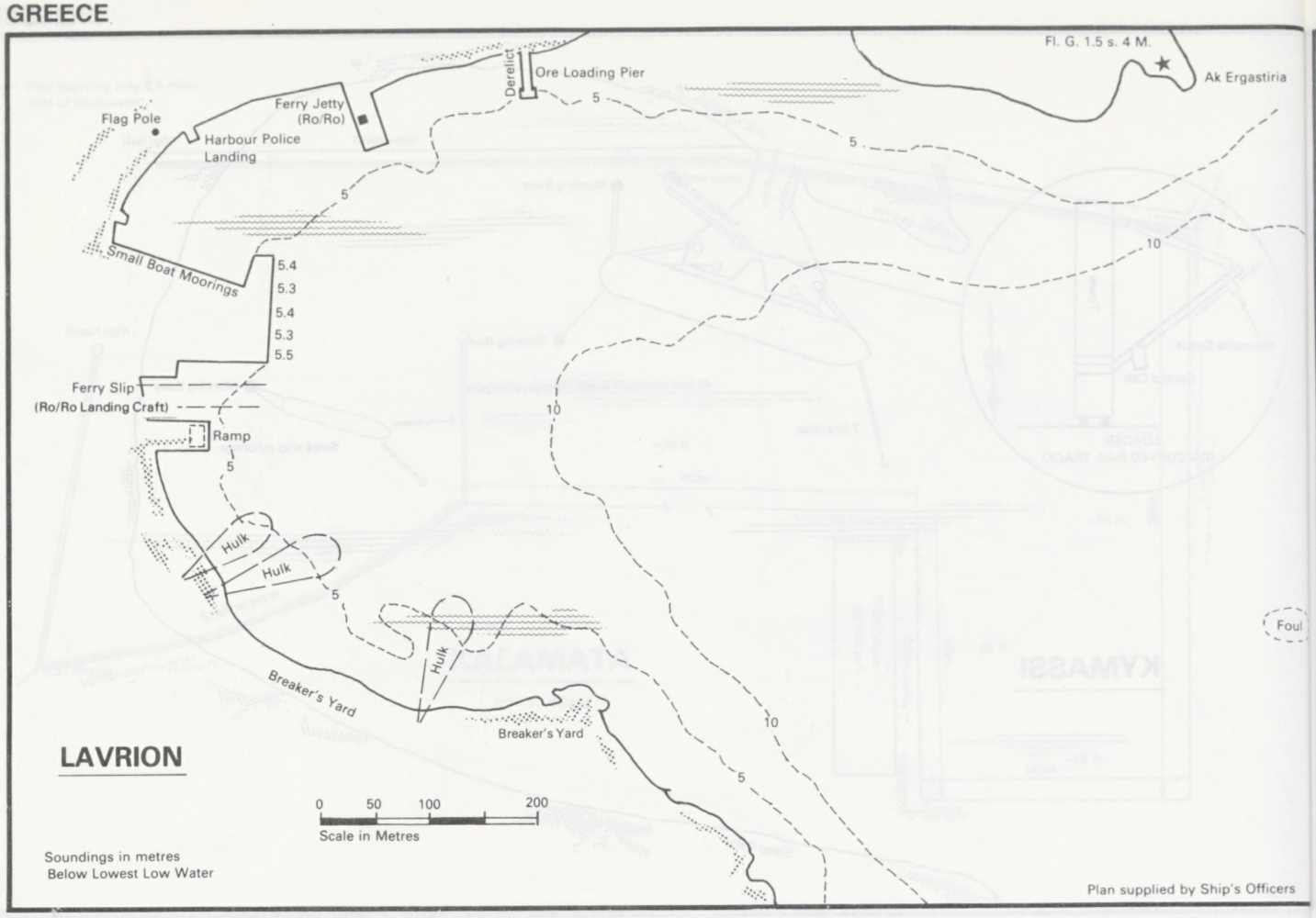
"Plan supplied by Ship's Master"

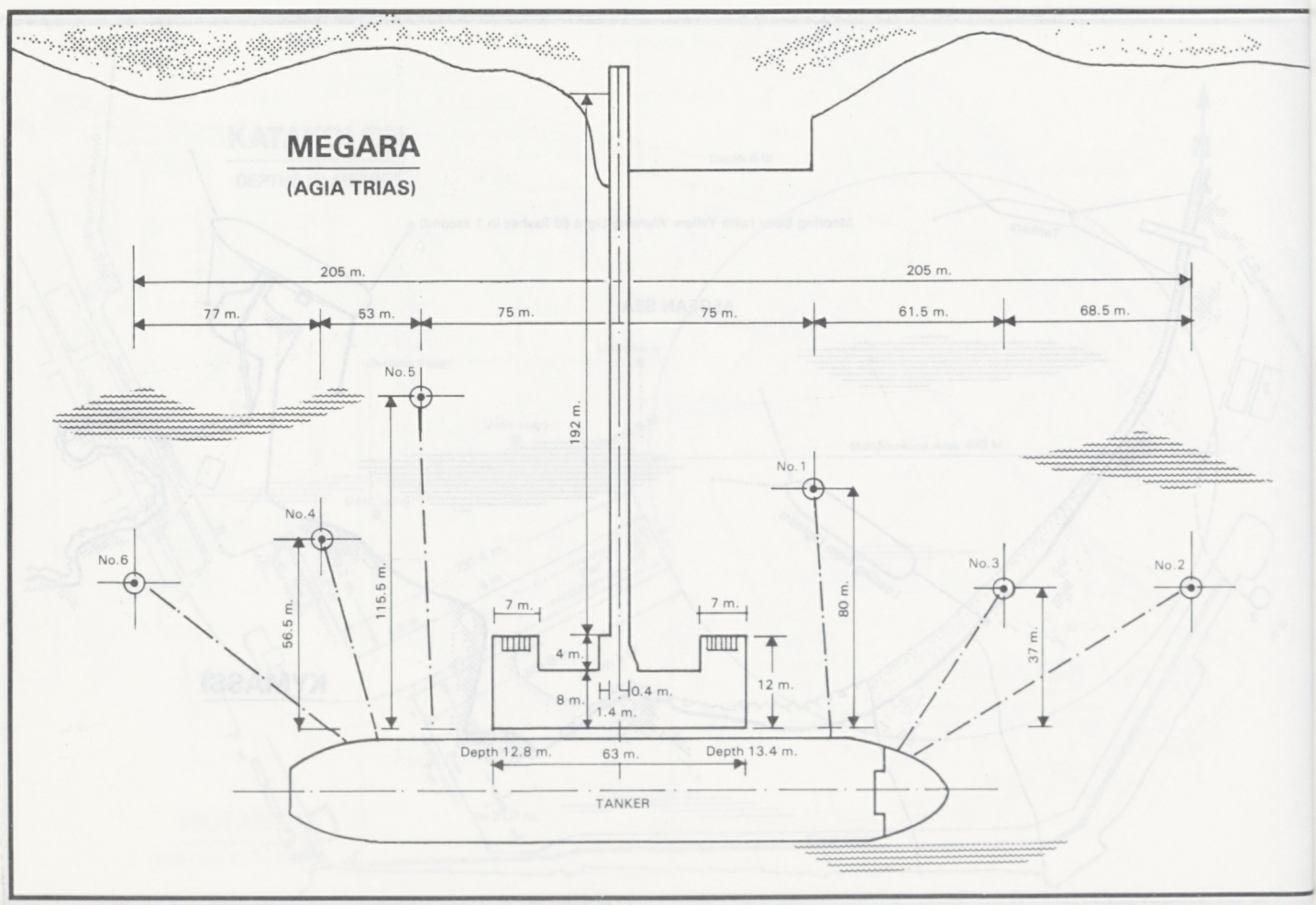


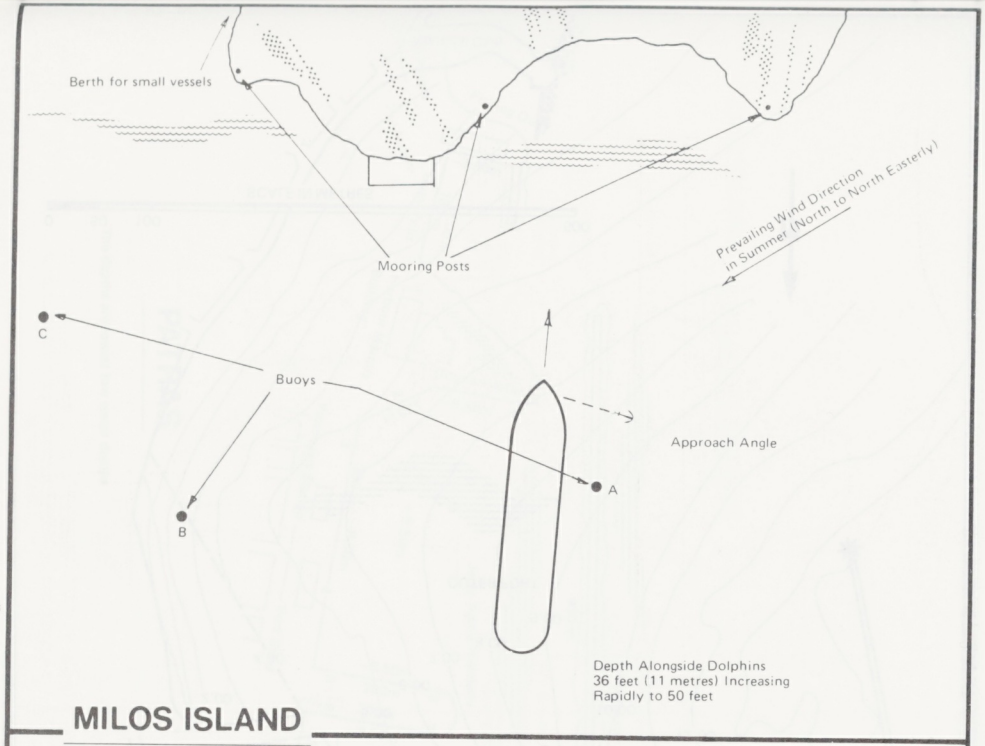


"Plan supplied by Ship's Master"



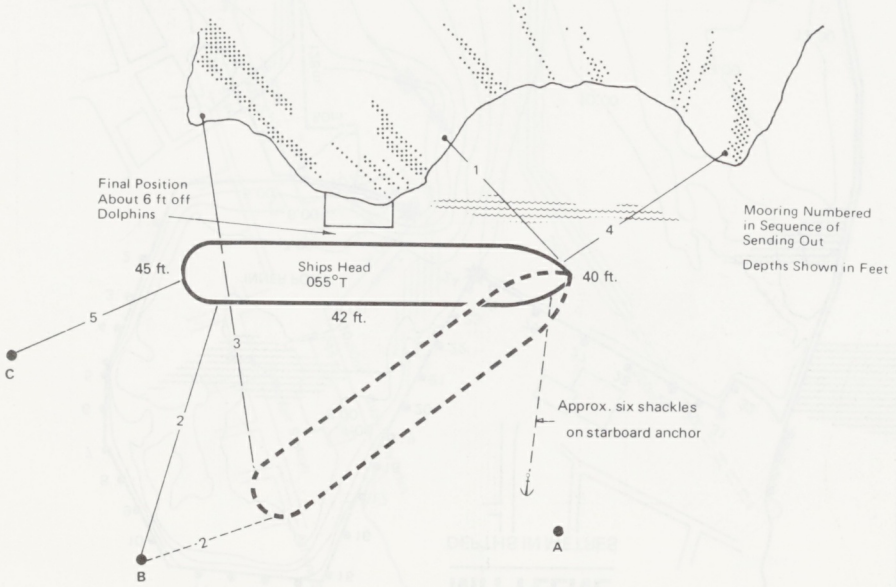

Fl. G. 1.5 s. 4 M.
Ak Ergastiria
Derelict
Ore Loading Pier
Ferry Jetty
(Ro/Ro)
Flag Pole
Harbour Police
Landing
Small Boat Moorings
5.4
5.3
5.4
5.3
5.5
Ferry Slip
(Ro/Ro Landing Craft)
Ramp
Hulk
Hulk
Hulk
Breaker's Yard
Breaker's Yard
Foul
LAVRION
0 50 100 200
Scale in Metres
Soundings in metres
Below Lowest Low Water
Plan supplied by Ship's Officers


MEGARA
(AGIA TRIAS)
205 m.
205 m.
77 m.
53 m.
75 m.
75 m.
61.5 m.
68.5 m.
No.5
No.4
No.6
No.1
No.3
No.2
192 m.
115.5 m.
56.5 m.
80 m.
37 m.
7 m.
7 m.
4 m.
8 m.
10.4 m.
1.4 m.
12 m.
Depth 12.8 m.
63 m.
Depth 13.4 m.
TANKER

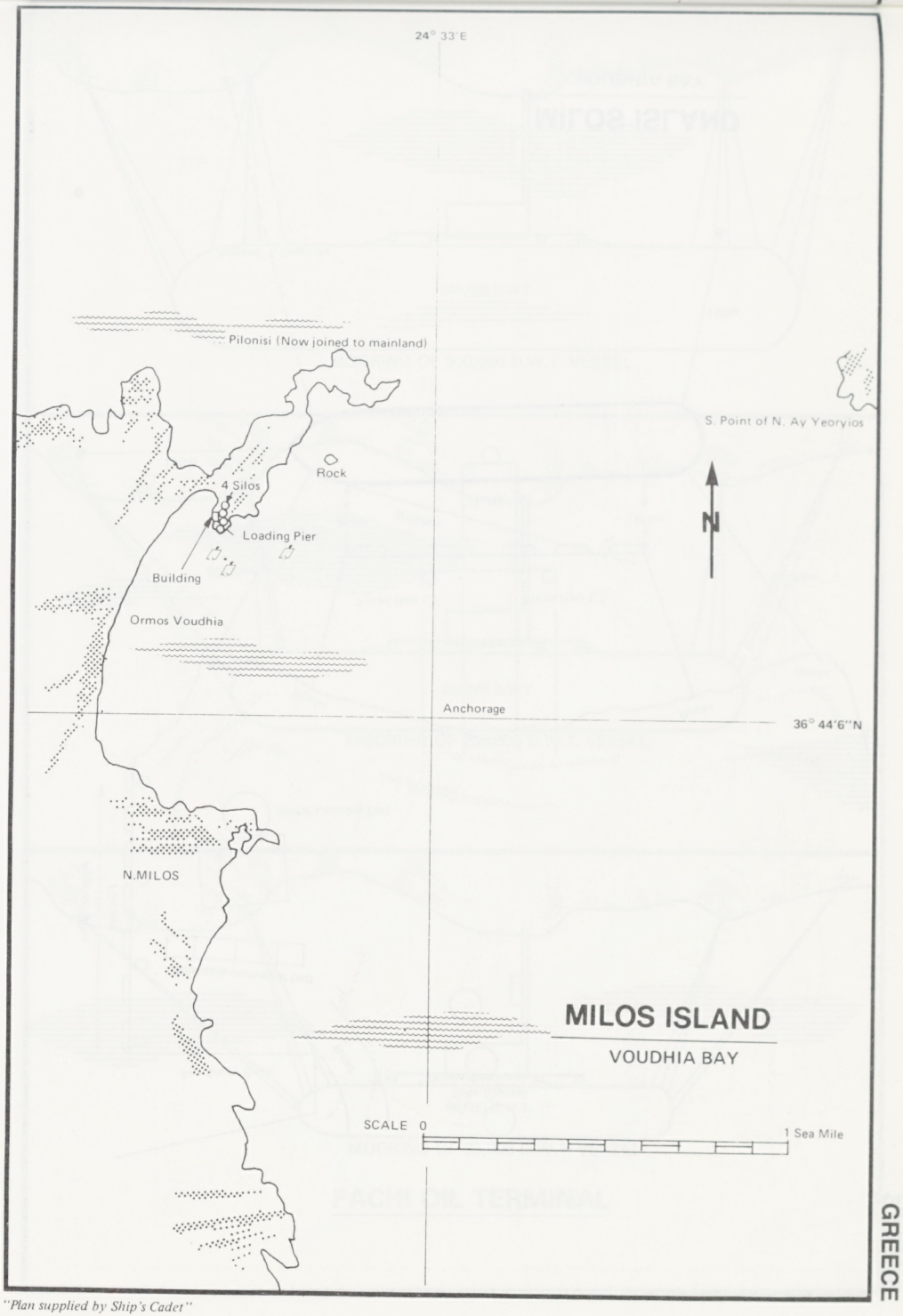


MILOS ISLAND

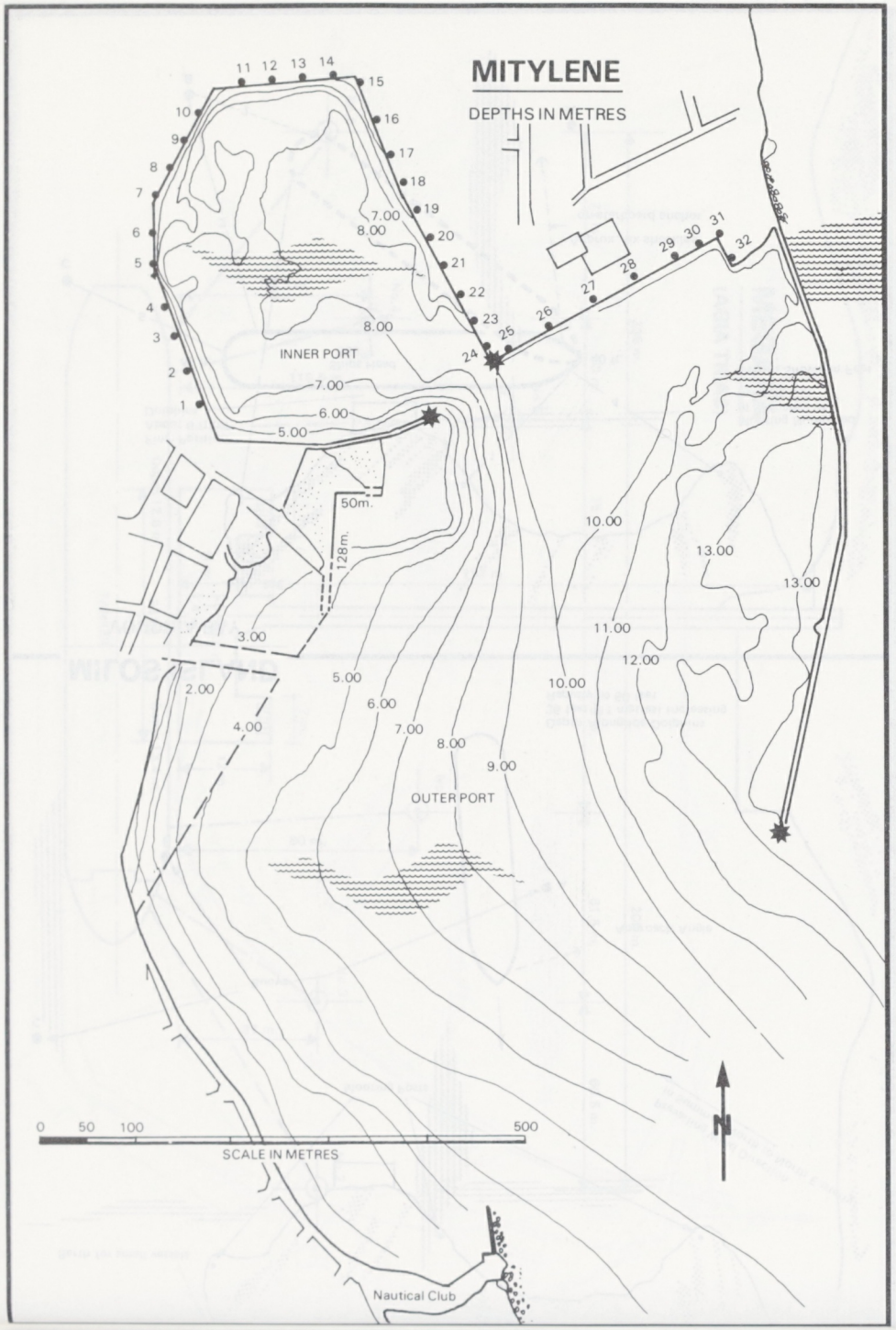
VOUDHIA BAY

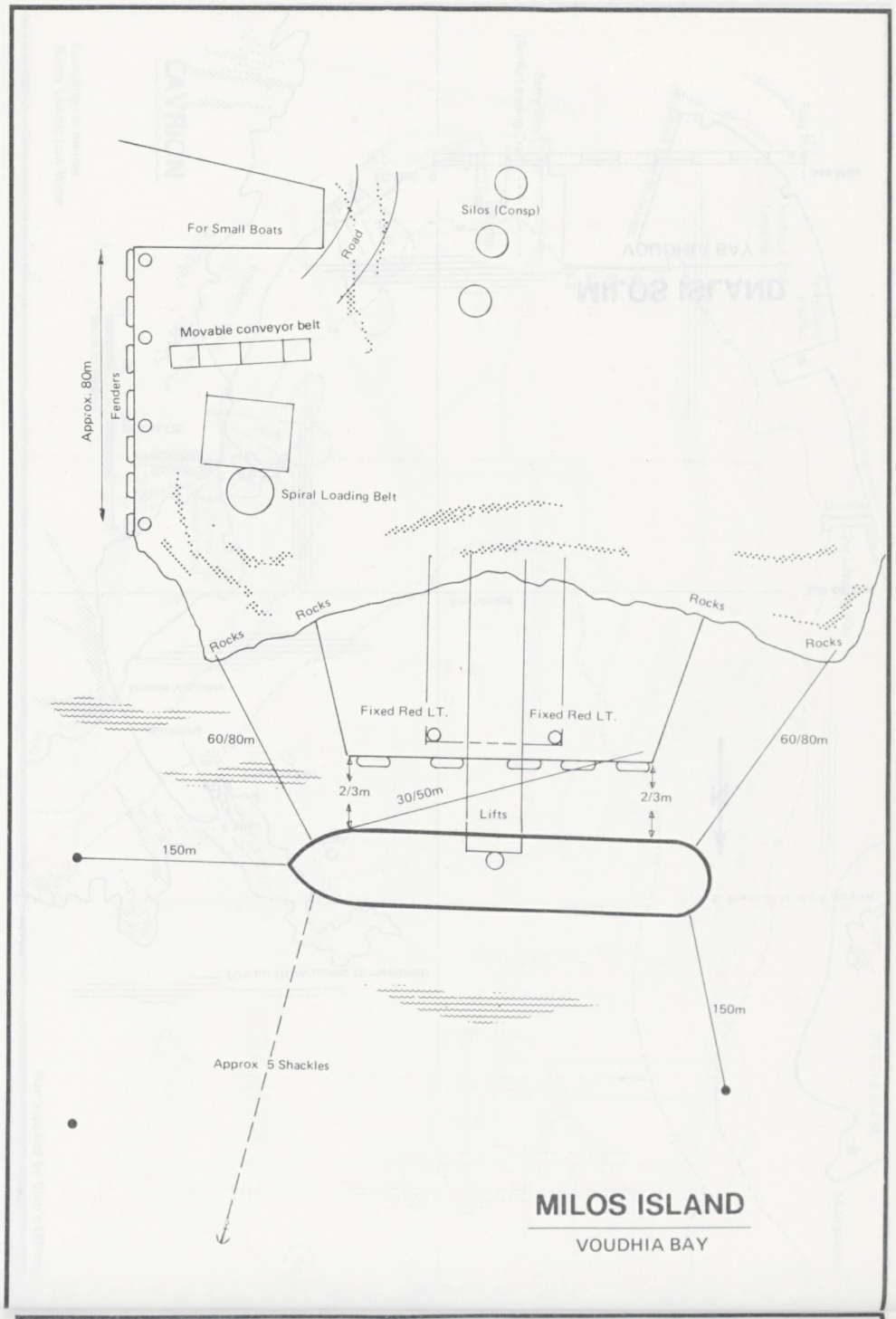


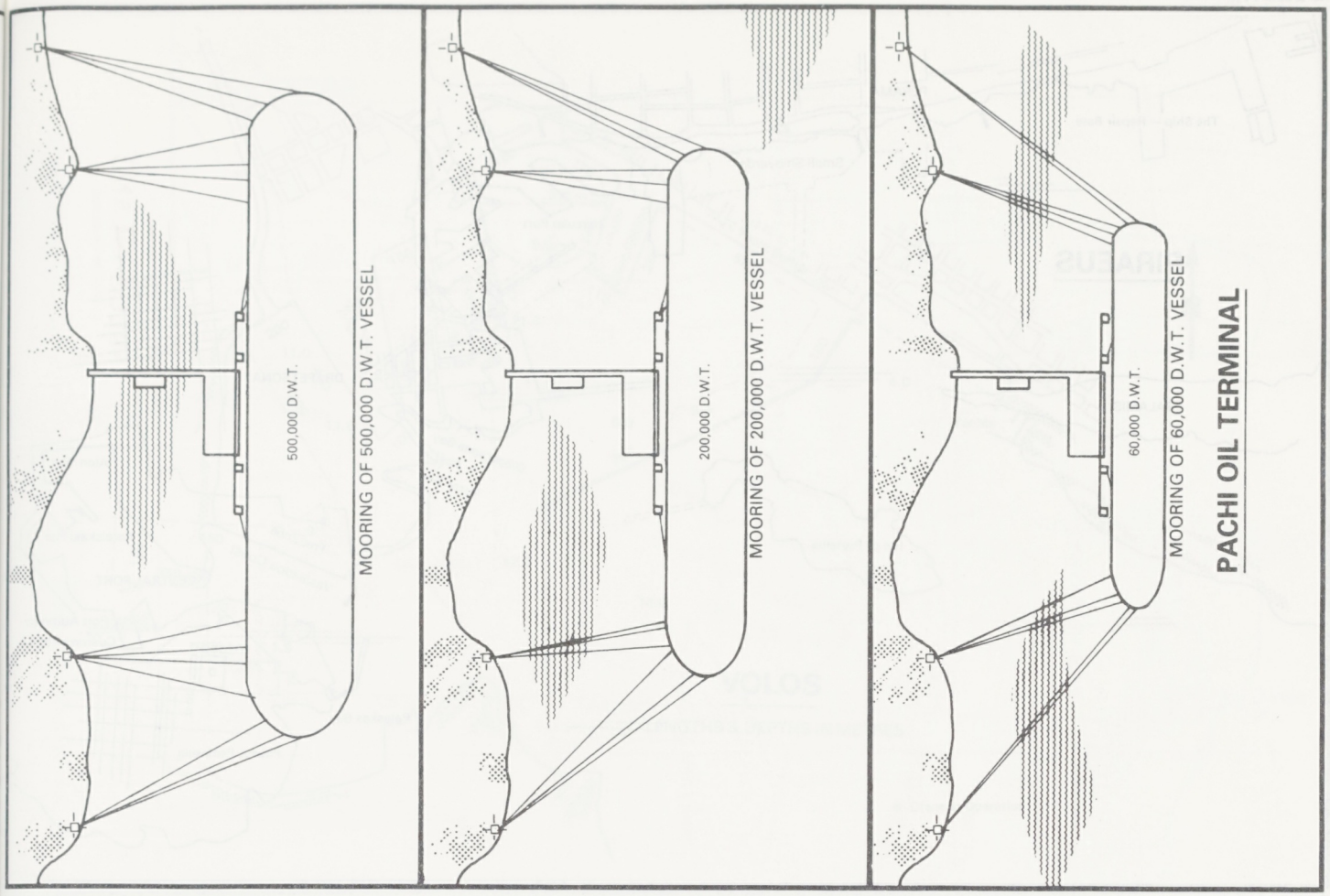
"Plan supplied by Ship's Master"

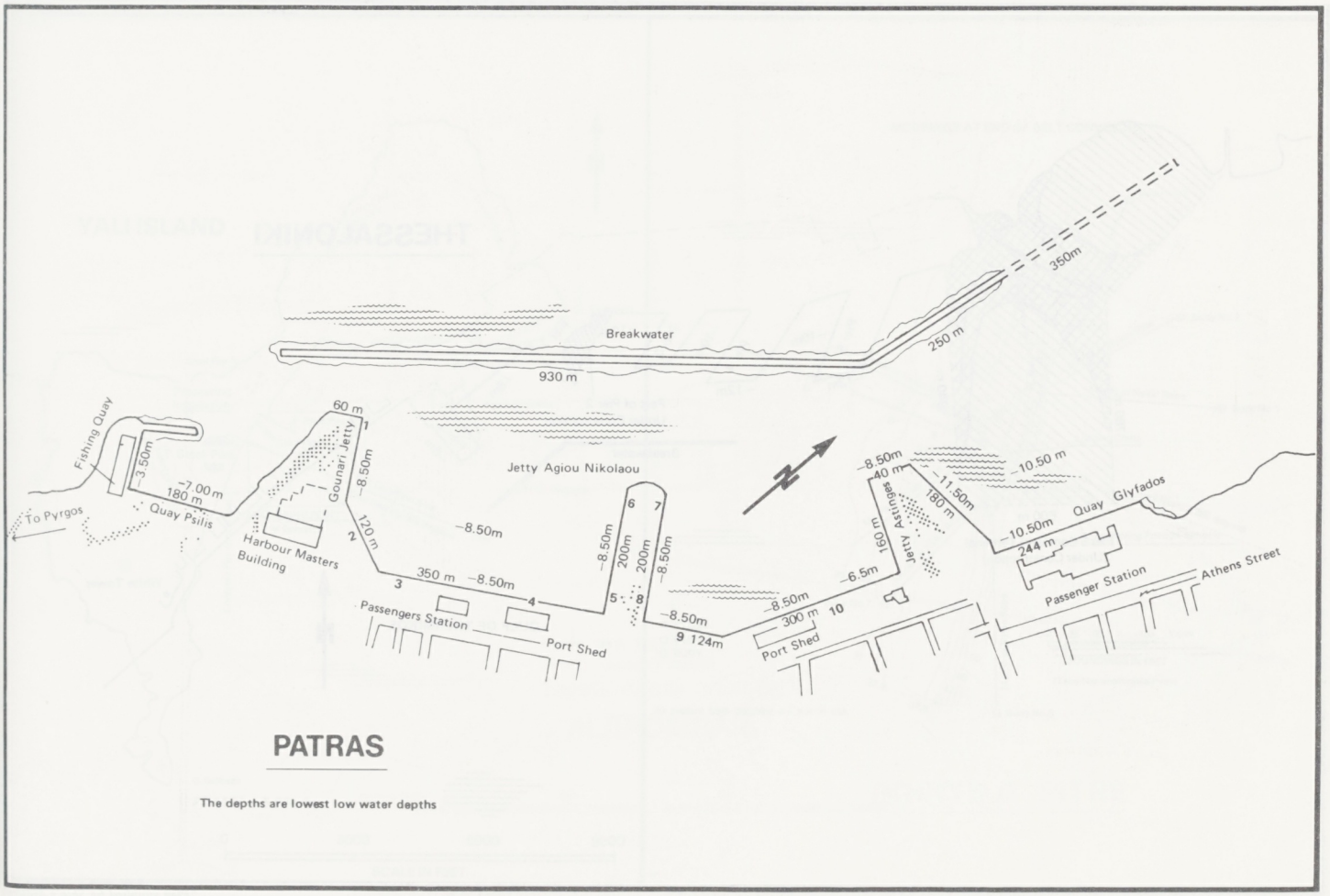


"Plan supplied by Ship's Cadet"


MITYLENE
DEPTHS IN METRES
INNER PORT
OUTER PORT
7.00
8.00
6.00
5.00
50m.
128m.
3.00
2.00
4.00
10.00
13.00
11.00
12.00
9.00
0 50 100 500
SCALE IN METRES
N
Nautical Club

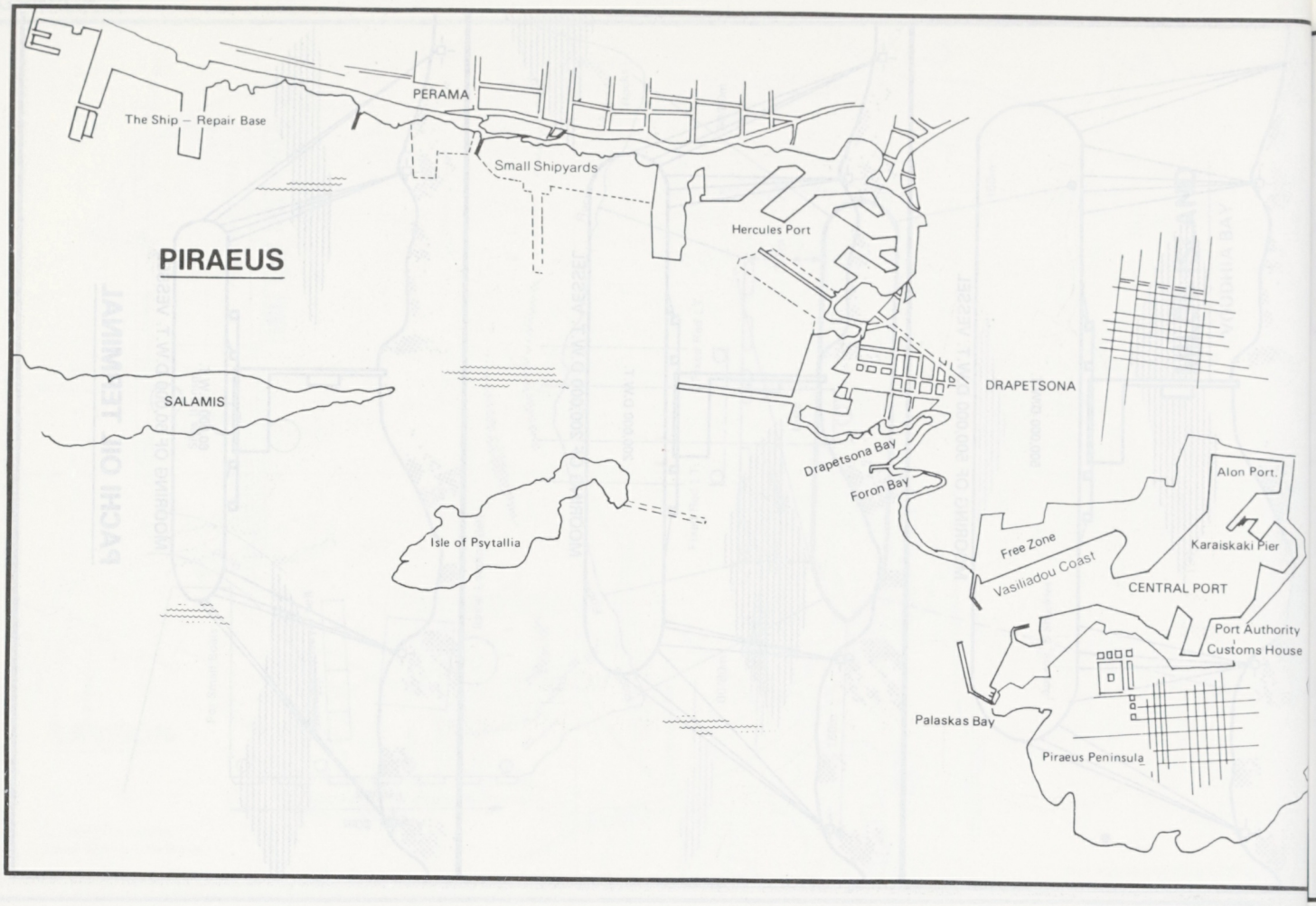

For Small Boats
Road
Silos (Consp)
Movable conveyor belt
Approx. 80m
Fenders
Spiral Loading Belt
Rocks
Rocks
Rocks
Rocks
Fixed Red LT.
Fixed Red LT.
60/80m
60/80m
2/3m
30/50m
2/3m
Lifts
150m
150m
Approx 5 Shackles
MILOS ISLAND
VOUDHIA BAY

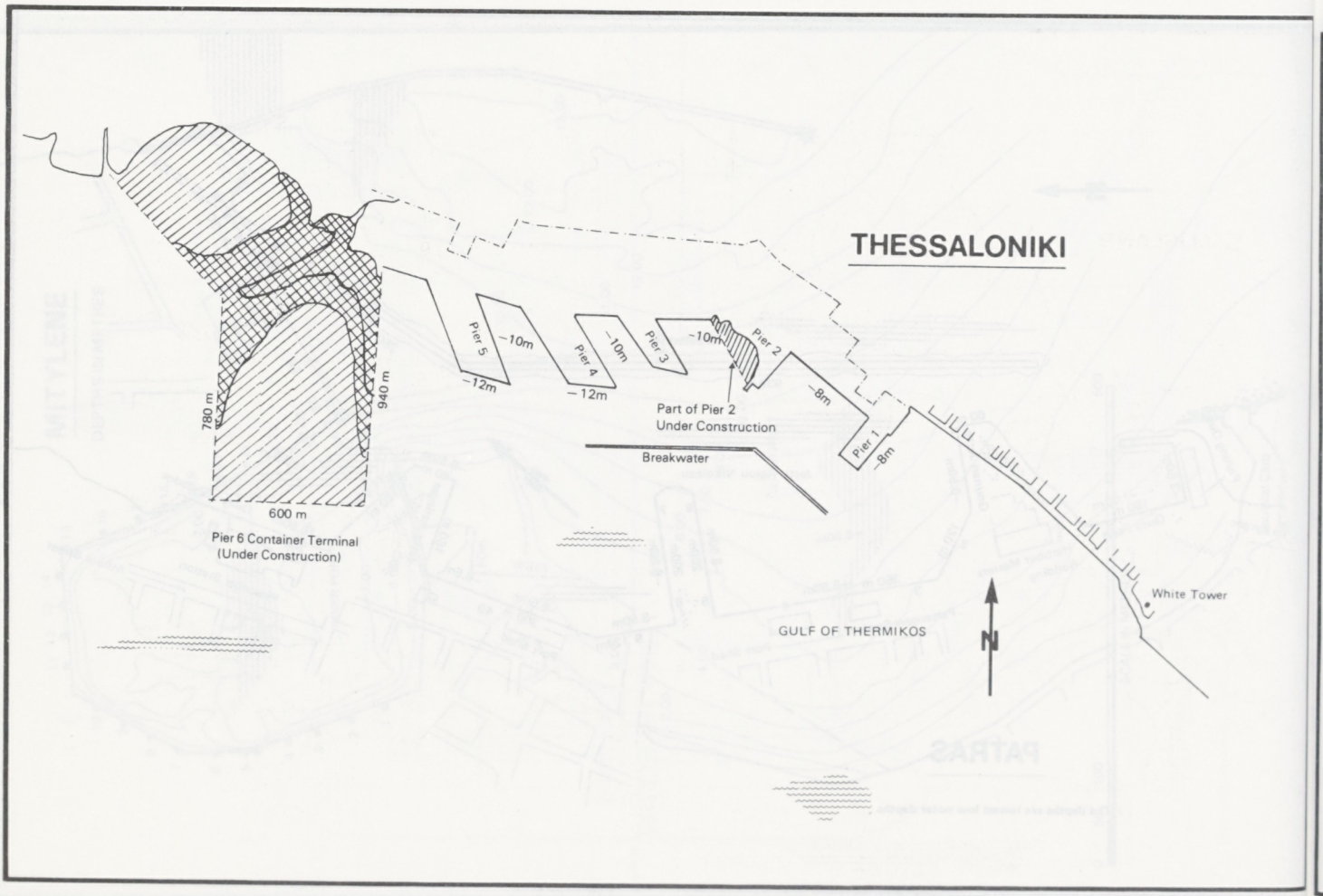




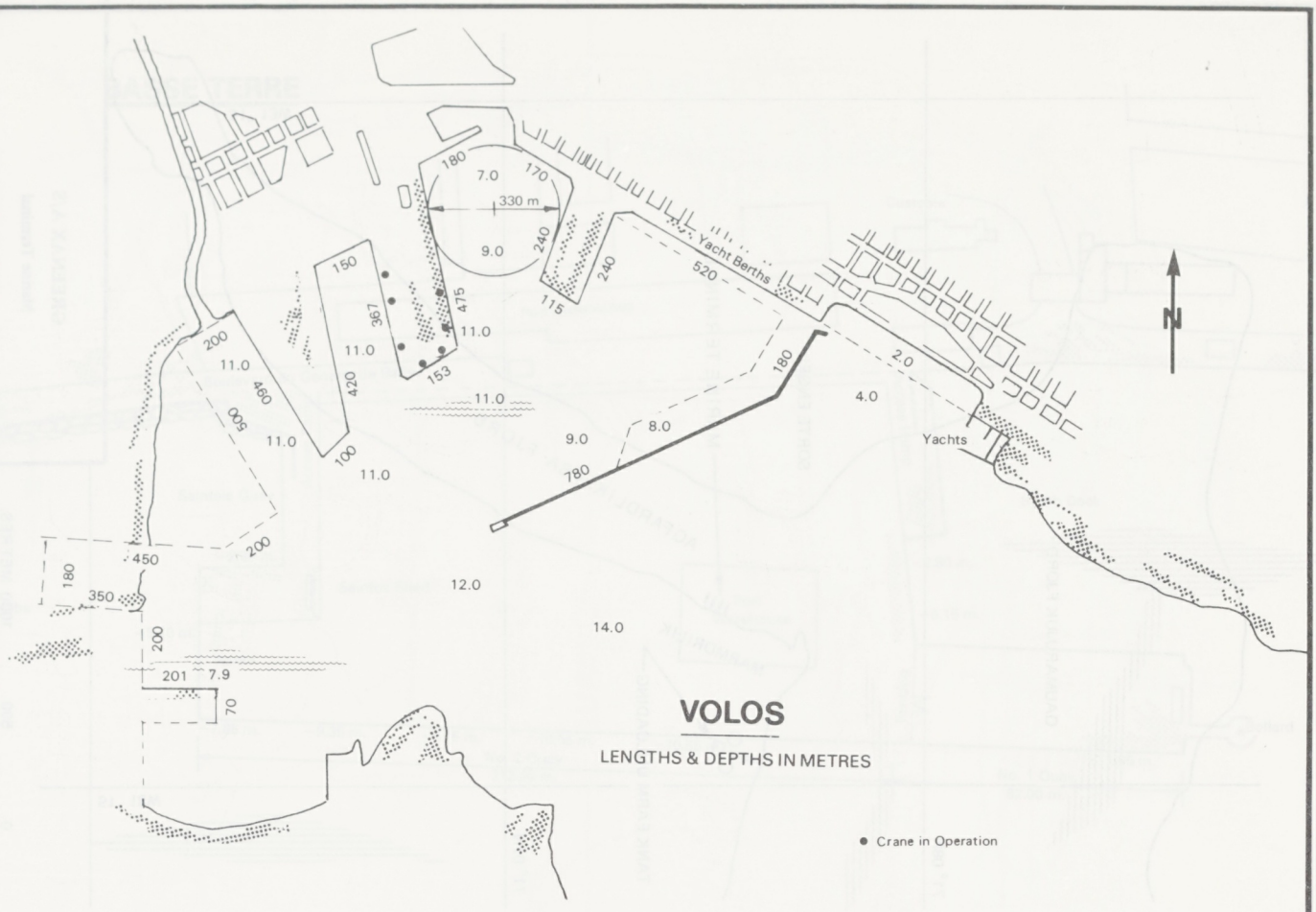
PATRAS

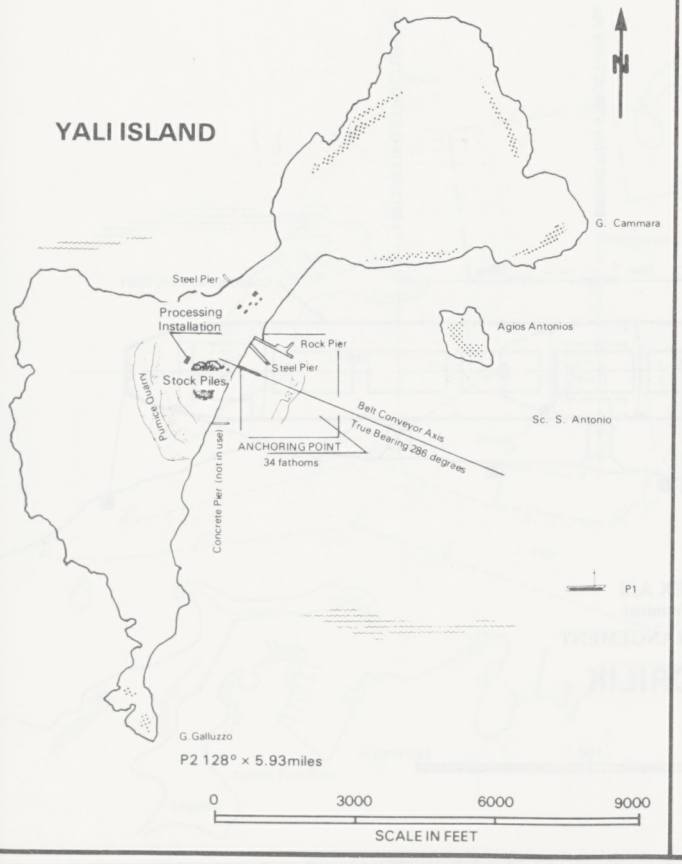
The depths are lowest low water depths

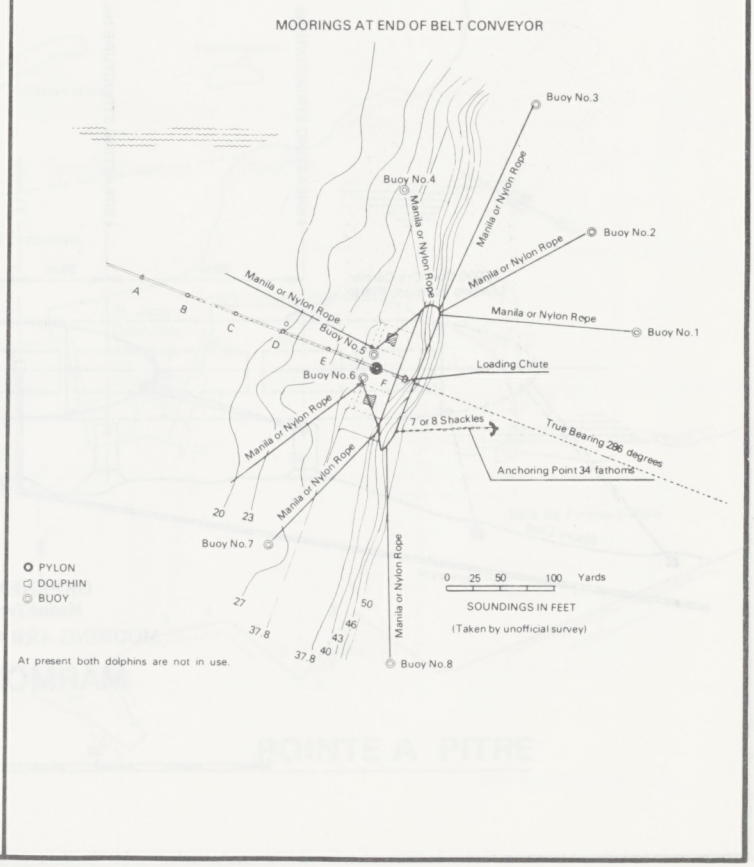


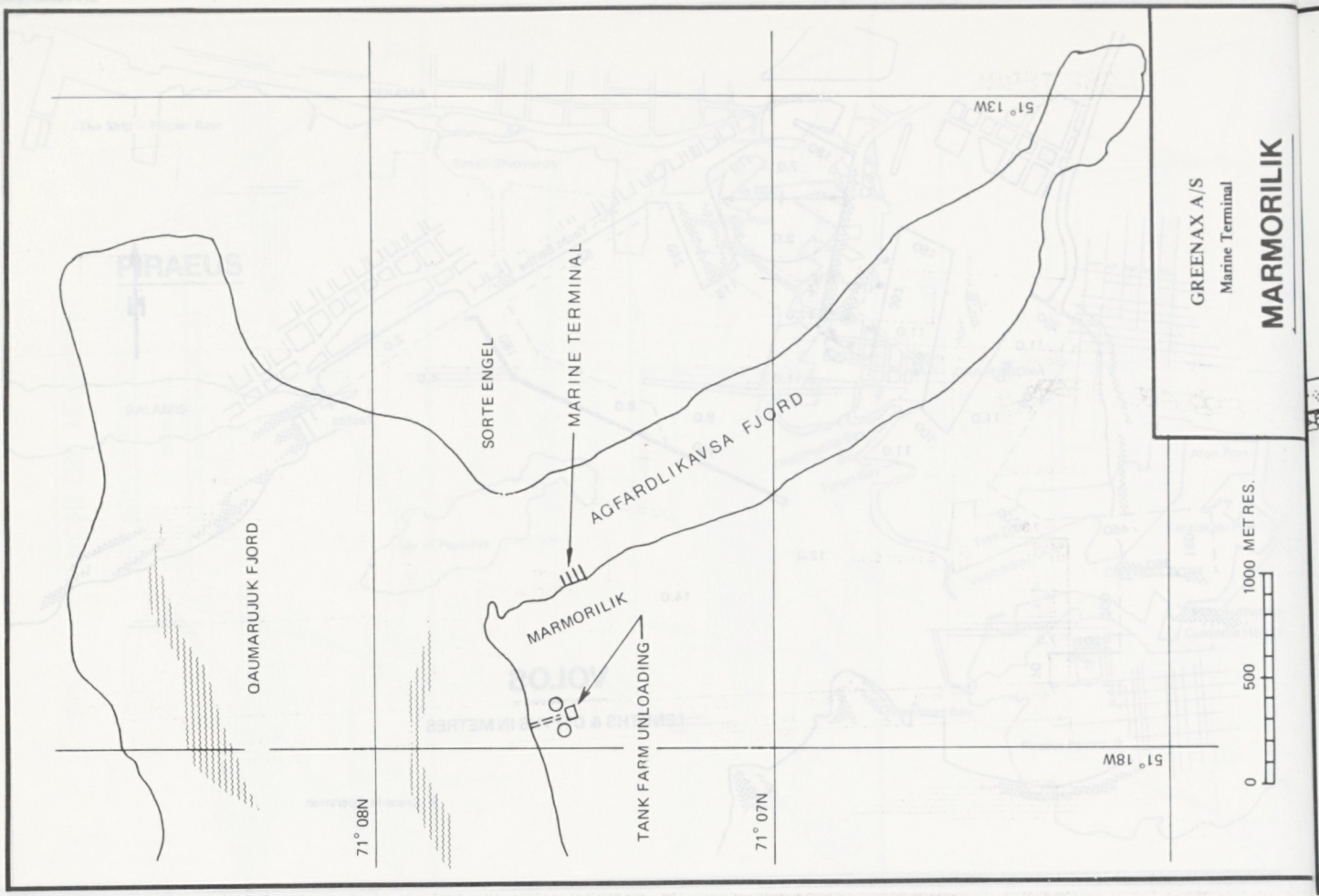


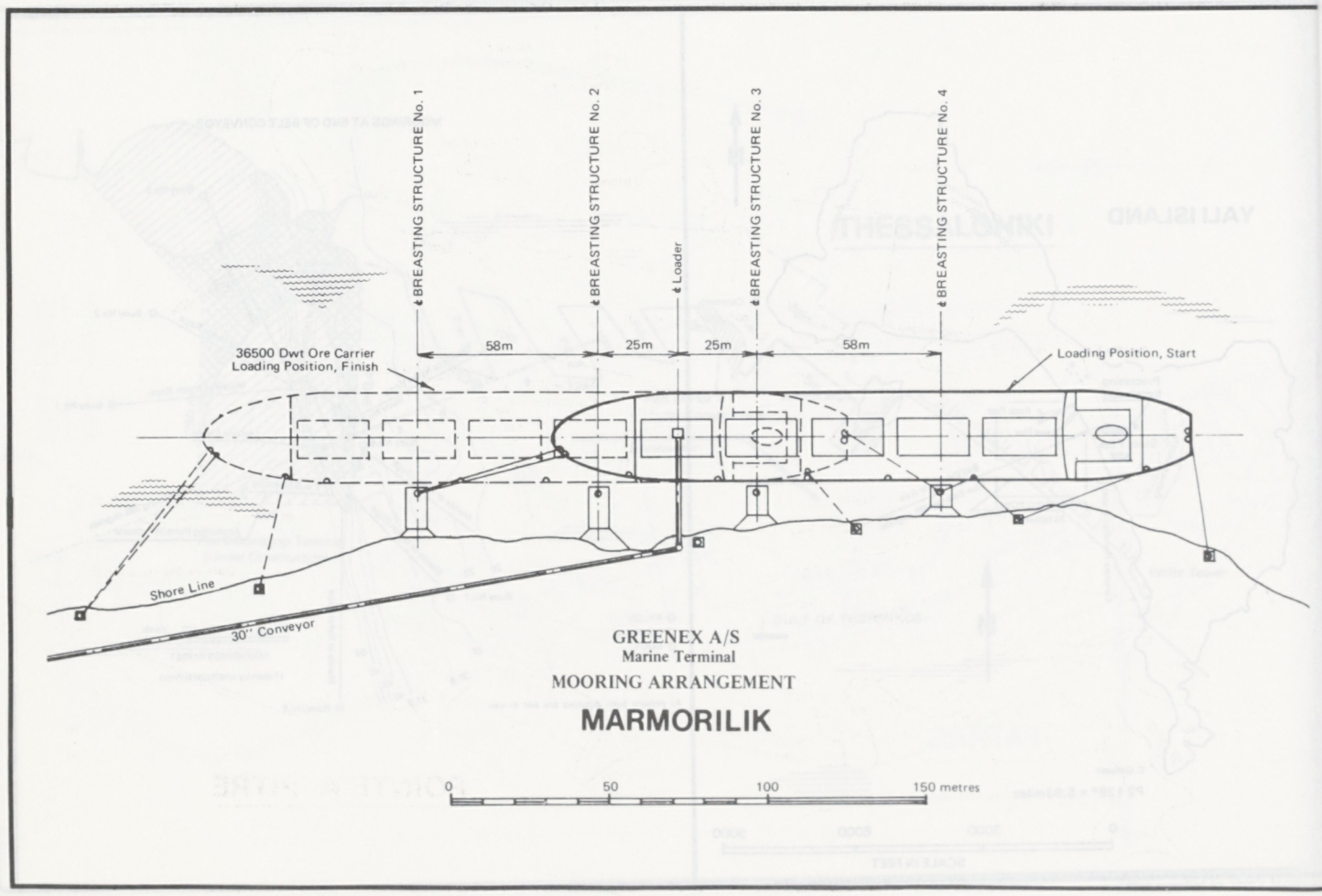
"Plan supplied by Ship's Master"


Yacht Berths
520
330 m
7.0
9.0
180
170
240
115
150
367
475
153
200
460
420
500
100
11.0
180
2.0
4.0
8.0
780
Yachts
450
350
12.0
14.0
201
7.9
70
VOLOS
LENGTHS & DEPTHS IN METRES
Crane in Operation

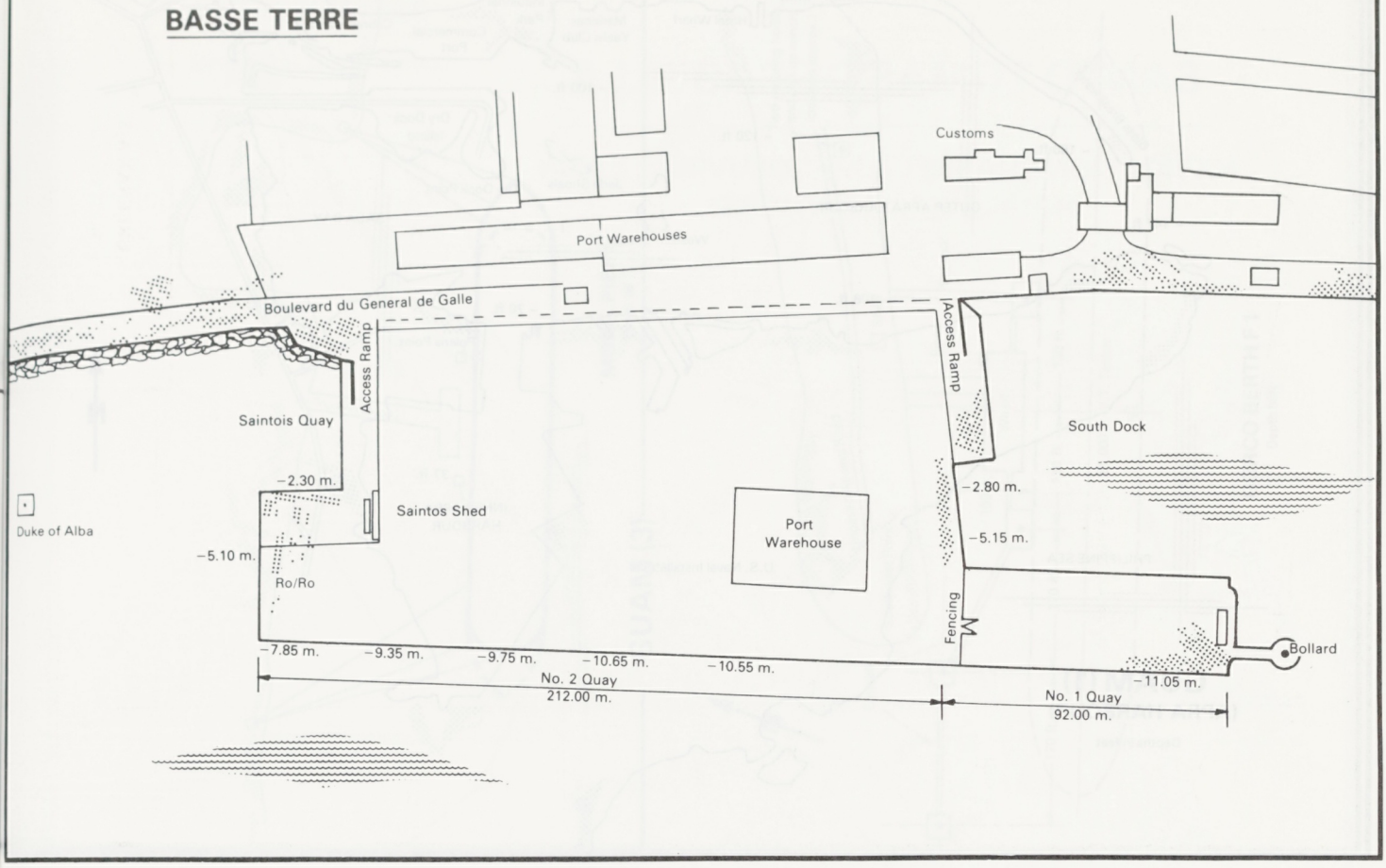

YALI ISLAND
G. Cammara
Steel Pier
Processing Installation
Rock Pier
Steel Pier
Stock Piles
Pumice Quarry
Agios Antonios
Sc. S. Antonio
Belt Conveyor Axis
True Bearing 286 degrees
ANCHORING POINT
34 fathoms
Concrete Pier (not in use)
P1
G. Galluzzo
P2 128° × 5.93miles
0
3000
6000
9000
SCALE IN FEET

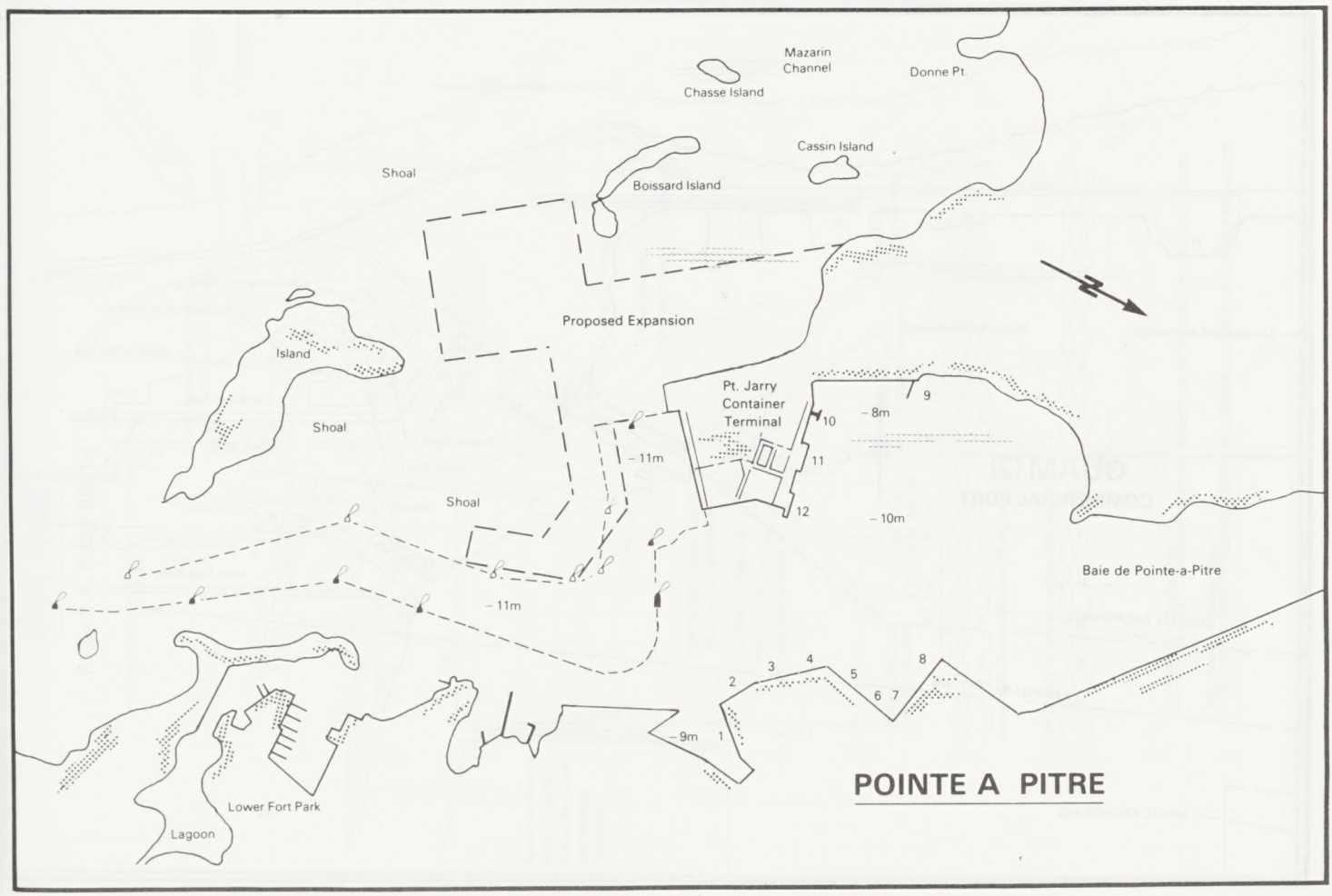

MOORINGS AT END OF BELT CONVEYOR
Buoy No.3
Buoy No.4
Buoy No.2
Buoy No.1
Buoy No.5
Buoy No.6
Buoy No.7
Buoy No.8
Manila or Nylon Rope
Loading Chute
7 or 8 Shackles
True Bearing 286 degrees
Anchoring Point 34 fathoms
A
B
C
D
E
F
20
23
27
37.8
50
46
43
40
37.8
PYLON
DOLPHIN
BUOY
At present both dolphins are not in use.
0
25
50
100
Yards
SOUNDINGS IN FEET
(Taken by unofficial survey)

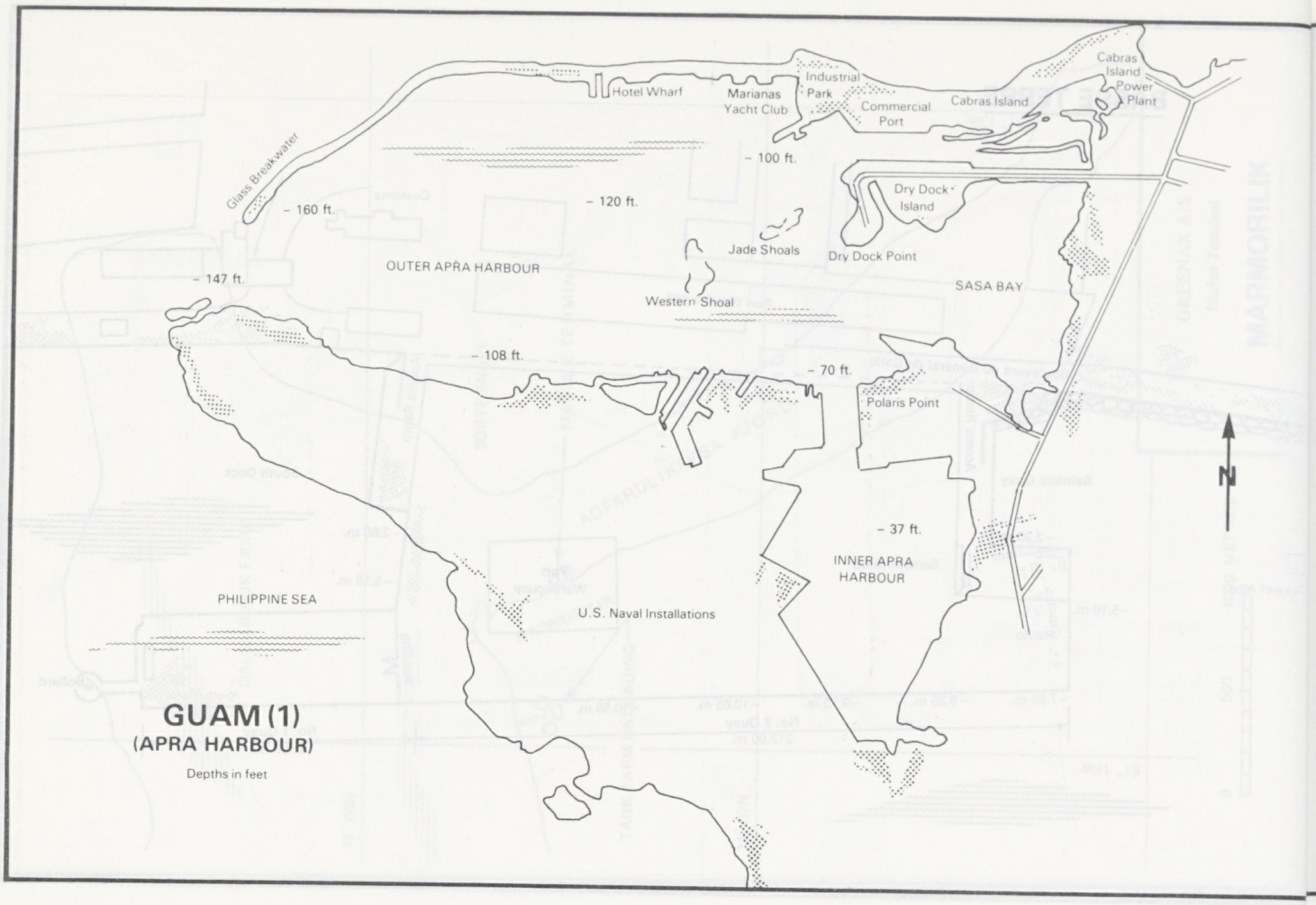

GREENAX A/S
Marine Terminal
MARMORILIK
51° 13W
SORTE ENGEL
MARINE TERMINAL
AGFARDLIKAVSA FJORD
OAUMARUJUK FJORD
MARMORILIK
TANK FARM UNLOADING
71° 08N
71° 07N
51° 18W
0
500
1000 METRES

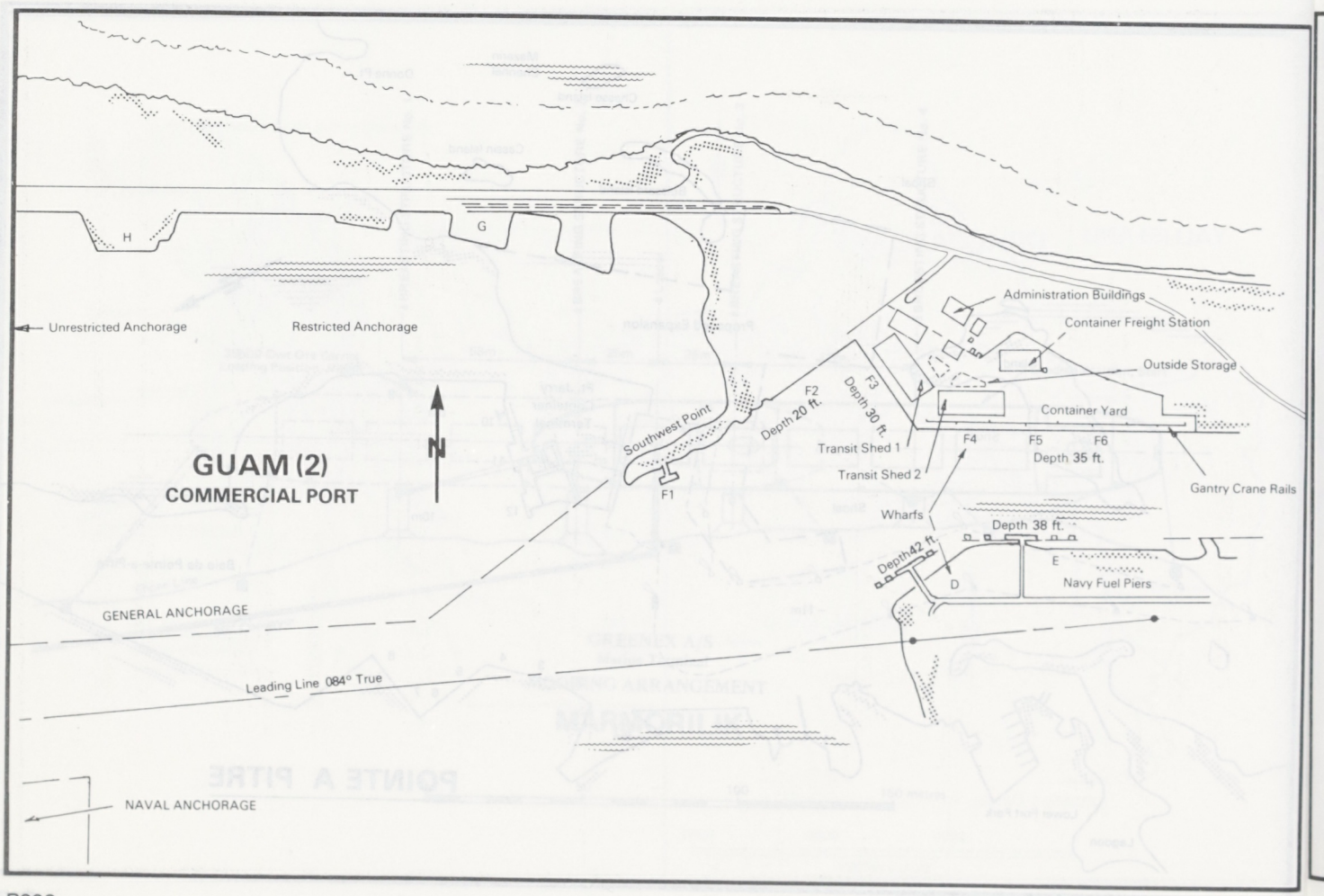

BREASTING STRUCTURE No. 1
BREASTING STRUCTURE No. 2
Loader
BREASTING STRUCTURE No. 3
BREASTING STRUCTURE No. 4
58m
25m
25m
58m
36500 Dwt Ore Carrier
Loading Position, Finish
Loading Position, Start
Shore Line
30" Conveyor
GREENEX A/S
Marine Terminal
MOORING ARRANGEMENT
MARMORILIK
0
50
100
150 metres

BASSE TERRE


Customs
Port Warehouses
Boulevard du General de Galle
Access Ramp
Access Ramp
Saintois Quay
South Dock
−2.30 m.
Saintos Shed
Port Warehouse
−2.80 m.
−5.15 m.
Duke of Alba
−5.10 m.
Ro/Ro
Fencing
Bollard
−7.85 m.
−9.35 m.
−9.75 m.
−10.65 m.
−10.55 m.
−11.05 m.
No. 2 Quay
212.00 m.
No. 1 Quay
92.00 m.

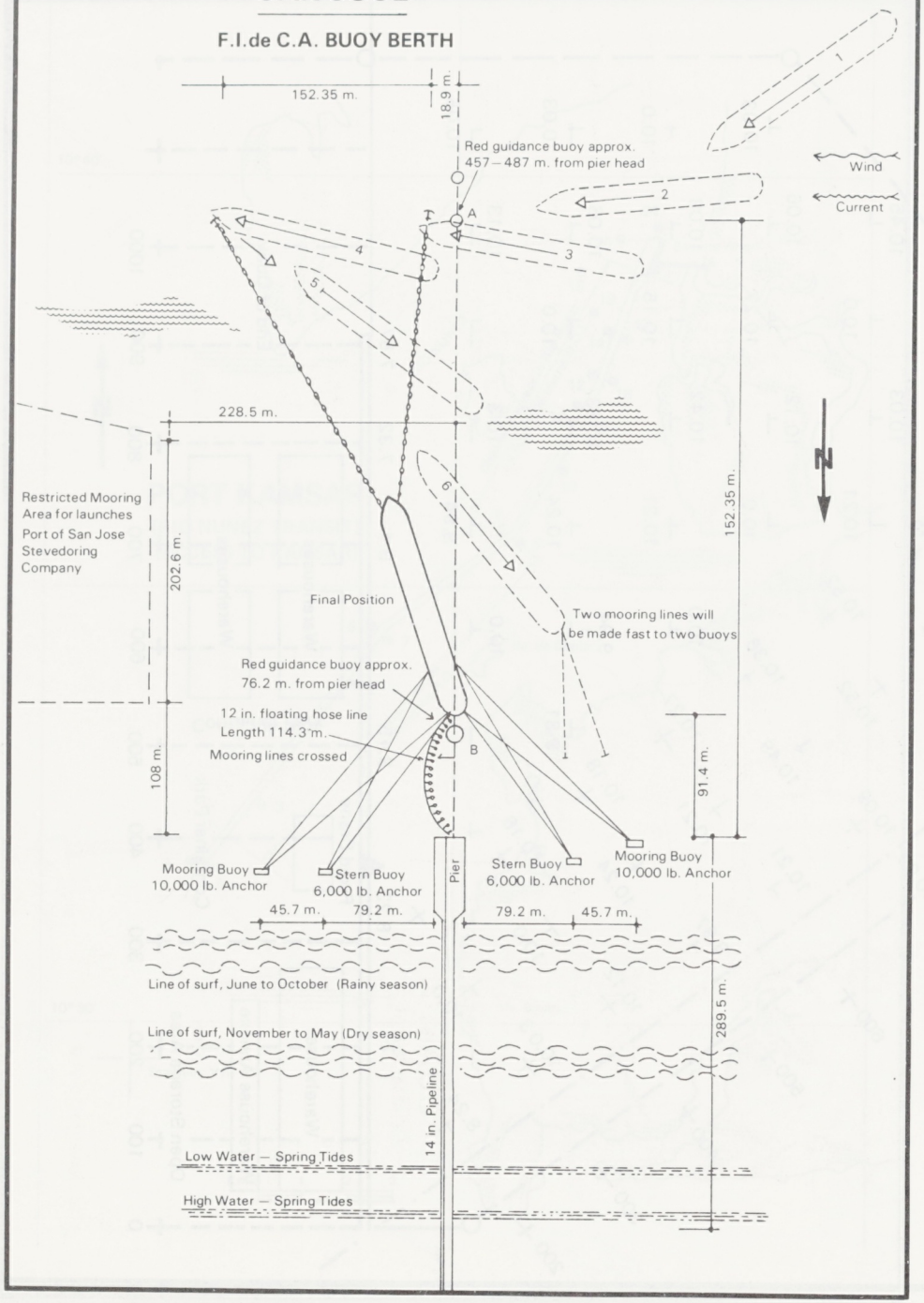

Mazarin Channel
Donne Pt.
Chasse Island
Cassin Island
Shoal
Boissard Island
Proposed Expansion
Island
Pt. Jarry Container Terminal
Shoal
−11m
−8m
−10m
−11m
Shoal
Baie de Pointe-a-Pitre
−9m
Lower Fort Park
Lagoon
POINTE A PITRE

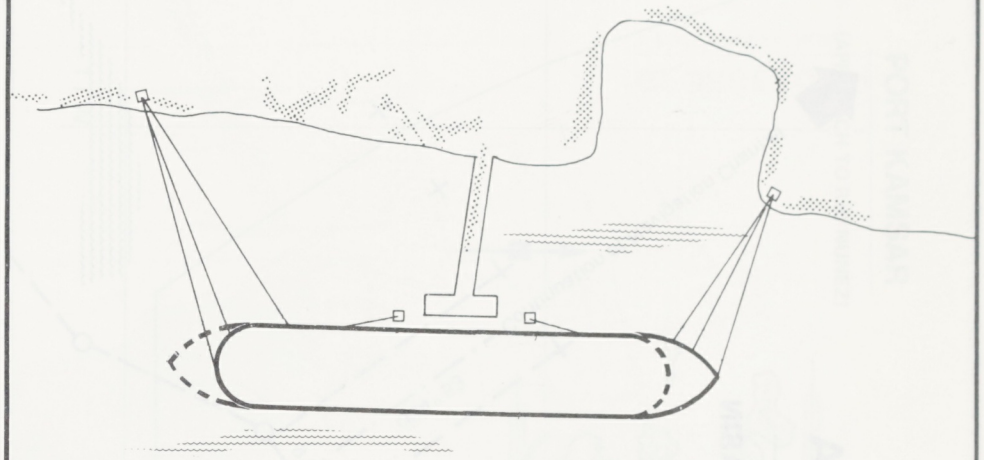

Hotel Wharf
Marianas Yacht Club
Industrial Park
Commercial Port
Cabras Island
Cabras Island Power Plant
Glass Breakwater
– 160 ft.
– 120 ft.
– 100 ft.
Dry Dock Island
Jade Shoals
Dry Dock Point
OUTER APRA HARBOUR
– 147 ft.
Western Shoal
SASA BAY
– 108 ft.
– 70 ft.
Polaris Point
N
– 37 ft.
INNER APRA HARBOUR
PHILIPPINE SEA
U.S. Naval Installations
GUAM (1)
(APRA HARBOUR)
Depths in feet


H
G
Unrestricted Anchorage
Restricted Anchorage
Administration Buildings
Container Freight Station
Outside Storage
F2
Depth 20 ft.
F3
Depth 30 ft.
Container Yard
Southwest Point
N
Transit Shed 1
Transit Shed 2
F4
F5
F6
Depth 35 ft.
Gantry Crane Rails
GUAM (2)
COMMERCIAL PORT
F1
Wharfs
Depth 38 ft.
Depth 42 ft.
E
D
Navy Fuel Piers
GENERAL ANCHORAGE
Leading Line 084° True
NAVAL ANCHORAGE

SAN JOSE

F.I.de C.A. BUOY BERTH

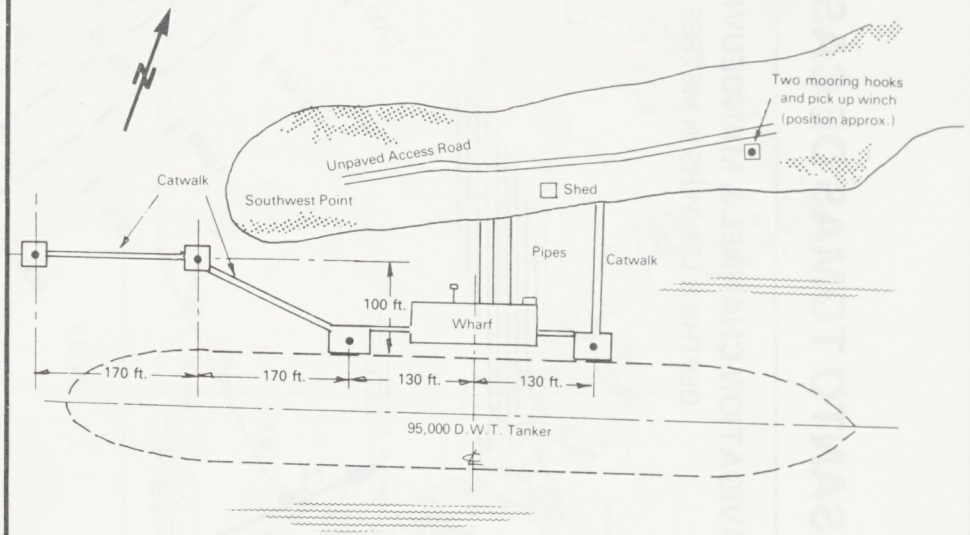




MOBIL PIER G

Depth 39 ft.

GUAM (3)



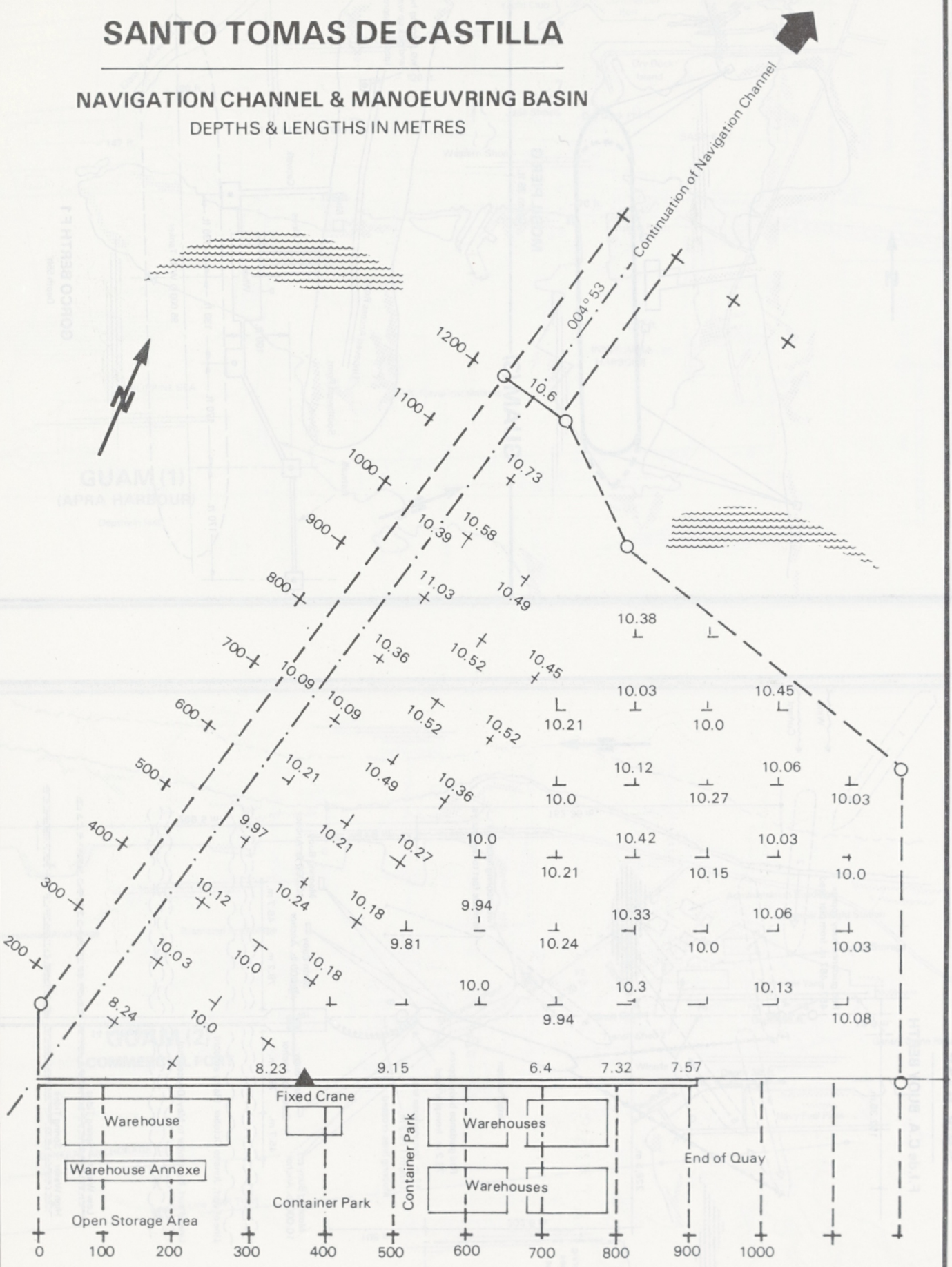
GORCO BERTH F 1

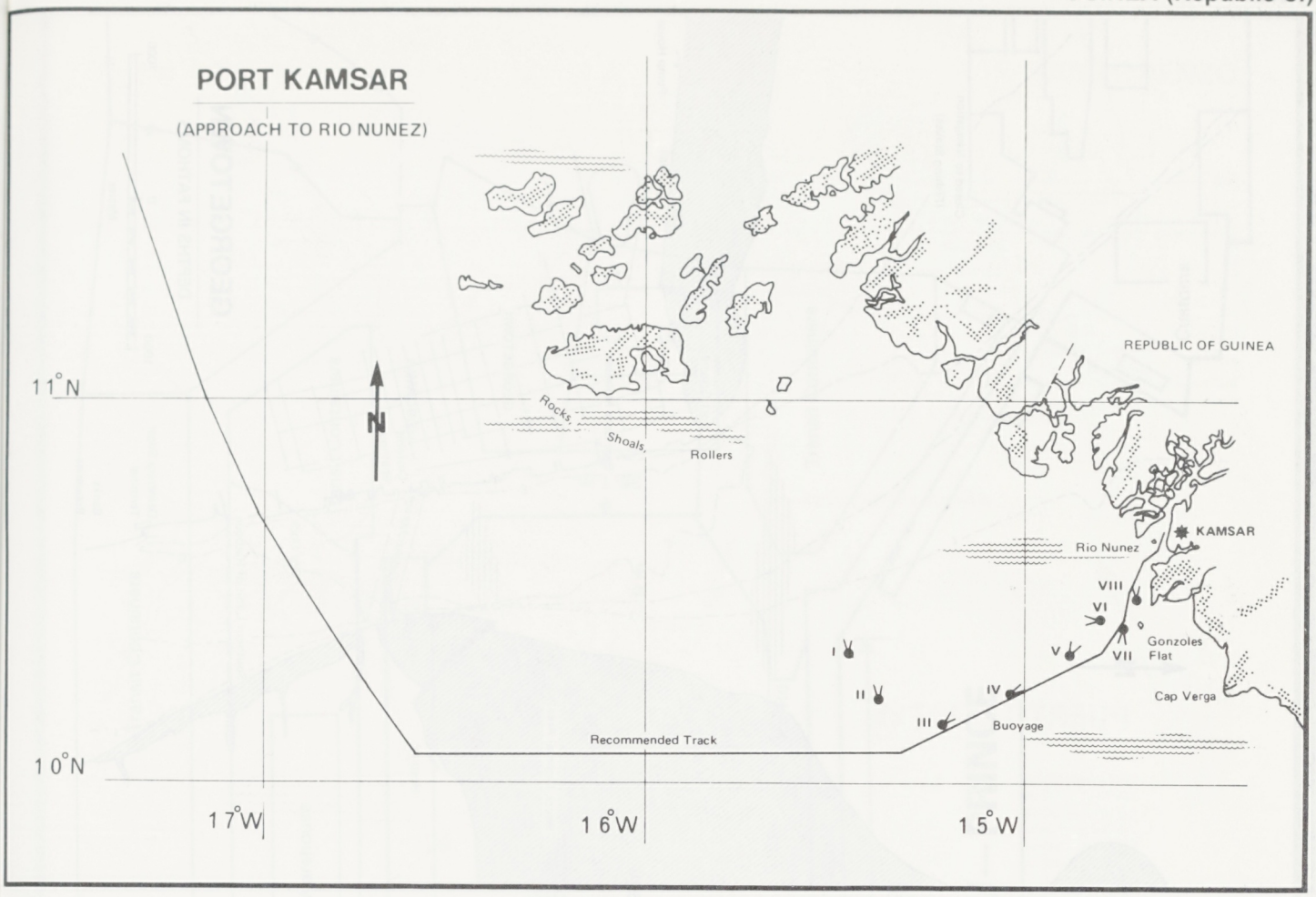
Depth 55ft

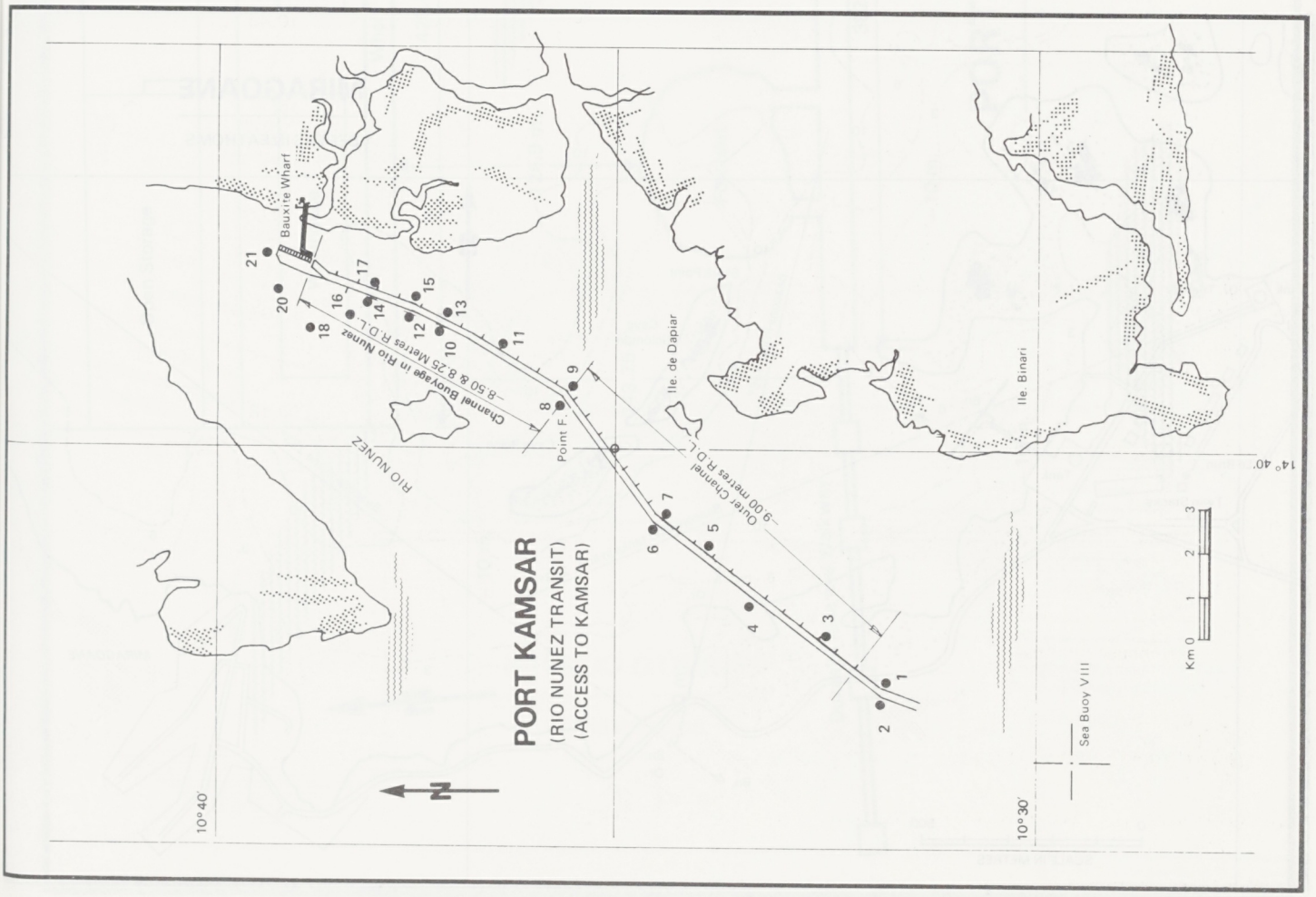
SANTO TOMAS DE CASTILLA

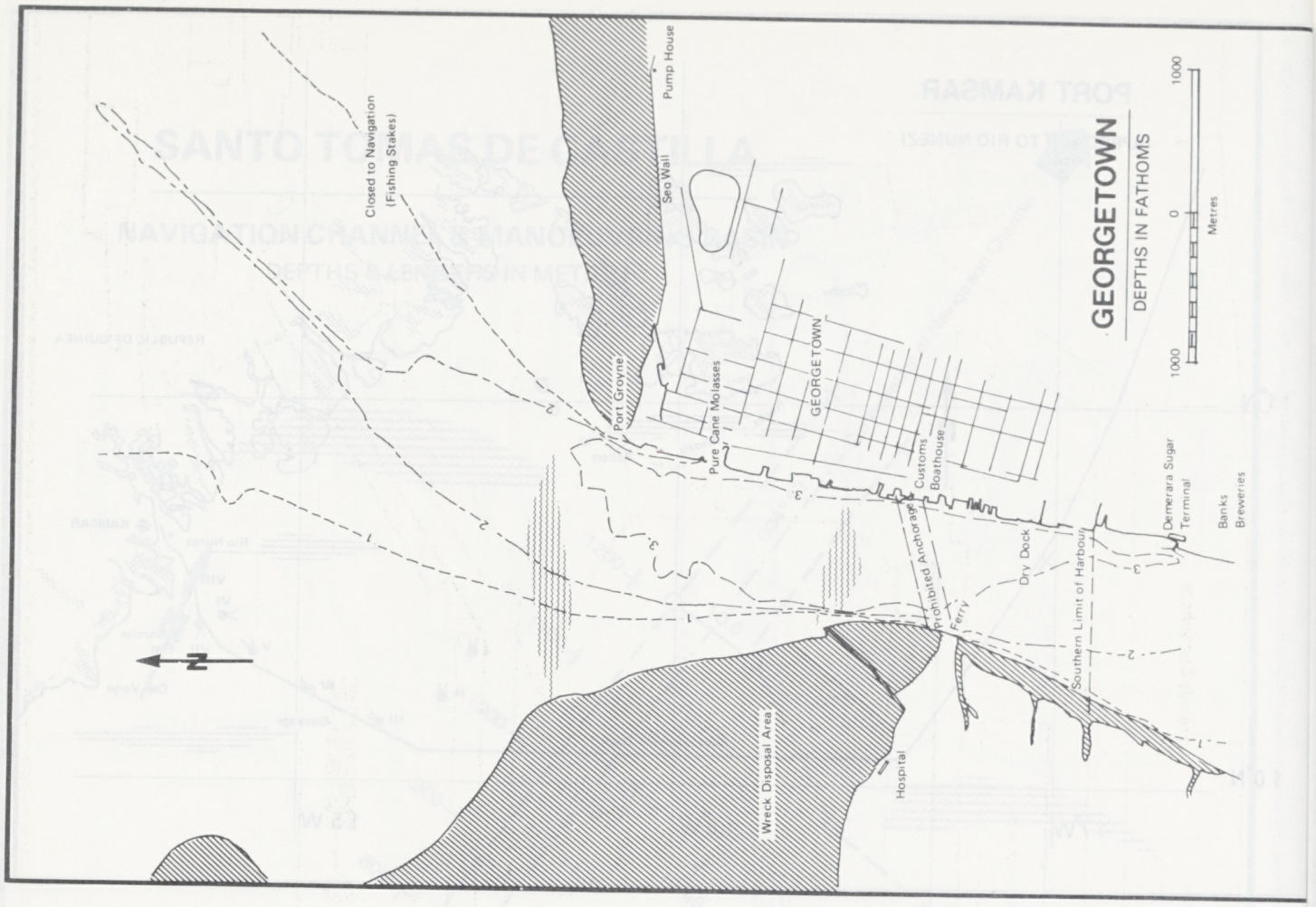
NAVIGATION CHANNEL & MANOEUVRING BASIN

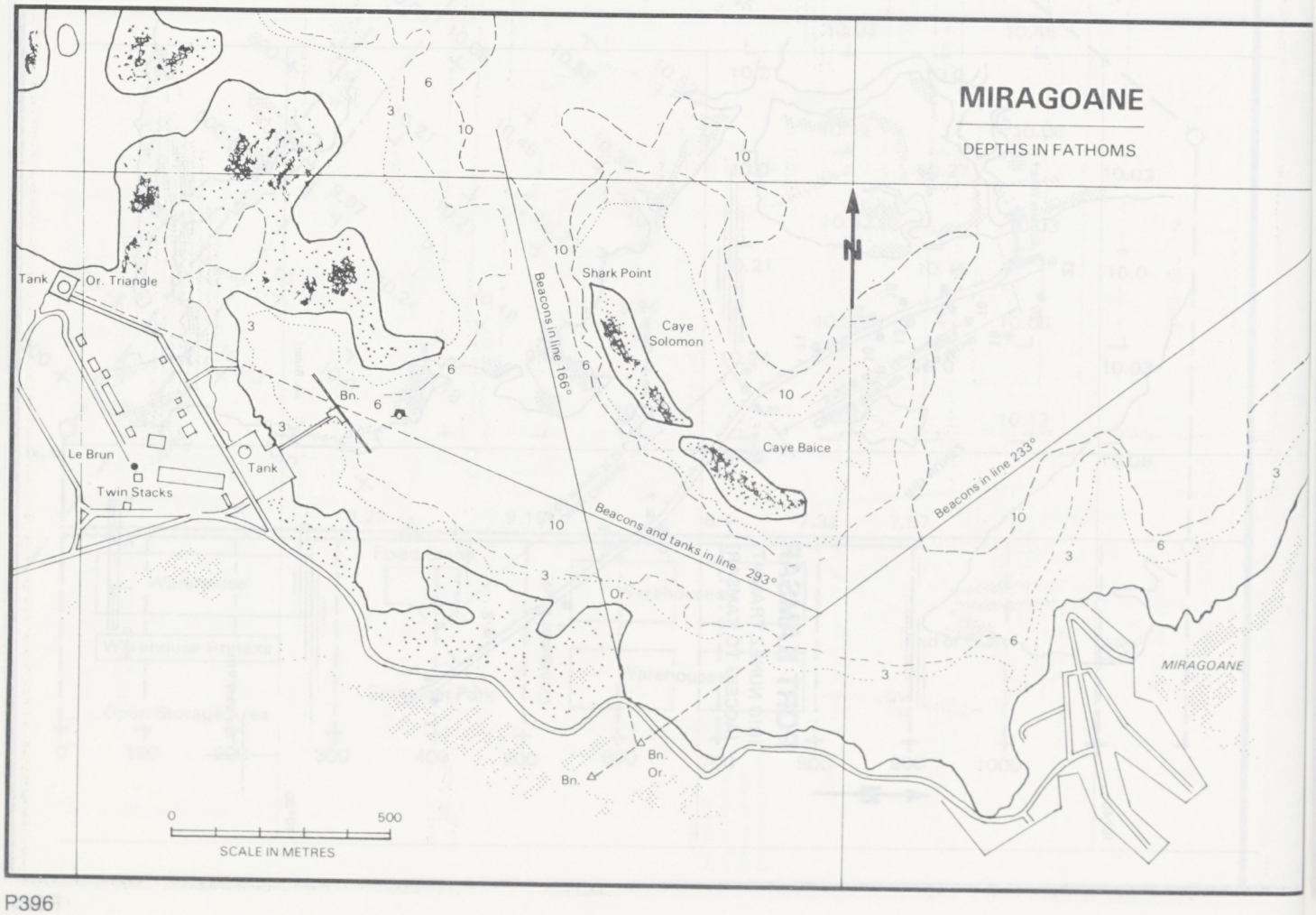
DEPTHS & LENGTHS IN METRES

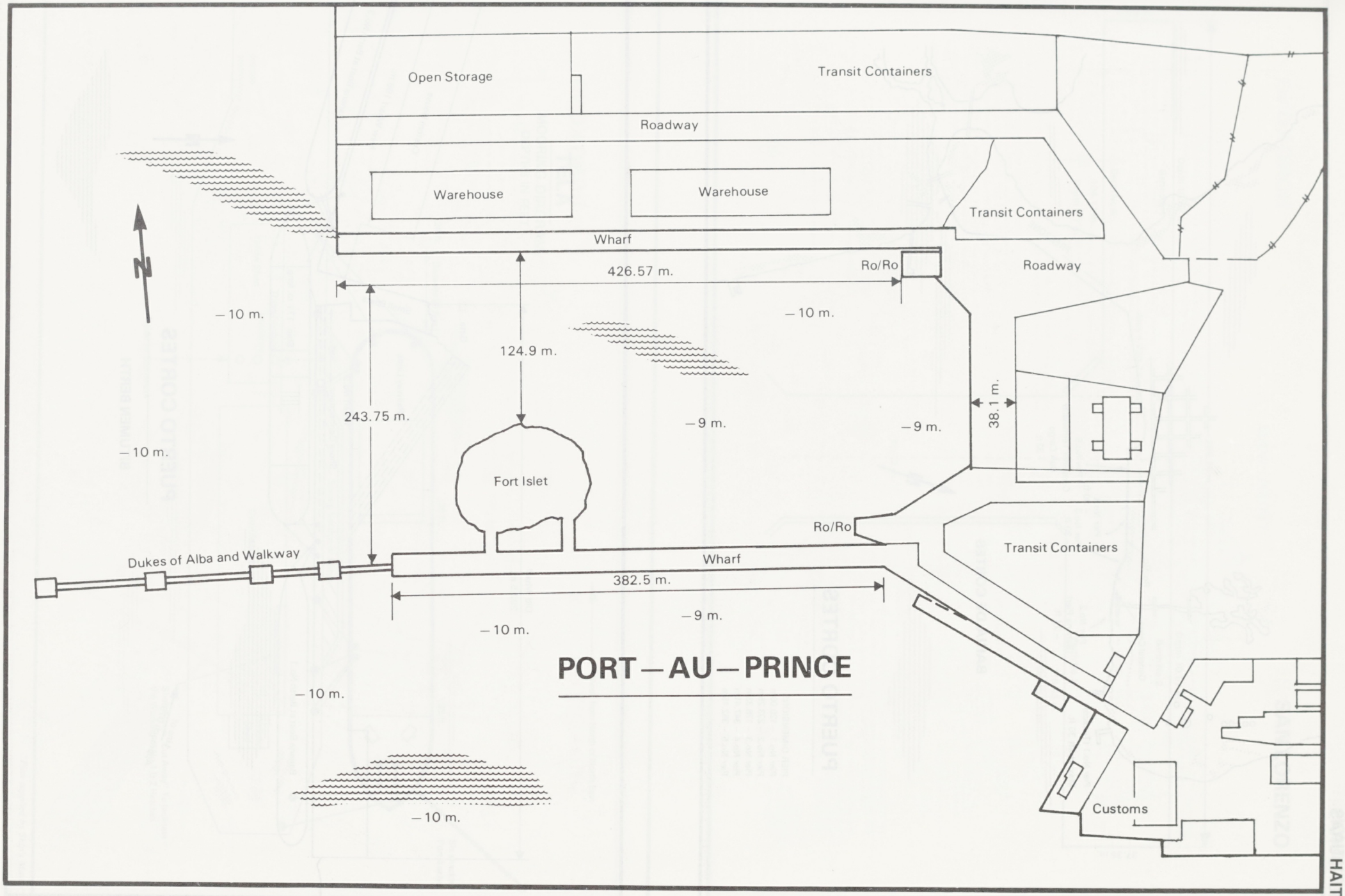



PORT KAMSAR
(APPROACH TO RIO NUNEZ)
REPUBLIC OF GUINEA
11°N
10°N
17°W
16°W
15°W
N
Rocks
Shoals
Rollers
KAMSAR
Rio Nunez
Gonzoles Flat
Cap Verga
Buoyage
Recommended Track
I
II
III
IV
V
VI
VII
VIII


PORT KAMSAR
(RIO NUNEZ TRANSIT)
(ACCESS TO KAMSAR)
Bauxite Wharf
Channel Buoyage in Rio Nunez
8.50 & 8.25 Metres R.D.L.
Point F
Outer Channel
9.00 metres R.D.L.
Ile. de Dapiar
Ile. Binari
RIO NUNEZ
Sea Buoy VIII
10°40'
10°30'
14° 40'
Km 0 1 2 3
N

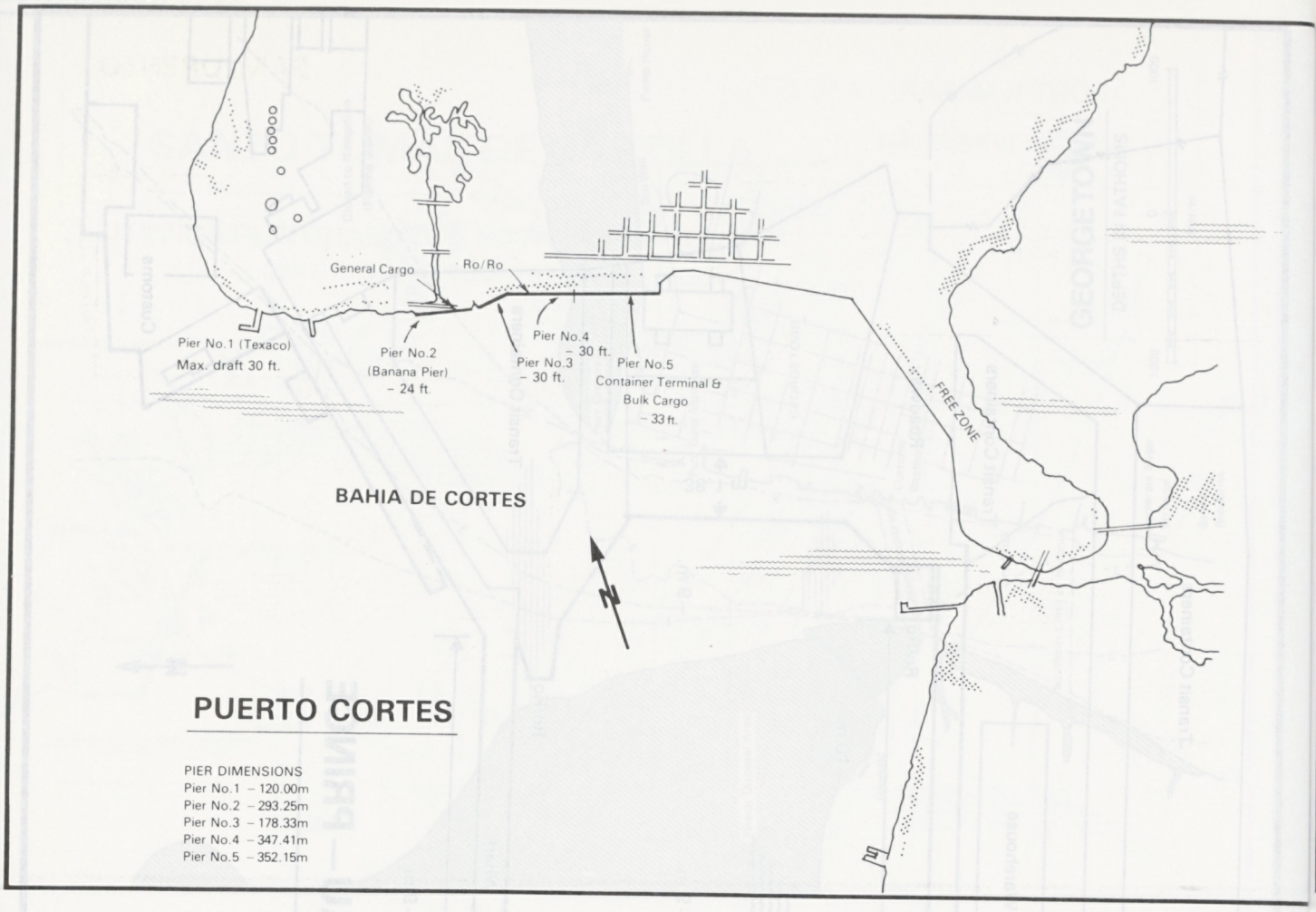

GEORGETOWN
DEPTHS IN FATHOMS
1000
0
1000
Metres
Closed to Navigation
(Fishing Stakes)
Pump House
Sea Wall
Port Groyne
Pure Cane Molasses
GEORGETOWN
Customs
Boathouse
Demerara Sugar
Terminal
Banks
Breweries
Prohibited Anchorage
Ferry
Dry Dock
Southern Limit of Harbour
Wreck Disposal Area
Hospital
N


MIRAGOANE
DEPTHS IN FATHOMS
N
Tank
Or. Triangle
Le Brun
Twin Stacks
Tank
Bn.
Beacons in line 166°
Shark Point
Caye
Solomon
Caye Baice
Beacons and tanks in line 293°
Beacons in line 233°
Or.
Bn.
Bn.
Or.
MIRAGOANE
0
500
SCALE IN METRES


Open Storage
Transit Containers
Roadway
Warehouse
Warehouse
Transit Containers
Wharf
Ro/Ro
Roadway
426.57 m.
– 10 m.
– 10 m.
124.9 m.
243.75 m.
38.1 m.
– 9 m.
– 9 m.
– 10 m.
Fort Islet
Ro/Ro
Transit Containers
Dukes of Alba and Walkway
Wharf
382.5 m.
– 9 m.
– 10 m.
– 10 m.
– 10 m.
Customs
PORT – AU – PRINCE

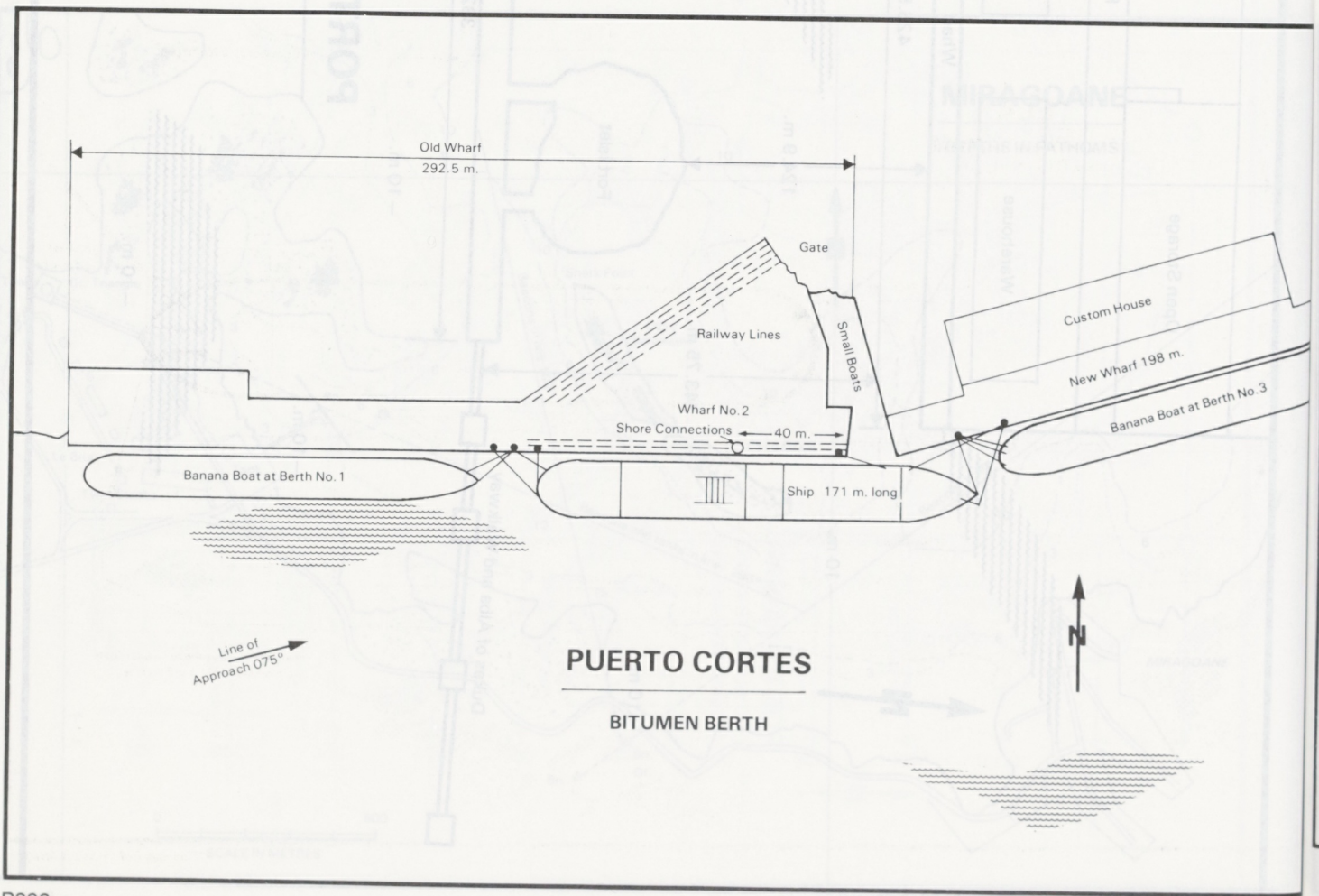
P397

HAITI



PUERTO CORTES

PIER DIMENSIONS
Pier No.1 – 120.00m
Pier No.2 – 293.25m
Pier No.3 – 178.33m
Pier No.4 – 347.41m
Pier No.5 – 352.15m

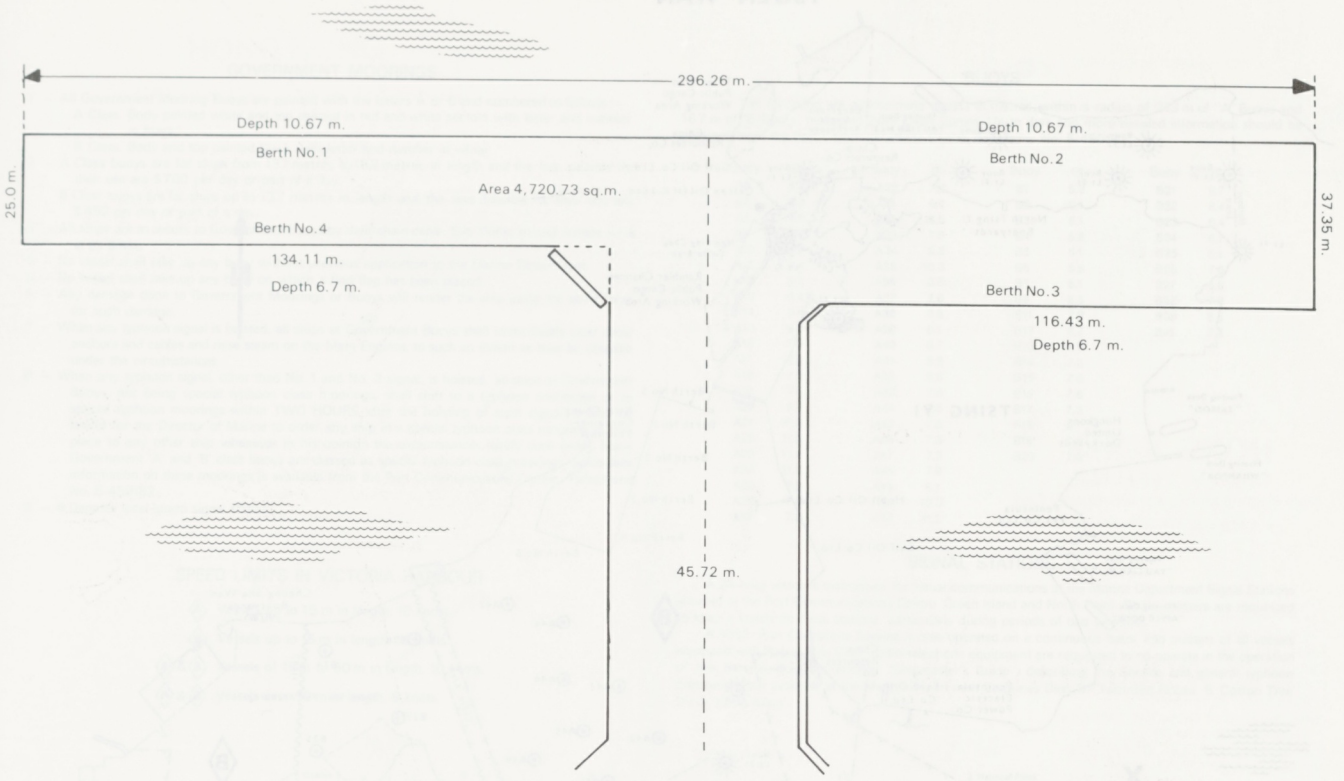


PUERTO CORTES

BITUMEN BERTH

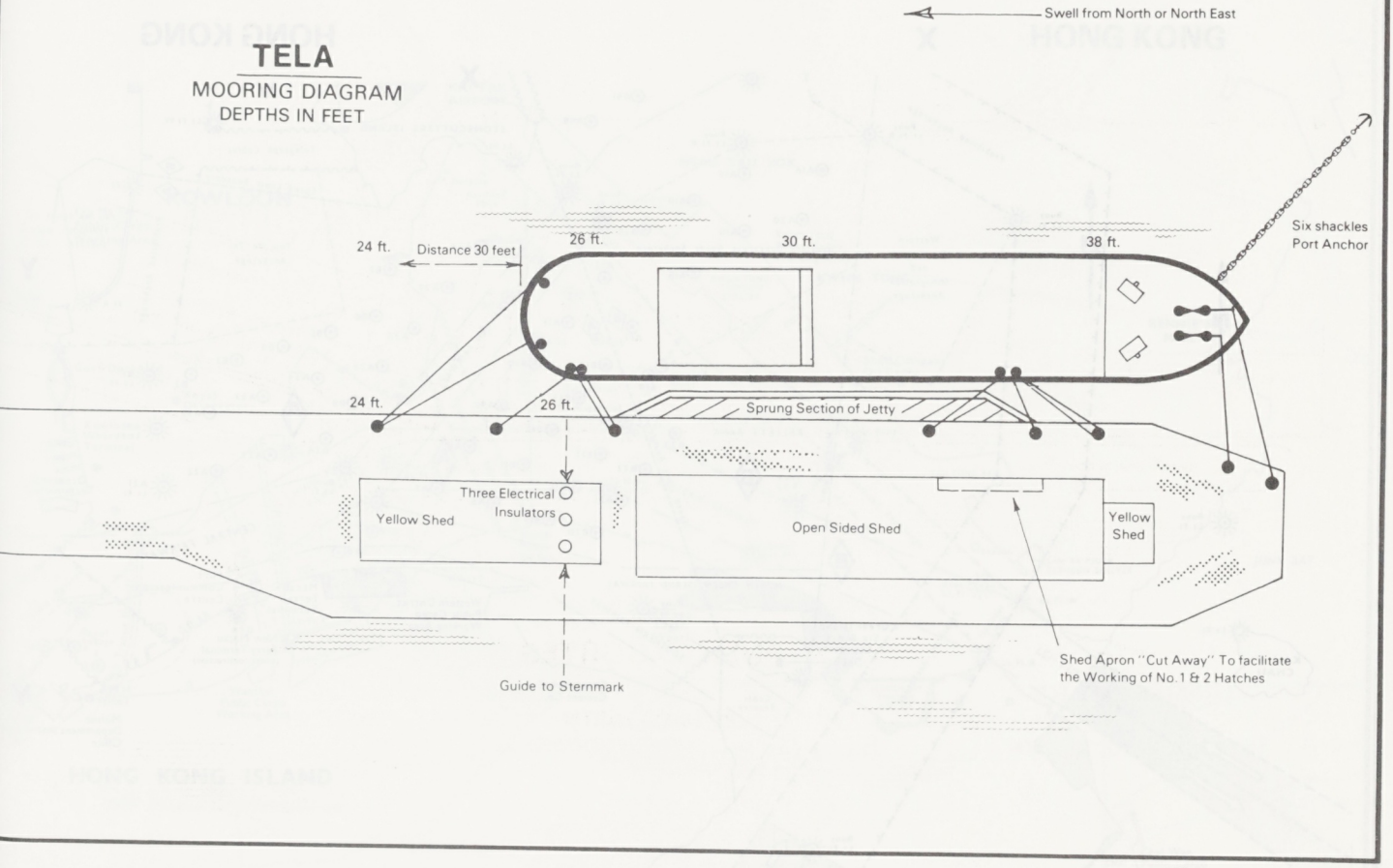
"Plan supplied by Ship's Master"

SAN LORENZO

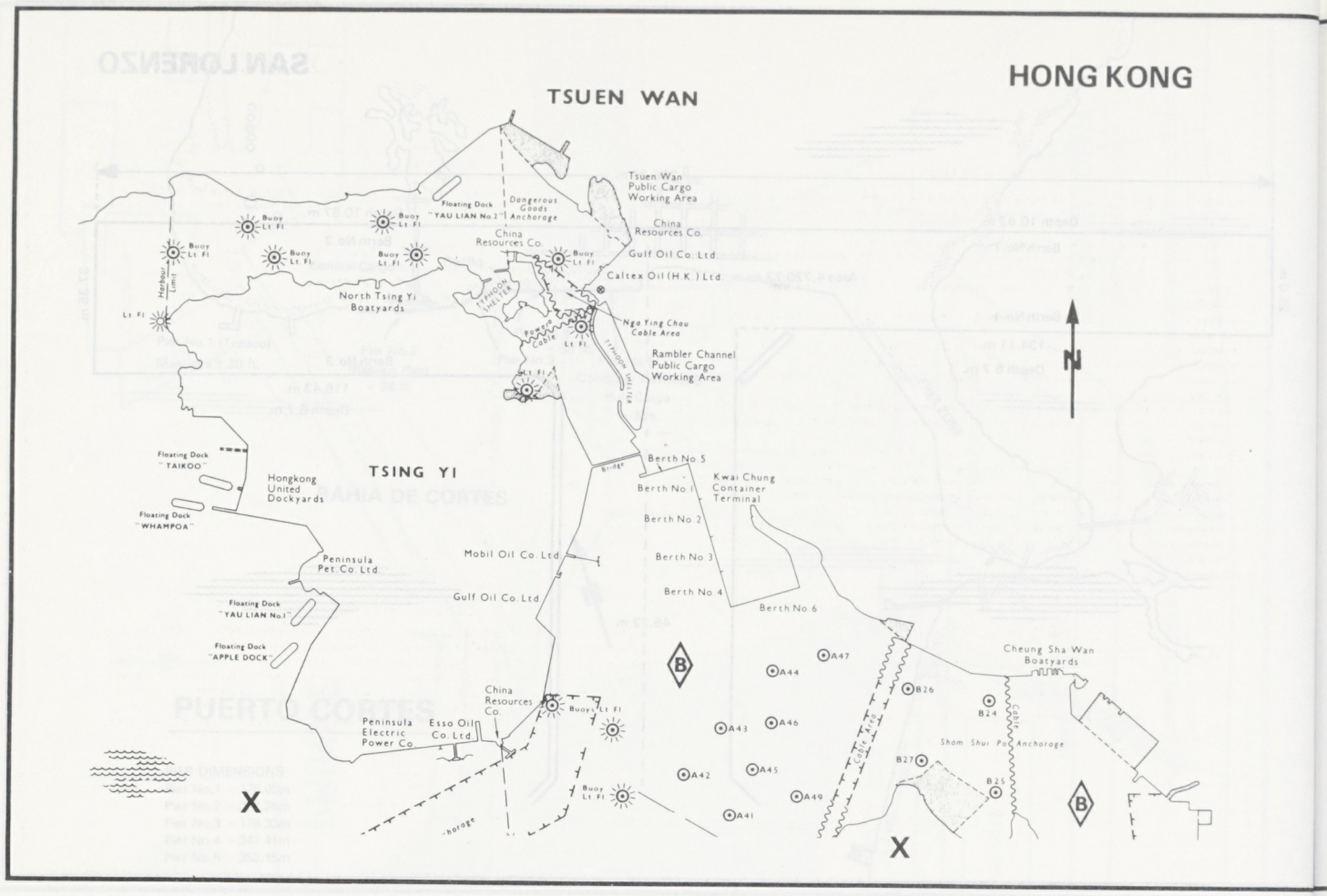


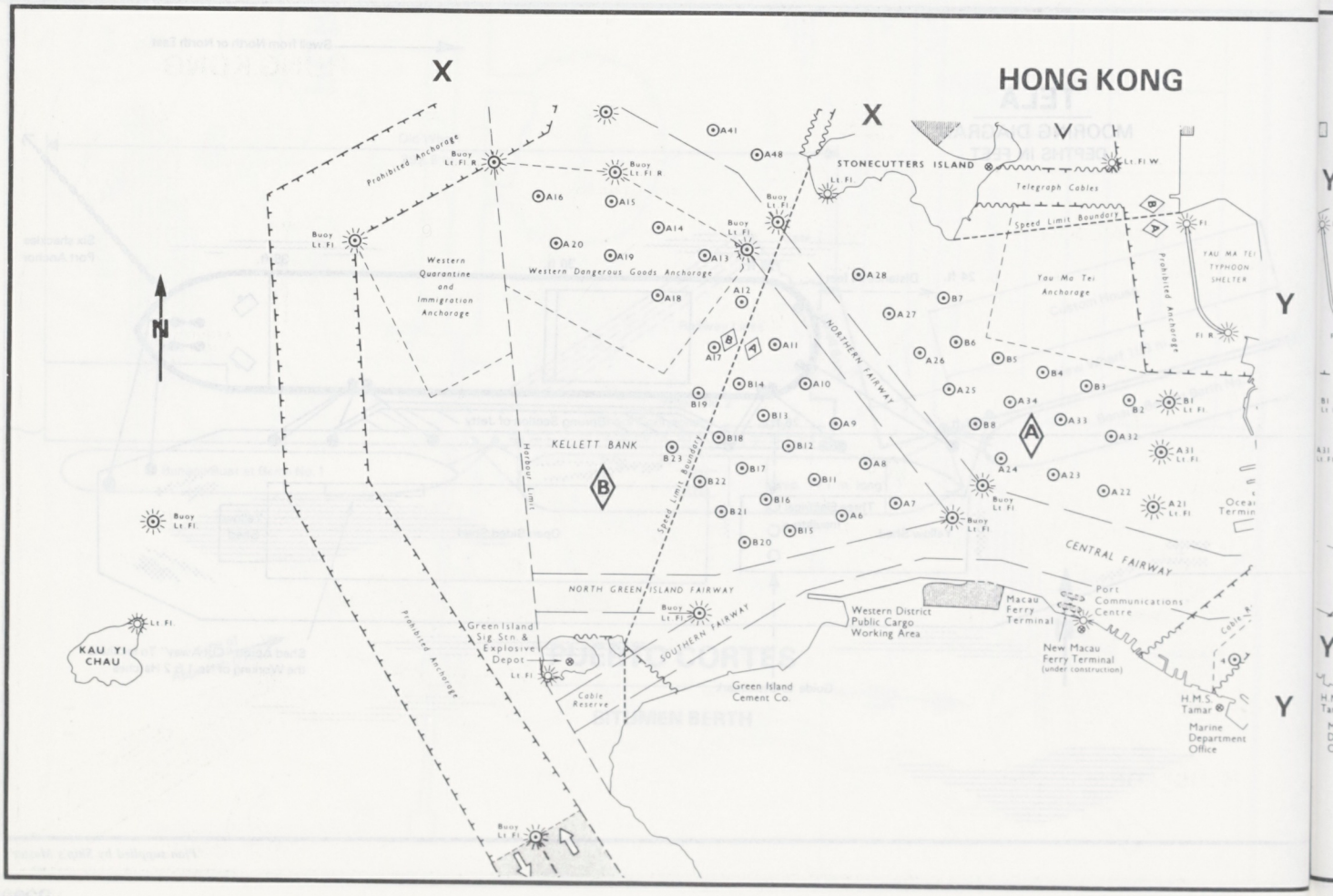
TELA

MOORING DIAGRAM
DEPTHS IN FEET



"Plan supplied by Ship's Master"


HONG KONG
TSUEN WAN
TSING YI
Tsuen Wan Public Cargo Working Area
China Resources Co.
Gulf Oil Co. Ltd.
Caltex Oil (H.K.) Ltd.
North Tsing Yi Boatyards
Ngo Ying Chau Cable Area
Rambler Channel Public Cargo Working Area
Hongkong United Dockyards
Kwai Chung Container Terminal
Berth No. 1
Berth No. 2
Berth No. 3
Berth No. 4
Berth No. 5
Berth No. 6
Mobil Oil Co. Ltd.
Gulf Oil Co. Ltd.
Peninsula Pet. Co. Ltd.
Peninsula Electric Power Co.
Esso Oil Co. Ltd.
Cheung Sha Wan Boatyards
Sham Shui Po Anchorage
Floating Dock "TAIKOO"
Floating Dock "WHAMPOA"
Floating Dock "YAU LIAN No.1"
Floating Dock "APPLE DOCK"
Floating Dock "YAU LIAN No.2"
Dangerous Goods Anchorage
Harbour Limit
Typhoon Shelter
Bridge
Cable Area
Buoy Lt. Fl.
Lt. Fl.
N
X
B


HONG KONG
X
Y
N
STONECUTTERS ISLAND
Lt. Fl. W.
Telegraph Cables
Speed Limit Boundary
Prohibited Anchorage
Yau Ma Tei Anchorage
YAU MA TEI TYPHOON SHELTER
Western Quarantine and Immigration Anchorage
Western Dangerous Goods Anchorage
KELLETT BANK
Harbour Limit
NORTHERN FAIRWAY
CENTRAL FAIRWAY
NORTH GREEN ISLAND FAIRWAY
SOUTHERN FAIRWAY
KAU YI CHAU
Green Island Sig Stn & Explosive Depot
Cable Reserve
Green Island Cement Co.
Western District Public Cargo Working Area
Macau Ferry Terminal
New Macau Ferry Terminal (under construction)
Port Communications Centre
H.M.S. Tamar
Marine Department Office
Buoy Lt. Fl.
Buoy Lt. Fl. R.
Lt. Fl.
Fl. R.
A
B

HONG KONG

GOVERNMENT MOORINGS

1 — All Government Mooring Buoys are painted with the letters A or B and numbered as follows:—
A Class. Body painted white and top painted in red and white sectors with letter and number in black.
B Class. Body and top painted black with letter and number in white.

2 — A Class buoys are for ships from 137 metres to 183 metres in length and the fees payable for their use are $700 per day or part of a day.
B Class buoys are for ships up to 137 metres in length and the fees payable for their use are $450 per day or part of a day.

3 — All ships are to secure to Government Buoys by their chain cable. Slip Wires should remain slack at all times.

4 — No vessel shall take up any buoy without previous application to the Marine Department.

5 — No vessel shall take up any buoy on which a Red flag has been placed.

6 — Any damage done to Government Moorings or Buoys will render the ship using the same liable for such damage.

7 — When any typhoon signal is hoisted, all ships at Government Buoys shall immediately clear away anchors and cables and raise steam on the Main Engines, to such an extent as may be possible under the circumstances.

8 — When any typhoon signal, other than No. 1 and No. 3 signal, is hoisted, all ships at Government Buoys, not being special typhoon class moorings, shall shift to a typhoon anchorage or to special typhoon moorings within TWO HOURS after the hoisting of such signal. It shall be lawful for the Director of Marine to order any ship at a special typhoon class mooring to give place to any other ship whenever in his opinion the circumstances justify such order. Many Government 'A' and 'B' class buoys are classed as special typhoon class moorings, up-to-date information on these moorings is available from the Port Communications Centre, Telephone No. 5-450182.

9 — ⊗ Denotes local storm signal station.

SPEED LIMITS IN VICTORIA HARBOUR

Ⓐ Vessels up to 15 m in length, 10 knots.

Ⓑ Vessels up to 15 m in length, 15 knots.

Ⓐ & Ⓑ Vessels of 15 m to 60 m in length, 10 knots.

Ⓐ & Ⓑ Vessels over 60 m in length, 8 knots.

BUOYS

The following are approximate depths in metres, within a radius of 213 m of "A" Buoys and 167 m of "B" Buoys, measured from Chart Datum. Up to date and more detailed information should be obtained from the Port Communications Centre, Telephone No. 5-450182.

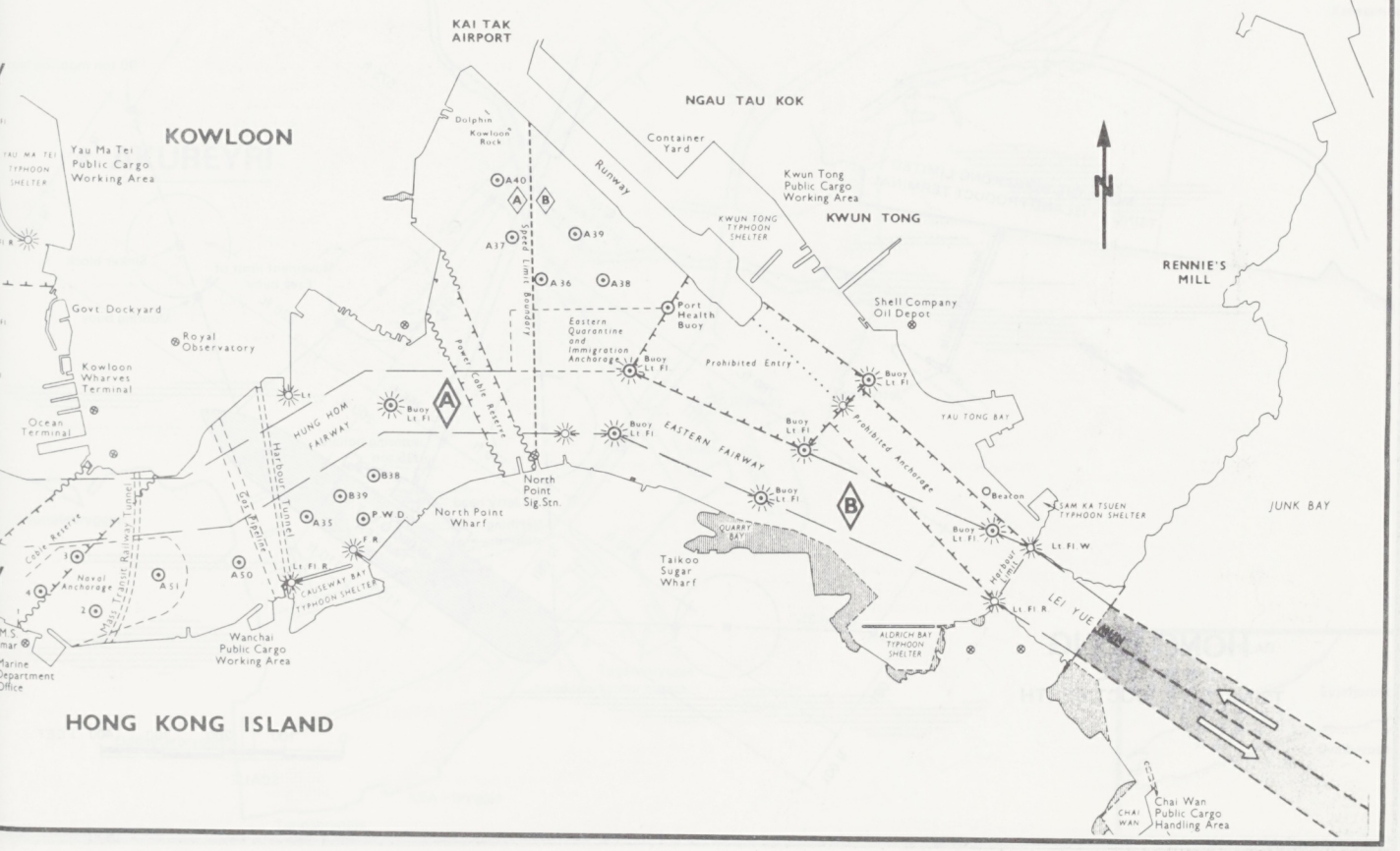
Buoy	m	Buoy	m	Buoy	m	Buoy	m
A6	8.2	A28	7.6	B1	5.8	B21	6.7
A7	8.2	A31	8.2	B2	6.1	B22	6.4
A8	8.5	A32	8.5	B3	5.1	B23	6.4
A9	8.8	A33	7.6	B4	5.8	B24	6.7
A10	9.1	A34	8.2	B5	5.1	B25	6.1
A11	9.4	A35	10.3	B6	5.8	B26	7.0
A12	9.7	A36	8.5	B7	5.1	B27	5.8
A13	9.4	A37	7.6	B8	8.5	B38	7.6
A14	9.4	A38	8.8	B11	7.9	B39	8.5
A15	8.8	A39	6.1	B12	8.2	B41	7.6
A16	7.3	A40	6.7	B13	7.9		
A17	7.9	A41	8.8	B14	7.3		
A18	7.9	A42	8.8	B15	7.6		
A19	7.0	A43	7.6	B16	7.6		
A20	6.7	A44	7.6	B17	7.3		
A21	10.3	A45	7.6	B18	6.7		
A22	11.2	A46	7.3	B19	6.4		
A23	11.2	A47	7.3	B20	7.6		
A24	11.2	A48	7.9				
A25	7.3	A49	6.1				
A26	7.6	A50	10.3				
A27	7.0	A51	11.2				

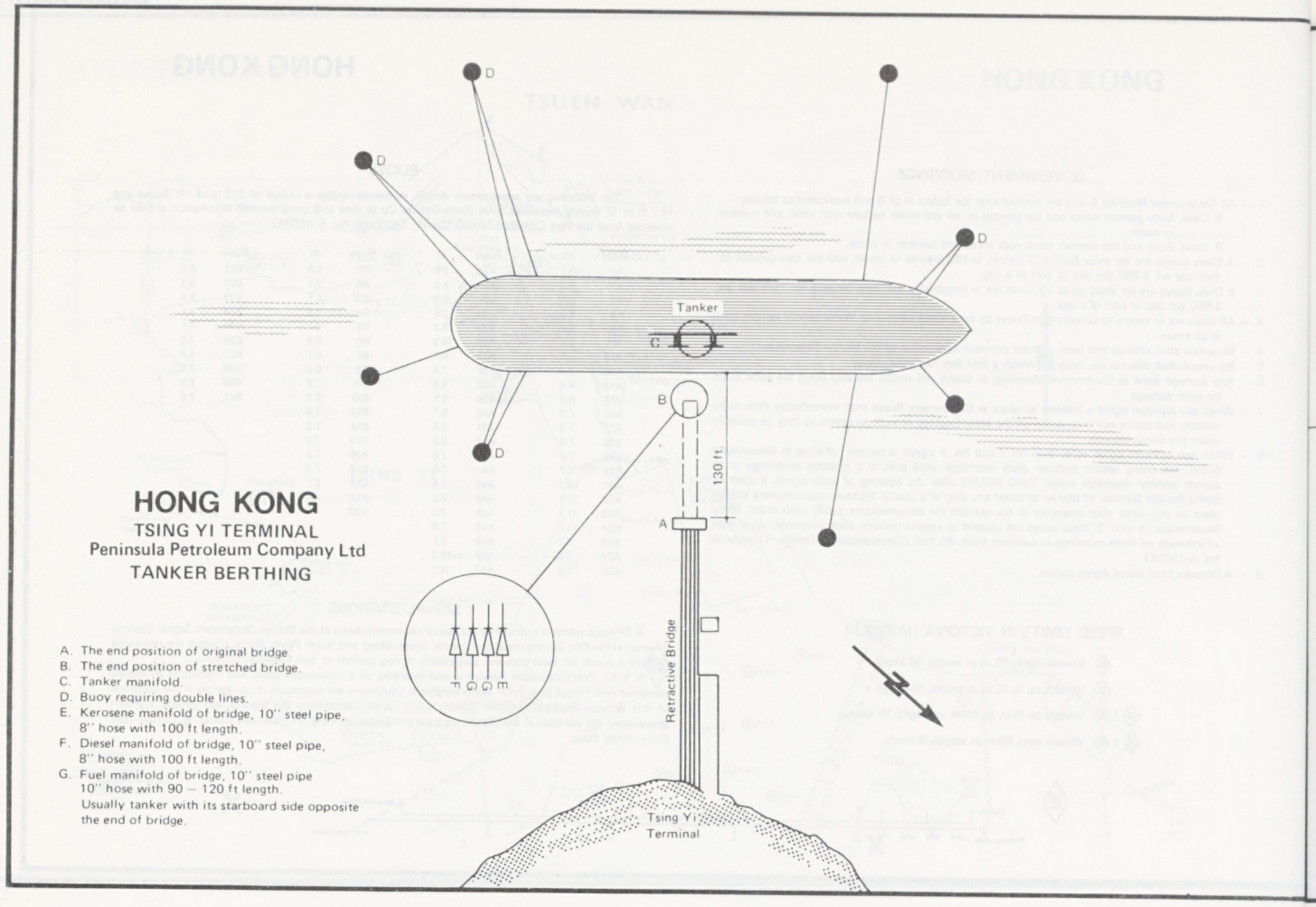
SIGNAL STATIONS

A 24-hour watch is maintained for visual communications at the Marine Department Signal Stations situated at the Port Communications Centre, Green Island and North Point. Ships' masters are requested to keep a watch on these stations, particularly during periods of bad weather.

A V.H.F. Port Operations Service is also operated on a continuous basis, and masters of all vessels equipped with Hague Plan V.H.F. radio-telephone equipment are requested to co-operate in the operation of this Service. Booklets, entitled "Shipmaster's Guide", describing the Service and general typhoon precautions are available at the Marine Department Enquiries Desk, 7/F, Fairmont House, 8, Cotton Tree Drive, Hong Kong.

HONG KONG

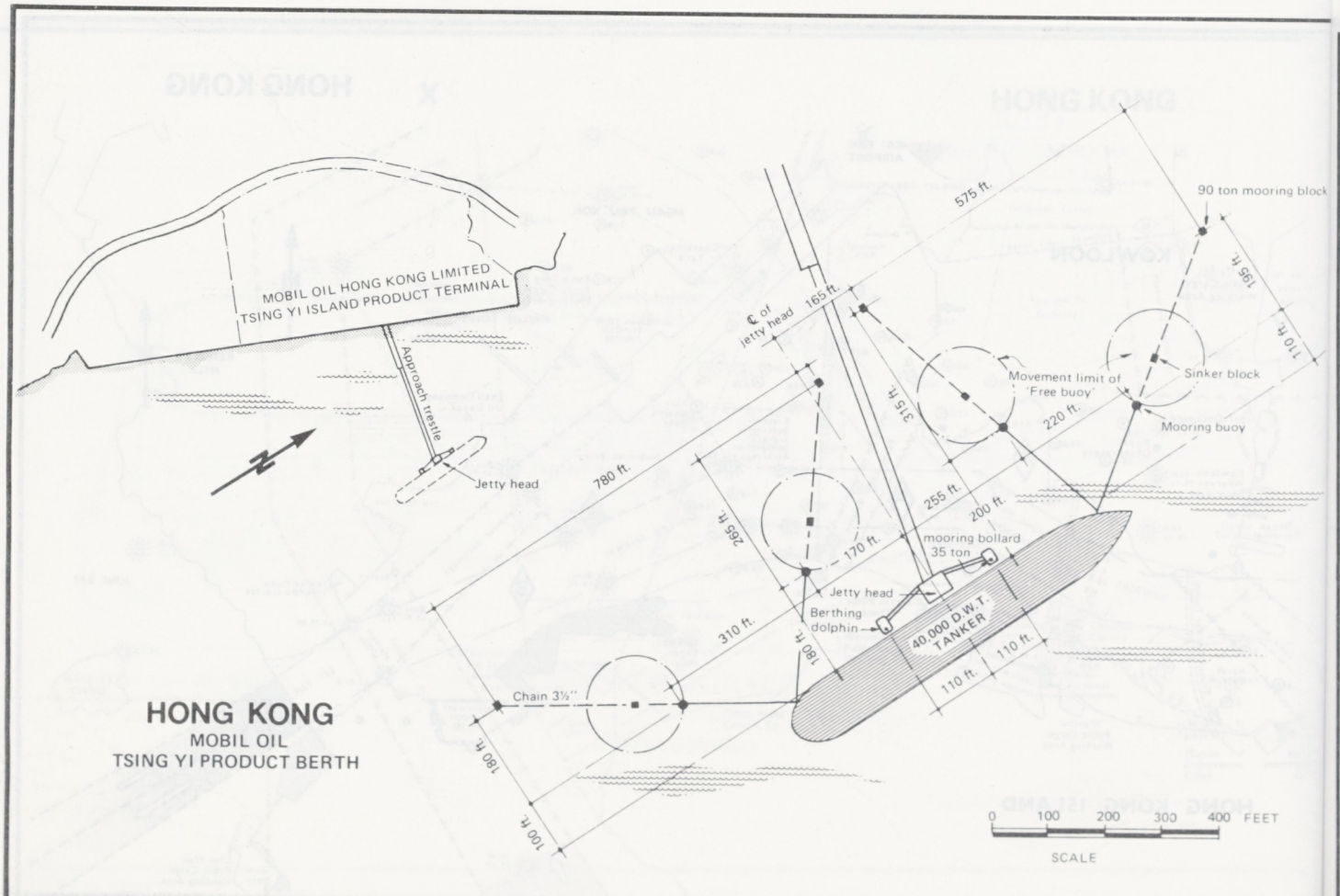




HONG KONG

TSING YI TERMINAL
Peninsula Petroleum Company Ltd
TANKER BERTHING

A. The end position of original bridge.
B. The end position of stretched bridge.
C. Tanker manifold.
D. Buoy requiring double lines.
E. Kerosene manifold of bridge, 10" steel pipe, 8" hose with 100 ft length.
F. Diesel manifold of bridge, 10" steel pipe, 8" hose with 100 ft length.
G. Fuel manifold of bridge, 10" steel pipe 10" hose with 90 – 120 ft length. Usually tanker with its starboard side opposite the end of bridge.

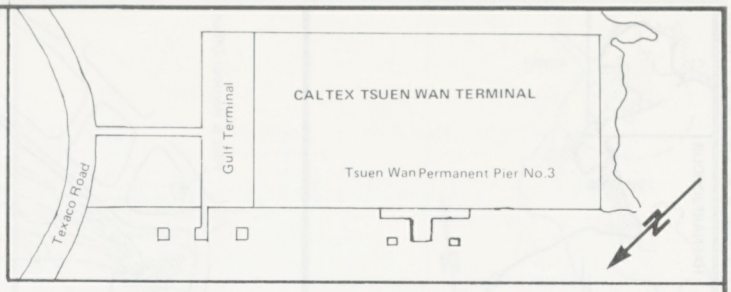


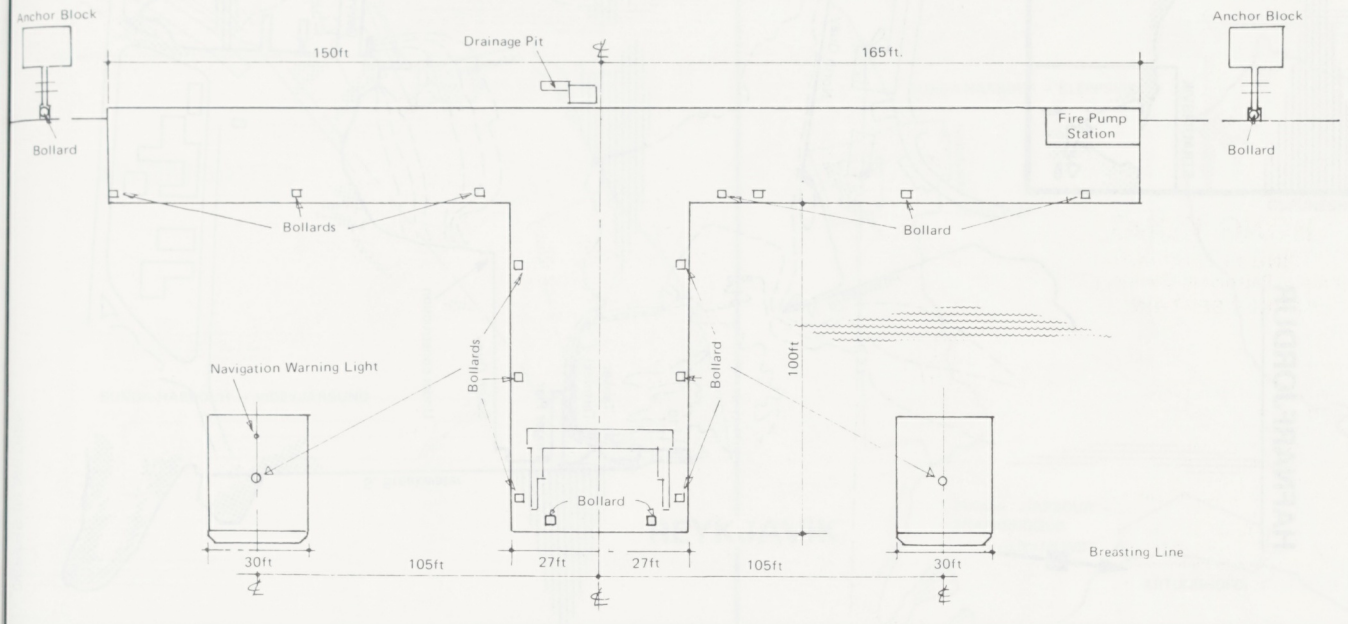
HONG KONG

MOBIL OIL
TSING YI PRODUCT BERTH

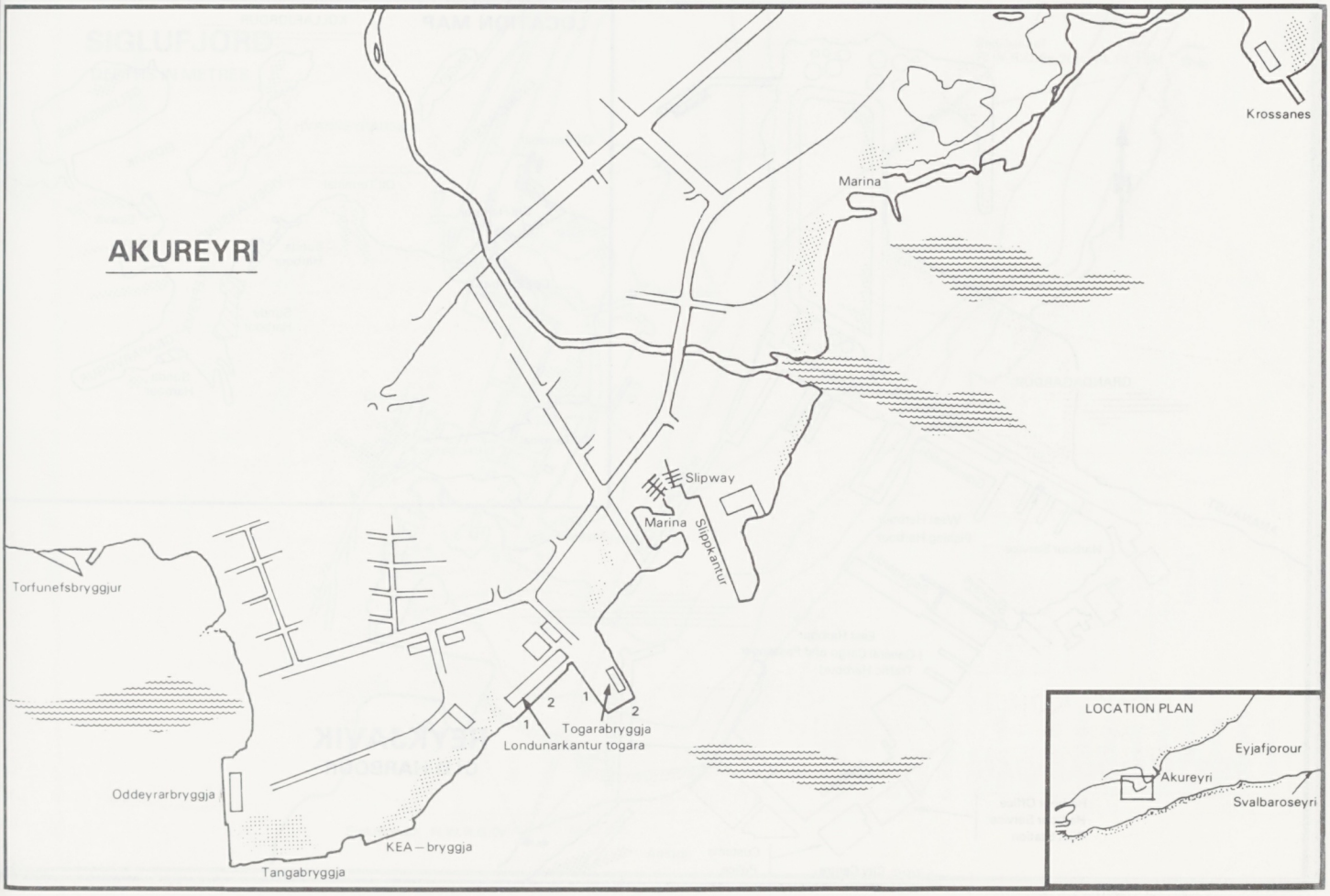
HONG KONG

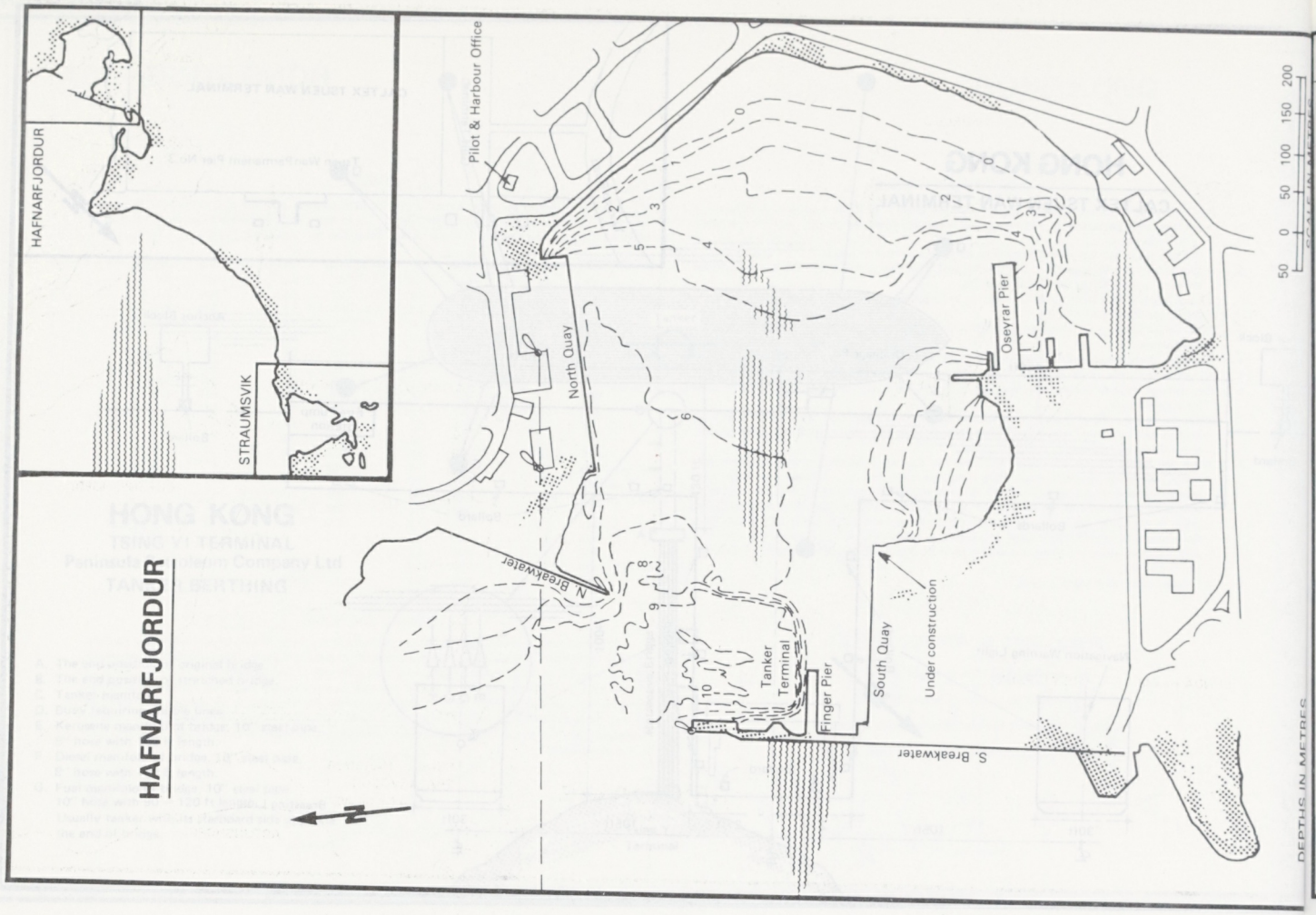
CALTEX TSUEN WAN TERMINAL

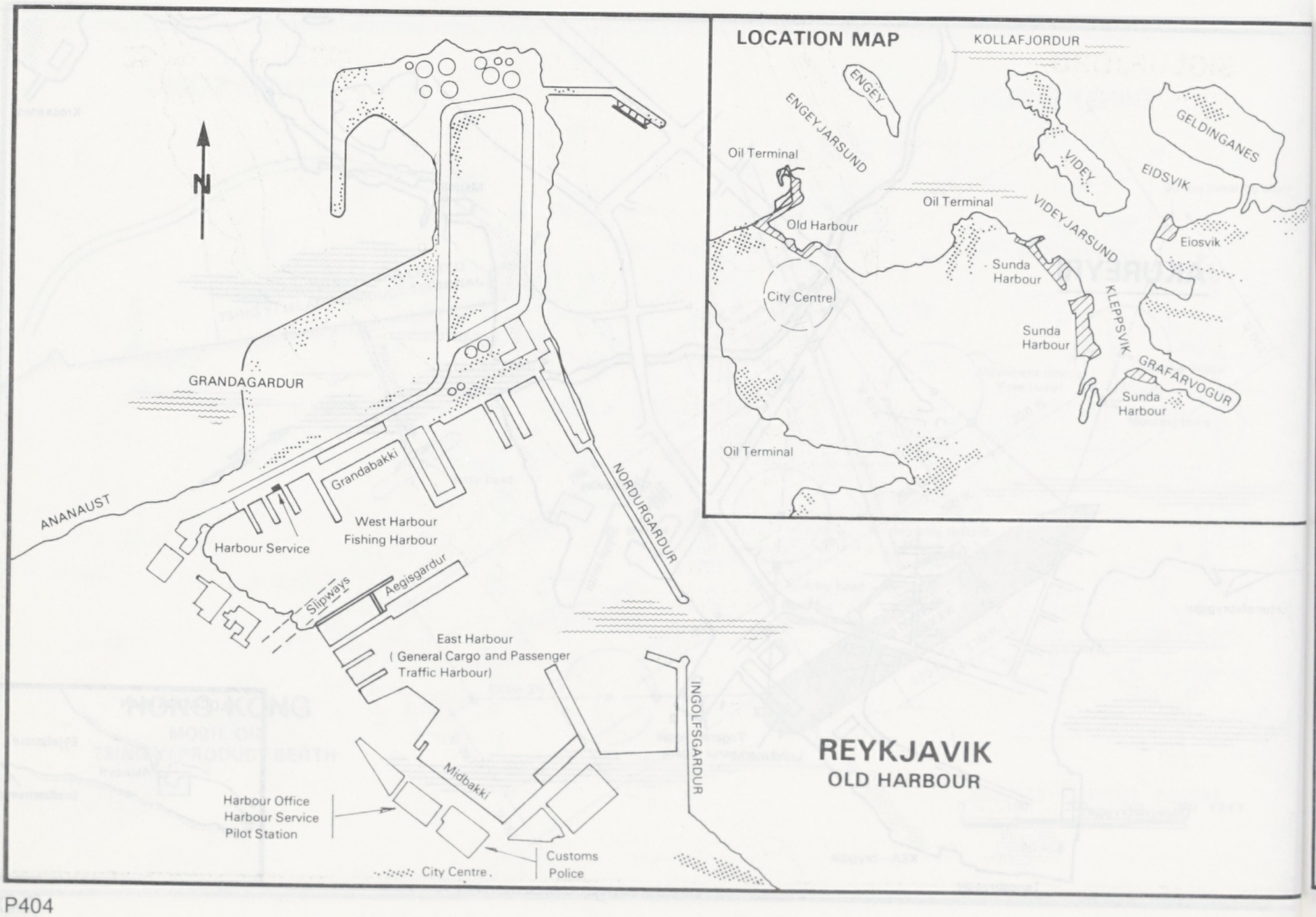


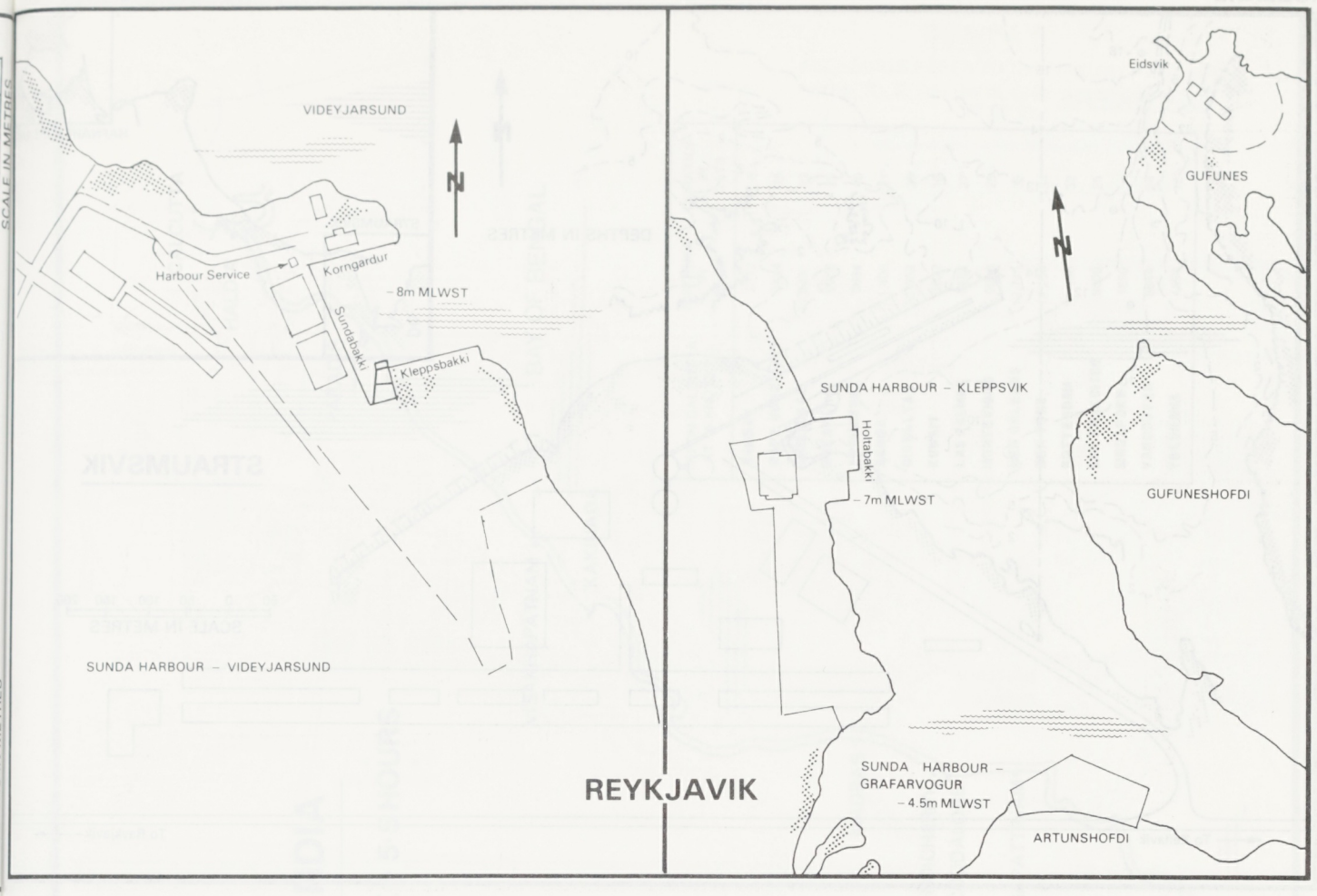


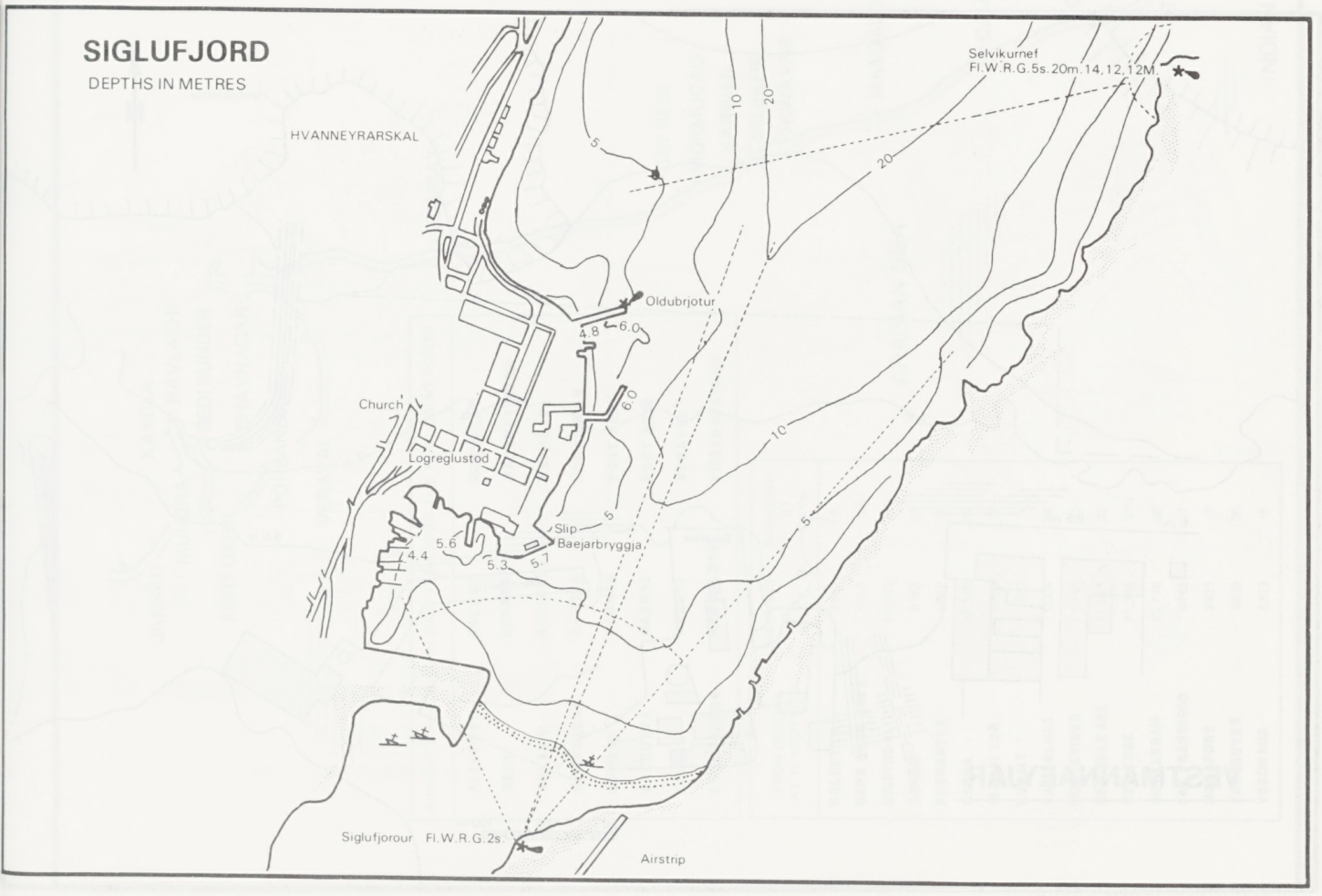
AKUREYRI

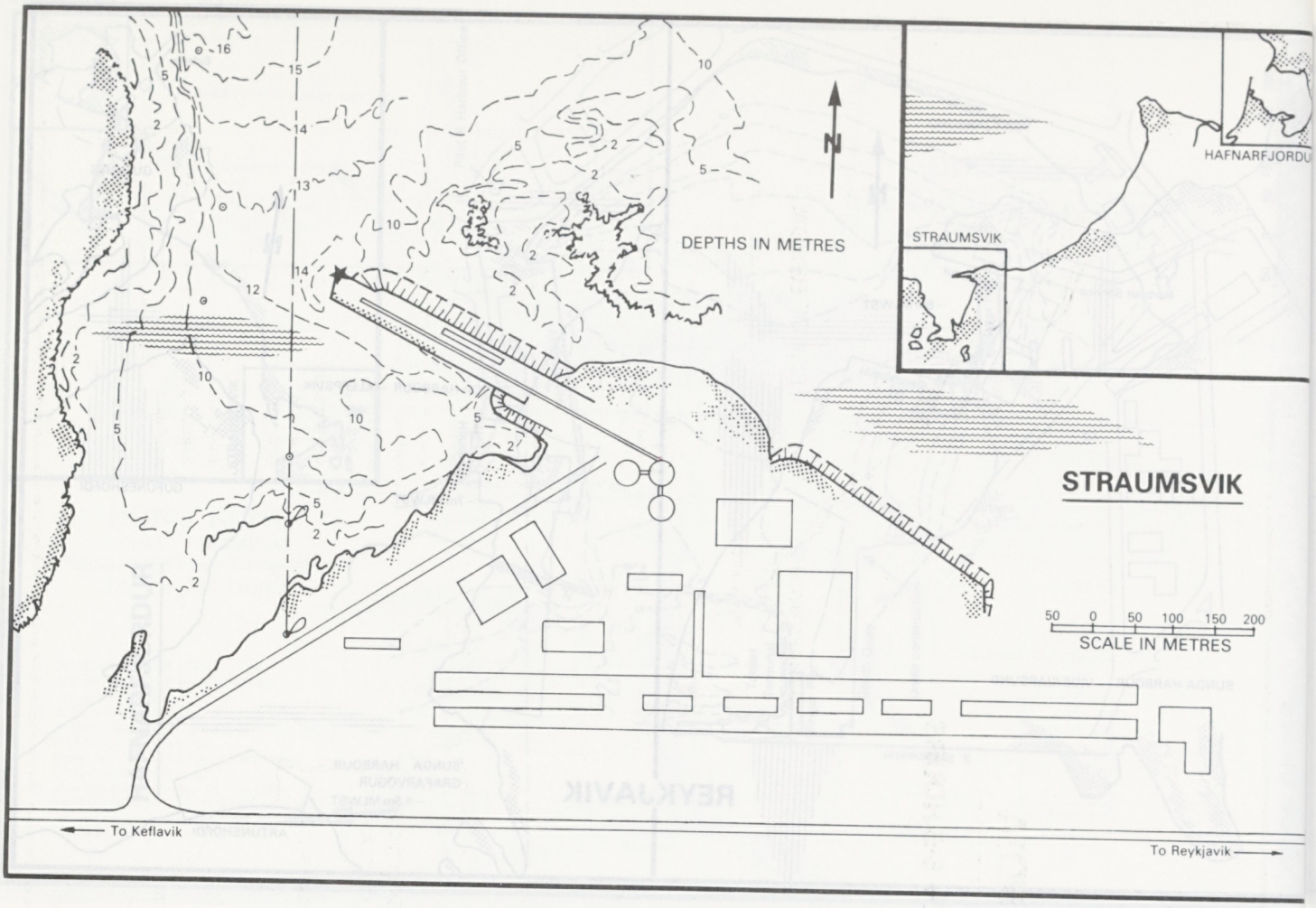


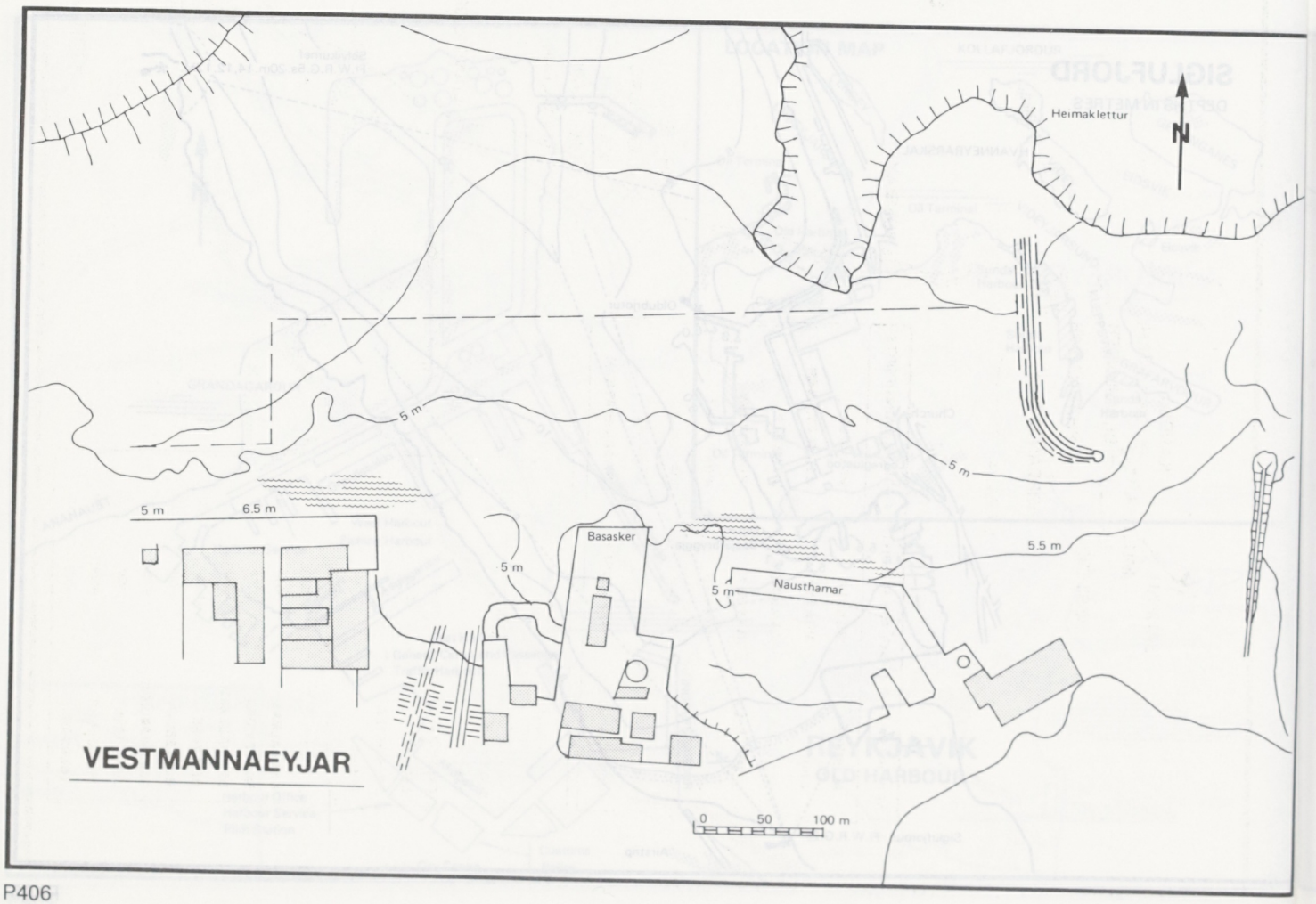

HAFNARFJORDUR
STRAUMSVIK
HAFNARFJORDUR
Pilot & Harbour Office
North Quay
Oseyrar Pier
N. Breakwater
Tanker Terminal
Finger Pier
South Quay
Under construction
S. Breakwater
N
DEPTHS IN METRES

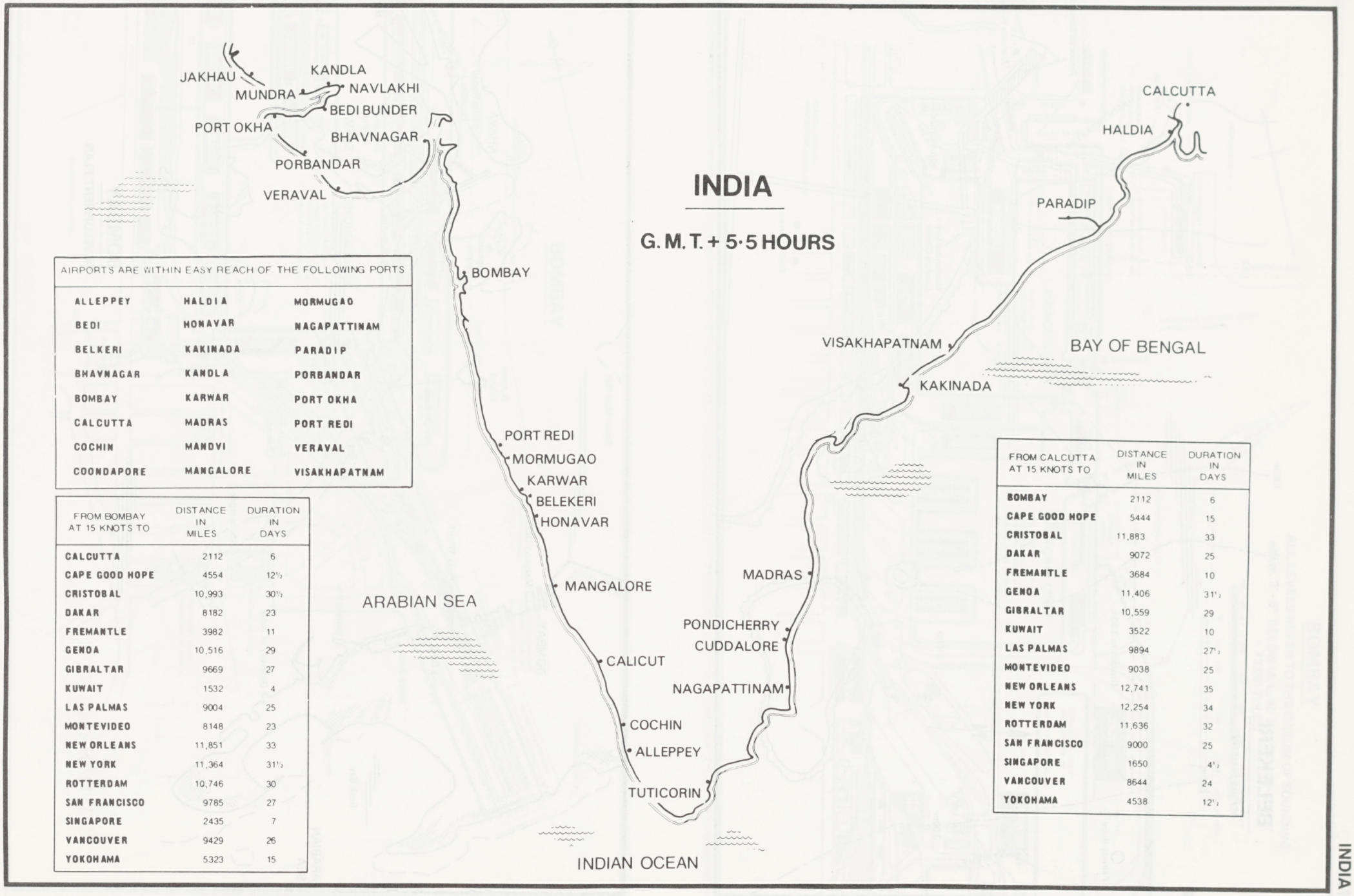

N
GRANDAGARDUR
ANANAUST
Grandabakki
West Harbour
Fishing Harbour
Harbour Service
Slipways
Aegisgardur
East Harbour
(General Cargo and Passenger
Traffic Harbour)
NORDURGARDUR
INGOLFSGARDUR
Midbakki
Harbour Office
Harbour Service
Pilot Station
City Centre
Customs
Police
LOCATION MAP
KOLLAFJORDUR
ENGEY
ENGEYJARSUND
Oil Terminal
Old Harbour
City Centre
VIDEY
VIDEYJARSUND
GELDINGANES
EIDSVIK
Eiosvik
Sunda Harbour
KLEPPSVIK
GRAFARVOGUR
REYKJAVIK
OLD HARBOUR


VIDEYJARSUND
Harbour Service
Korngardur
Sundabakki
– 8m MLWST
Kleppsbakki
SUNDA HARBOUR – VIDEYJARSUND
Eidsvik
GUFUNES
SUNDA HARBOUR – KLEPPSVIK
Holtabakki
– 7m MLWST
GUFUNESHOFDI
REYKJAVIK
SUNDA HARBOUR – GRAFARVOGUR
– 4.5m MLWST
ARTUNSHOFDI


SIGLUFJORD
DEPTHS IN METRES
HVANNEYRARSKAL
Selvikurnef
Fl.W.R.G.5s.20m.14,12,12M.
Oldubrjotur
Church
Logreglustod
Slip
Baejarbryggja
Siglufjorour Fl.W.R.G.2s.
Airstrip


DEPTHS IN METRES
N
HAFNARFJORDU
STRAUMSVIK
STRAUMSVIK
50 0 50 100 150 200
SCALE IN METRES
To Keflavik
To Reykjavik


Heimaklettur
N
5 m
5 m
5 m
6.5 m
Basasker
5 m
5 m
Nausthamar
5.5 m
VESTMANNAEYJAR
0 50 100 m

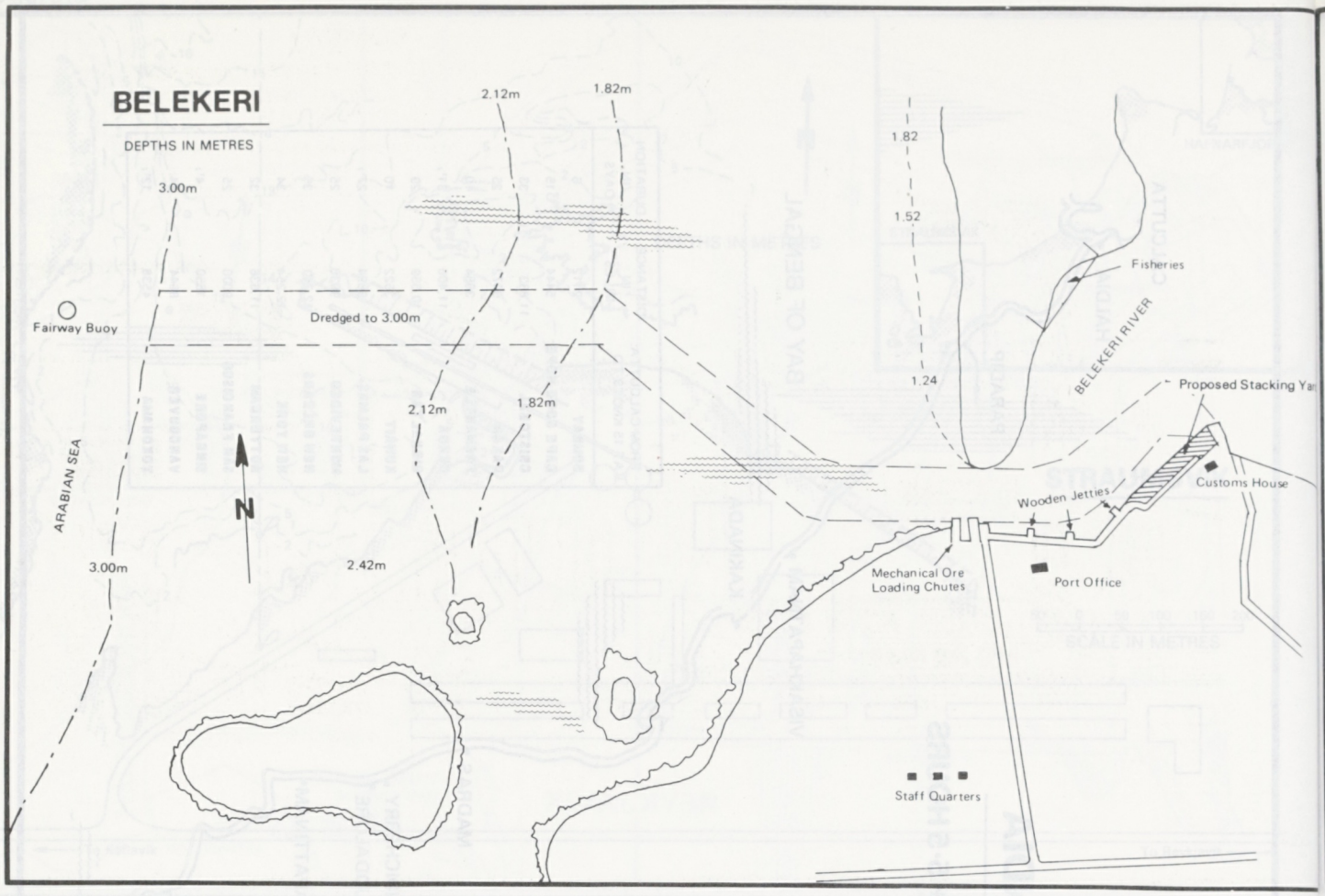


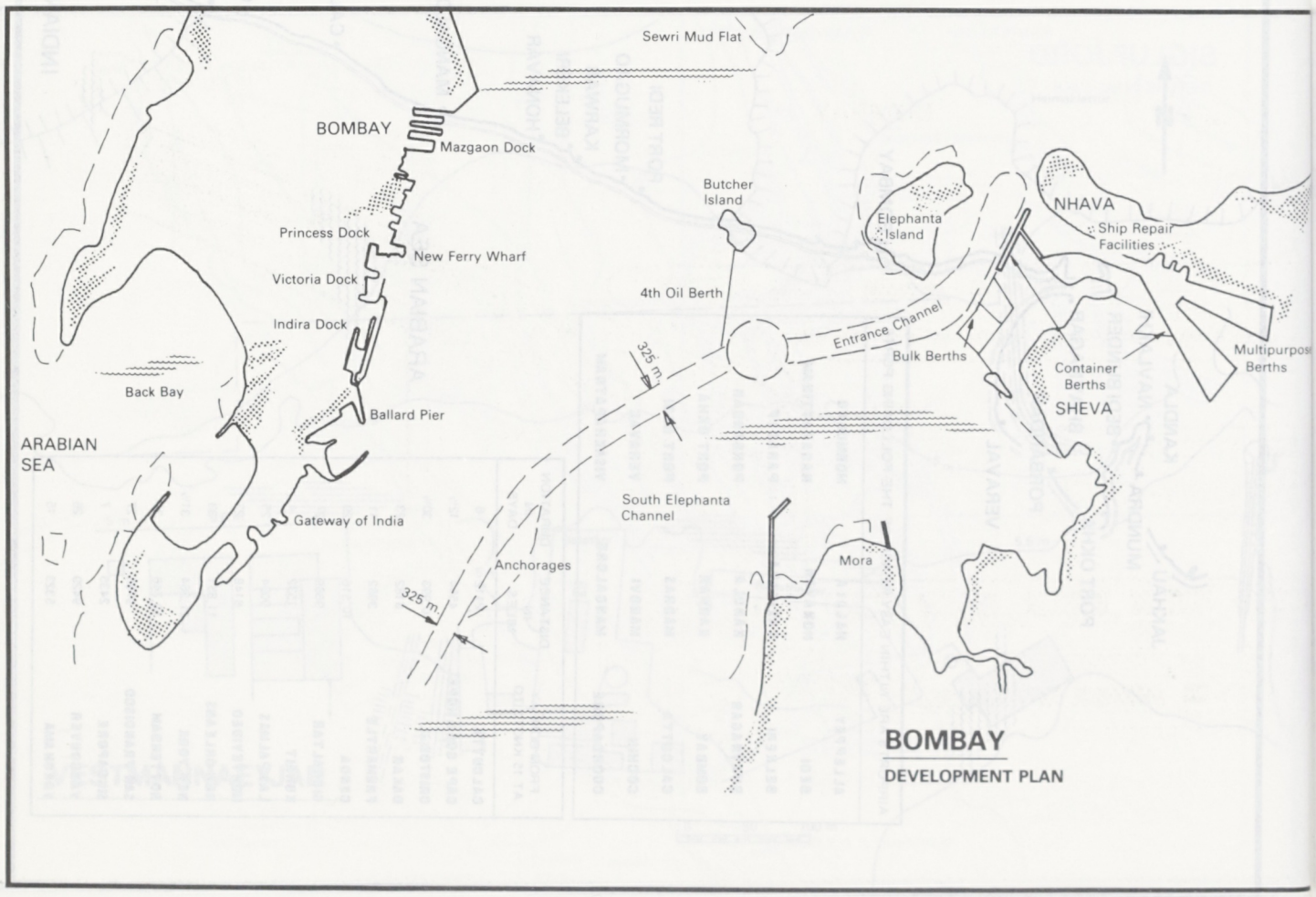
AIRPORTS ARE WITHIN EASY REACH OF THE FOLLOWING PORTS

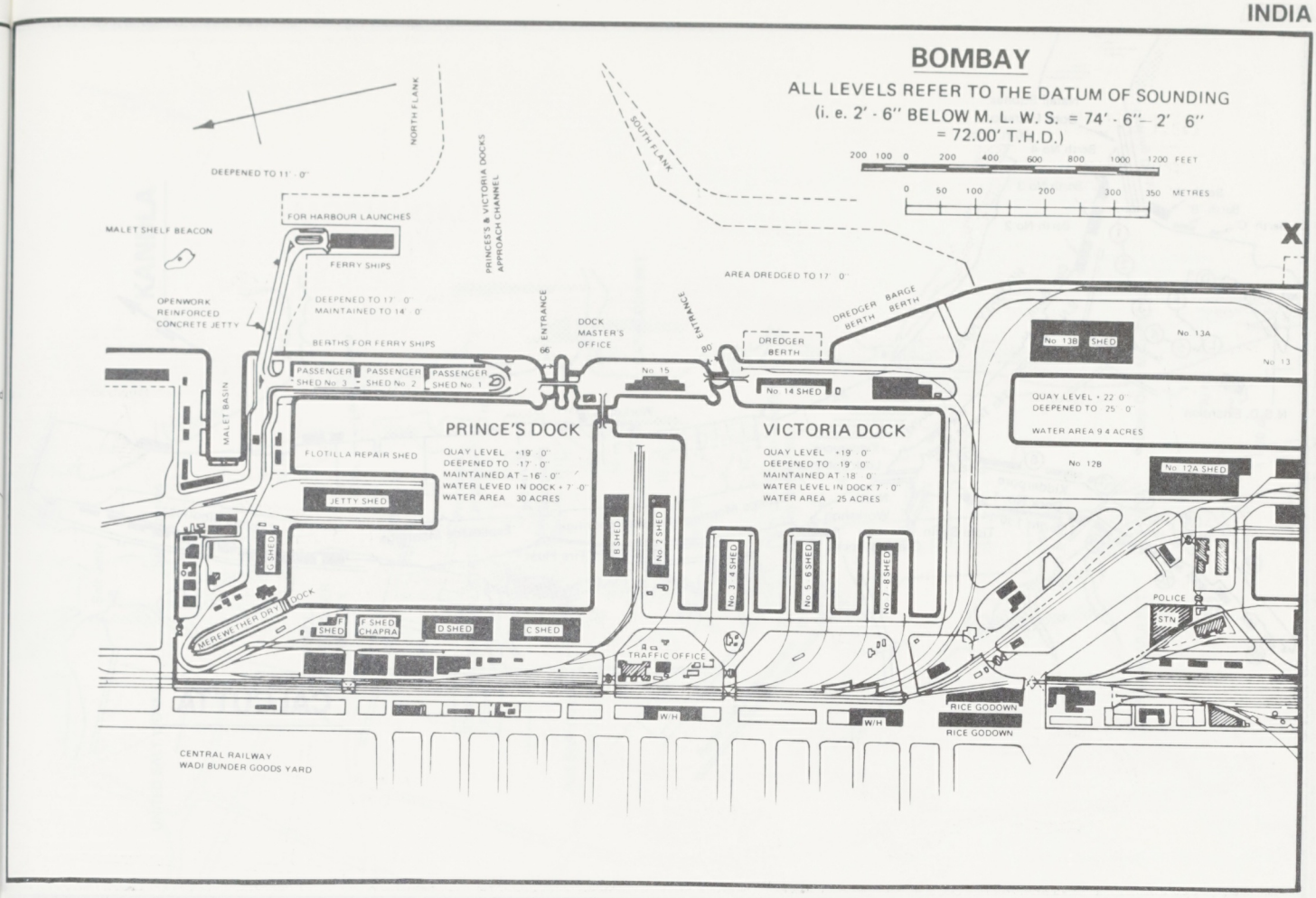
ALLEPPEY	HALDIA	MORMUGAO
BEDI	HONAVAR	NAGAPATTINAM
BELKERI	KAKINADA	PARADIP
BHAVNAGAR	KANDLA	PORBANDAR
BOMBAY	KARWAR	PORT OKHA
CALCUTTA	MADRAS	PORT REDI
COCHIN	MANDVI	VERAVAL
COONDAPORE	MANGALORE	VISAKHAPATNAM

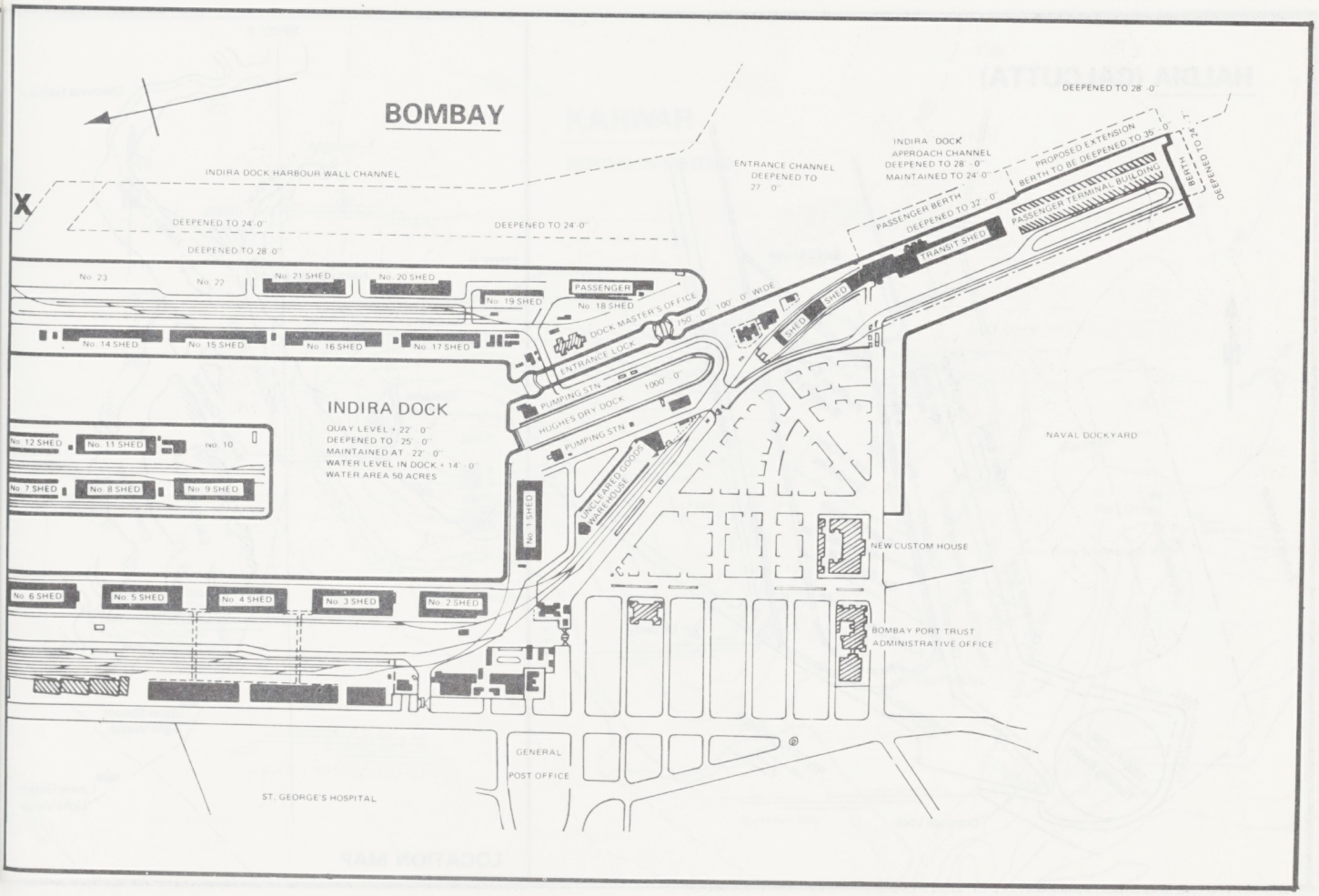
FROM BOMBAY AT 15 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
CALCUTTA	2112	6
CAPE GOOD HOPE	4554	12½
CRISTOBAL	10,993	30½
DAKAR	8182	23
FREMANTLE	3982	11
GENOA	10,516	29
GIBRALTAR	9669	27
KUWAIT	1532	4
LAS PALMAS	9004	25
MONTEVIDEO	8148	23
NEW ORLEANS	11,851	33
NEW YORK	11,364	31½
ROTTERDAM	10,746	30
SAN FRANCISCO	9785	27
SINGAPORE	2435	7
VANCOUVER	9429	26
YOKOHAMA	5323	15

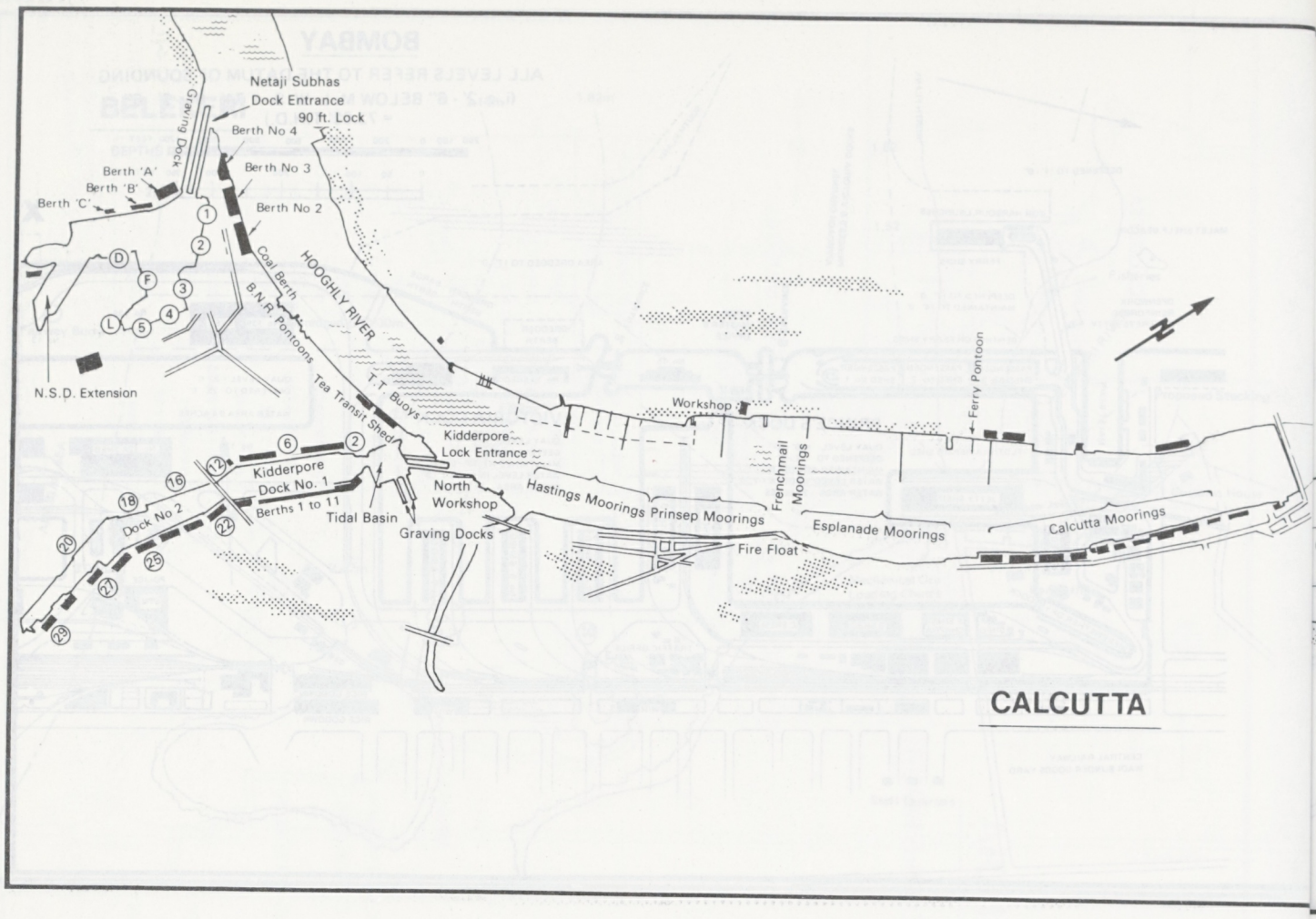
FROM CALCUTTA AT 15 KNOTS TO	DISTANCE IN MILES	DURATION IN DAYS
BOMBAY	2112	6
CAPE GOOD HOPE	5444	15
CRISTOBAL	11,883	33
DAKAR	9072	25
FREMANTLE	3684	10
GENOA	11,406	31½
GIBRALTAR	10,559	29
KUWAIT	3522	10
LAS PALMAS	9894	27½
MONTEVIDEO	9038	25
NEW ORLEANS	12,741	35
NEW YORK	12,254	34
ROTTERDAM	11,636	32
SAN FRANCISCO	9000	25
SINGAPORE	1650	4½
VANCOUVER	8644	24
YOKOHAMA	4538	12½


BELEKERI
DEPTHS IN METRES
3.00m
2.12m
1.82m
Fairway Buoy
Dredged to 3.00m
ARABIAN SEA
N
3.00m
2.42m
2.12m
1.82m
1.82
1.52
1.24
Fisheries
BELEKERI RIVER
Proposed Stacking Yar
Customs House
Wooden Jetties
Mechanical Ore Loading Chutes
Port Office
Staff Quarters

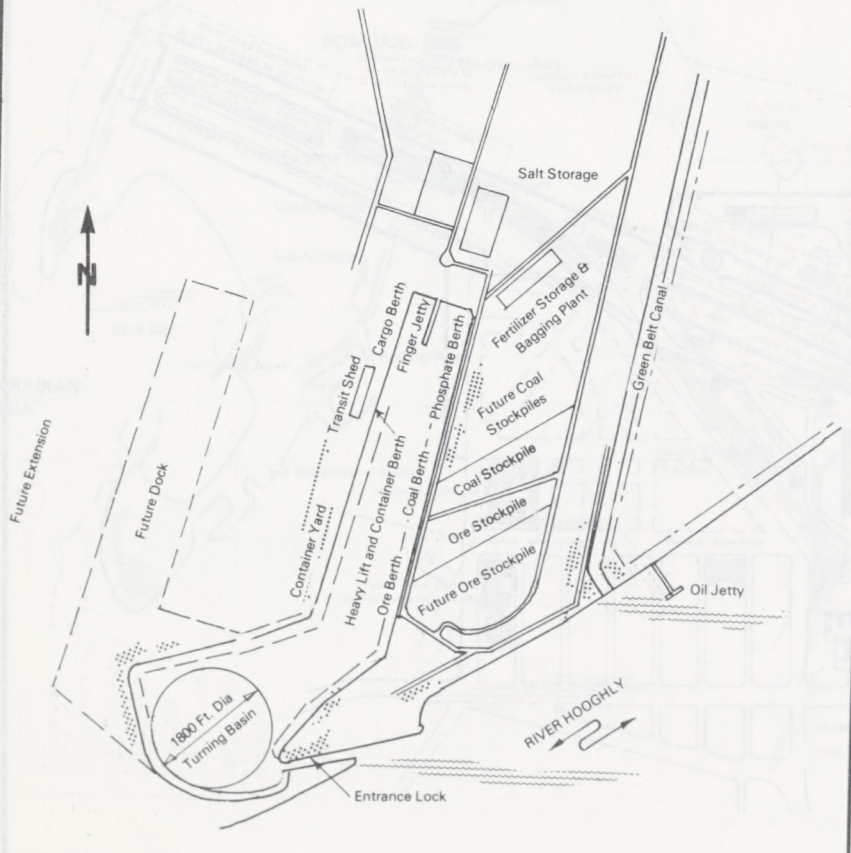

Sewri Mud Flat
BOMBAY
Mazgaon Dock
Princess Dock
New Ferry Wharf
Victoria Dock
Indira Dock
Back Bay
Ballard Pier
ARABIAN SEA
Gateway of India
Butcher Island
4th Oil Berth
Elephanta Island
NHAVA
Ship Repair Facilities
Entrance Channel
Bulk Berths
Container Berths
SHEVA
Multipurpose Berths
325 m
South Elephanta Channel
Anchorages
325 m
Mora
BOMBAY
DEVELOPMENT PLAN

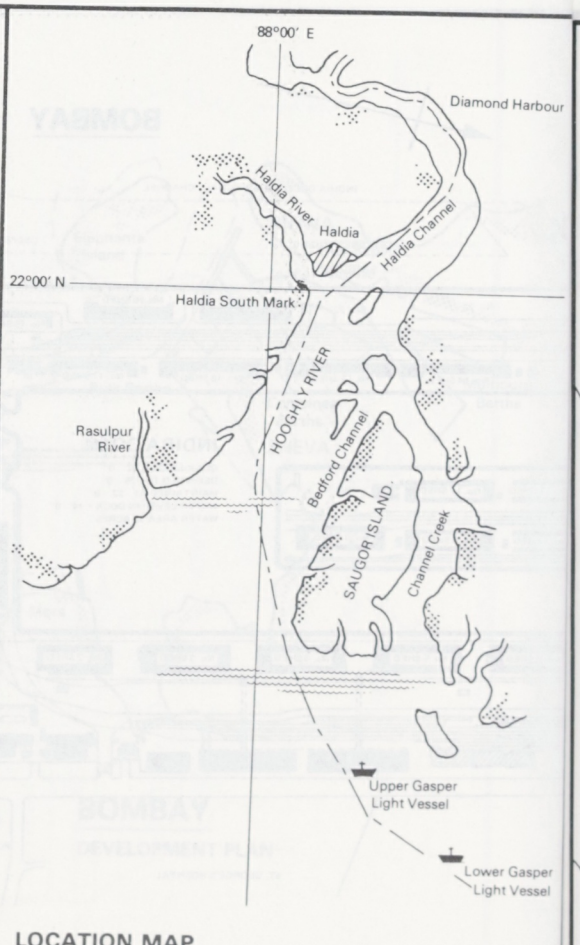

BOMBAY
ALL LEVELS REFER TO THE DATUM OF SOUNDING
(i. e. 2' - 6" BELOW M. L. W. S. = 74' - 6" – 2' 6"
= 72.00' T.H.D.)
200 100 0 200 400 600 800 1000 1200 FEET
0 50 100 200 300 350 METRES
NORTH FLANK
SOUTH FLANK
PRINCESS & VICTORIA DOCKS APPROACH CHANNEL
DEEPENED TO 11' - 0"
FOR HARBOUR LAUNCHES
MALET SHELF BEACON
FERRY SHIPS
OPENWORK REINFORCED CONCRETE JETTY
DEEPENED TO 17' - 0"
MAINTAINED TO 14' - 0"
BERTHS FOR FERRY SHIPS
AREA DREDGED TO 17' - 0"
DREDGER BERTH
BARGE BERTH
ENTRANCE
DOCK MASTER'S OFFICE
66
80
No. 15
No. 14 SHED
No. 13B SHED
No. 13A
No. 13
QUAY LEVEL + 22' 0"
DEEPENED TO 25' 0"
WATER AREA 9 4 ACRES
No. 12B
No. 12A SHED
PASSENGER SHED No. 3
PASSENGER SHED No. 2
PASSENGER SHED No. 1
MALET BASIN
PRINCE'S DOCK
QUAY LEVEL +19' 0"
DEEPENED TO 17' 0"
MAINTAINED AT – 16' 0"
WATER LEVED IN DOCK + 7' 0"
WATER AREA 30 ACRES
VICTORIA DOCK
QUAY LEVEL +19' 0"
DEEPENED TO 19' 0"
MAINTAINED AT 18' 0"
WATER LEVEL IN DOCK 7' 0"
WATER AREA 25 ACRES
FLOTILLA REPAIR SHED
JETTY SHED
G SHED
B SHED
No. 2 SHED
No. 3 4 SHED
No. 5 6 SHED
No. 7 8 SHED
MERE WETHER DRY DOCK
F SHED
F SHED CHAPRA
D SHED
C SHED
TRAFFIC OFFICE
POLICE STN.
W/H
W/H
RICE GODOWN
RICE GODOWN
CENTRAL RAILWAY
WADI BUNDER GOODS YARD

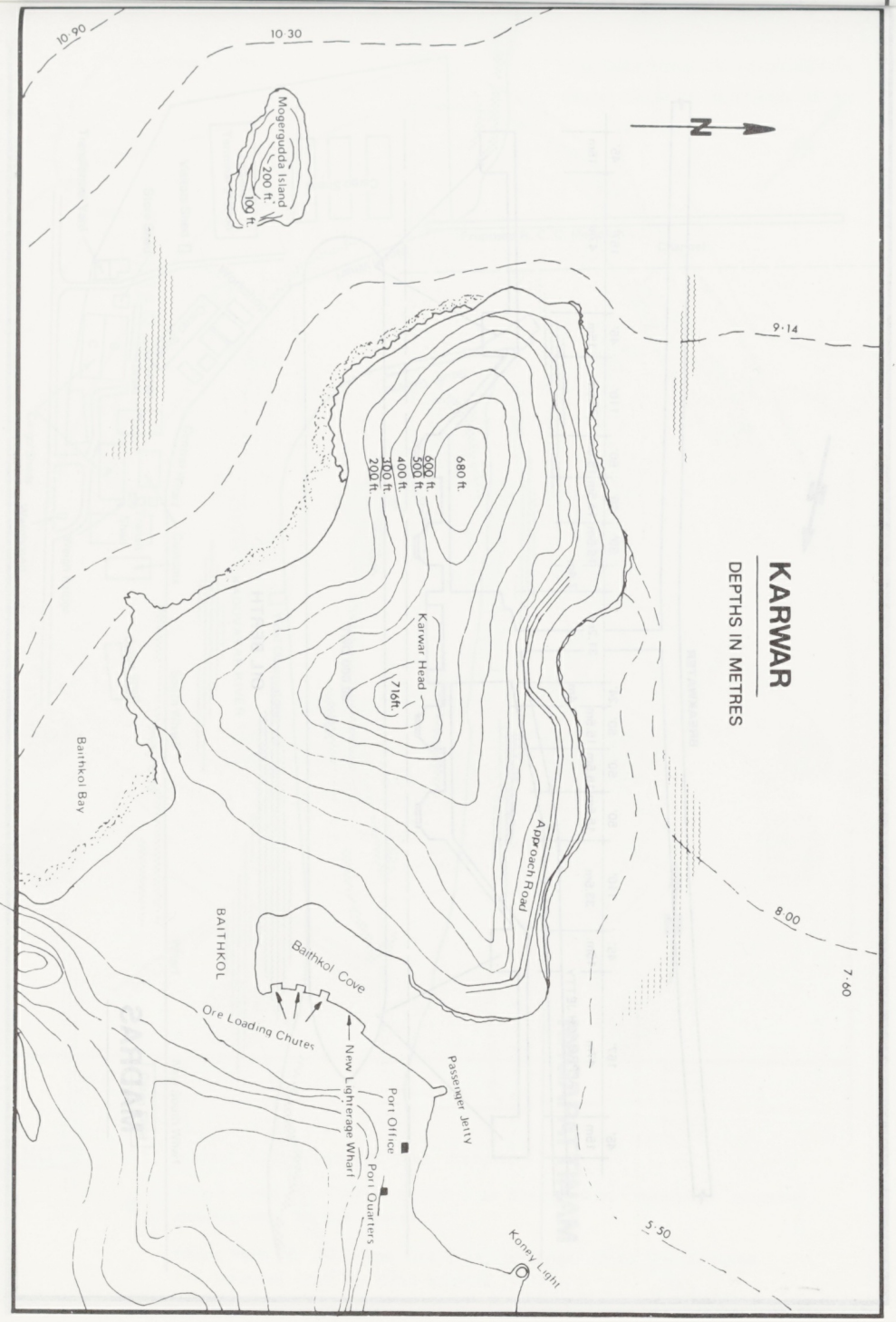

BOMBAY
INDIRA DOCK HARBOUR WALL CHANNEL
DEEPENED TO 24' 0"
DEEPENED TO 28' 0"
DEEPENED TO 24' 0"
ENTRANCE CHANNEL DEEPENED TO 27' 0"
INDIRA DOCK APPROACH CHANNEL DEEPENED TO 28' 0" MAINTAINED TO 24' 0"
DEEPENED TO 28' 0"
PROPOSED EXTENSION BERTH TO BE DEEPENED TO 35' 0"
PASSENGER BERTH DEEPENED TO 32' 0"
PASSENGER TERMINAL BUILDING
BERTH DEEPENED TO 24' 0"
TRANSIT SHED
No. 23
No. 22
No. 21 SHED
No. 20 SHED
No. 19 SHED
PASSENGER
No. 18 SHED
DOCK MASTER'S OFFICE
750' 0" 100' 0" WIDE
No. 14 SHED
No. 15 SHED
No. 16 SHED
No. 17 SHED
ENTRANCE LOCK
PUMPING STN.
1000' 0"
HUGHES DRY DOCK
PUMPING STN.
INDIRA DOCK
QUAY LEVEL + 22' 0"
DEEPENED TO 25' 0"
MAINTAINED AT 22' 0"
WATER LEVEL IN DOCK + 14' 0"
WATER AREA 50 ACRES
No. 12 SHED
No. 11 SHED
No. 10
No. 7 SHED
No. 8 SHED
No. 9 SHED
UNCLEARED GOODS WAREHOUSE
No. 1 SHED
NAVAL DOCKYARD
NEW CUSTOM HOUSE
No. 6 SHED
No. 5 SHED
No. 4 SHED
No. 3 SHED
No. 2 SHED
BOMBAY PORT TRUST ADMINISTRATIVE OFFICE
GENERAL POST OFFICE
ST. GEORGE'S HOSPITAL

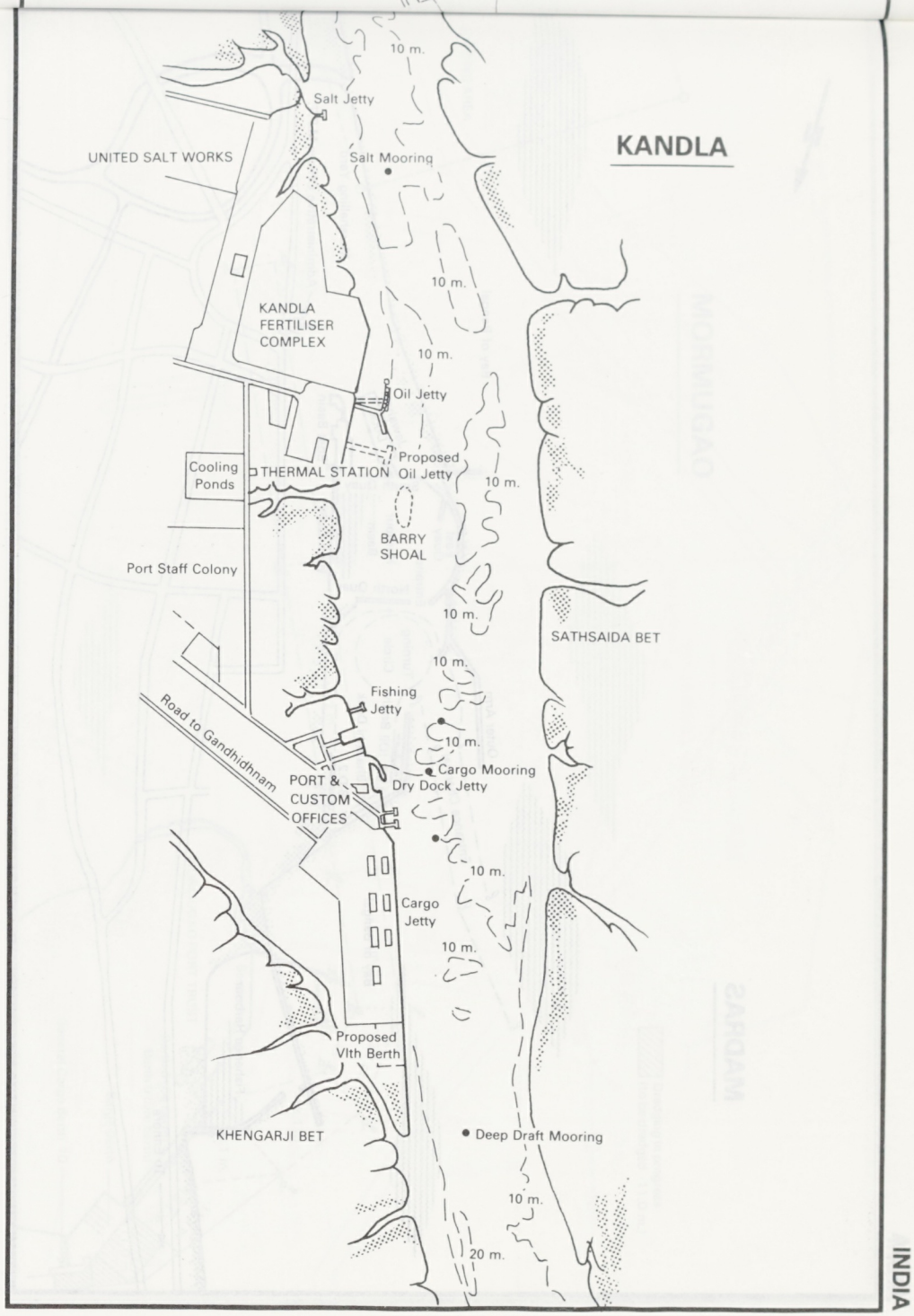


HALDIA (CALCUTTA)



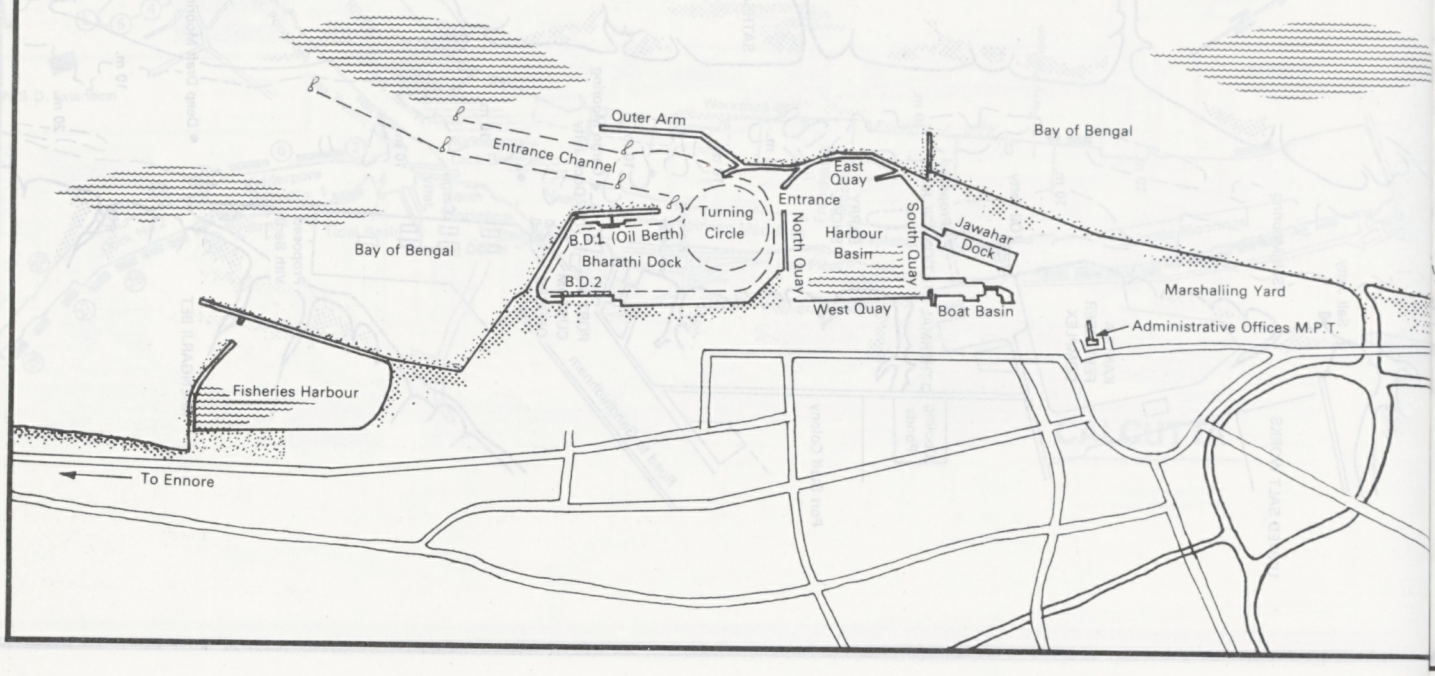


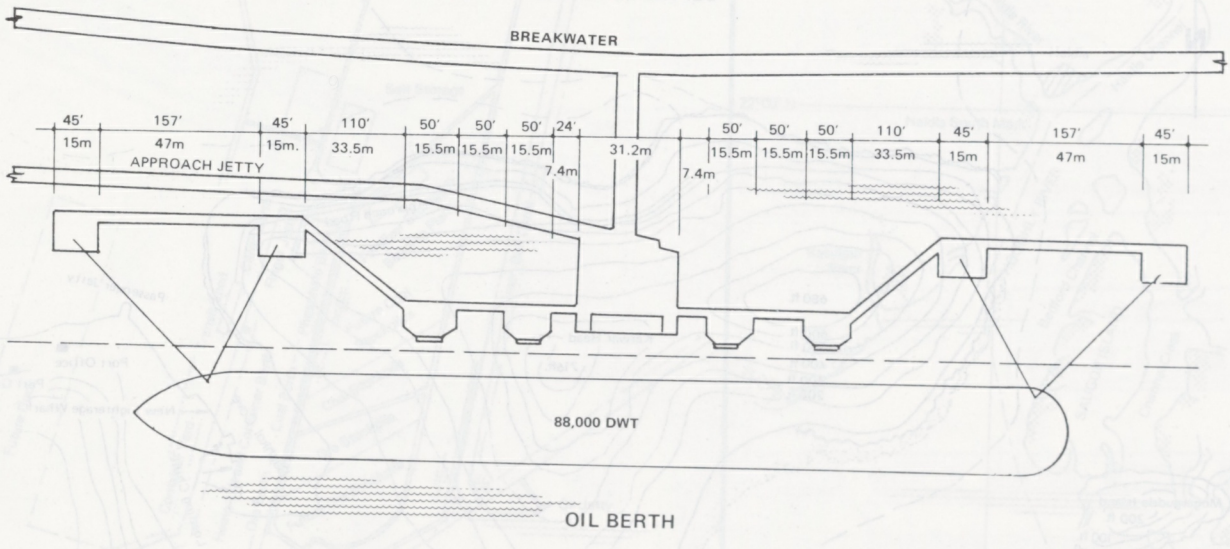

KARWAR
DEPTHS IN METRES
N
10·90
10·30
9·14
8·00
7·60
5·50
Mogerigudda Island
200 ft.
100 ft.
680 ft.
600 ft.
500 ft.
400 ft.
300 ft.
200 ft.
Karwar Head
710ft.
Baithkol Bay
Approach Road
BAITHKOL
Baithkol Cove
Ore Loading Chutes
New Lighterage Wharf
Port Office
Port Quarters
Passenger Jetty
Konev Light


KANDLA
10 m.
Salt Jetty
UNITED SALT WORKS
Salt Mooring
KANDLA
FERTILISER
COMPLEX
Oil Jetty
Cooling
Ponds
THERMAL STATION
Proposed
Oil Jetty
BARRY
SHOAL
Port Staff Colony
SATHSAIDA BET
Fishing
Jetty
Road to Gandhidhnam
Cargo Mooring
Dry Dock Jetty
PORT &
CUSTOM
OFFICES
Cargo
Jetty
Proposed
VIth Berth
KHENGARJI BET
Deep Draft Mooring
20 m.

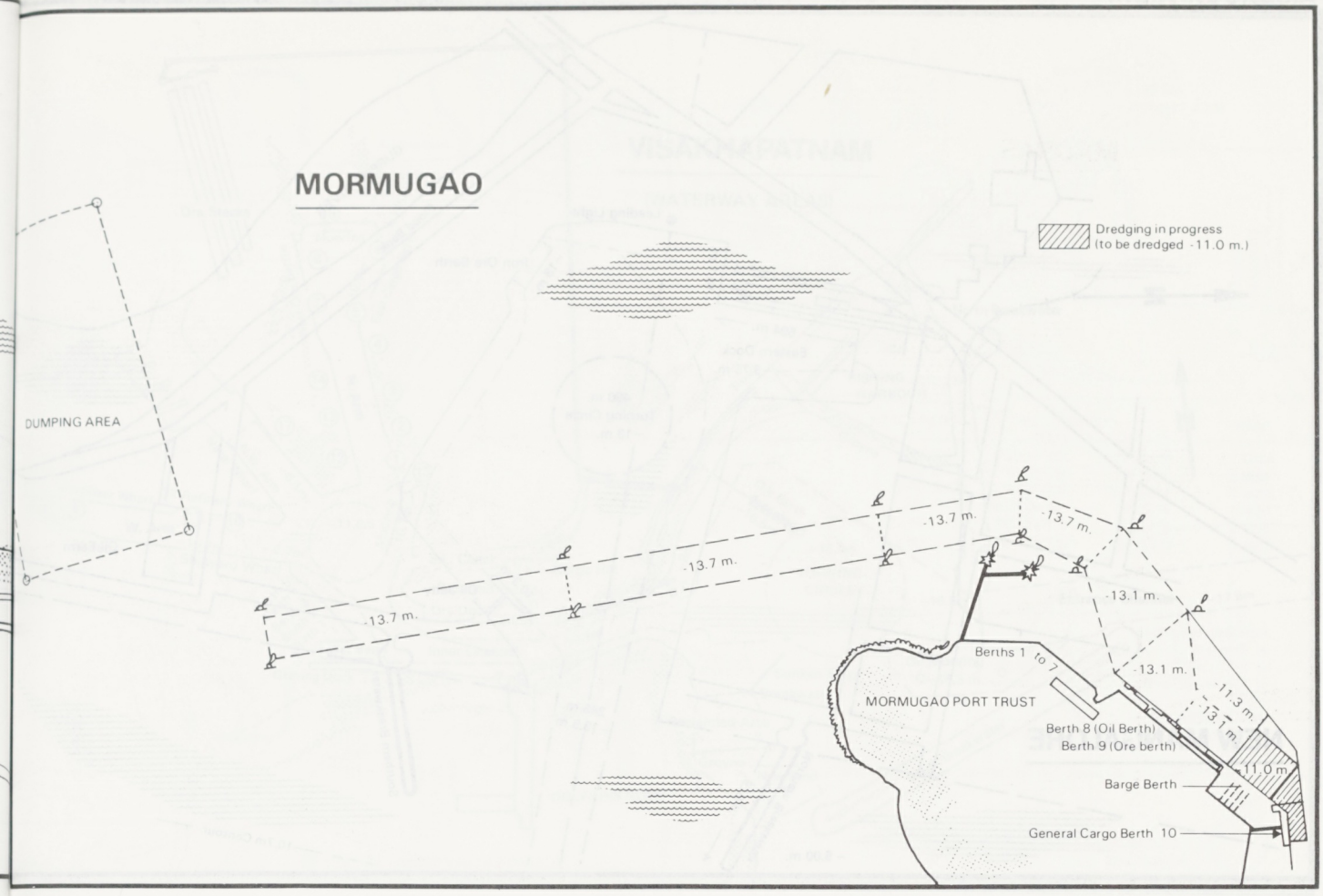
INDIA

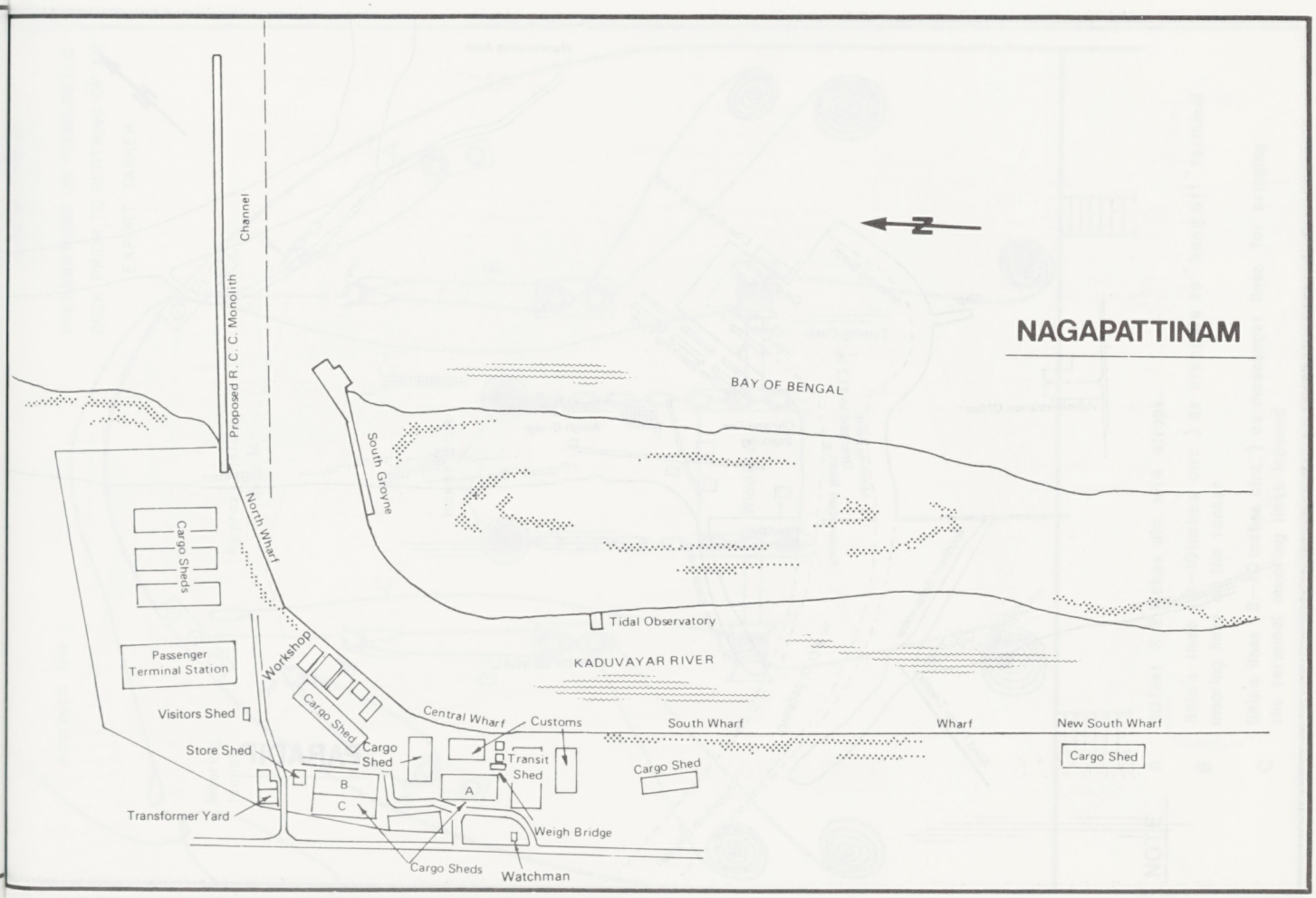
MADRAS

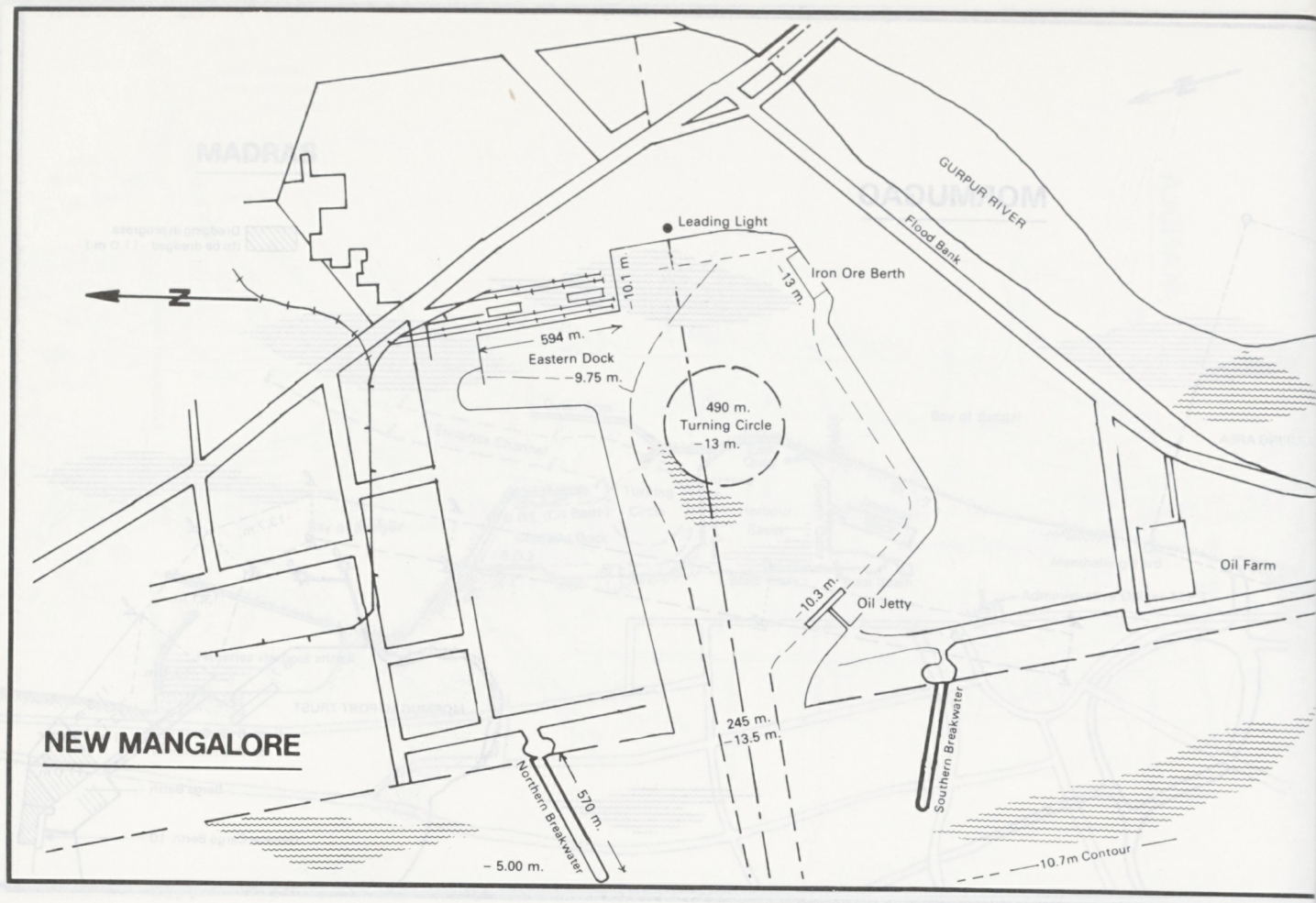


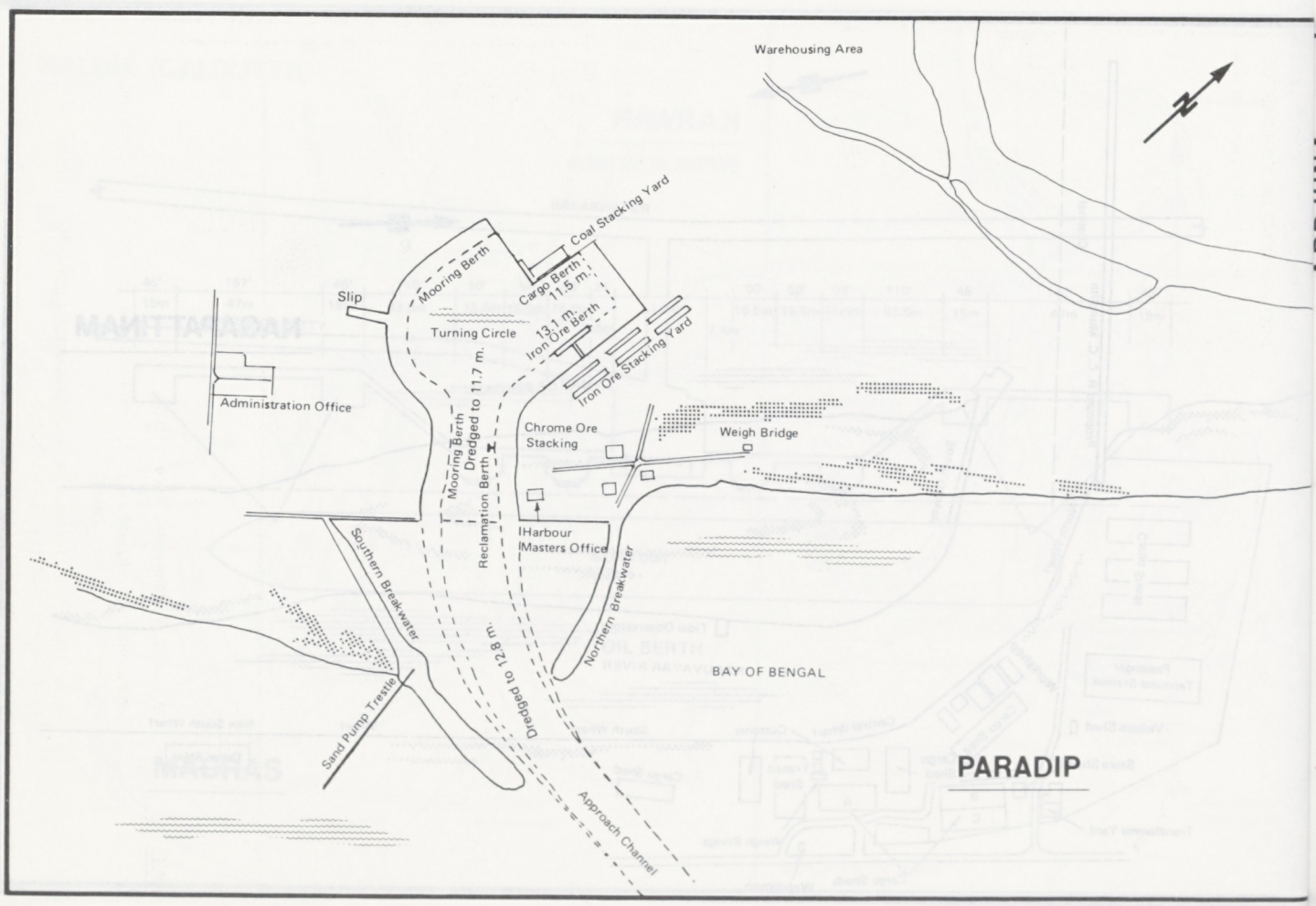


MADRAS


MORMUGAO
Dredging in progress
(to be dredged -11.0 m.)
DUMPING AREA
-13.7 m.
-13.7 m.
-13.7 m.
-13.7 m.
-13.1 m.
-13.1 m.
-11.3 m.
-13.1 m.
-11.0 m.
Berths 1 to 7
MORMUGAO PORT TRUST
Berth 8 (Oil Berth)
Berth 9 (Ore berth)
Barge Berth
General Cargo Berth 10

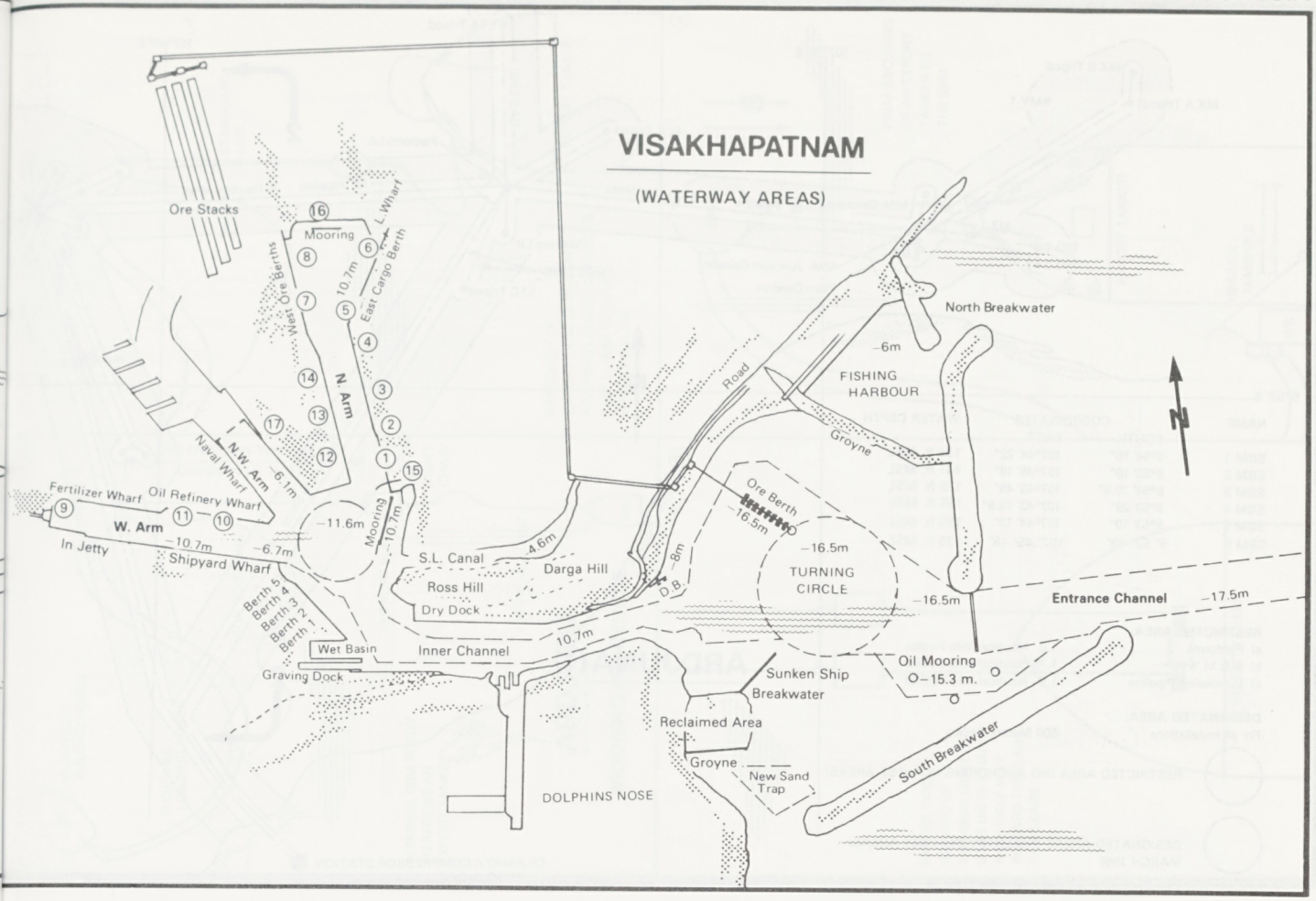

NAGAPATTINAM
N
BAY OF BENGAL
Proposed R. C. C. Monolith
Channel
South Groyne
North Wharf
Cargo Sheds
Tidal Observatory
KADUVAYAR RIVER
Passenger
Terminal Station
Workshop
Cargo Shed
Visitors Shed
Central Wharf
Customs
South Wharf
Wharf
New South Wharf
Store Shed
Cargo
Shed
Transit
Shed
Cargo Shed
Cargo Shed
B
A
C
Transformer Yard
Weigh Bridge
Cargo Sheds
Watchman


NEW MANGALORE
N
Leading Light
GURPUR RIVER
Flood Bank
Iron Ore Berth
-10.1 m.
-13 m.
594 m.
Eastern Dock
-9.75 m.
490 m.
Turning Circle
-13 m.
Oil Farm
-10.3 m.
Oil Jetty
245 m.
-13.5 m.
Southern Breakwater
Northern Breakwater
570 m.
- 5.00 m.
10.7m Contour


Warehousing Area
N
Coal Stacking Yard
Slip
Mooring Berth
Cargo Berth 11.5 m.
Turning Circle
13.1 m. Iron Ore Berth
Iron Ore Stacking Yard
Administration Office
Mooring Berth Dredged to 11.7 m.
Chrome Ore Stacking
Weigh Bridge
Reclamation Berth
Harbour Masters Office
Southern Breakwater
Northern Breakwater
BAY OF BENGAL
Dredged to 12.8 m.
Sand Pump Trestle
Approach Channel
PARADIP

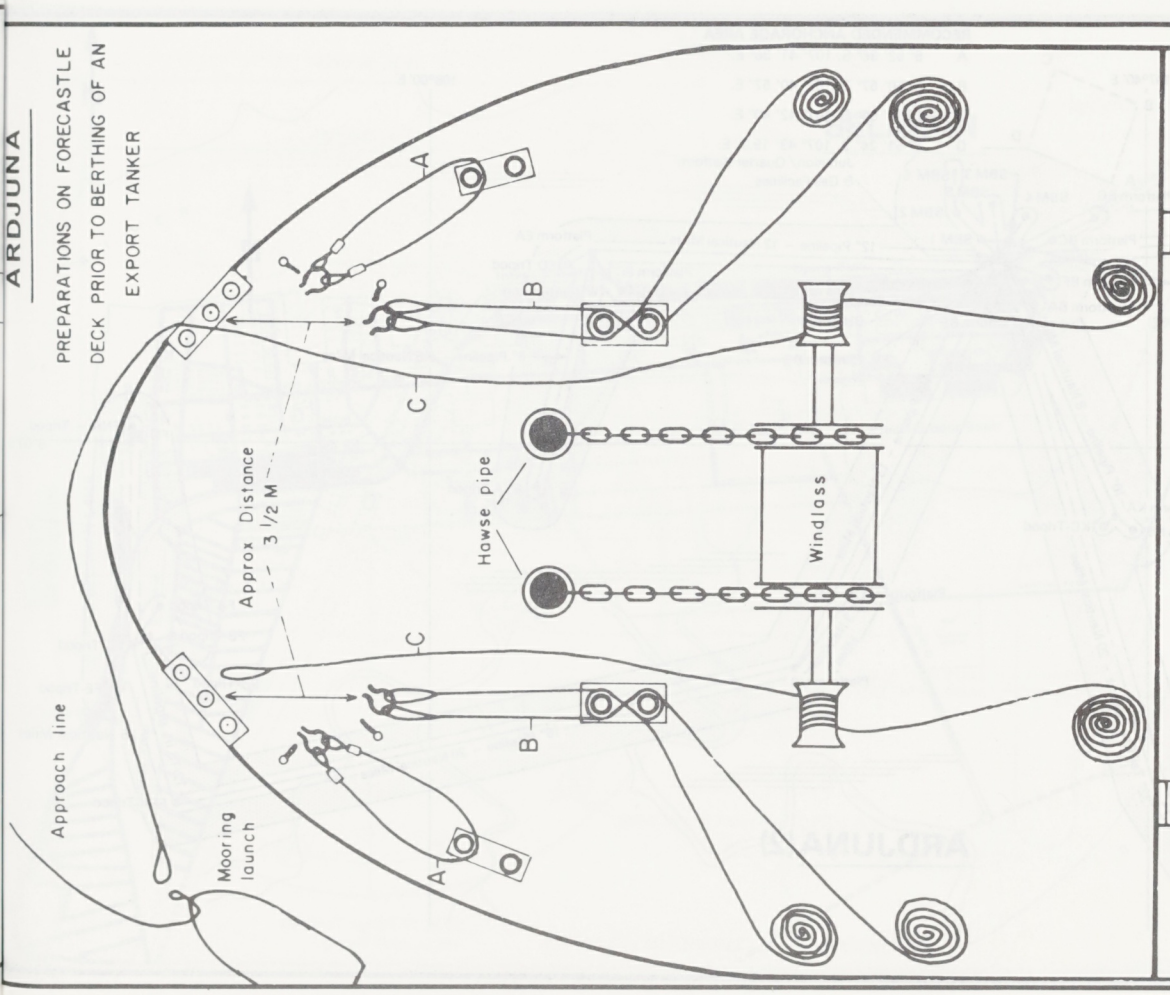
VISAKHAPATNAM

(WATERWAY AREAS)



ARDJUNA

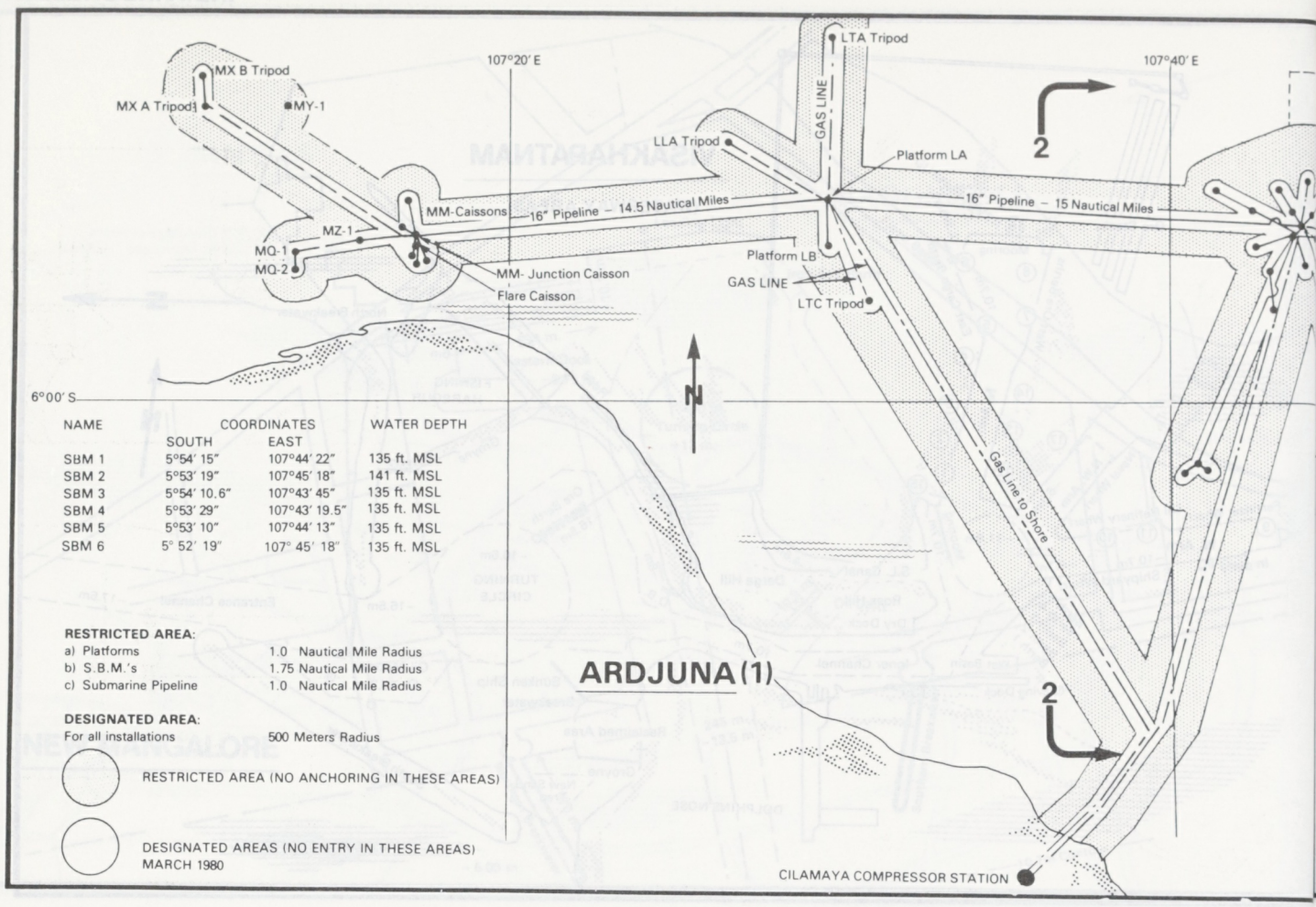
PREPARATIONS ON FORECASTLE DECK PRIOR TO BERTHING OF AN EXPORT TANKER



NOTE: A : 30 feet X 2 inches dia. wire straps.

B : Ship's lines (8–10 inches circ.) as stoppers to "hang off" terminal mooring lines on the tanker

C : Ship's lines (8–10 inches circ.) as messenger lines for bringing the terminal mooring lines inboard



NAME	COORDINATES SOUTH	EAST	WATER DEPTH
SBM 1	5°54′ 15″	107°44′ 22″	135 ft. MSL
SBM 2	5°53′ 19″	107°45′ 18″	141 ft. MSL
SBM 3	5°54′ 10.6″	107°43′ 45″	135 ft. MSL
SBM 4	5°53′ 29″	107°43′ 19.5″	135 ft. MSL
SBM 5	5°53′ 10″	107°44′ 13″	135 ft. MSL
SBM 6	5° 52′ 19″	107° 45′ 18″	135 ft. MSL

RESTRICTED AREA:

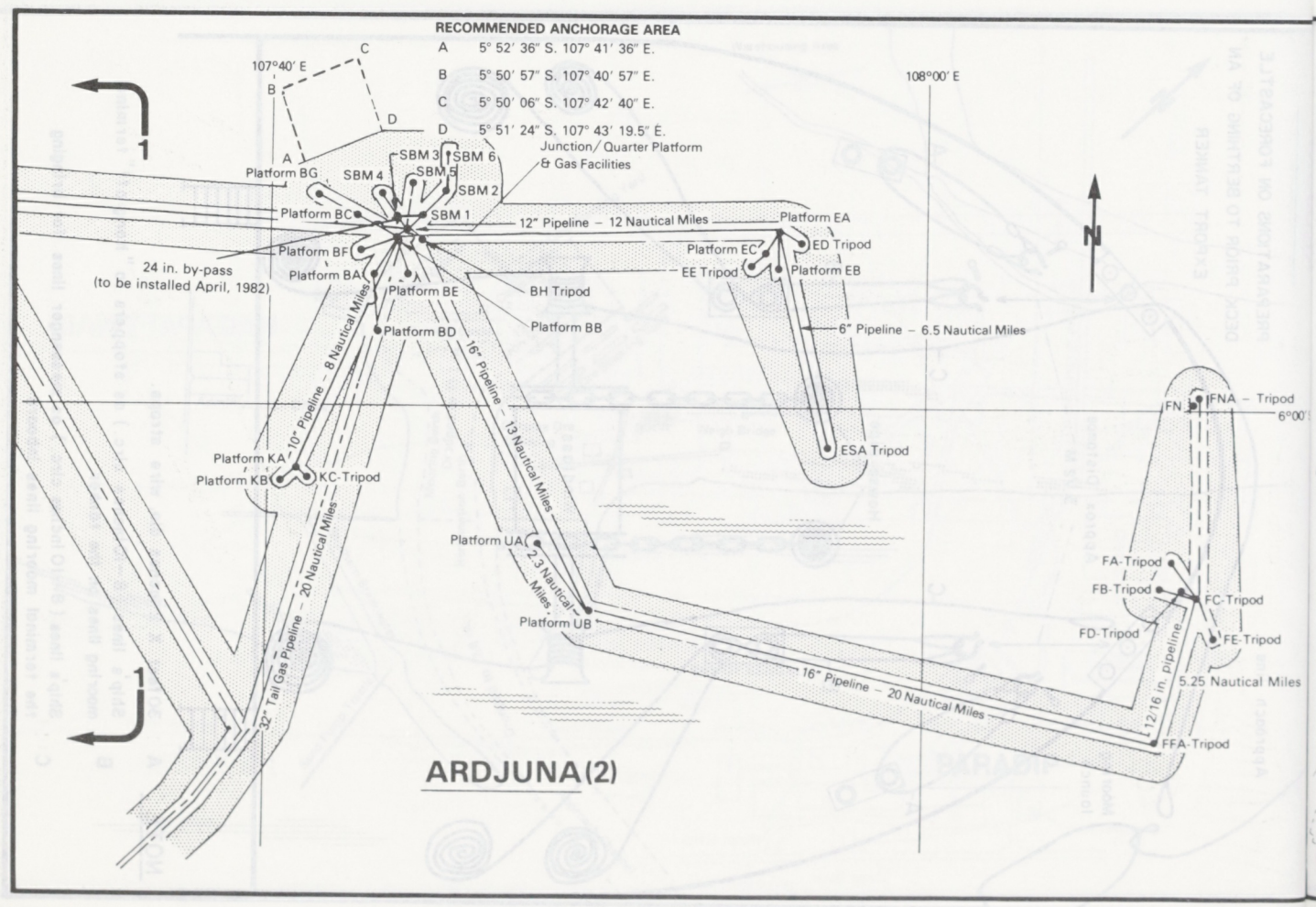
a) Platforms	1.0 Nautical Mile Radius
b) S.B.M.'s	1.75 Nautical Mile Radius
c) Submarine Pipeline	1.0 Nautical Mile Radius

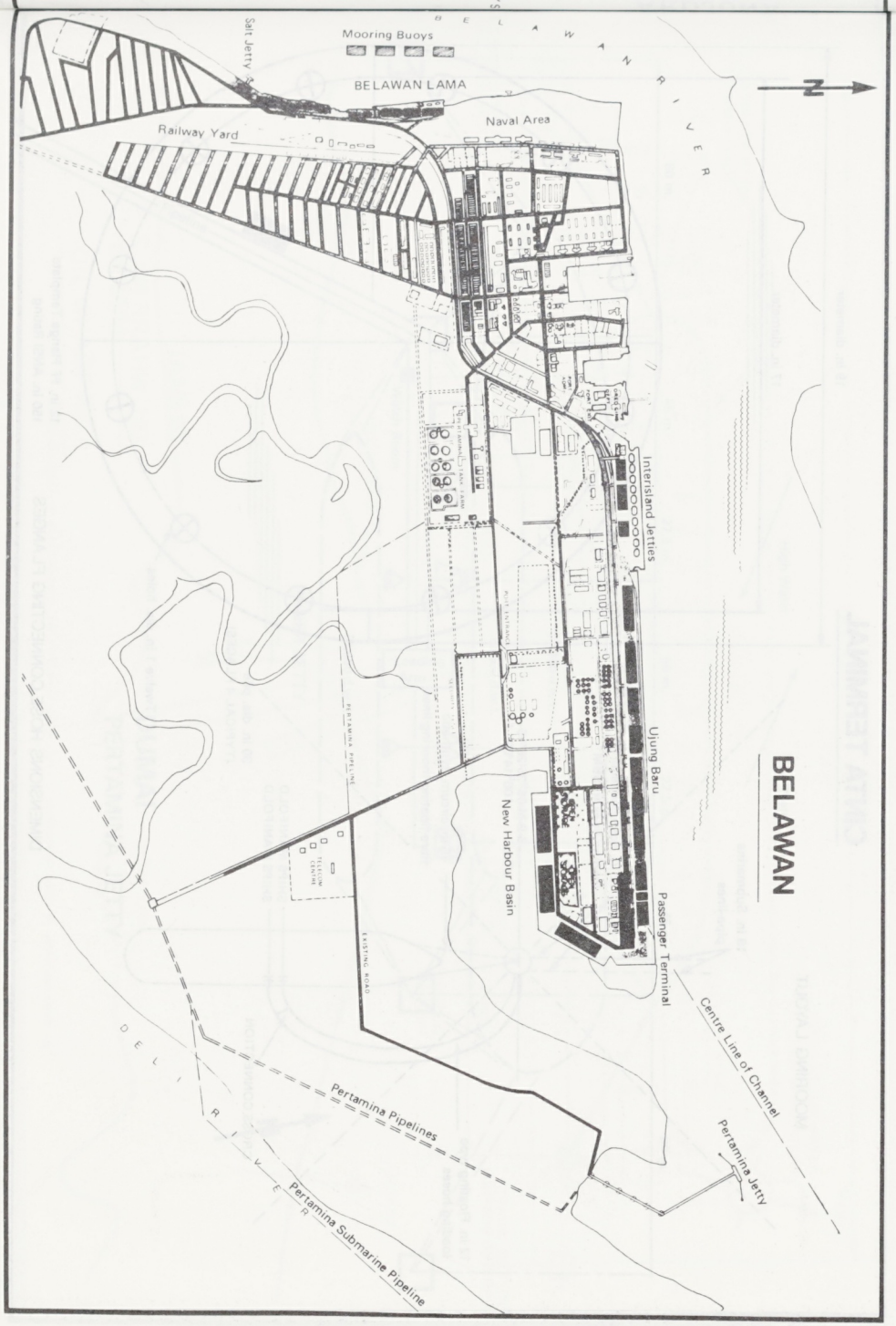
DESIGNATED AREA:

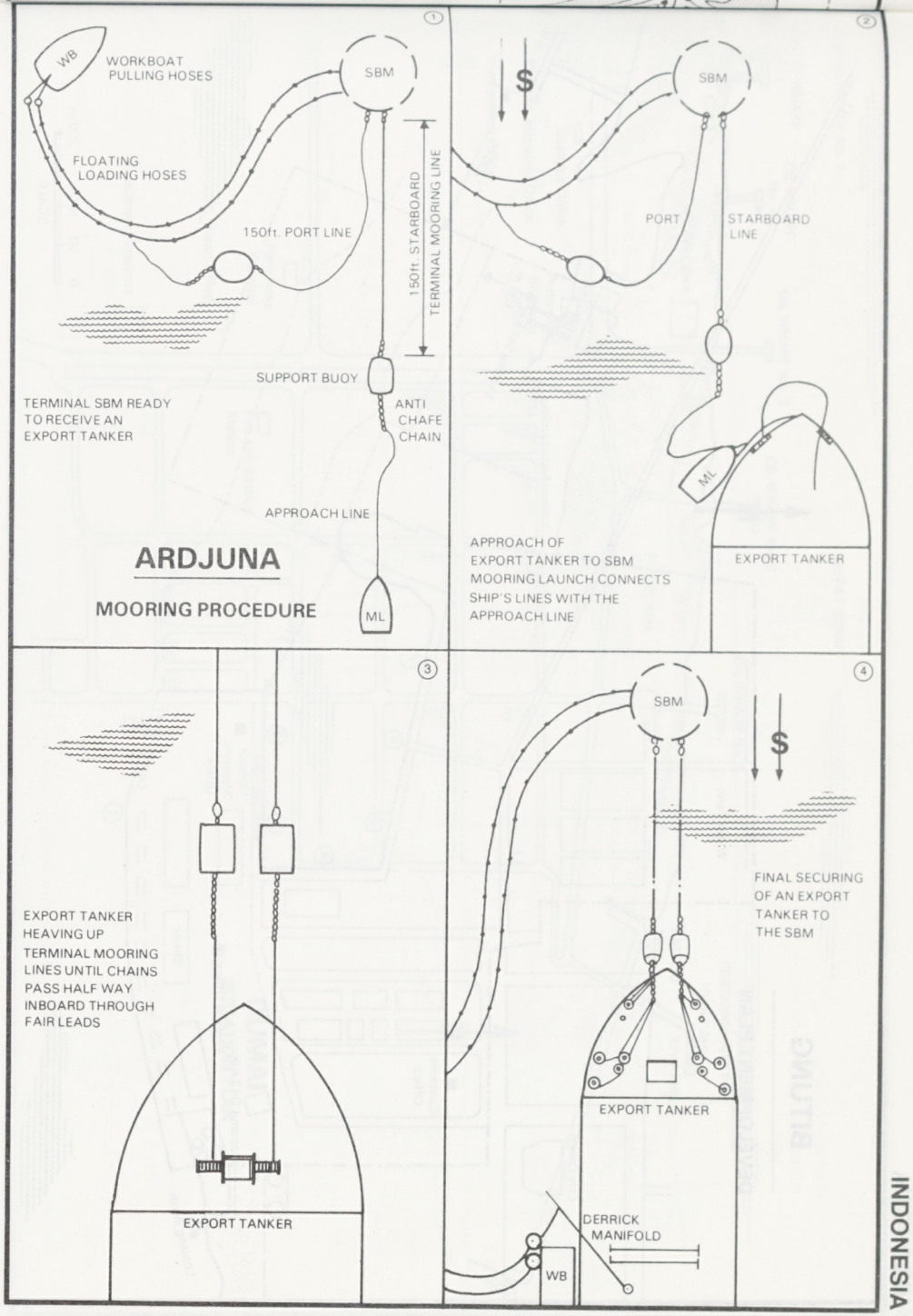
For all installations 500 Meters Radius

RESTRICTED AREA (NO ANCHORING IN THESE AREAS)

DESIGNATED AREAS (NO ENTRY IN THESE AREAS)
MARCH 1980





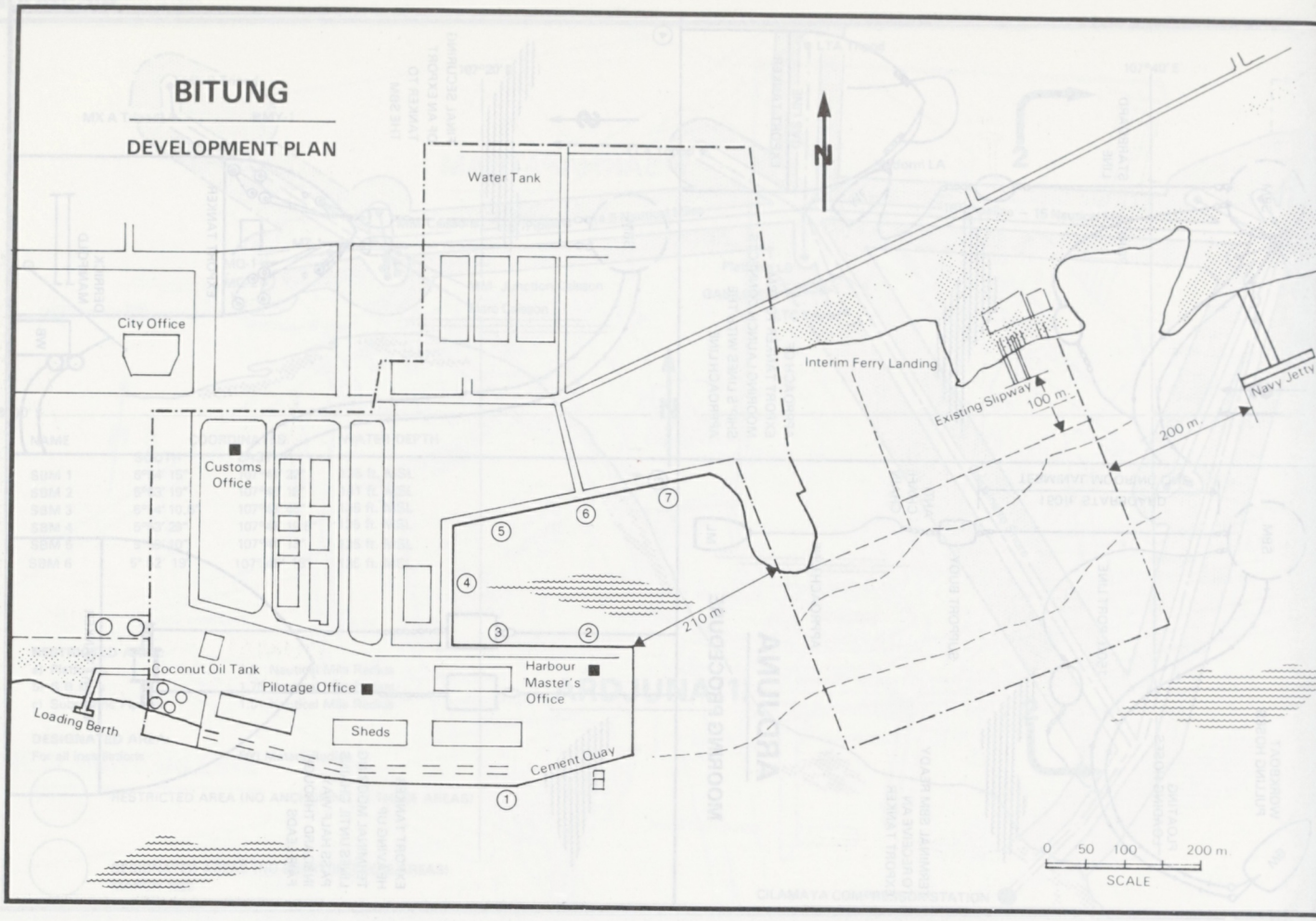


INDONESIA

P417

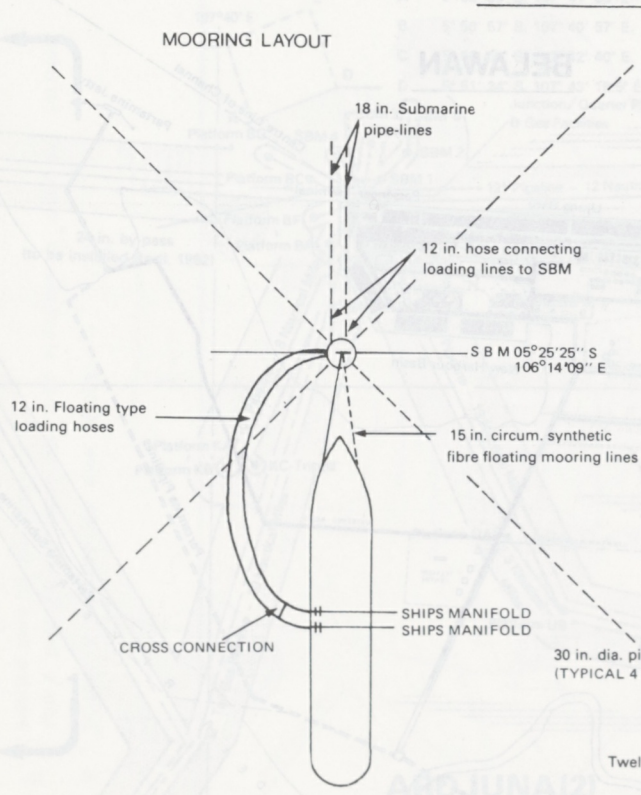
BITUNG

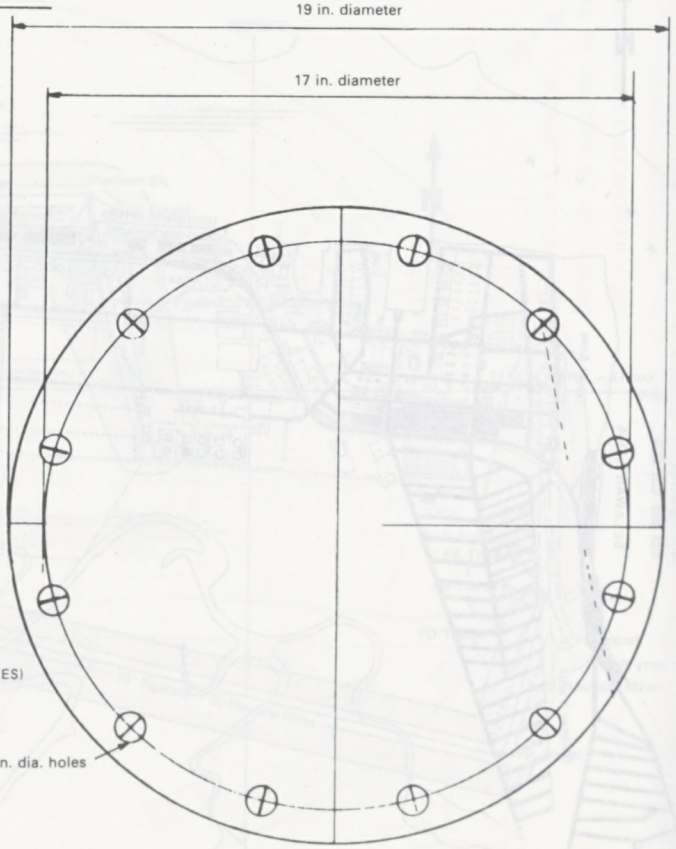
DEVELOPMENT PLAN



CINTA TERMINAL

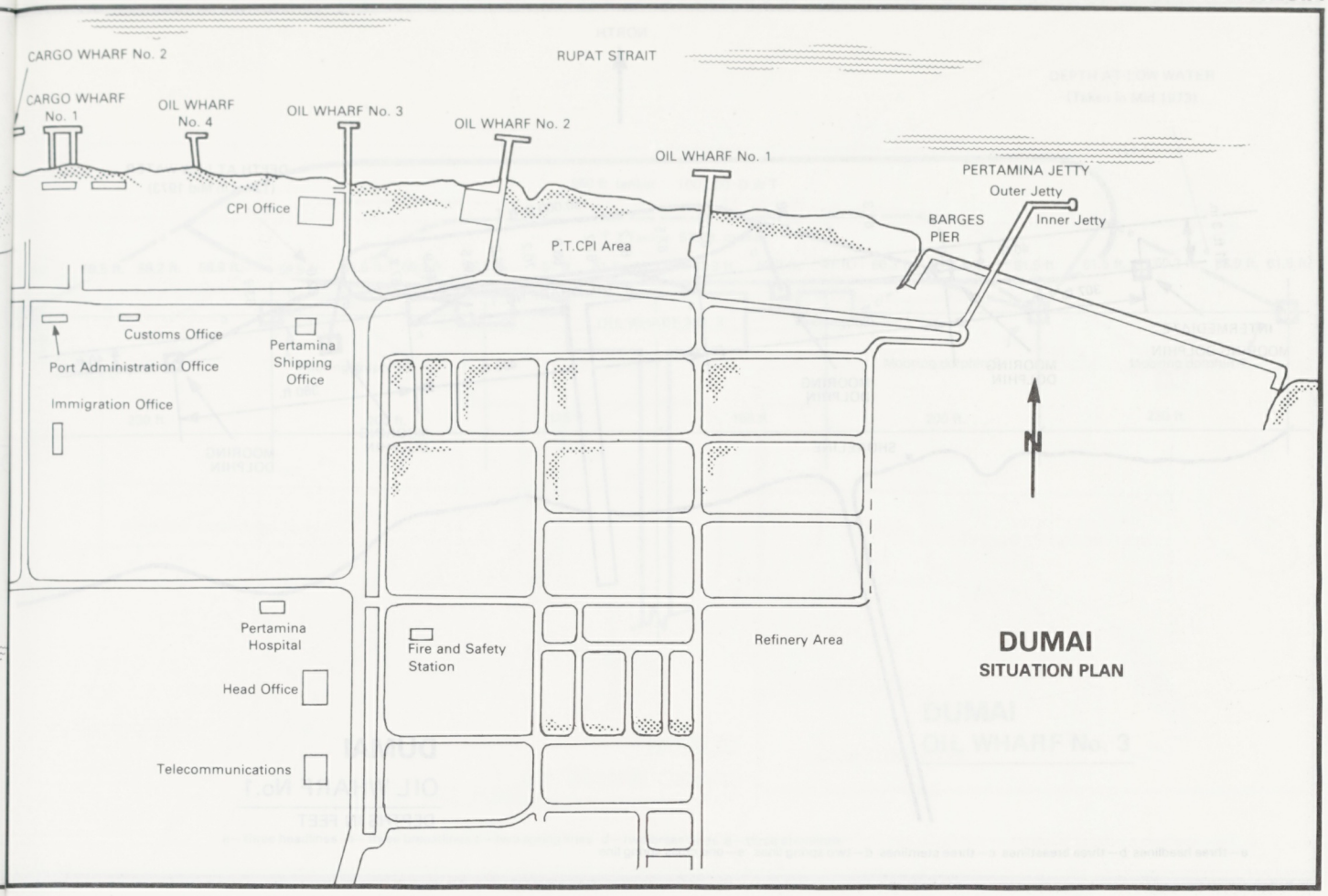
MOORING LAYOUT



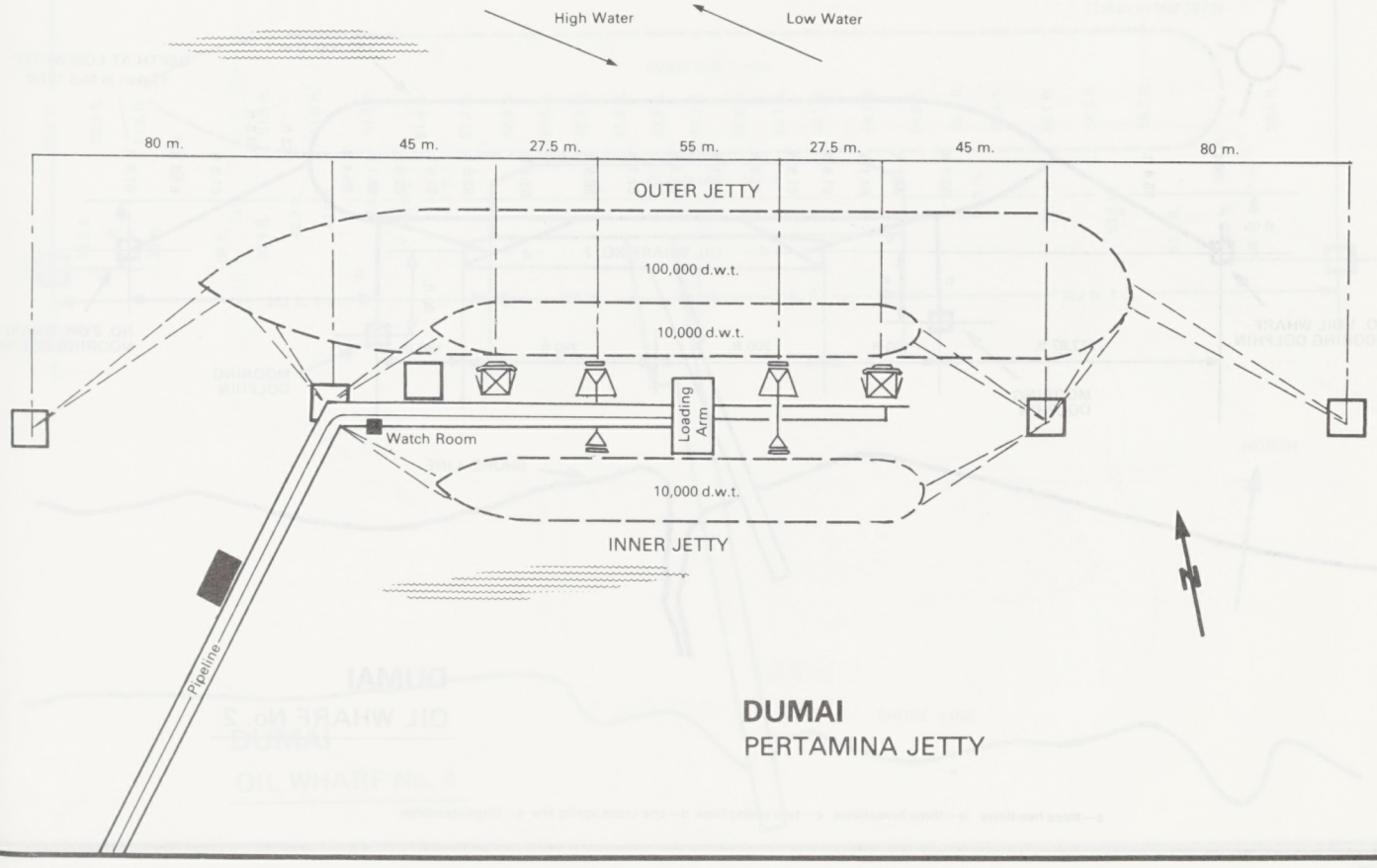


DIMENSIONS HOSE CONNECTING FLANGES

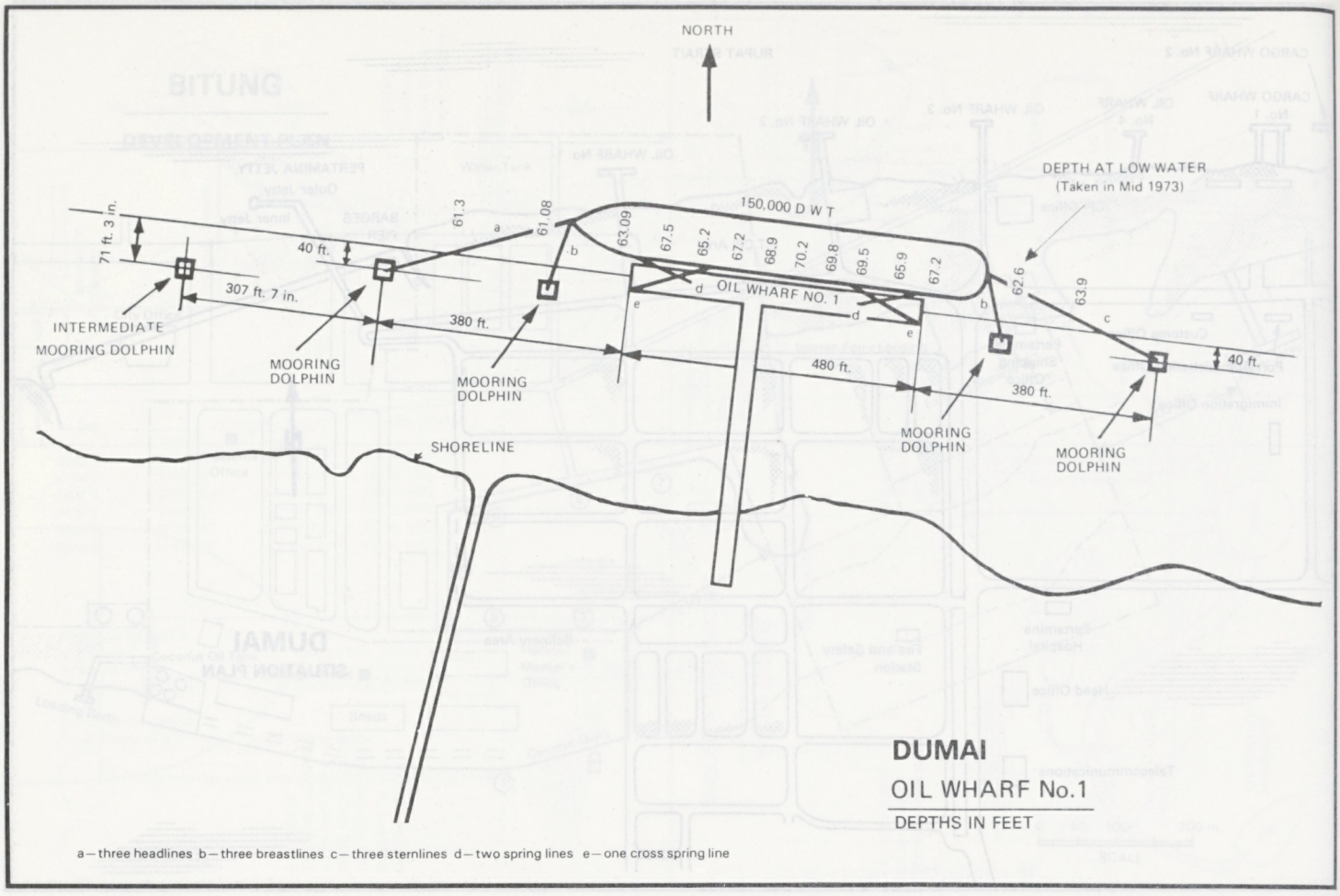
12 in. FF Flange Template
150 in. ANSI Rating

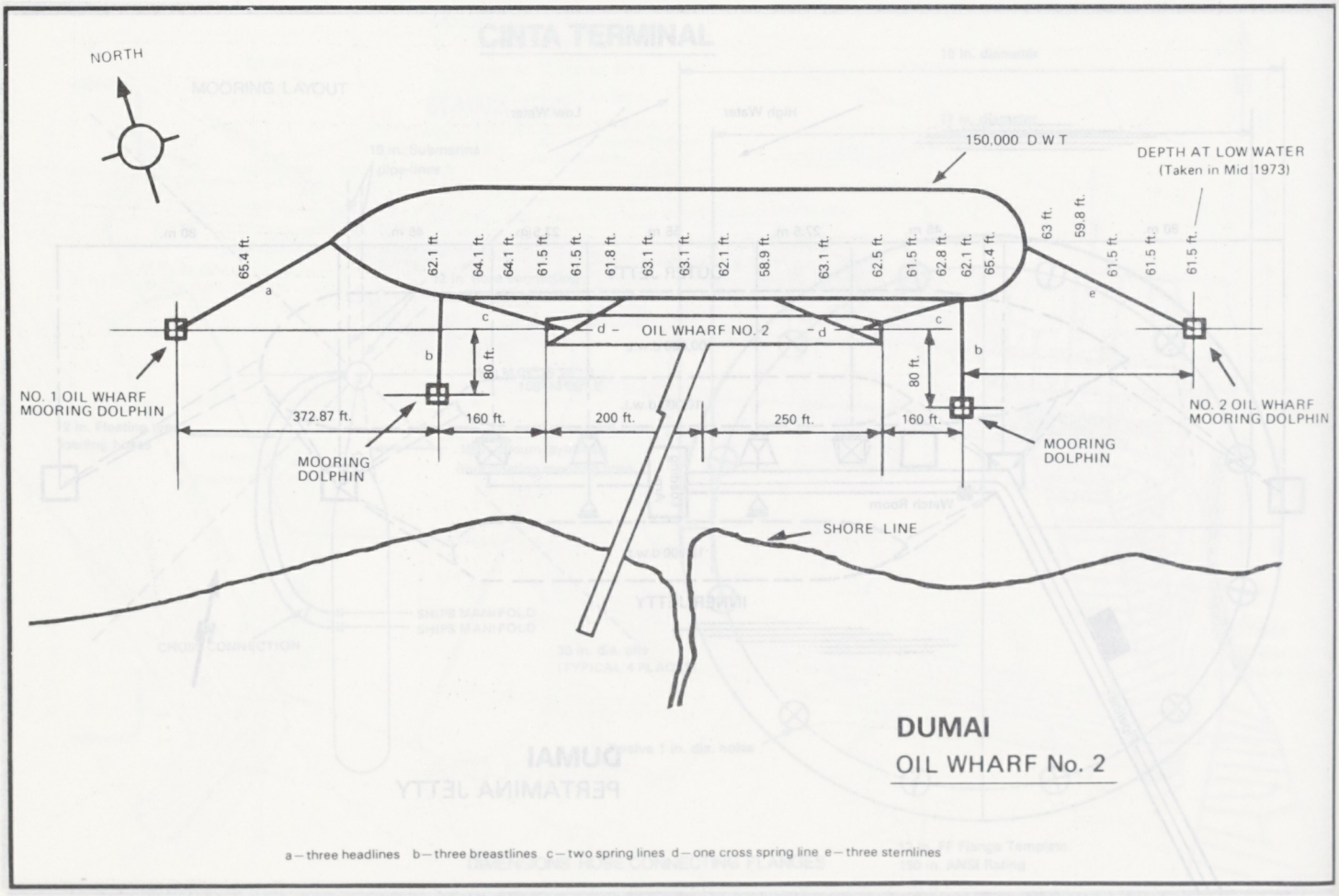


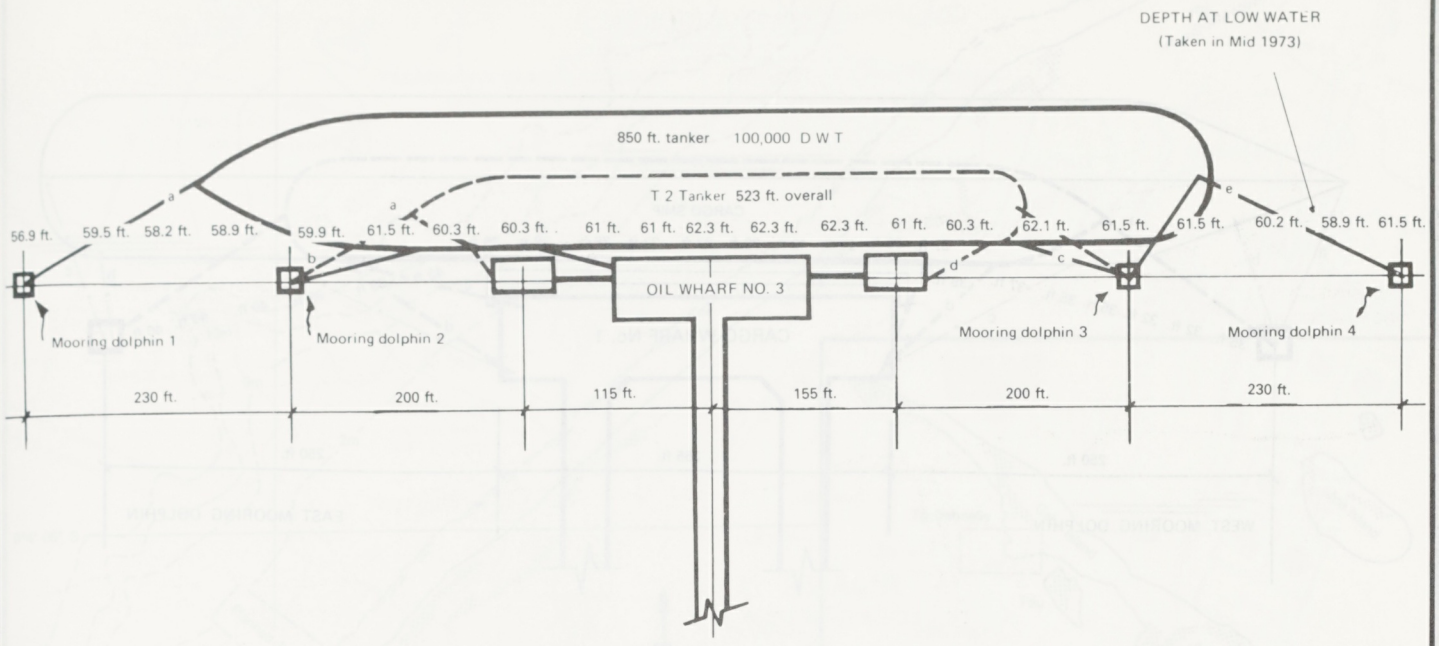
DUMAI
SITUATION PLAN



DUMAI
PERTAMINA JETTY

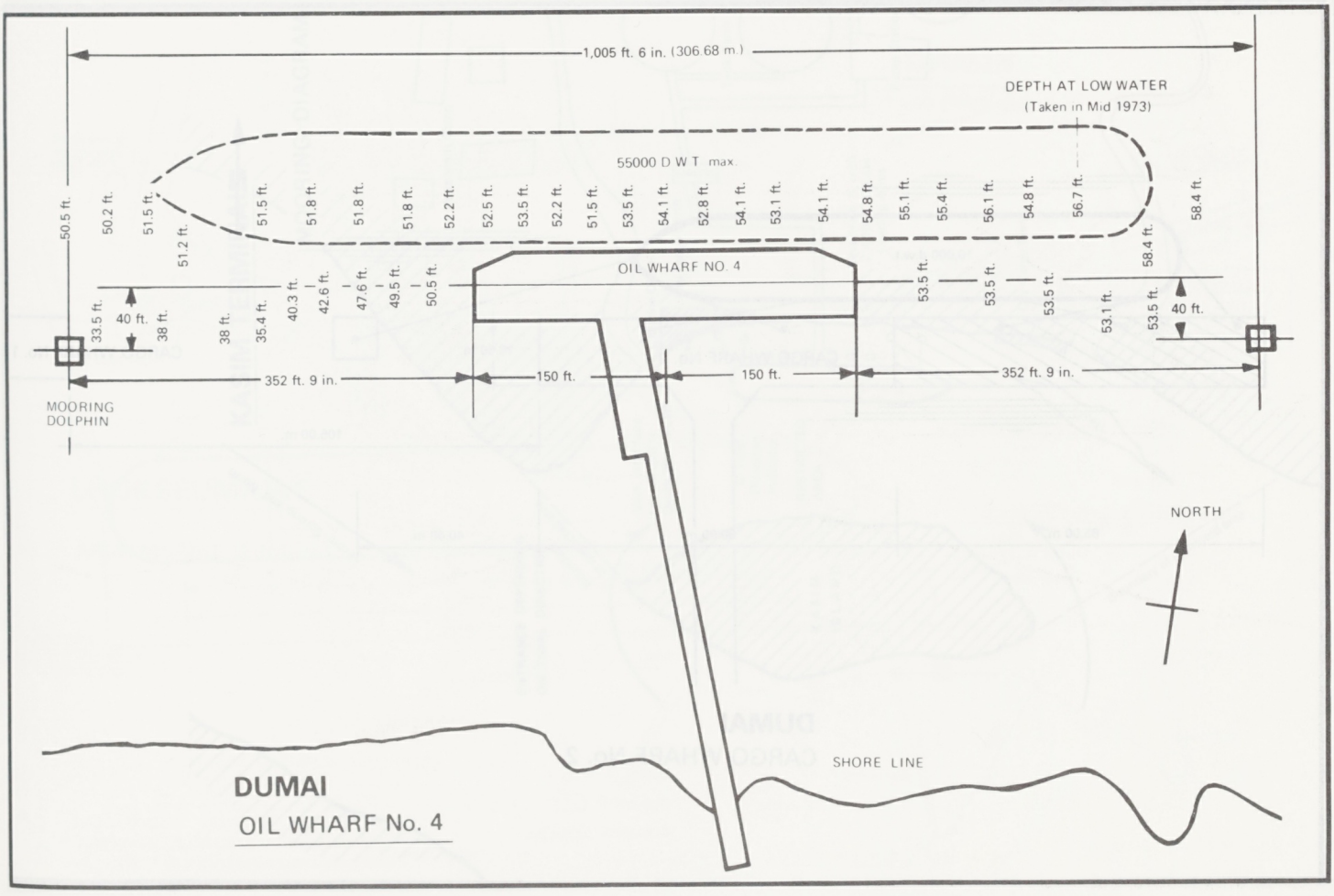

NORTH
DEPTH AT LOW WATER
(Taken in Mid 1973)
150,000 D W T
71 ft. 3 in.
40 ft.
307 ft. 7 in.
380 ft.
480 ft.
380 ft.
40 ft.
61.3
61.08
63.09
67.5
65.2
67.2
68.9
70.2
69.8
69.5
65.9
67.2
62.6
63.9
OIL WHARF NO. 1
INTERMEDIATE
MOORING DOLPHIN
MOORING
DOLPHIN
MOORING
DOLPHIN
MOORING
DOLPHIN
MOORING
DOLPHIN
SHORELINE
DUMAI
OIL WHARF No.1
DEPTHS IN FEET
a—three headlines b—three breastlines c—three sternlines d—two spring lines e—one cross spring line


NORTH
150,000 D W T
DEPTH AT LOW WATER
(Taken in Mid 1973)
65.4 ft.
62.1 ft.
64.1 ft.
64.1 ft.
61.5 ft.
61.5 ft.
61.8 ft.
63.1 ft.
63.1 ft.
62.1 ft.
58.9 ft.
63.1 ft.
62.5 ft.
61.5 ft.
62.8 ft.
62.1 ft.
65.4 ft.
63 ft.
59.8 ft.
61.5 ft.
61.5 ft.
61.5 ft.
OIL WHARF NO. 2
80 ft.
80 ft.
NO. 1 OIL WHARF
MOORING DOLPHIN
372.87 ft.
160 ft.
200 ft.
250 ft.
160 ft.
MOORING
DOLPHIN
MOORING
DOLPHIN
NO. 2 OIL WHARF
MOORING DOLPHIN
SHORE LINE
DUMAI
OIL WHARF No. 2
a—three headlines b—three breastlines c—two spring lines d—one cross spring line e—three sternlines

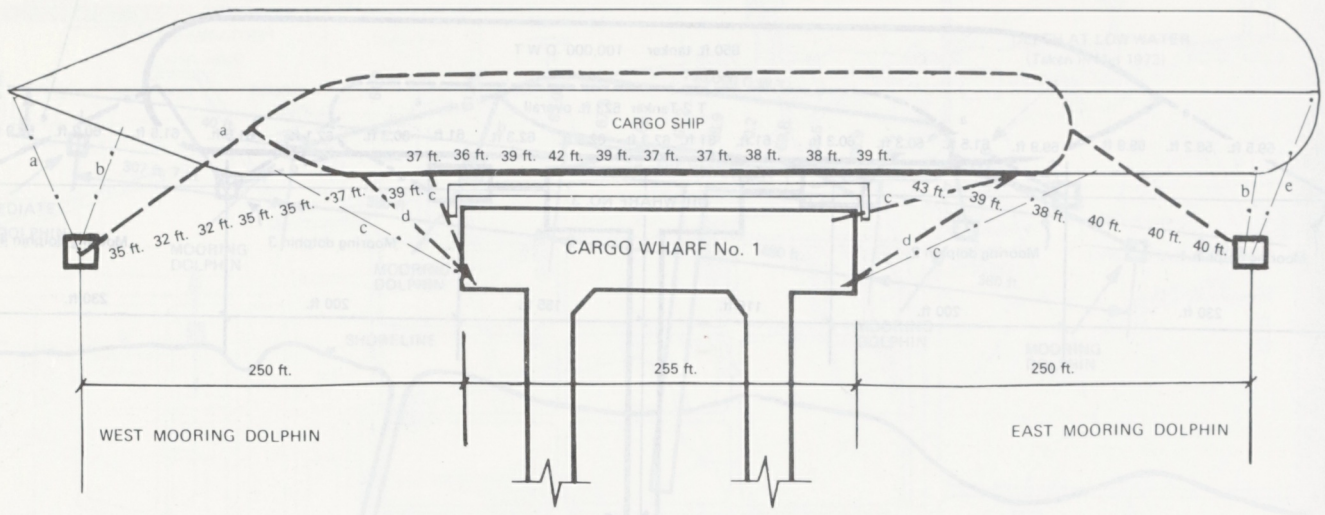


DUMAI
OIL WHARF No. 3

a – three headlines b – three breastlines c – two spring lines d – two breastlines e – three sternlines

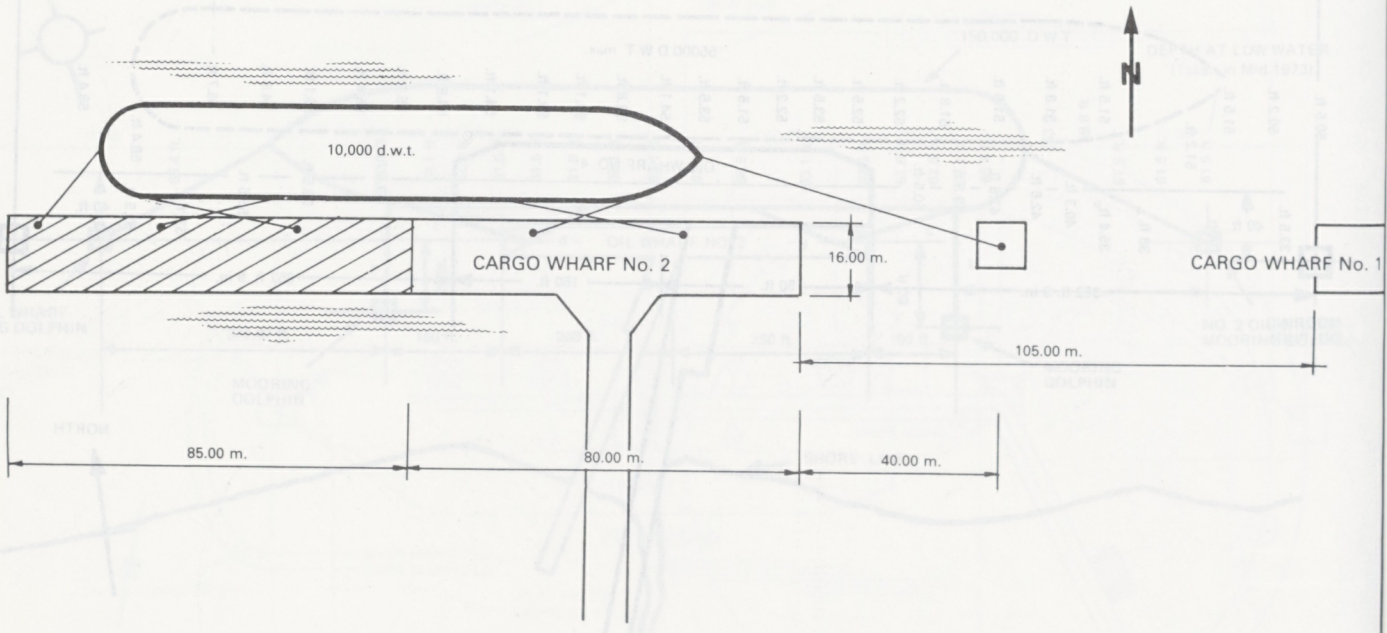


DUMAI
OIL WHARF No. 4

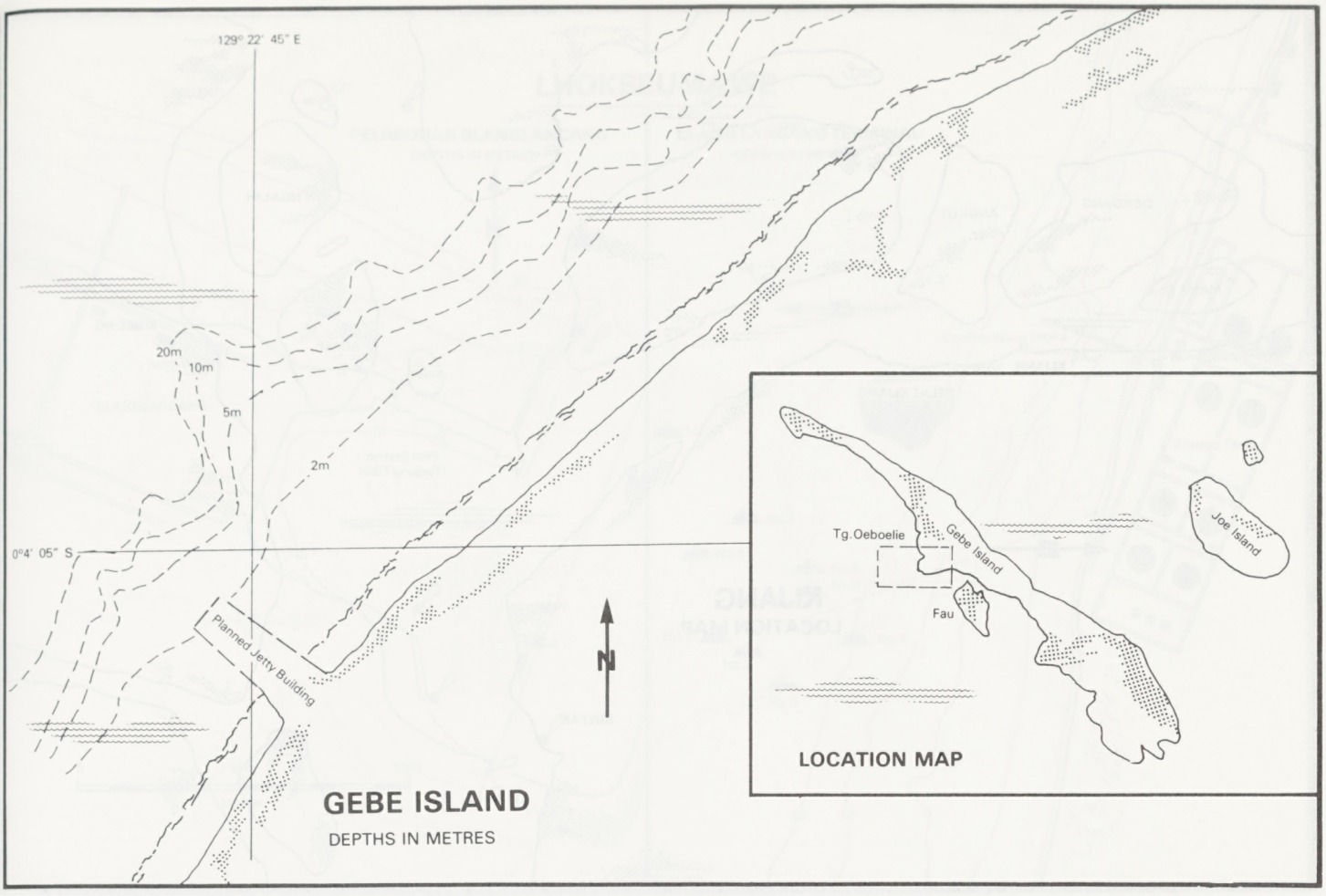


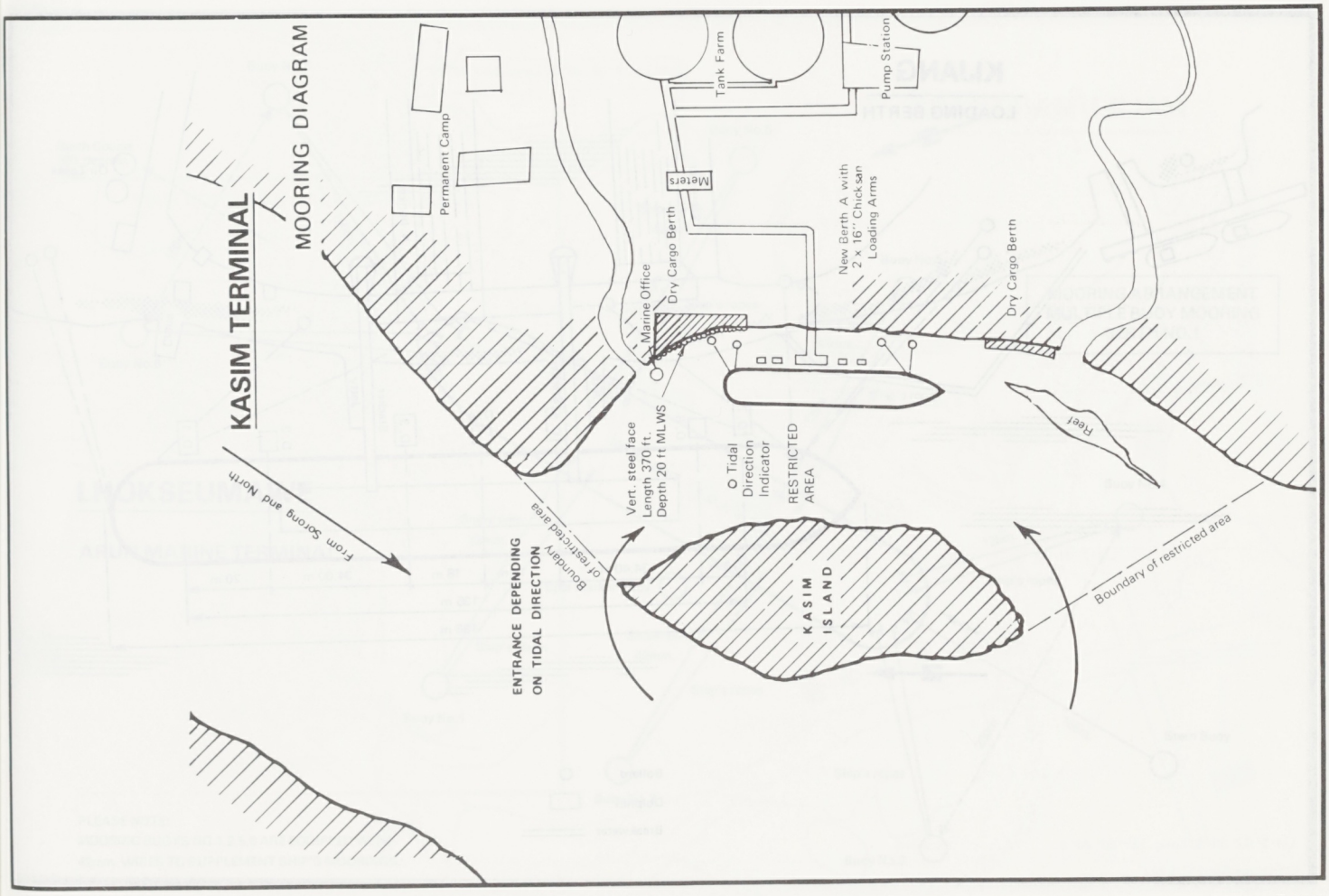
DUMAI
CARGO WHARF No. 1

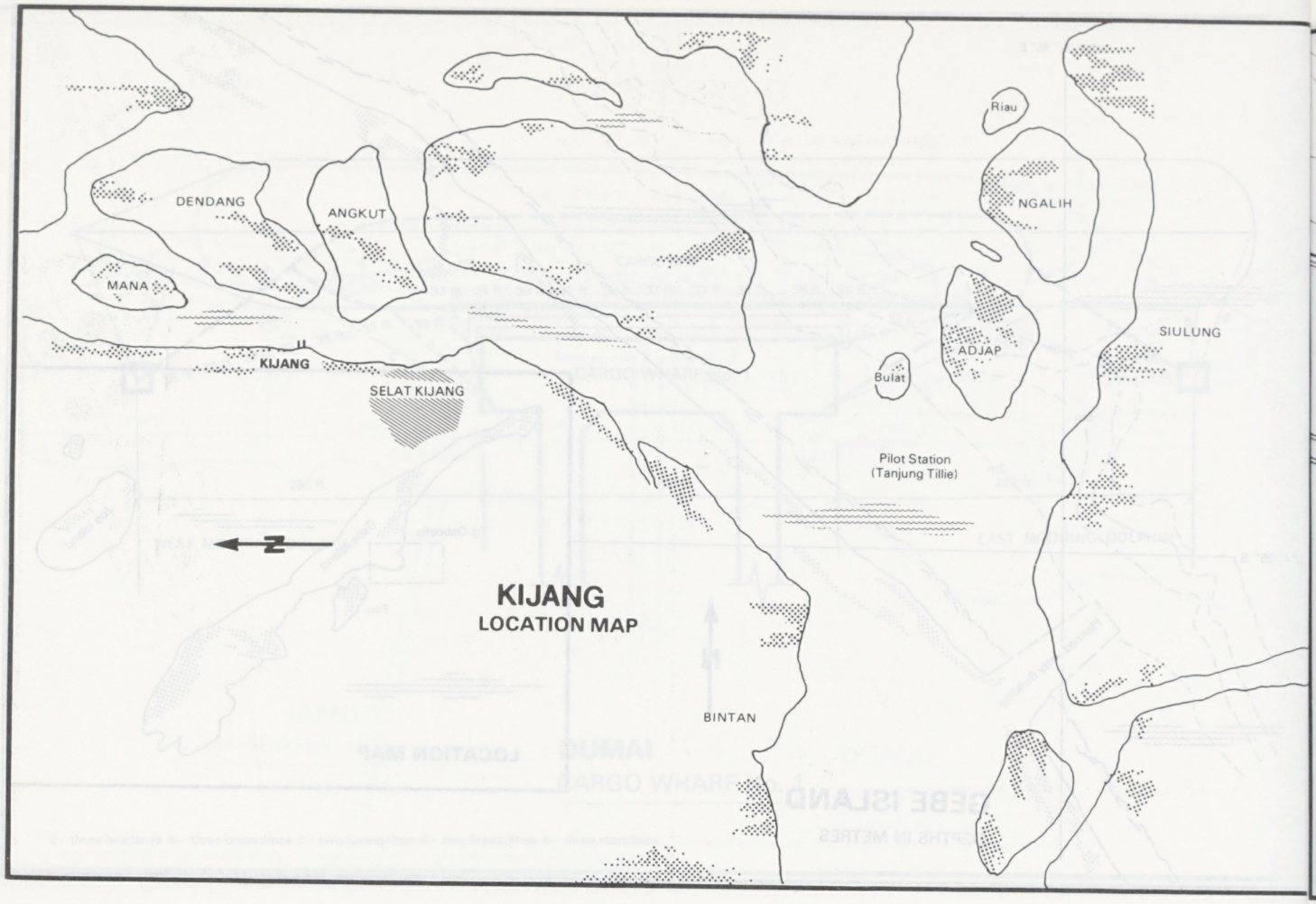
a—three headlines b—three breastlines c—two spring lines d—two breastlines e—three sternlines



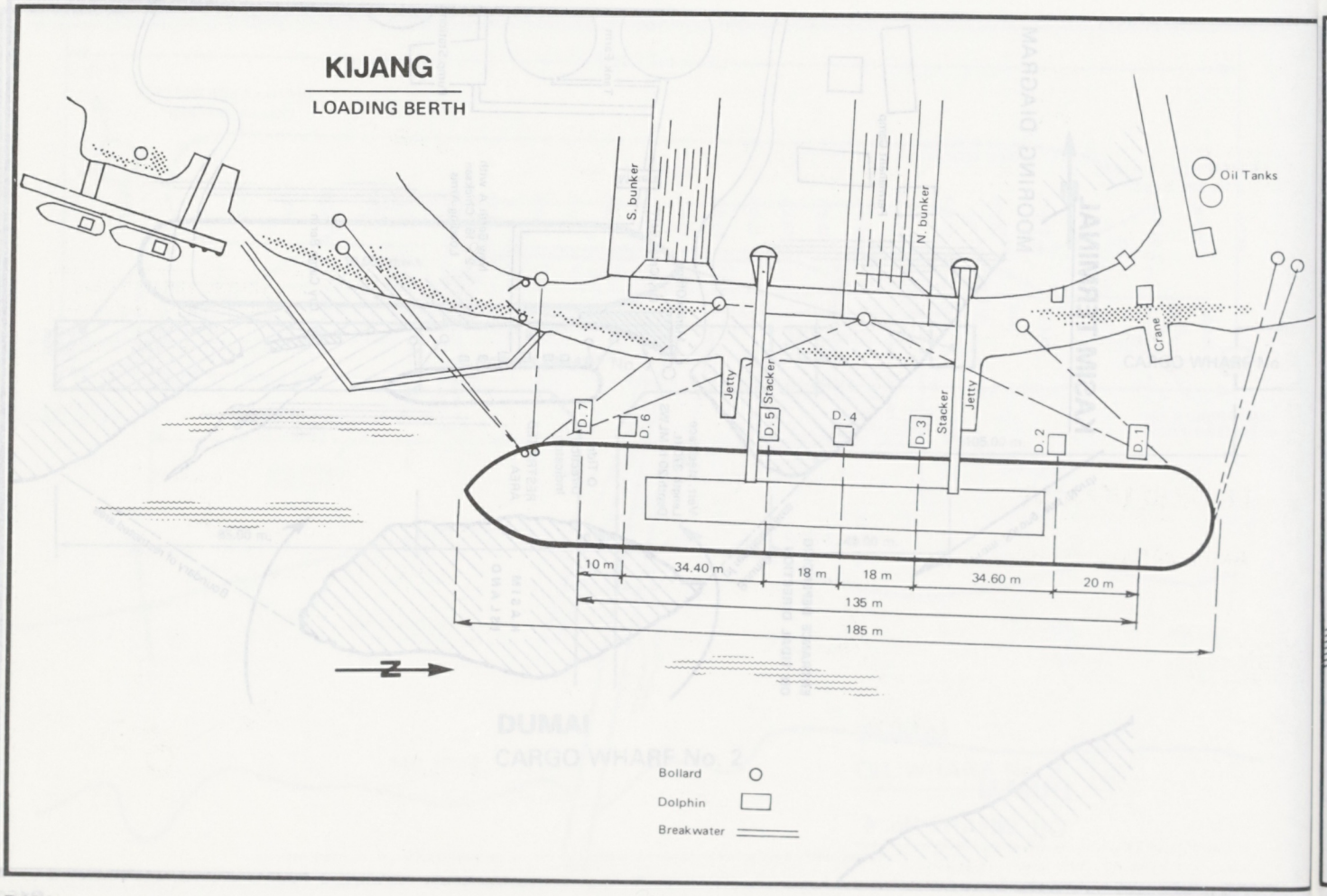
DUMAI
CARGO WHARF No. 2

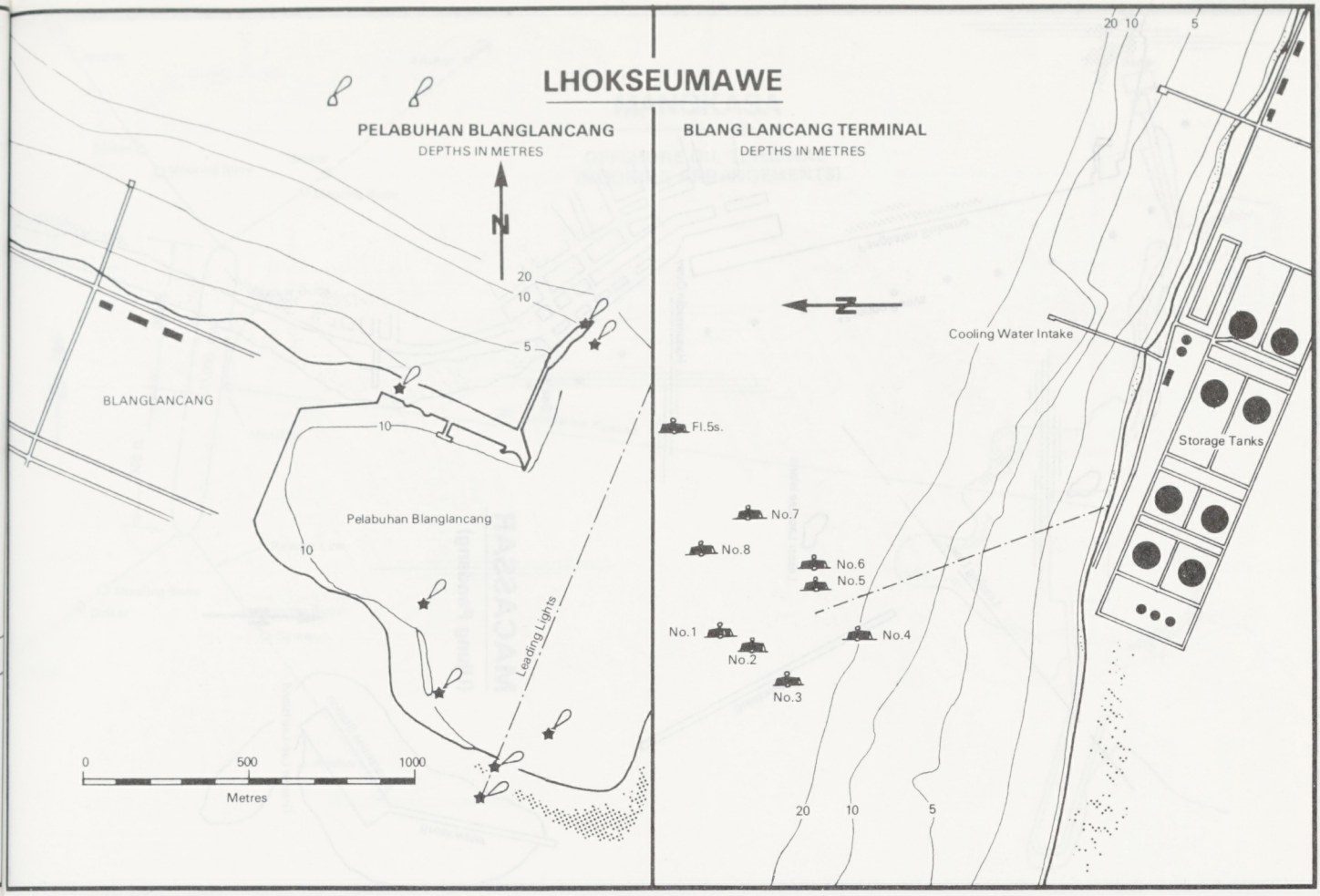

129° 22' 45" E
20m
10m
5m
2m
0°4' 05" S
Planned Jetty Building
N
Tg. Oeboelie
Gebe Island
Joe Island
Fau
LOCATION MAP
GEBE ISLAND
DEPTHS IN METRES

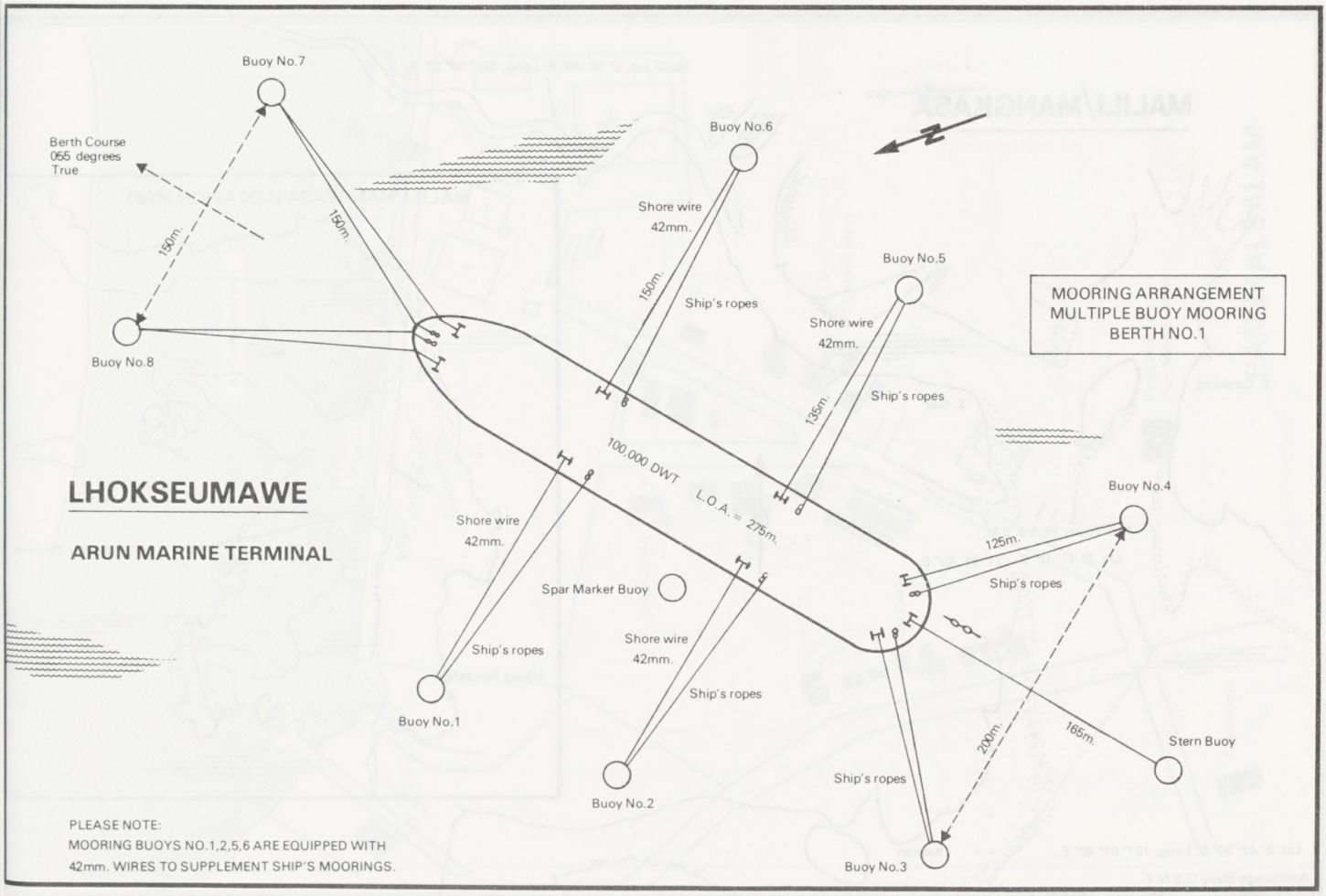

MOORING DIAGRAM
KASIM TERMINAL
Permanent Camp
Tank Farm
Pump Station
Meters
Marine Office
Dry Cargo Berth
New Berth A with 2 x 16" Chicksan Loading Arms
Dry Cargo Berth
Vert. steel face Length 370 ft. Depth 20 ft MLWS
O Tidal Direction Indicator
RESTRICTED AREA
Reef
From Sorong and North
Boundary of restricted area
ENTRANCE DEPENDING ON TIDAL DIRECTION
KASIM ISLAND
Boundary of restricted area

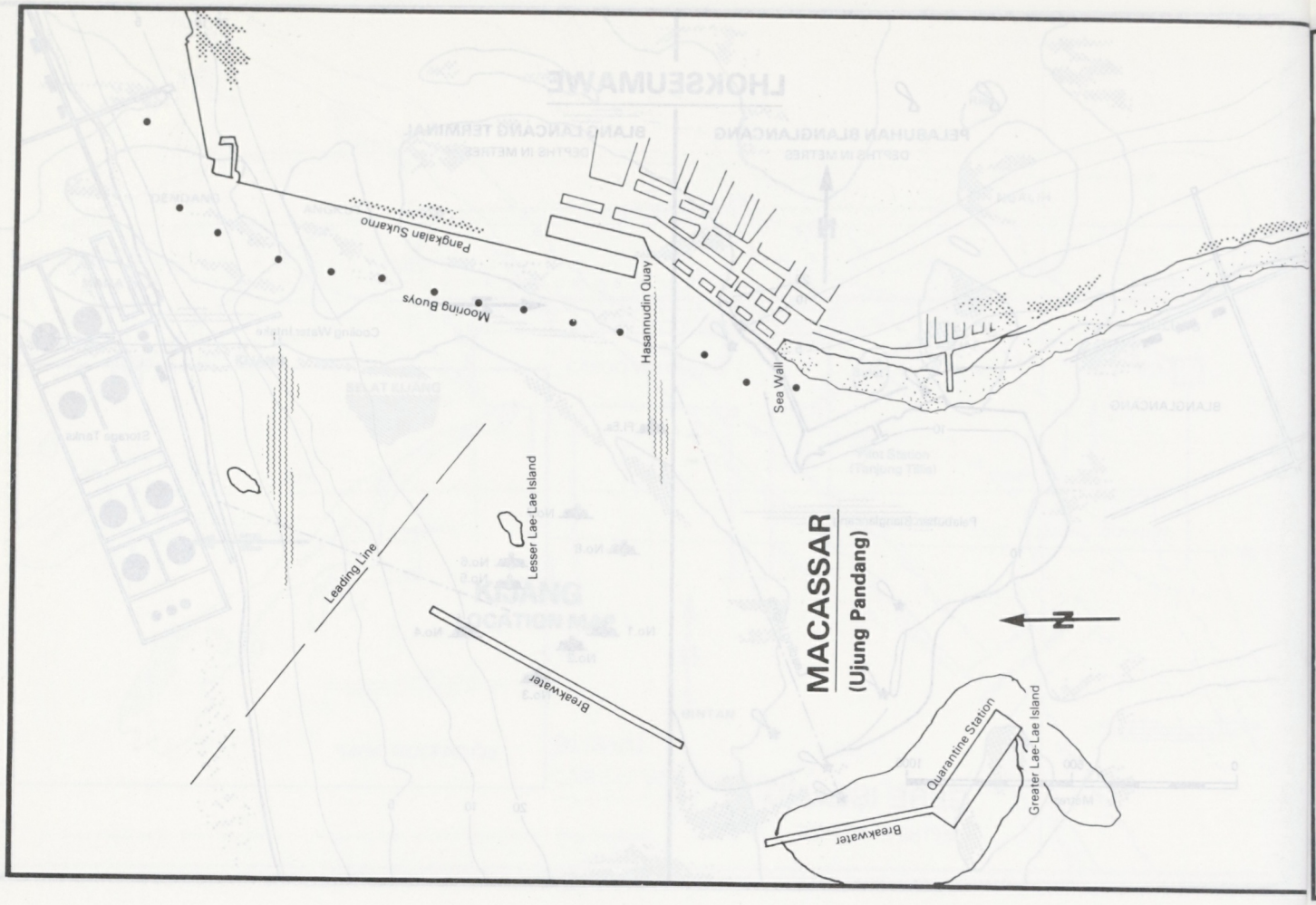


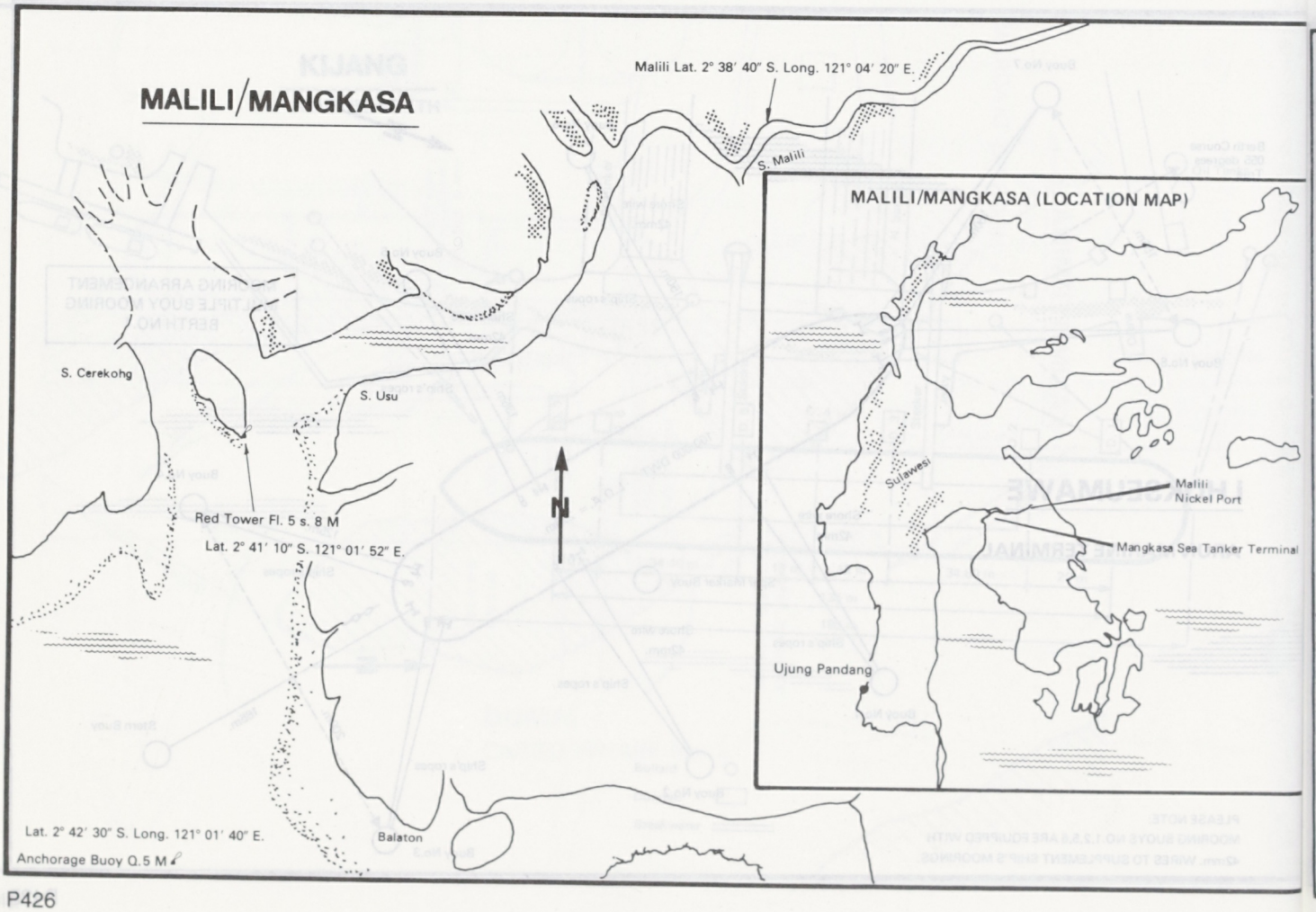
KIJANG
LOCATION MAP

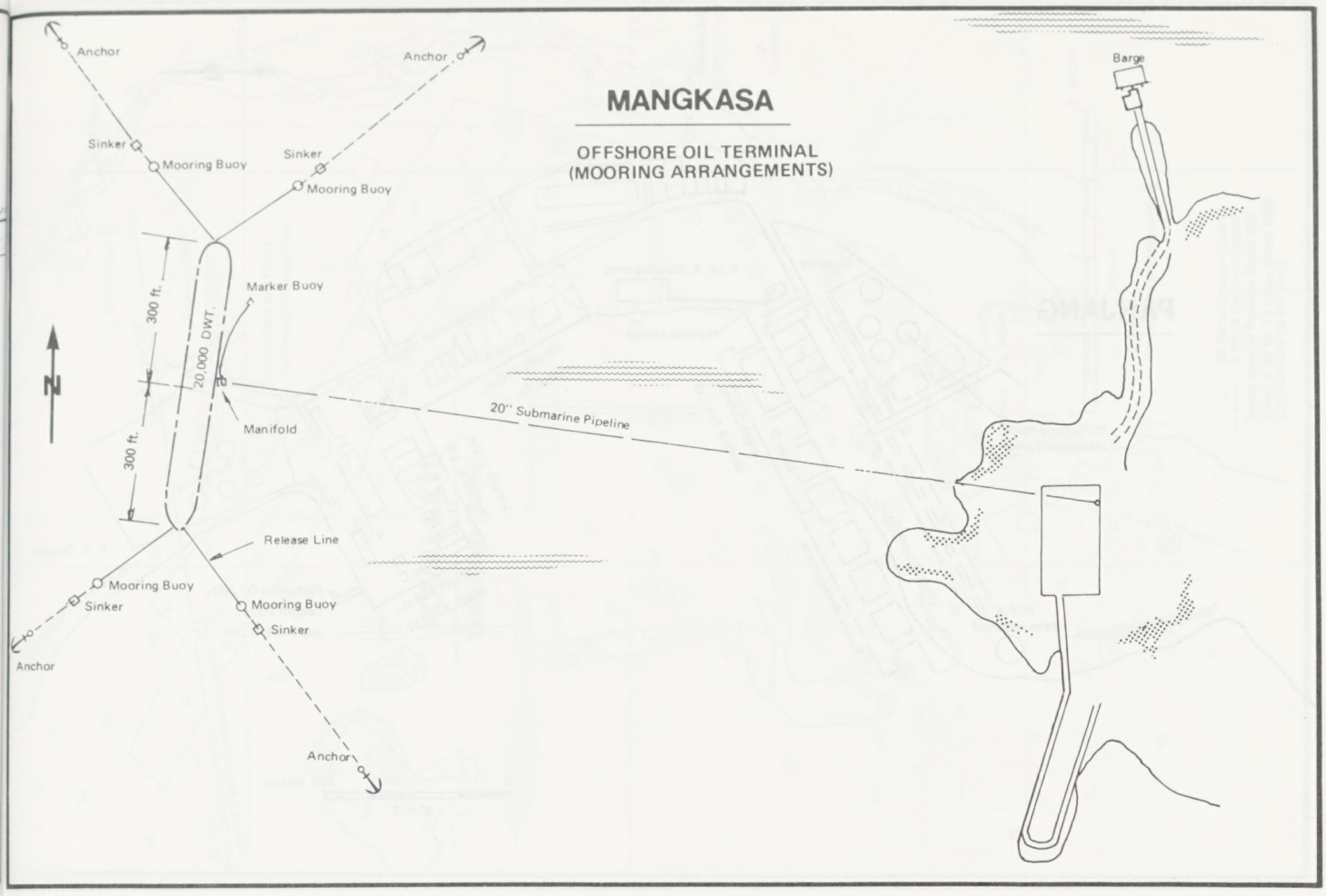


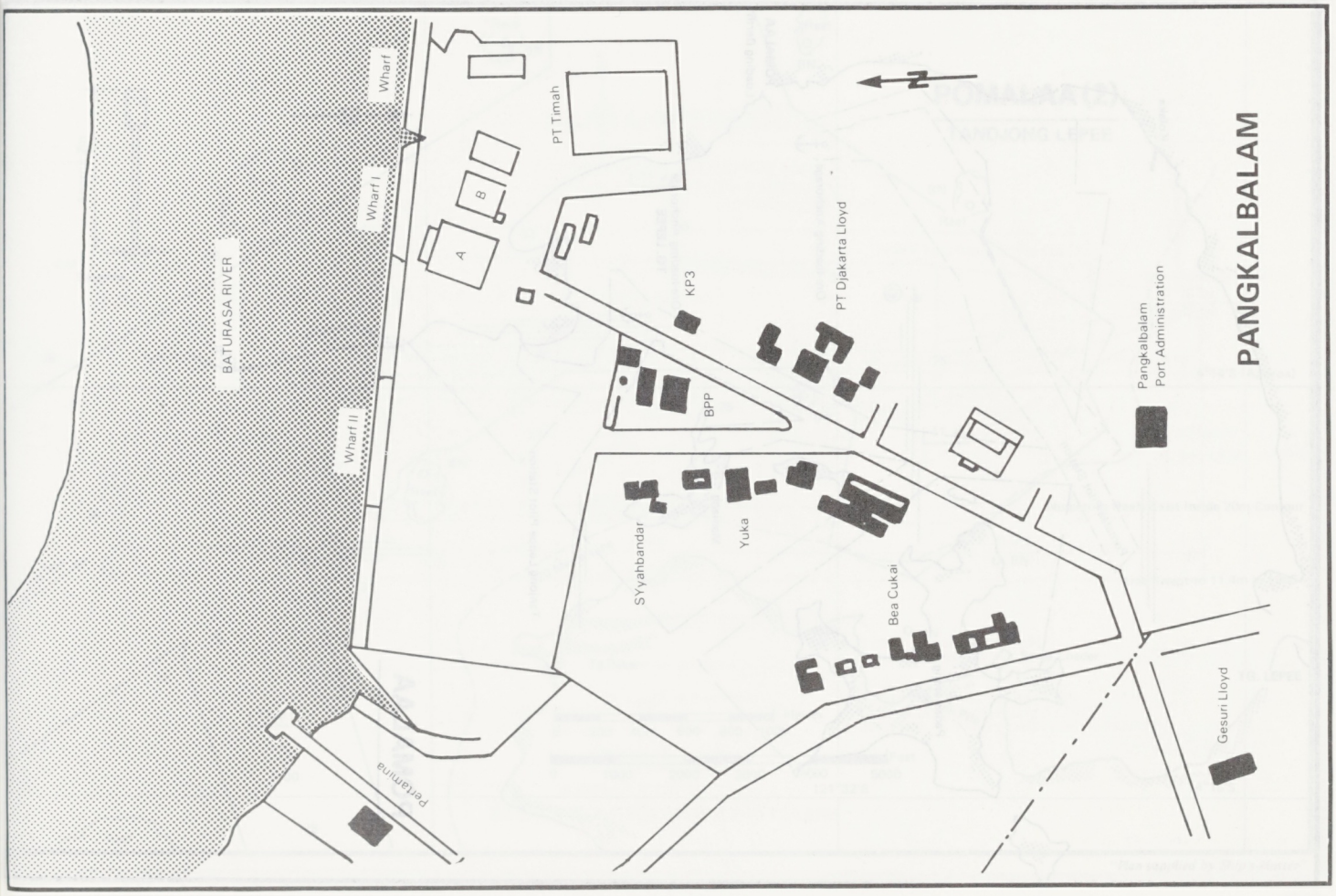

LHOKSEUMAWE
PELABUHAN BLANGLANCANG
DEPTHS IN METRES
BLANG LANCANG TERMINAL
DEPTHS IN METRES
N
20
10
5
BLANGLANCANG
Pelabuhan Blanglancang
Leading Lights
Fl.5s.
No.7
No.8
No.6
No.5
No.1
No.2
No.3
No.4
Cooling Water Intake
Storage Tanks
0
500
1000
Metres

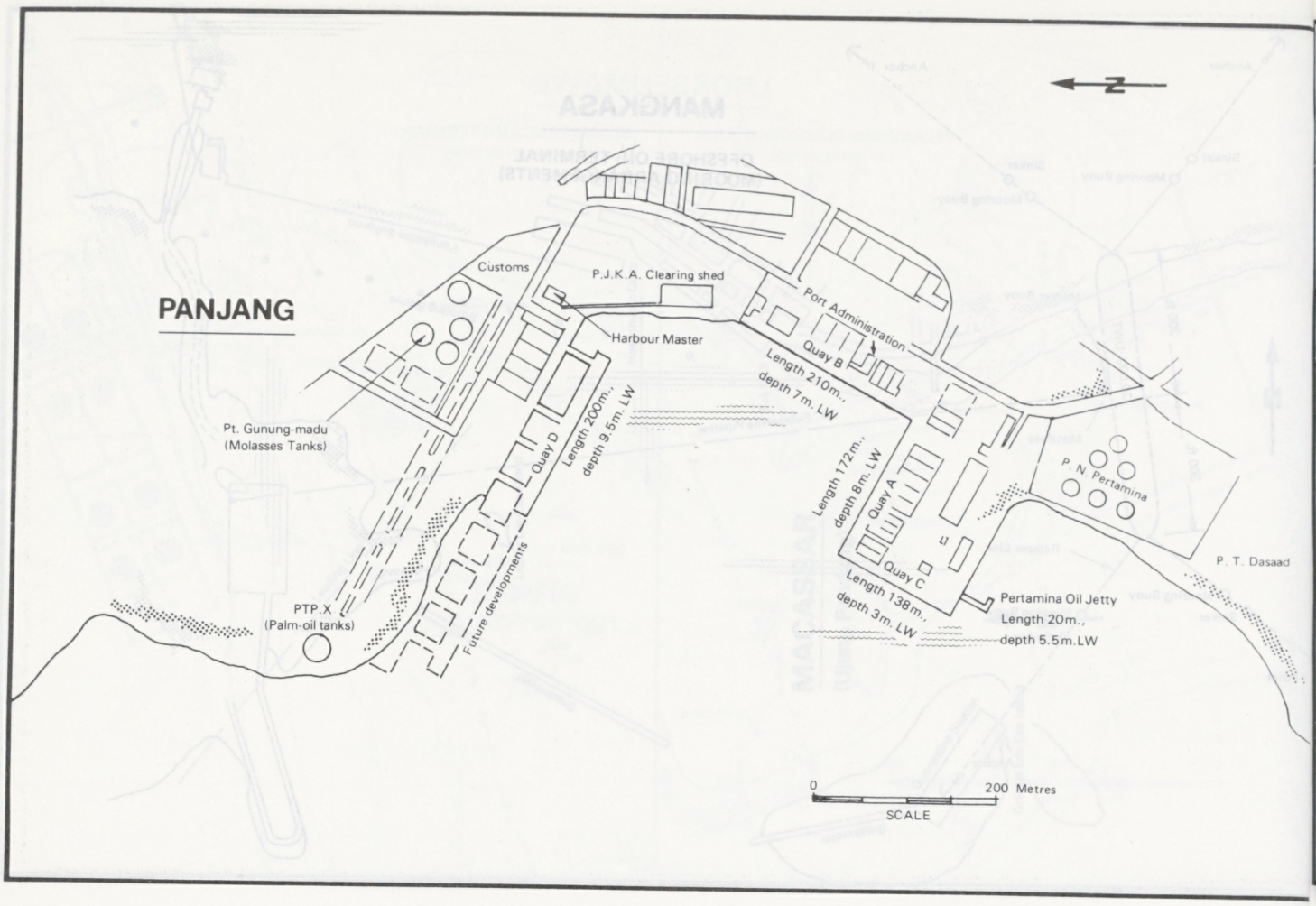

Buoy No.7
Berth Course
055 degrees
True
150m.
150m.
Buoy No.8
Buoy No.6
Shore wire
42mm.
150m.
Ship's ropes
Buoy No.5
Shore wire
42mm.
135m.
Ship's ropes
MOORING ARRANGEMENT
MULTIPLE BUOY MOORING
BERTH NO.1
100,000 DWT L.O.A. = 275m.
LHOKSEUMAWE
ARUN MARINE TERMINAL
Shore wire
42mm.
Spar Marker Buoy
Ship's ropes
Buoy No.1
Shore wire
42mm.
Ship's ropes
Buoy No.2
Buoy No.4
125m.
Ship's ropes
Ship's ropes
200m.
165m.
Stern Buoy
Buoy No.3
PLEASE NOTE:
MOORING BUOYS NO.1,2,5,6 ARE EQUIPPED WITH
42mm. WIRES TO SUPPLEMENT SHIP'S MOORINGS.

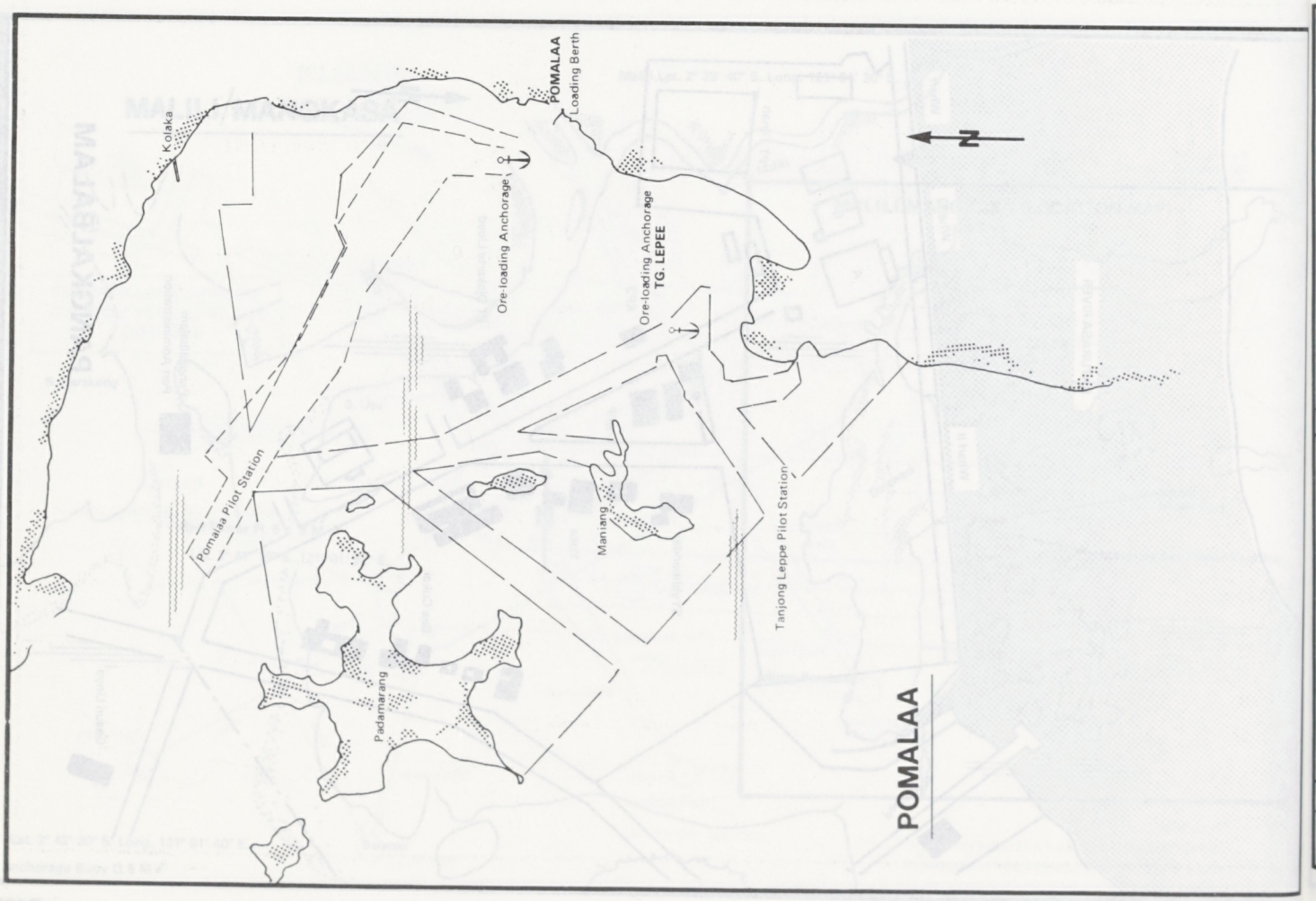

Pangkalan Sukarno
Mooring Buoys
Hasanuddin Quay
Sea Wall
Lesser Lae-Lae Island
Leading Line
Breakwater
MACASSAR
(Ujung Pandang)
N
Quarantine Station
Greater Lae-Lae Island
Breakwater

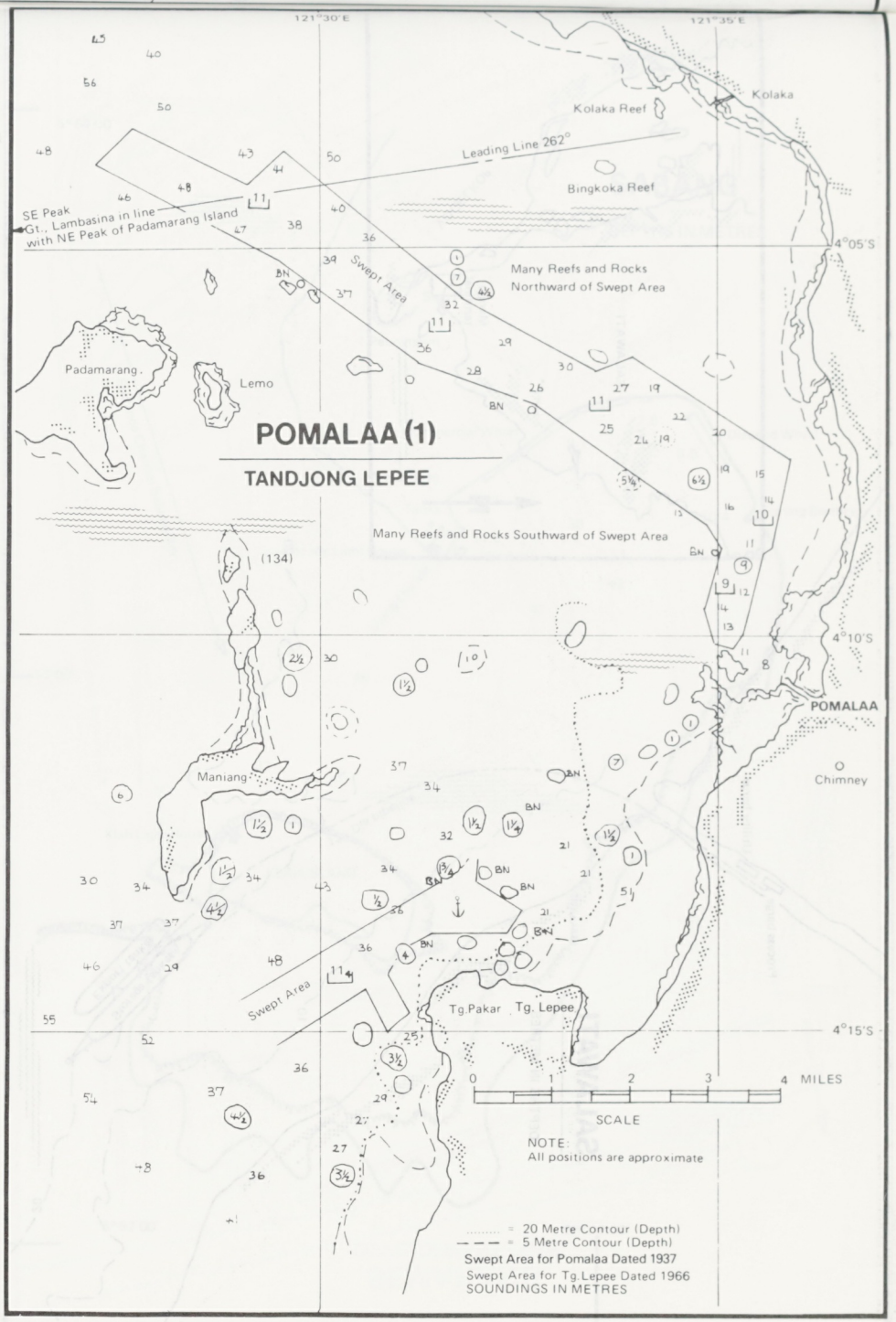

MALILI/MANGKASA
Malili Lat. 2° 38′ 40″ S. Long. 121° 04′ 20″ E.
S. Malili
S. Cerekohg
S. Usu
Red Tower Fl. 5 s. 8 M
Lat. 2° 41′ 10″ S. 121° 01′ 52″ E.
N
Lat. 2° 42′ 30″ S. Long. 121° 01′ 40″ E.
Anchorage Buoy Q.5 M
Balaton
MALILI/MANGKASA (LOCATION MAP)
Sulawesi
Malili
Nickel Port
Mangkasa Sea Tanker Terminal
Ujung Pandang


MANGKASA
OFFSHORE OIL TERMINAL
(MOORING ARRANGEMENTS)
Anchor
Anchor
Sinker
Mooring Buoy
Sinker
Mooring Buoy
300 ft.
20,000 DWT.
Marker Buoy
N
300 ft.
Manifold
20" Submarine Pipeline
Barge
Release Line
Mooring Buoy
Sinker
Mooring Buoy
Sinker
Anchor
Anchor

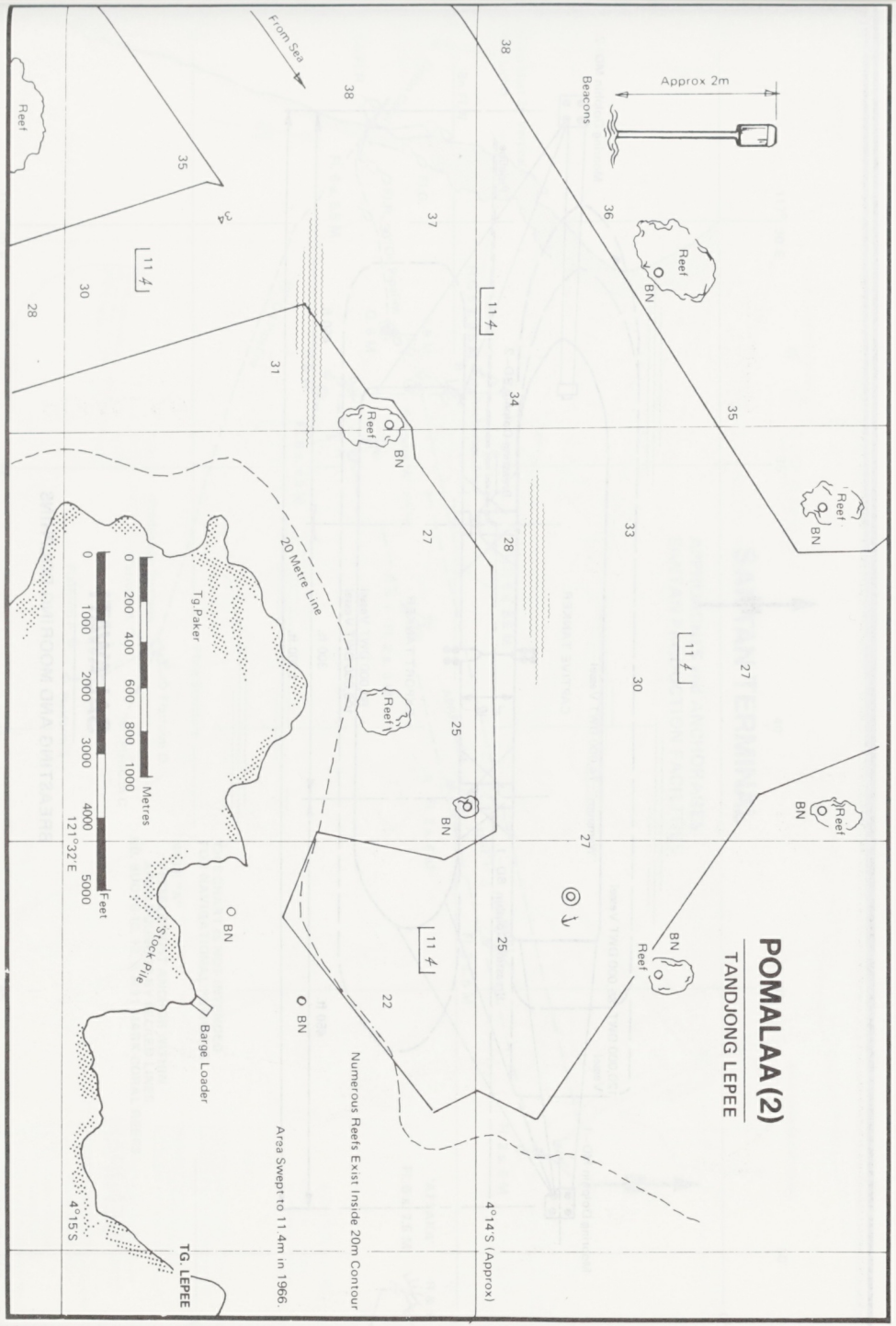

PANGKALBALAM
N
Wharf
Wharf I
Wharf II
BATURASA RIVER
PT Timah
A
B
KP3
PT Djakarta Lloyd
BPP
Pangkalbalam
Port Administration
SYyahbandar
Yuka
Bea Cukai
Gesuri Lloyd
Pertamina


N
PANJANG
Customs
P.J.K.A. Clearing shed
Port Administration
Harbour Master
Quay B
Length 210m.,
depth 7m. LW
Pt. Gunung-madu
(Molasses Tanks)
Quay D
Length 200m.,
depth 9.5m. LW
Length 172m.,
depth 8m. LW
Quay A
P. N. Pertamina
P. T. Dasaad
Quay C
Length 138m.,
depth 3m. LW
Pertamina Oil Jetty
Length 20m.,
depth 5.5m.LW
PTP.X
(Palm-oil tanks)
Future developments
0
200 Metres
SCALE

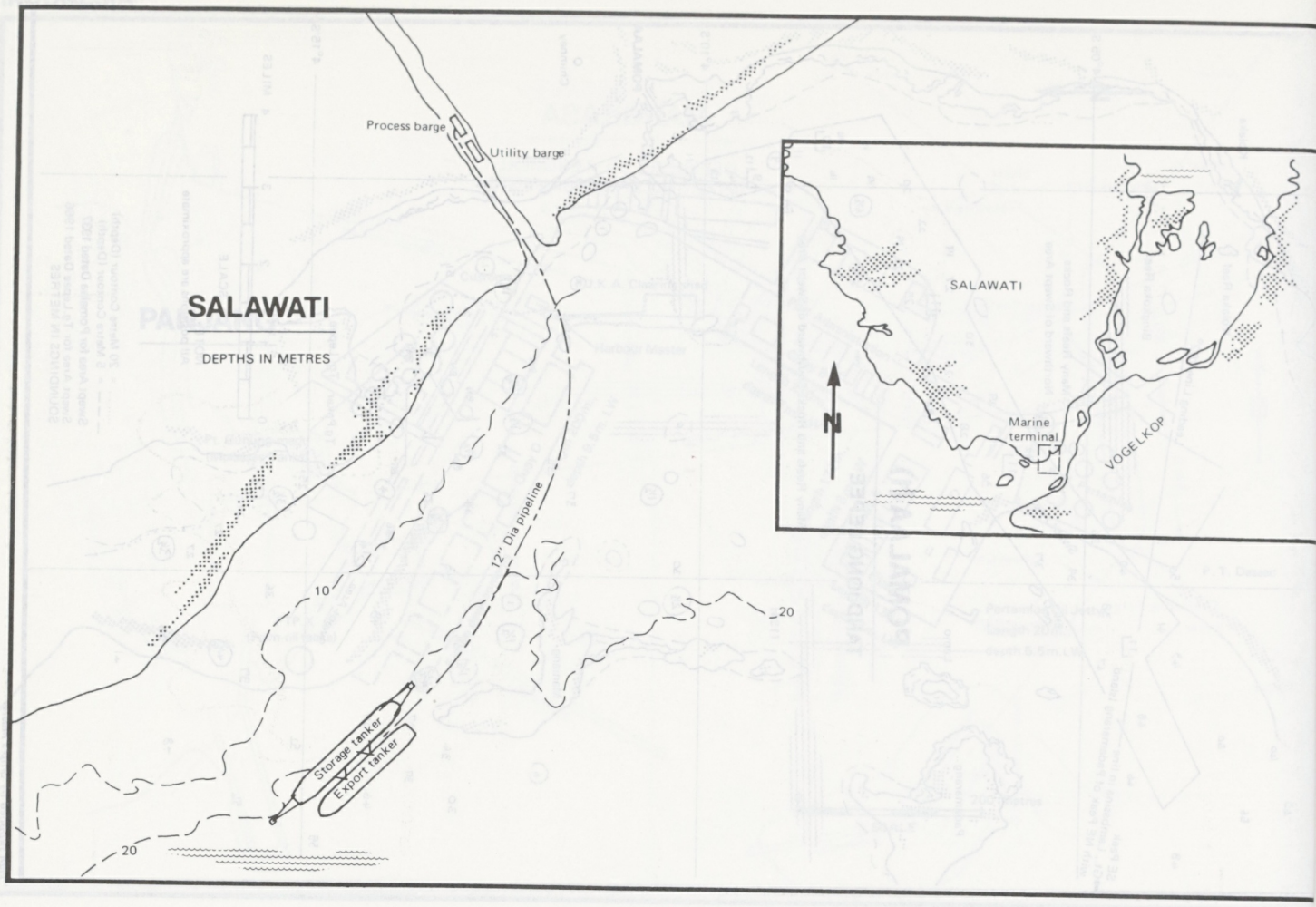

N
POMALAA
Loading Berth
K.olaka
Ore-loading Anchorage
Ore-loading Anchorage
TG. LEPEE
Pomalaa Pilot Station
Maniang
Tanjong Leppe Pilot Station
Padamarang
POMALAA

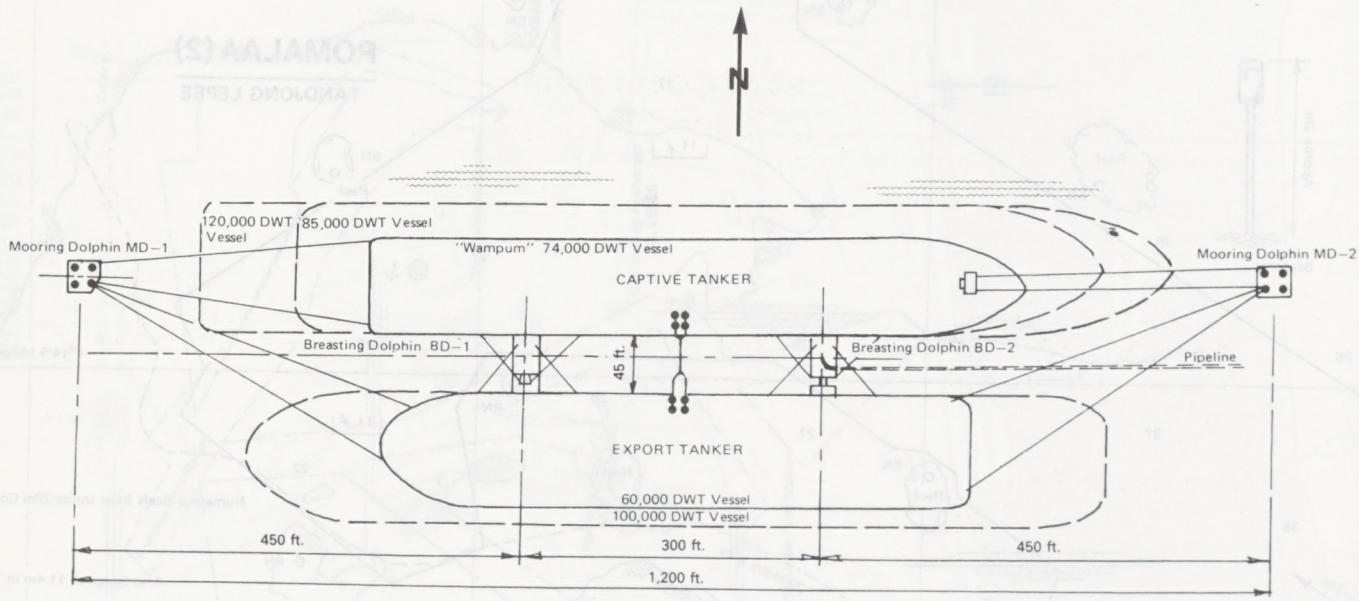


"Plan supplied by Ship's Master"



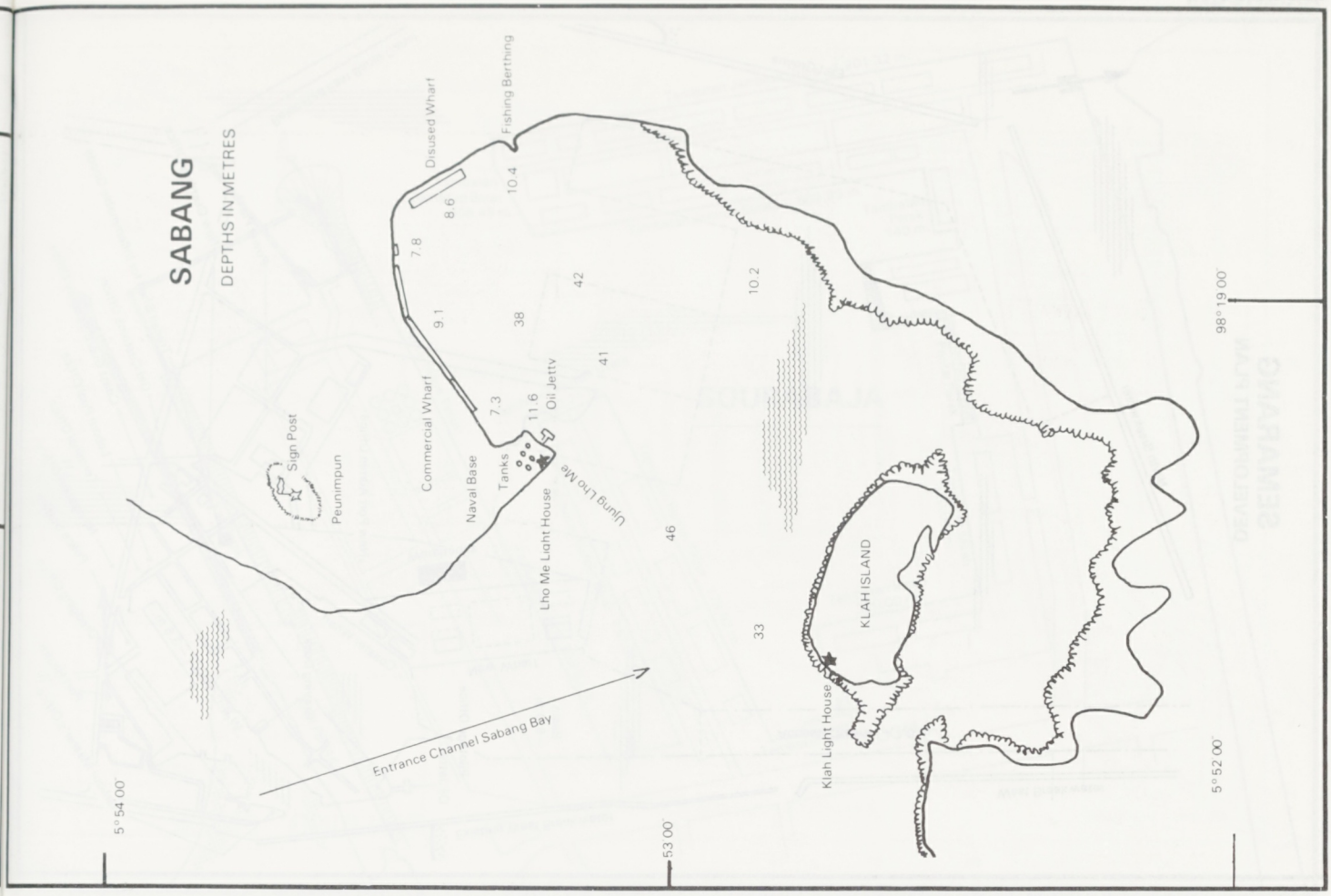
"Plan supplied by Ship's Master"

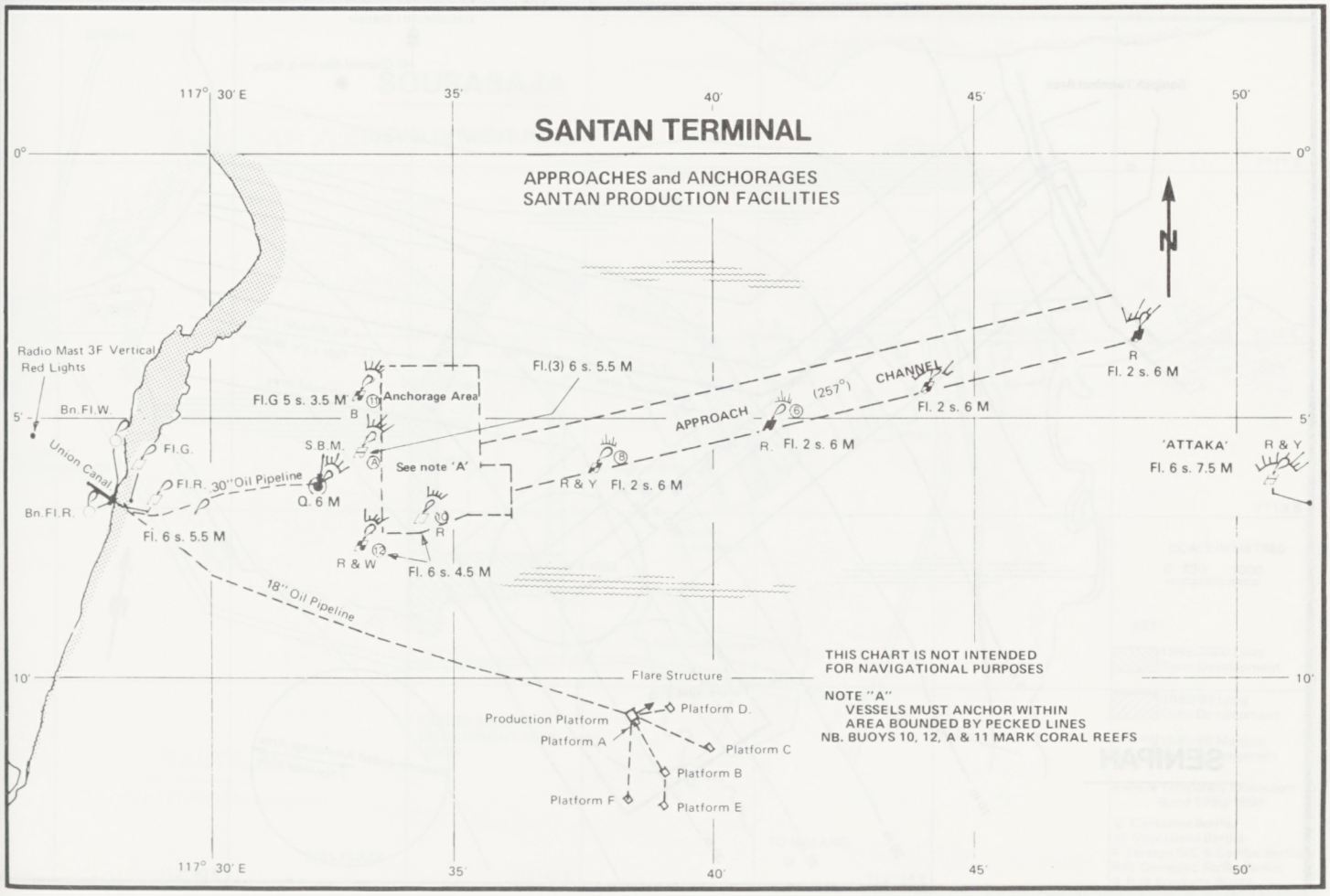




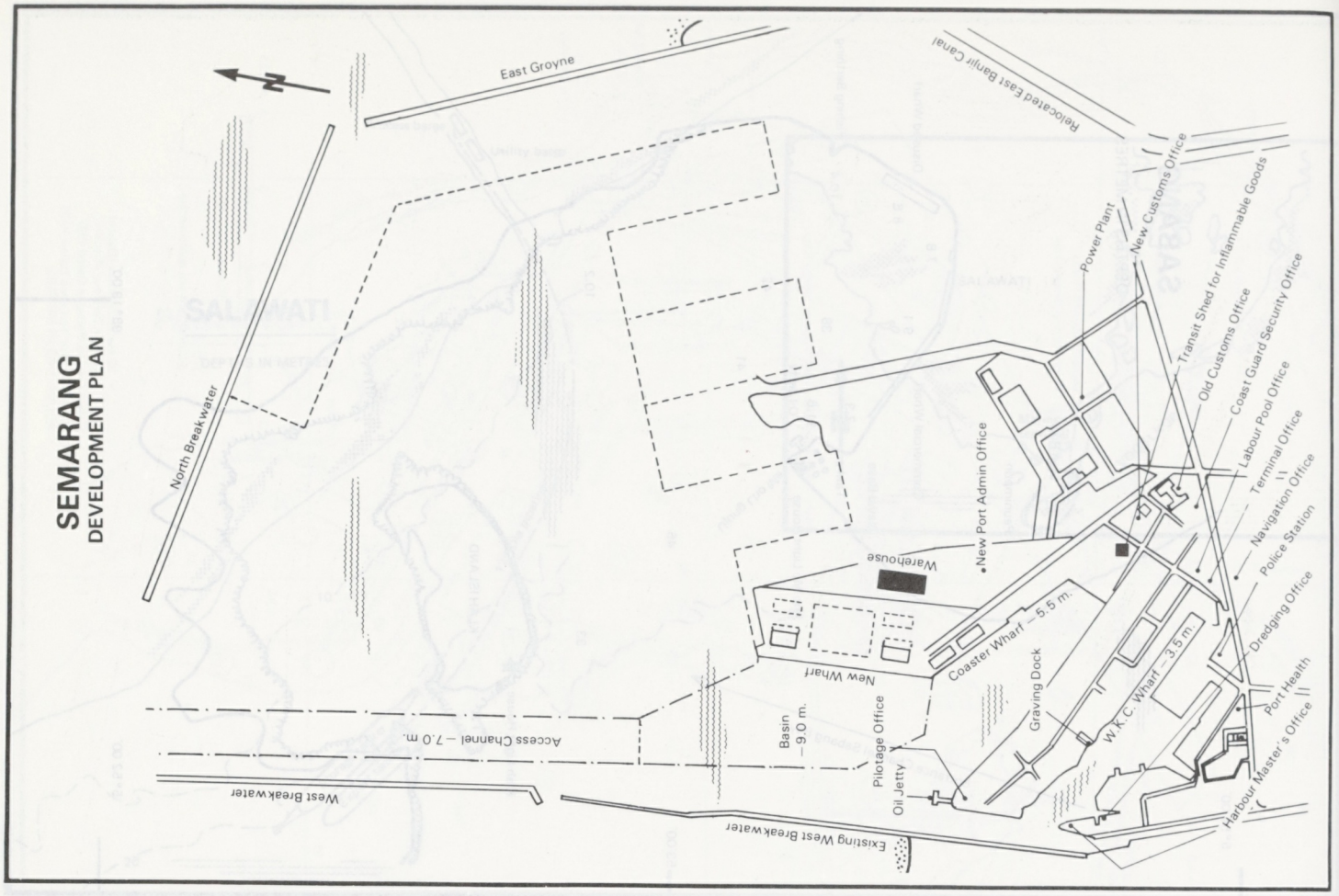
SALAWATI

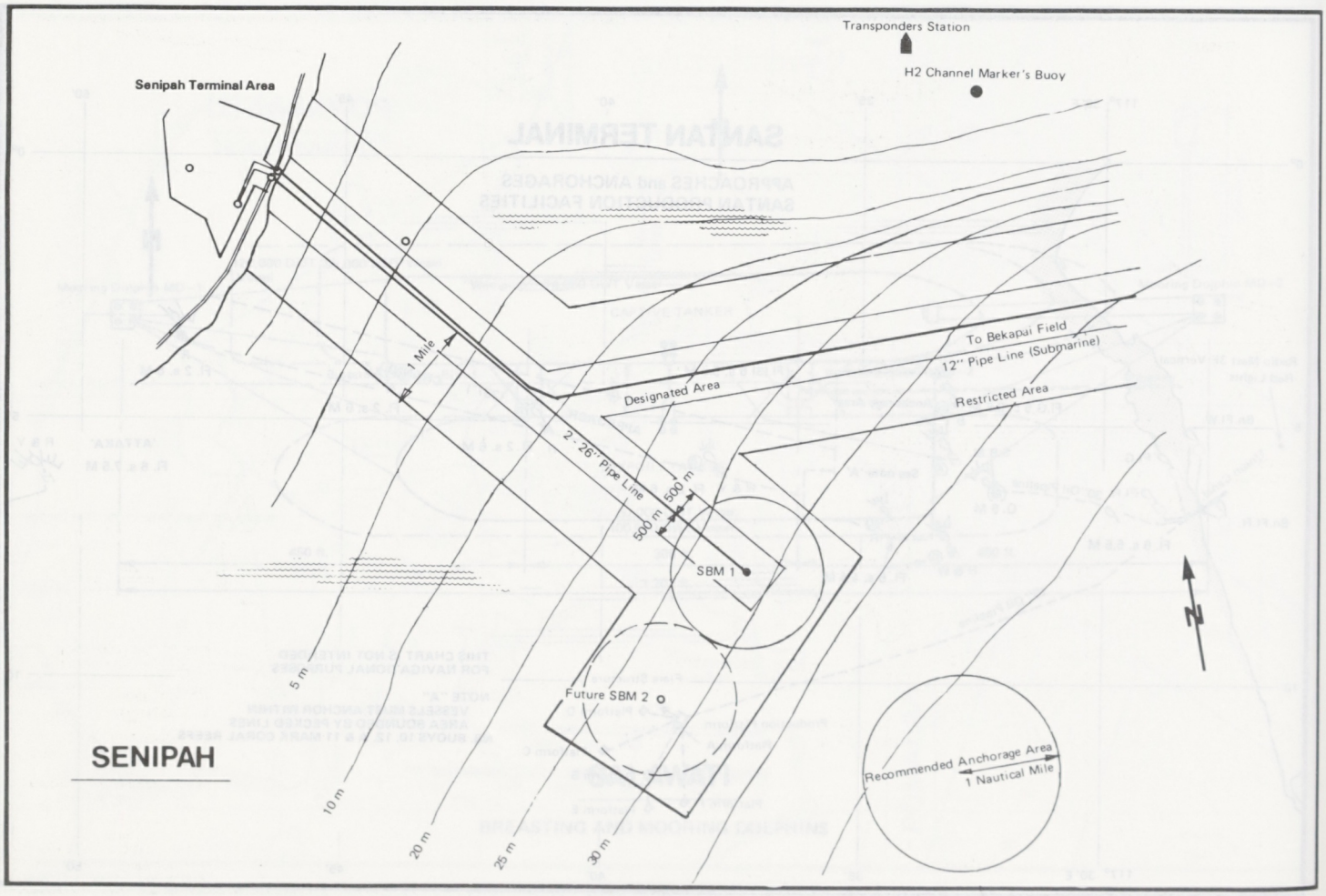
BREASTING AND MOORING DOLPHINS


SABANG
DEPTHS IN METRES
Disused Wharf
Fishing Berthing
Sign Post
Peunimpun
Commercial Wharf
Naval Base
Tanks
Oil Jetty
Ujung Lho Me
Lho Me Light House
KLAH ISLAND
Klah Light House
Entrance Channel Sabang Bay
98° 19 00'
5° 54 00'
53 00'
5° 52 00'

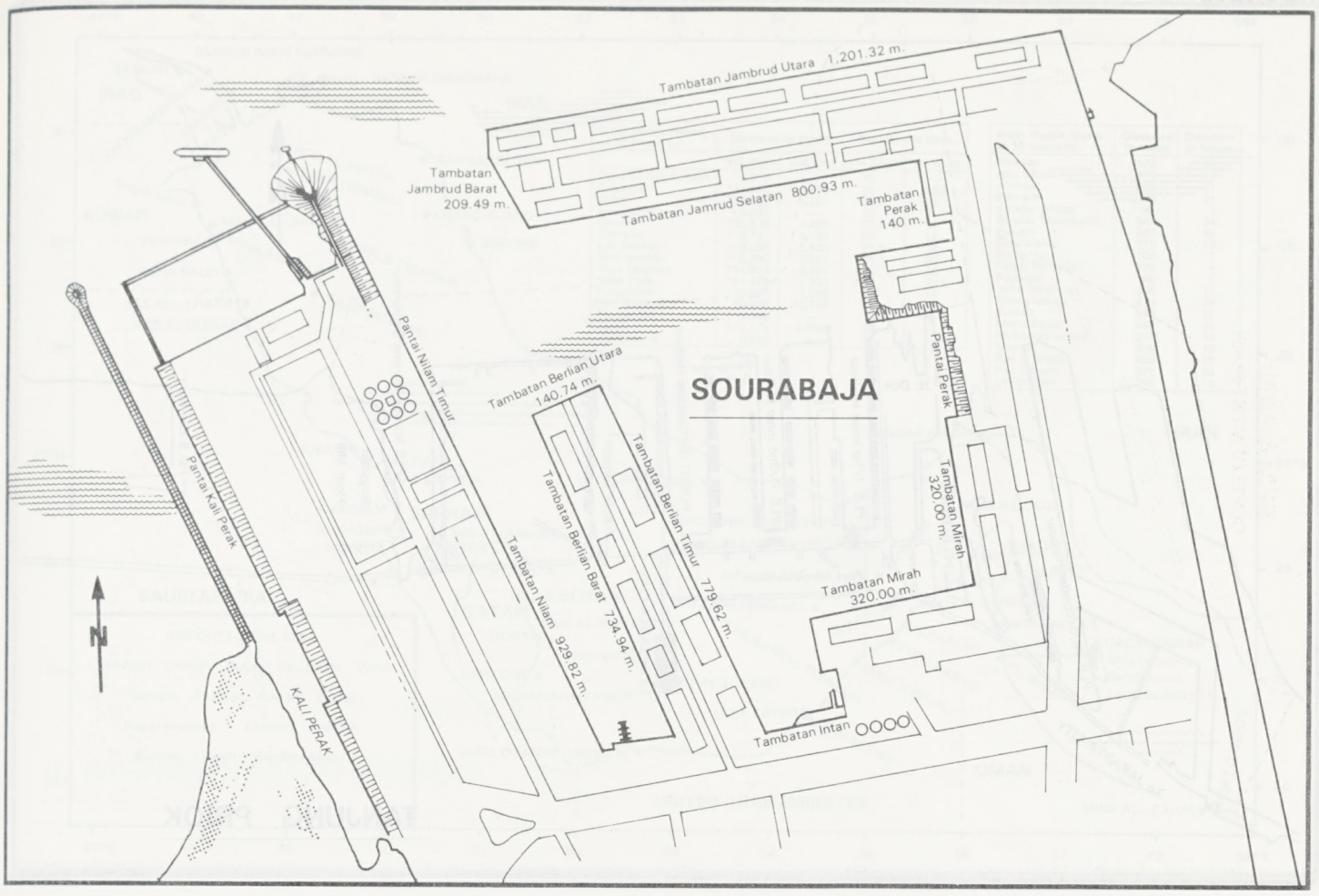

SANTAN TERMINAL
APPROACHES and ANCHORAGES
SANTAN PRODUCTION FACILITIES
117° 30' E
35'
40'
45'
50'
0°
5'
10'
N
Radio Mast 3F Vertical Red Lights
Bn.Fl.W.
Fl.G.
Union Canal
Bn.Fl.R.
S.B.M.
Q. 6 M
Fl.R. 30" Oil Pipeline
Fl. 6 s. 5.5 M
Fl.G 5 s. 3.5 M
Anchorage Area
Fl.(3) 6 s. 5.5 M
See note 'A'
R & W
Fl. 6 s. 4.5 M
18" Oil Pipeline
APPROACH
(257°)
CHANNEL
R
Fl. 2 s. 6 M
R & Y
Fl. 2 s. 6 M
'ATTAKA'
Fl. 6 s. 7.5 M
Flare Structure
Production Platform
Platform A
Platform B
Platform C
Platform D.
Platform E
Platform F
THIS CHART IS NOT INTENDED FOR NAVIGATIONAL PURPOSES
NOTE "A"
VESSELS MUST ANCHOR WITHIN AREA BOUNDED BY PECKED LINES
NB. BUOYS 10, 12, A & 11 MARK CORAL REEFS

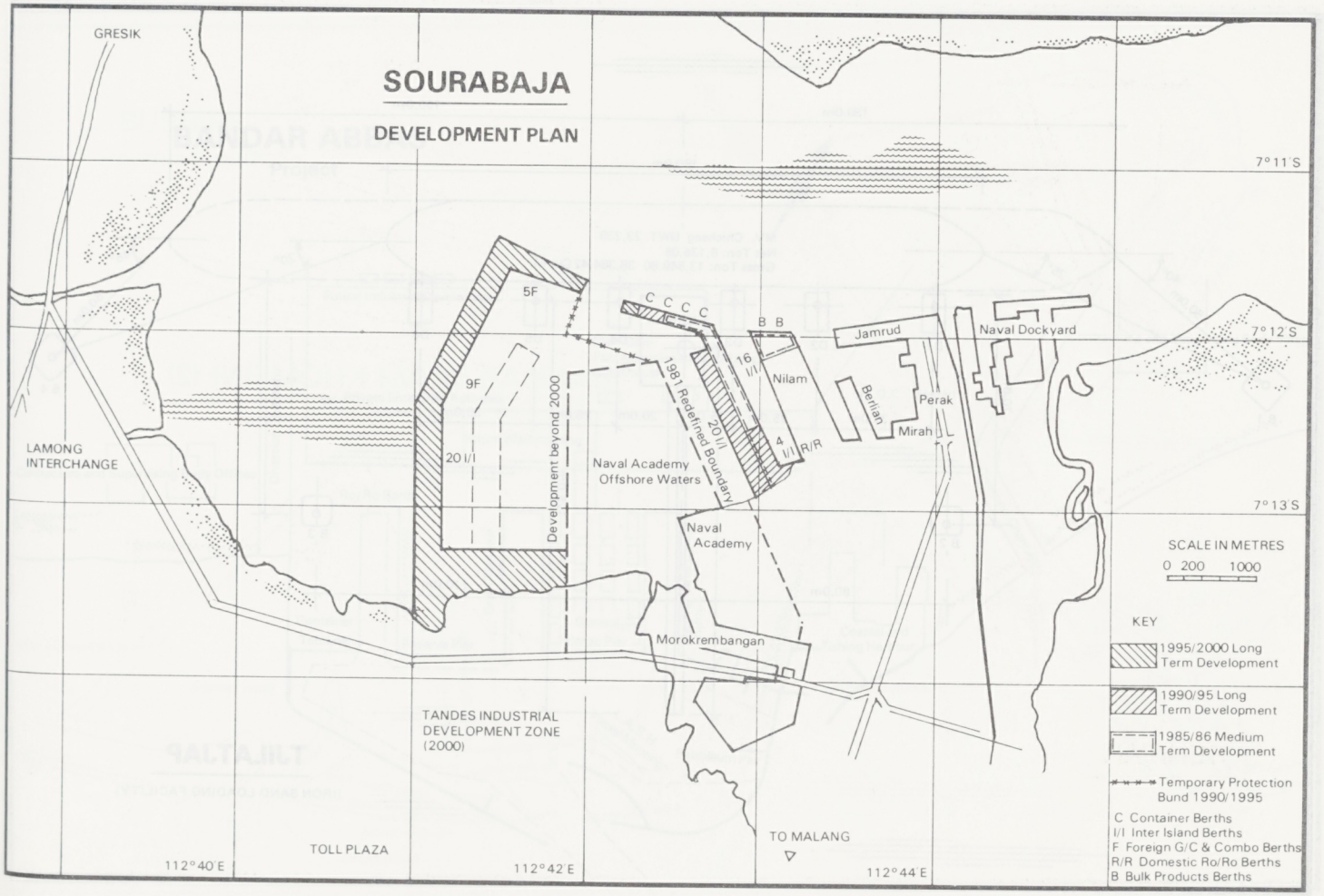
SEMARANG
DEVELOPMENT PLAN

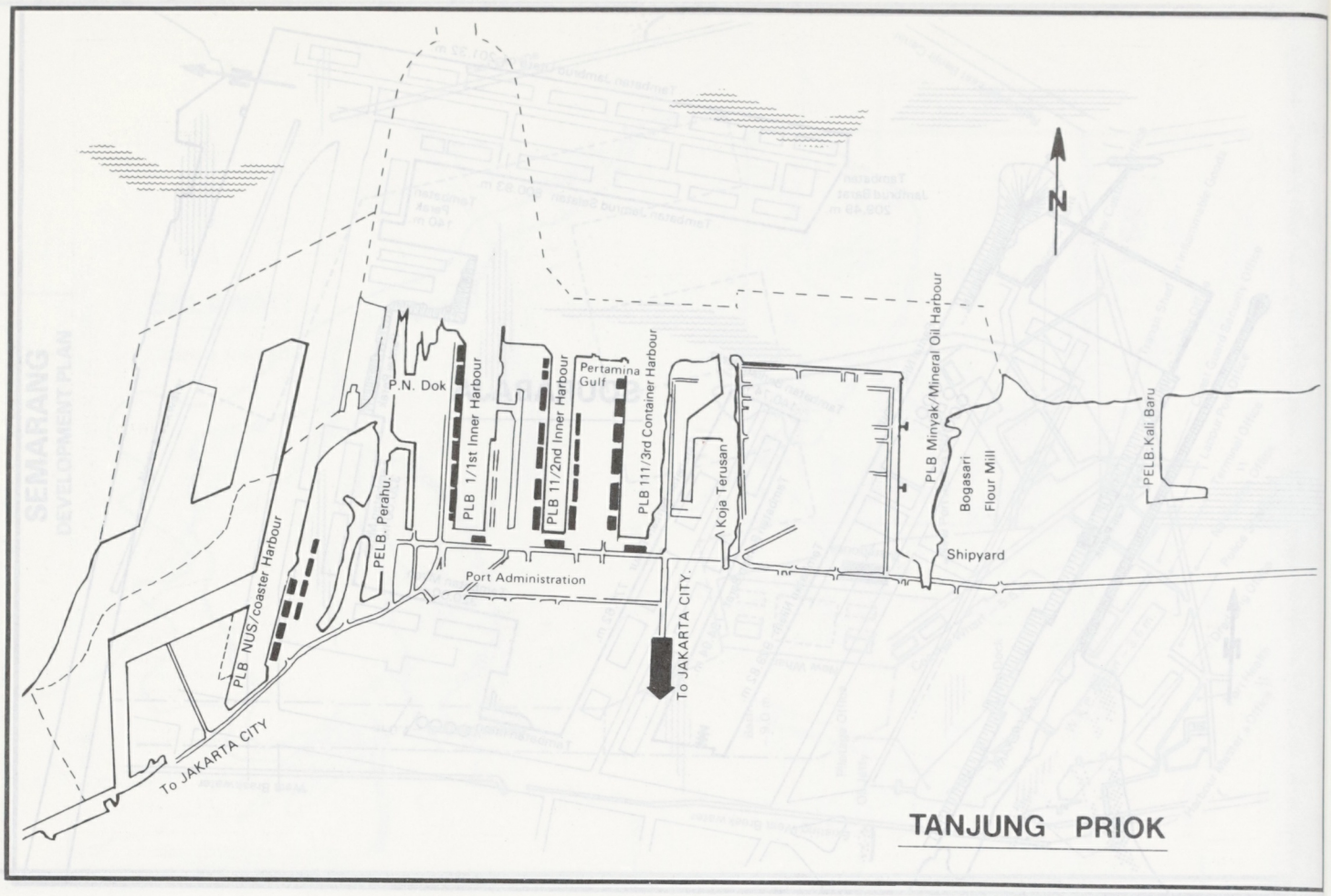




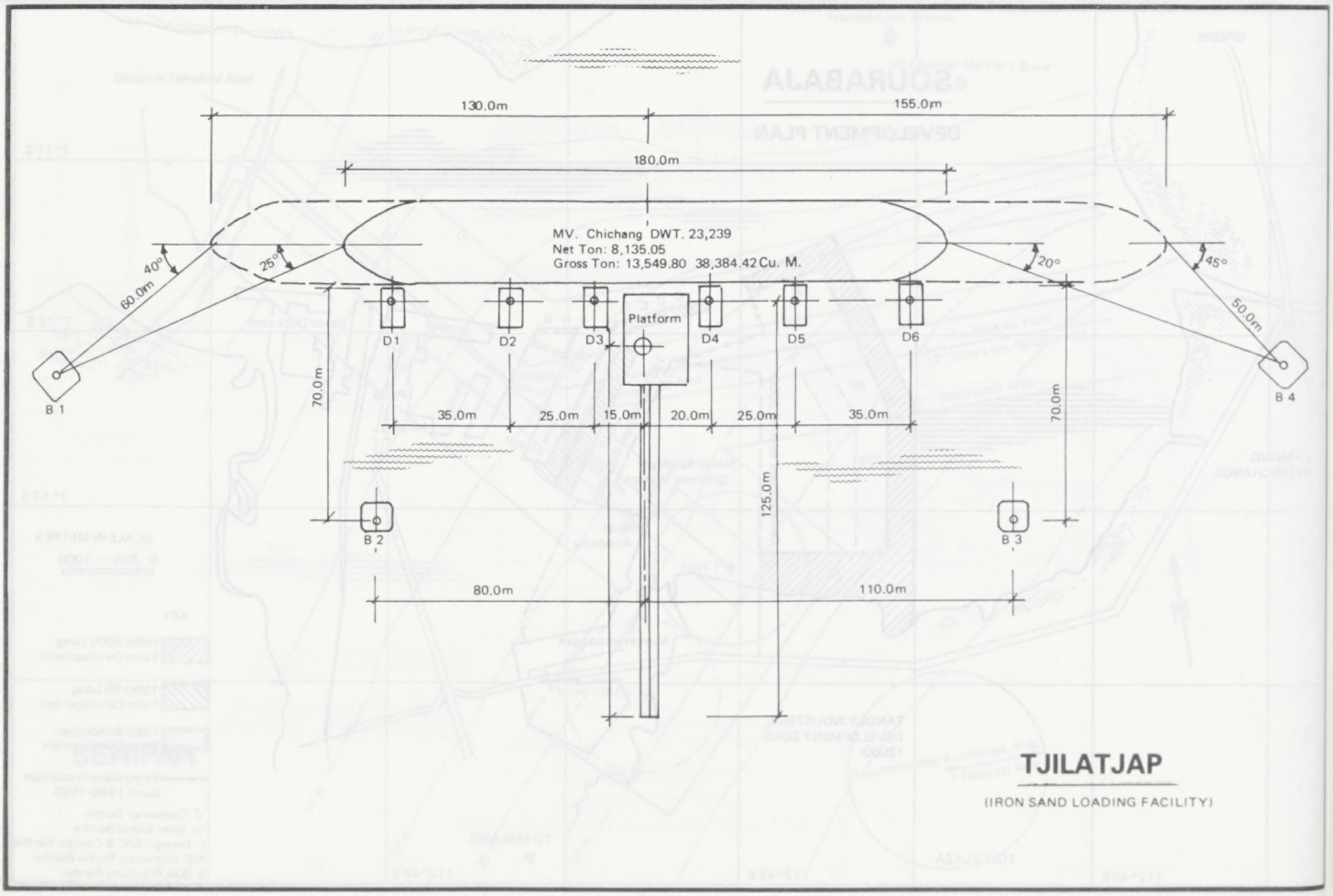
SENIPAH


Tambatan Jambrud Utara 1,201.32 m.
Tambatan Jambrud Barat 209.49 m.
Tambatan Jamrud Selatan 800.93 m.
Tambatan Perak 140 m.
Pantai Nilam Timur
Pantai Perak
Tambatan Berlian Utara 140.74 m.
SOURABAJA
Pantai Kali Perak
Tambatan Berlian Barat 734.94 m.
Tambatan Berlian Timur 779.62 m.
Tambatan Mirah 320.00 m.
Tambatan Nilam 929.82 m.
Tambatan Mirah 320.00 m.
KALI PERAK
Tambatan Intan
N


GRESIK
SOURABAJA
DEVELOPMENT PLAN
7°11'S
5F
C C C C
B B
Jamrud
Naval Dockyard
7°12'S
16 I/I
Nilam
9F
1981 Redefined Boundary
20 I/I
Berlian
Perak
Mirah
4 I/I R/R
20 I/I
Development beyond 2000
LAMONG INTERCHANGE
Naval Academy Offshore Waters
7°13'S
Naval Academy
SCALE IN METRES
0 200 1000
KEY
1995/2000 Long Term Development
1990/95 Long Term Development
1985/86 Medium Term Development
Temporary Protection Bund 1990/1995
C Container Berths
I/I Inter Island Berths
F Foreign G/C & Combo Berths
R/R Domestic Ro/Ro Berths
B Bulk Products Berths
Morokrembangan
TANDES INDUSTRIAL DEVELOPMENT ZONE (2000)
TO MALANG
TOLL PLAZA
112°40'E
112°42'E
112°44'E

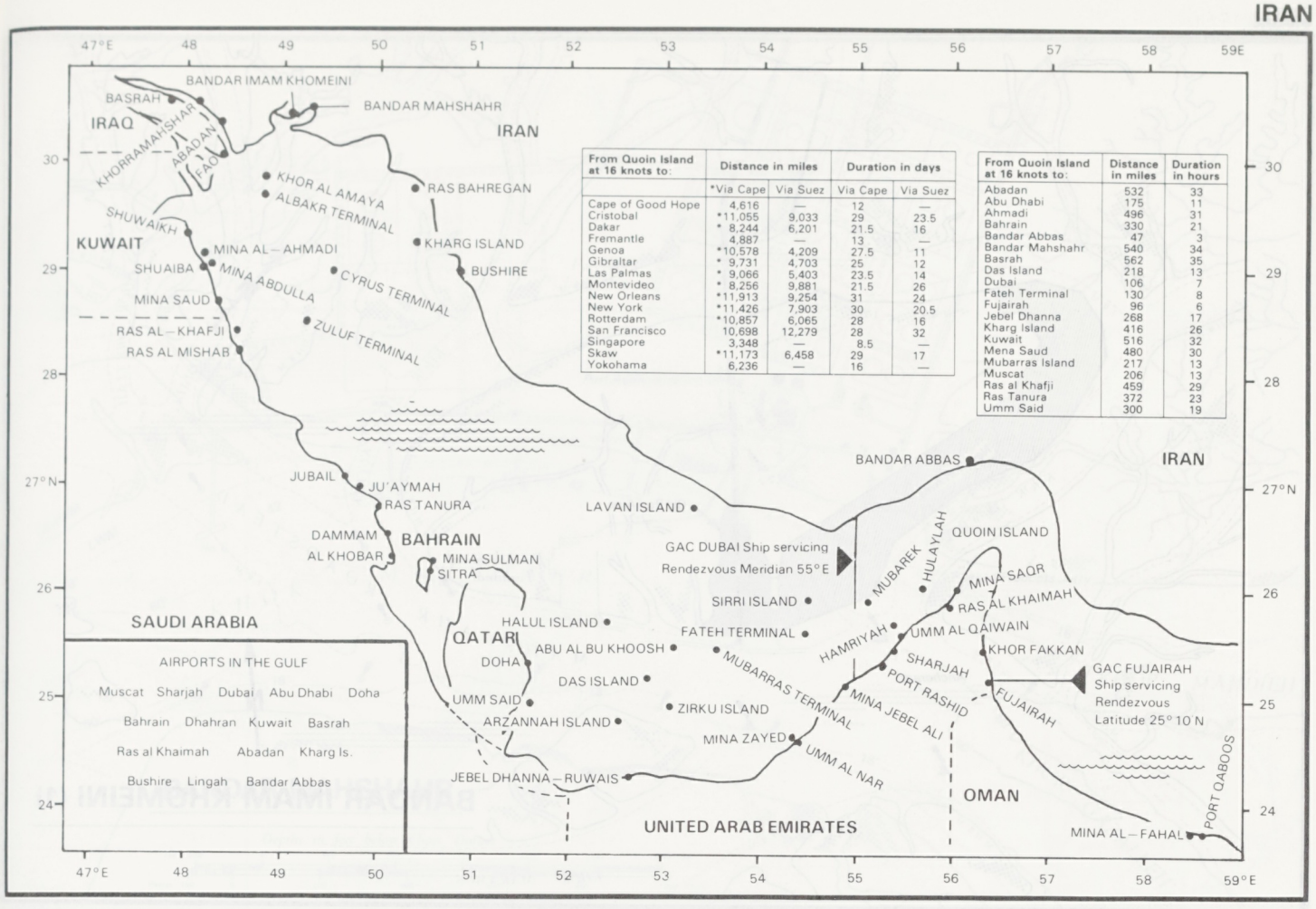


TANJUNG PRIOK



TJILATJAP

(IRON SAND LOADING FACILITY)

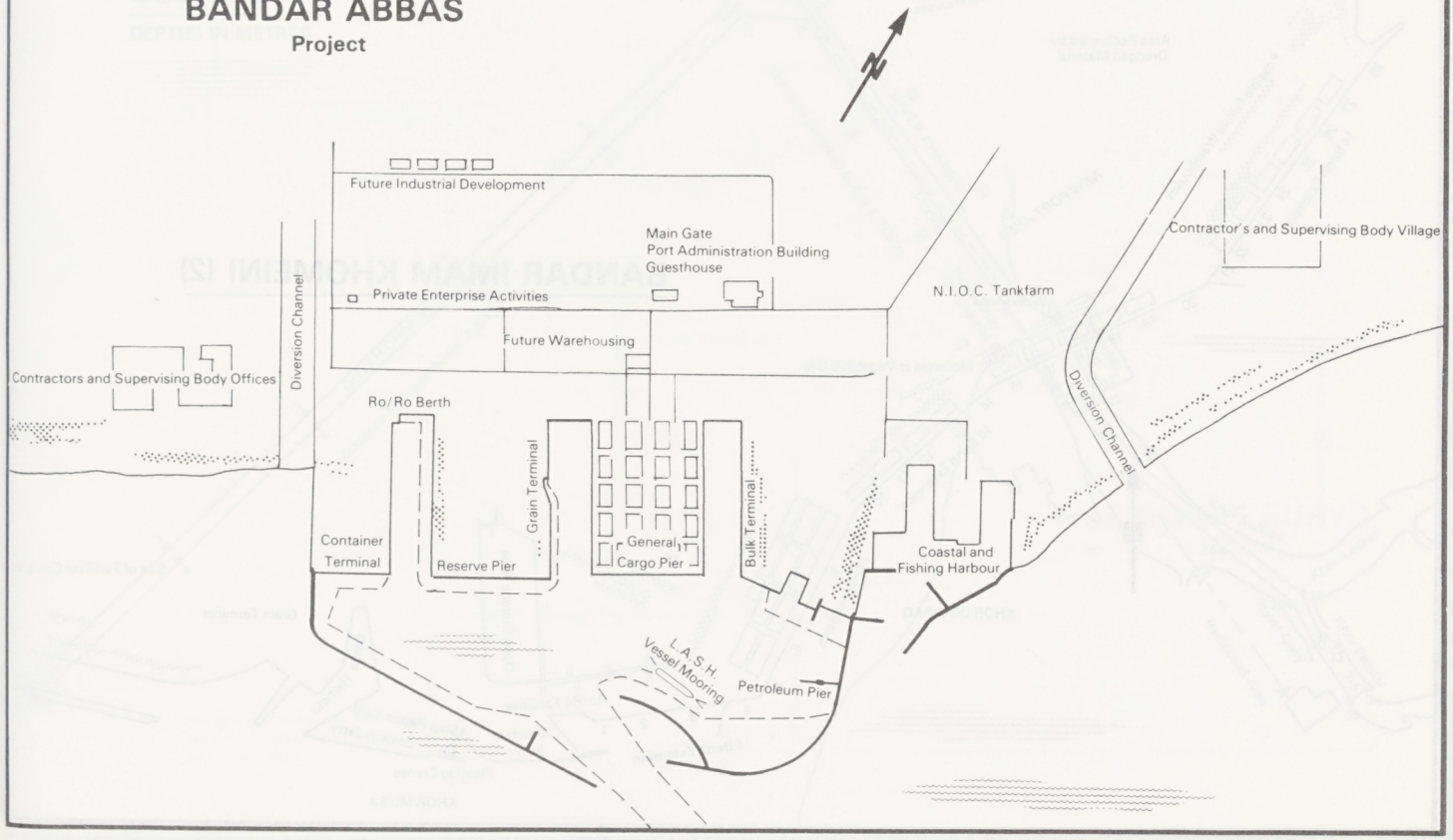


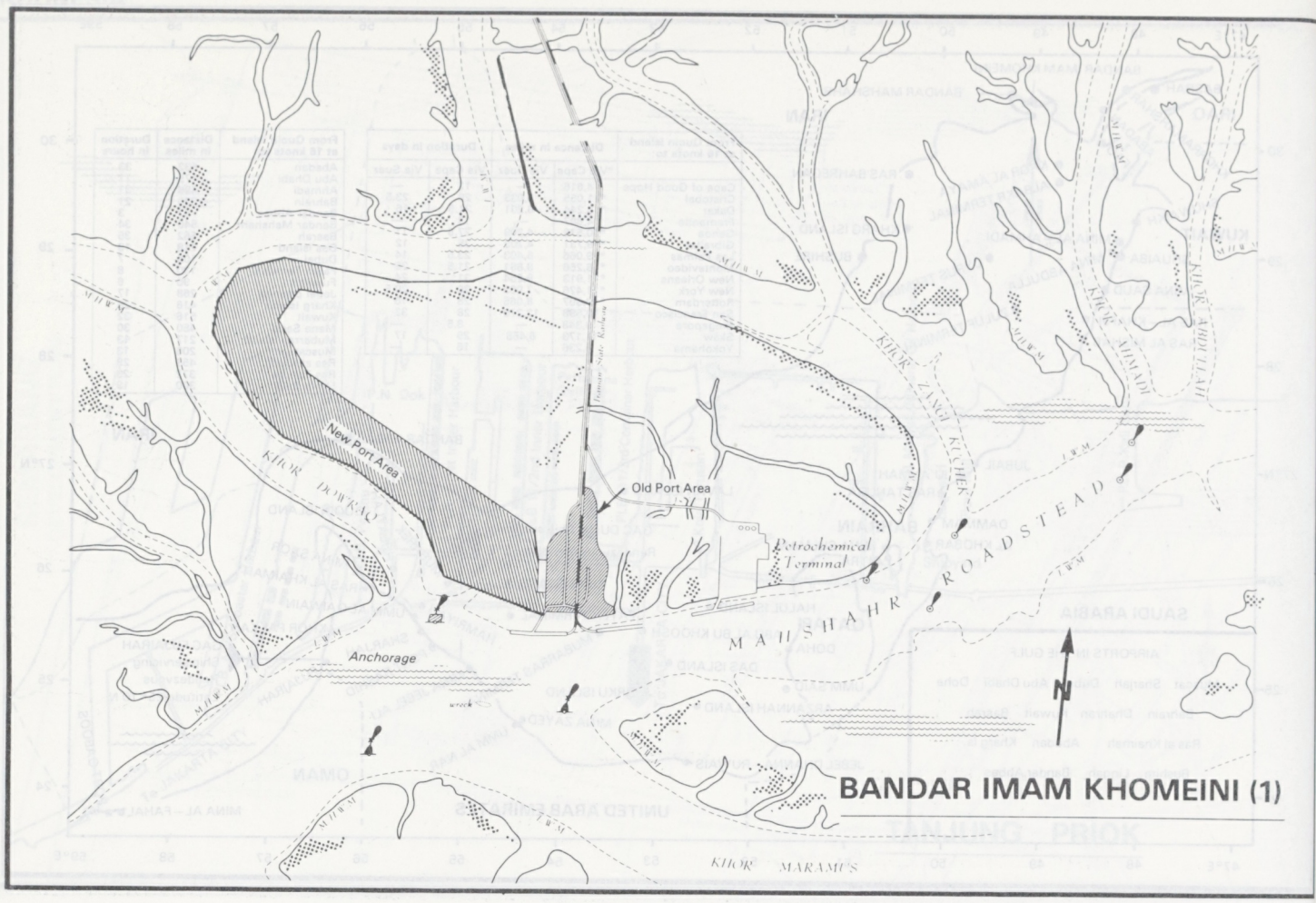
From Quoin Island at 16 knots to:	Distance in miles		Duration in days	
	*Via Cape	Via Suez	Via Cape	Via Suez
Cape of Good Hope	4,616	—	12	—
Cristobal	*11,055	9,033	29	23.5
Dakar	* 8,244	6,201	21.5	16
Fremantle	4,887	—	13	—
Genoa	*10,578	4,209	27.5	11
Gibraltar	* 9,731	4,703	25	12
Las Palmas	* 9,066	5,403	23.5	14
Montevideo	* 8,256	9,881	21.5	26
New Orleans	*11,913	9,254	31	24
New York	*11,426	7,903	30	20.5
Rotterdam	*10,857	6,065	28	16
San Francisco	10,698	12,279	28	32
Singapore	3,348	—	8.5	—
Skaw	*11,173	6,458	29	17
Yokohama	6,236	—	16	—

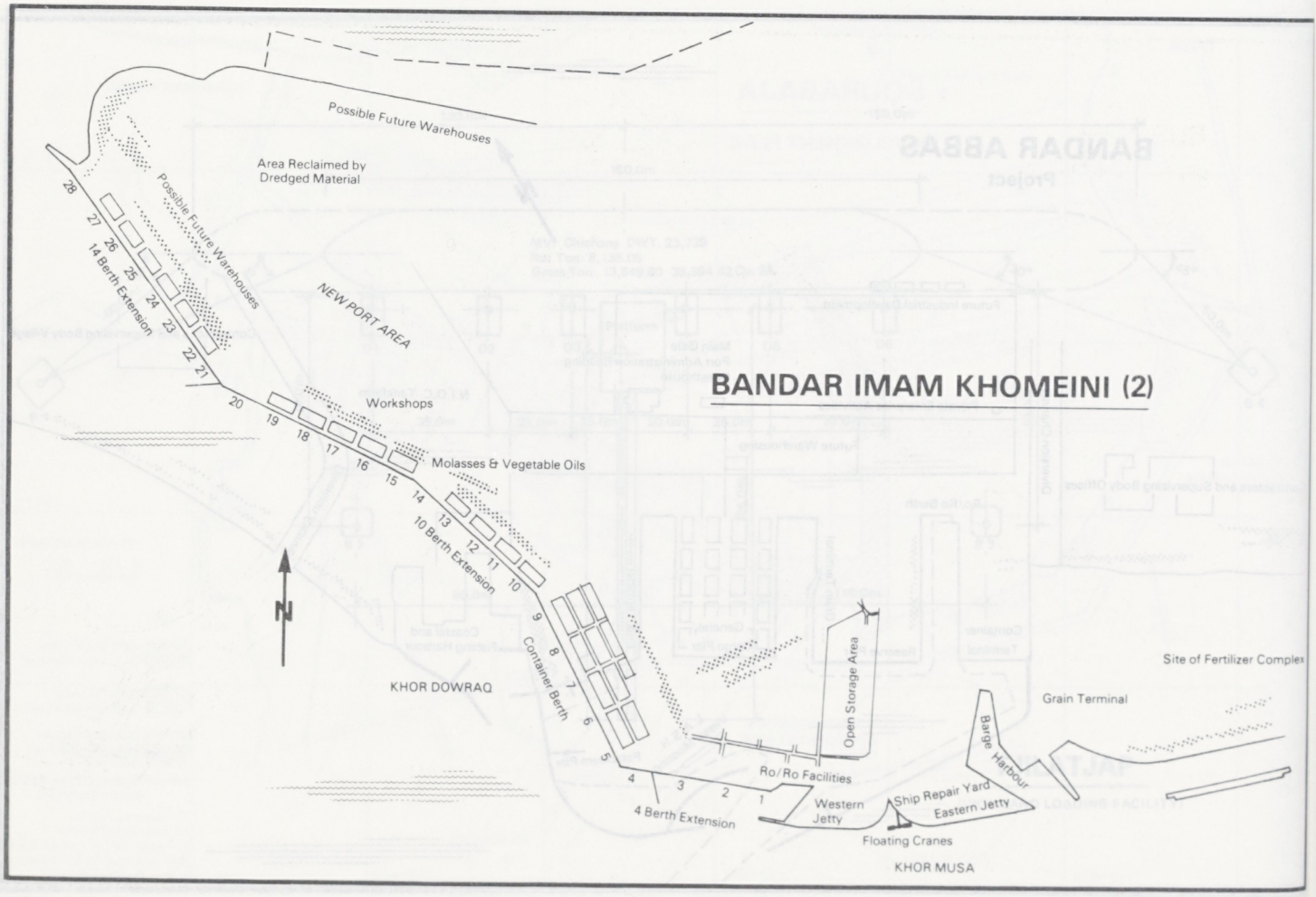
From Quoin Island at 16 knots to:	Distance in miles	Duration in hours
Abadan	532	33
Abu Dhabi	175	11
Ahmadi	496	31
Bahrain	330	21
Bandar Abbas	47	3
Bandar Mahshahr	540	34
Basrah	562	35
Das Island	218	13
Dubai	106	7
Fateh Terminal	130	8
Fujairah	96	6
Jebel Dhanna	268	17
Kharg Island	416	26
Kuwait	516	32
Mena Saud	480	30
Mubarras Island	217	13
Muscat	206	13
Ras al Khafji	459	29
Ras Tanura	372	23
Umm Said	300	19

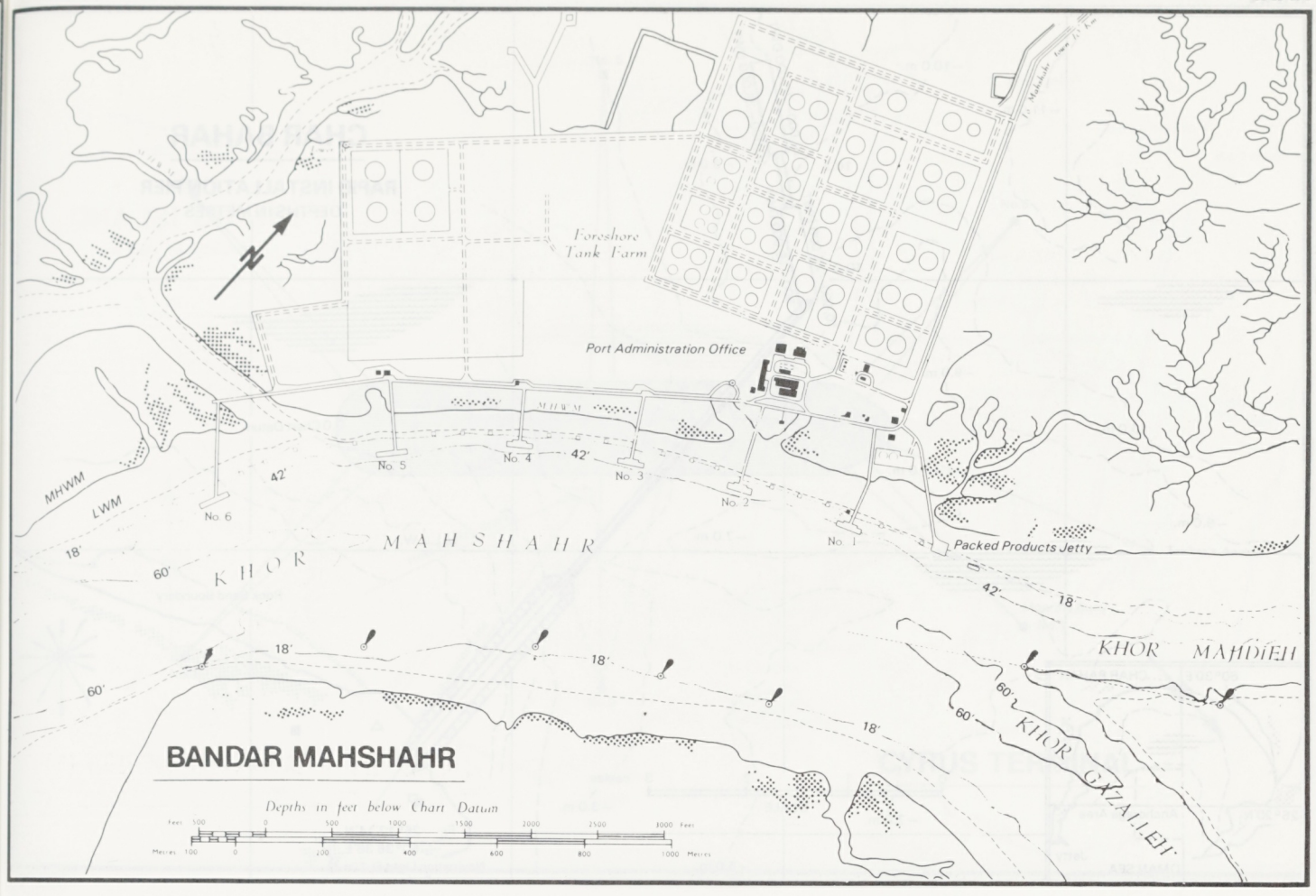
BANDAR ABBAS

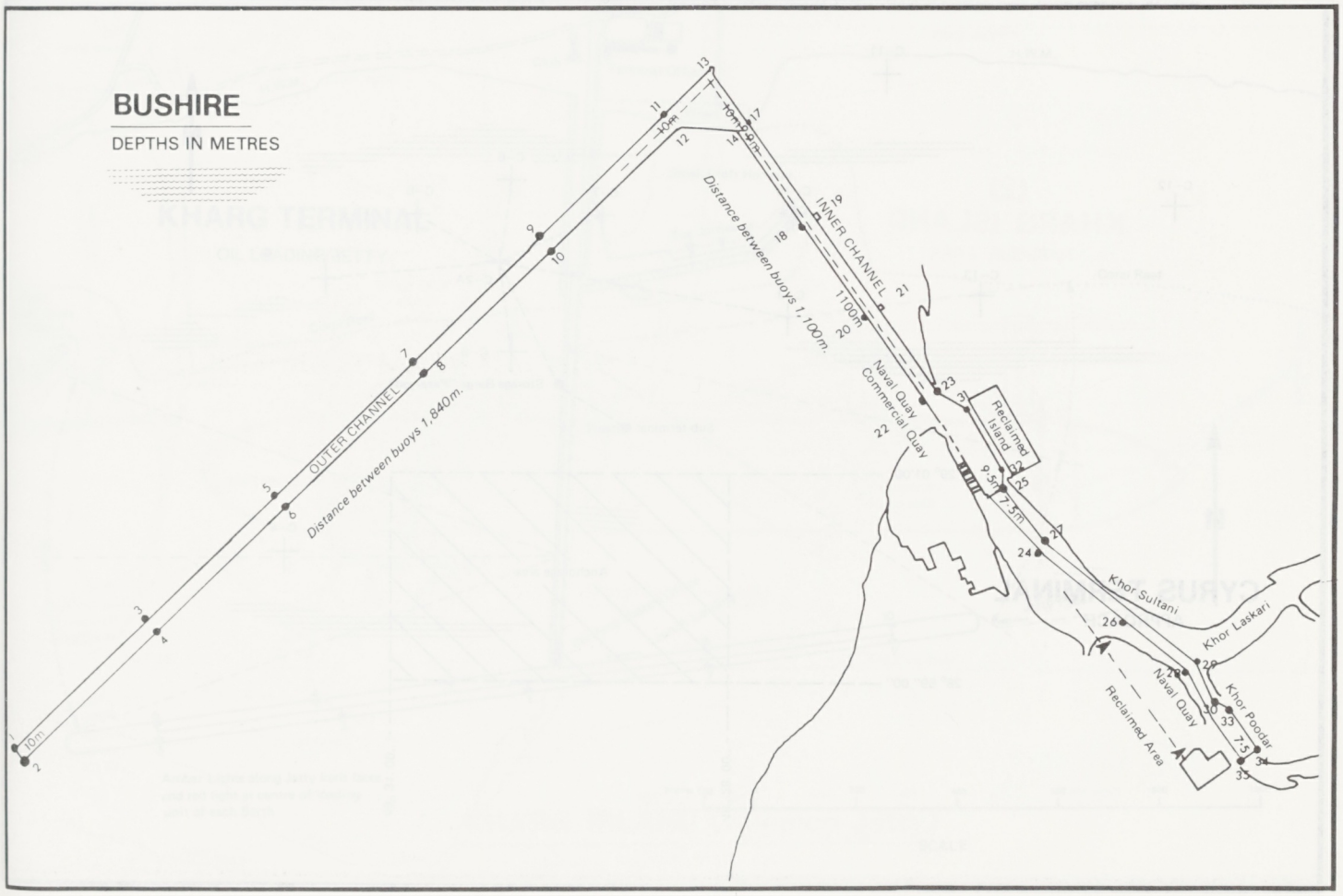
Project

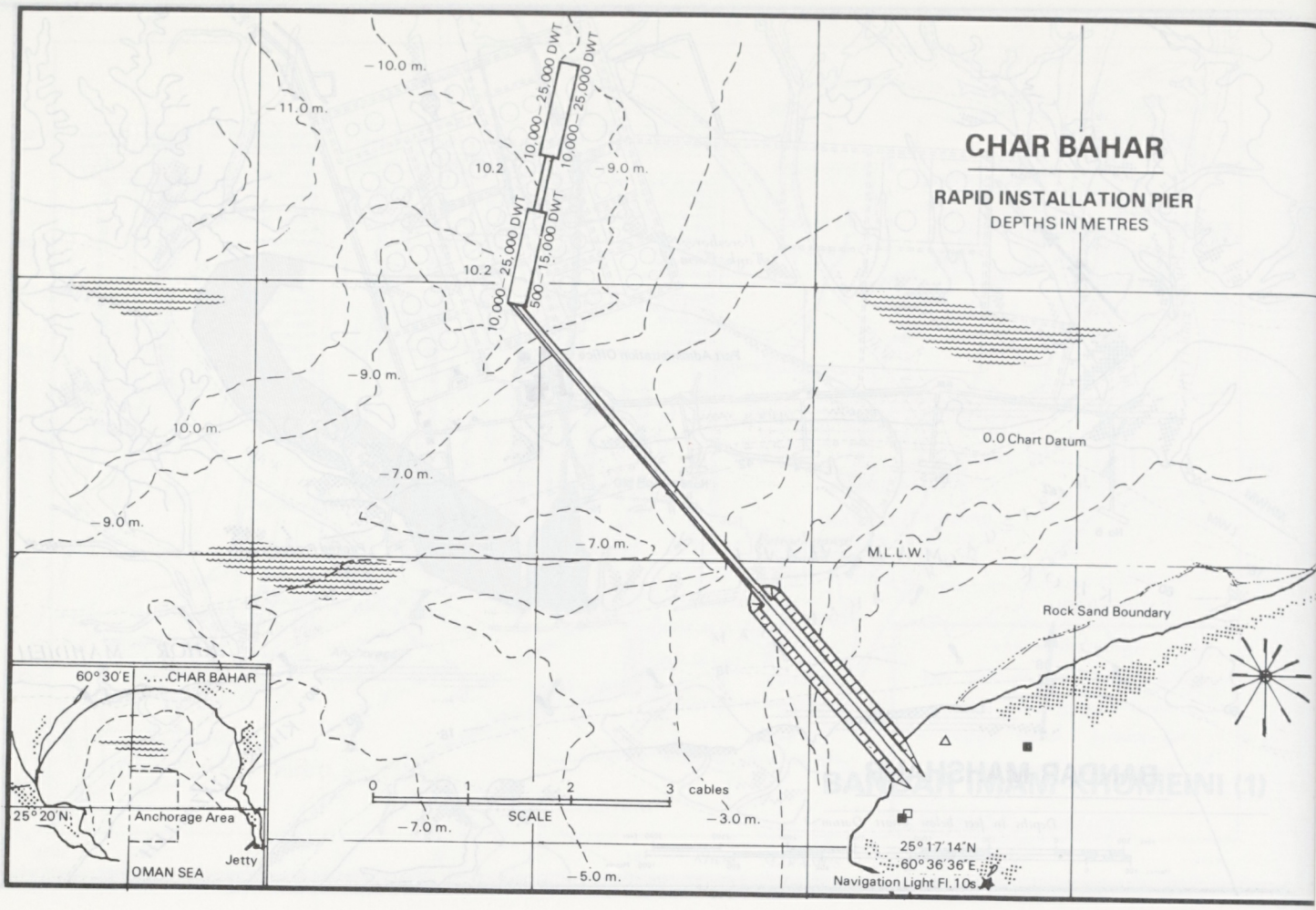


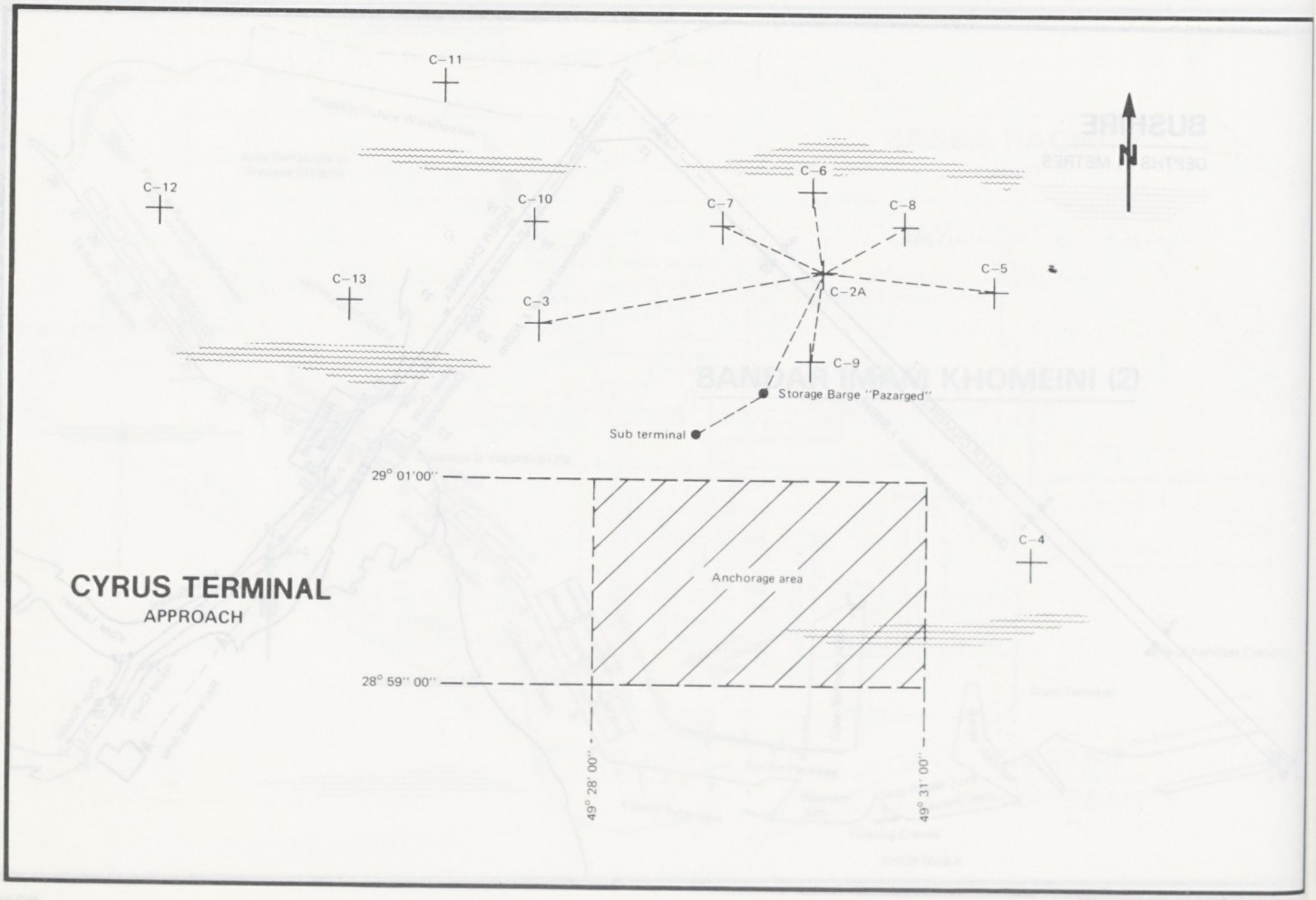

New Port Area
KHOR DOWRAQ
Old Port Area
Petrochemical Terminal
KHOR ZANGI KUCHEK
KHOR ABDULLAH
KHOR MIMADI
MAHSHAHR ROADSTEAD
Anchorage
KHOR MARAMUS
N
BANDAR IMAM KHOMEINI (1)

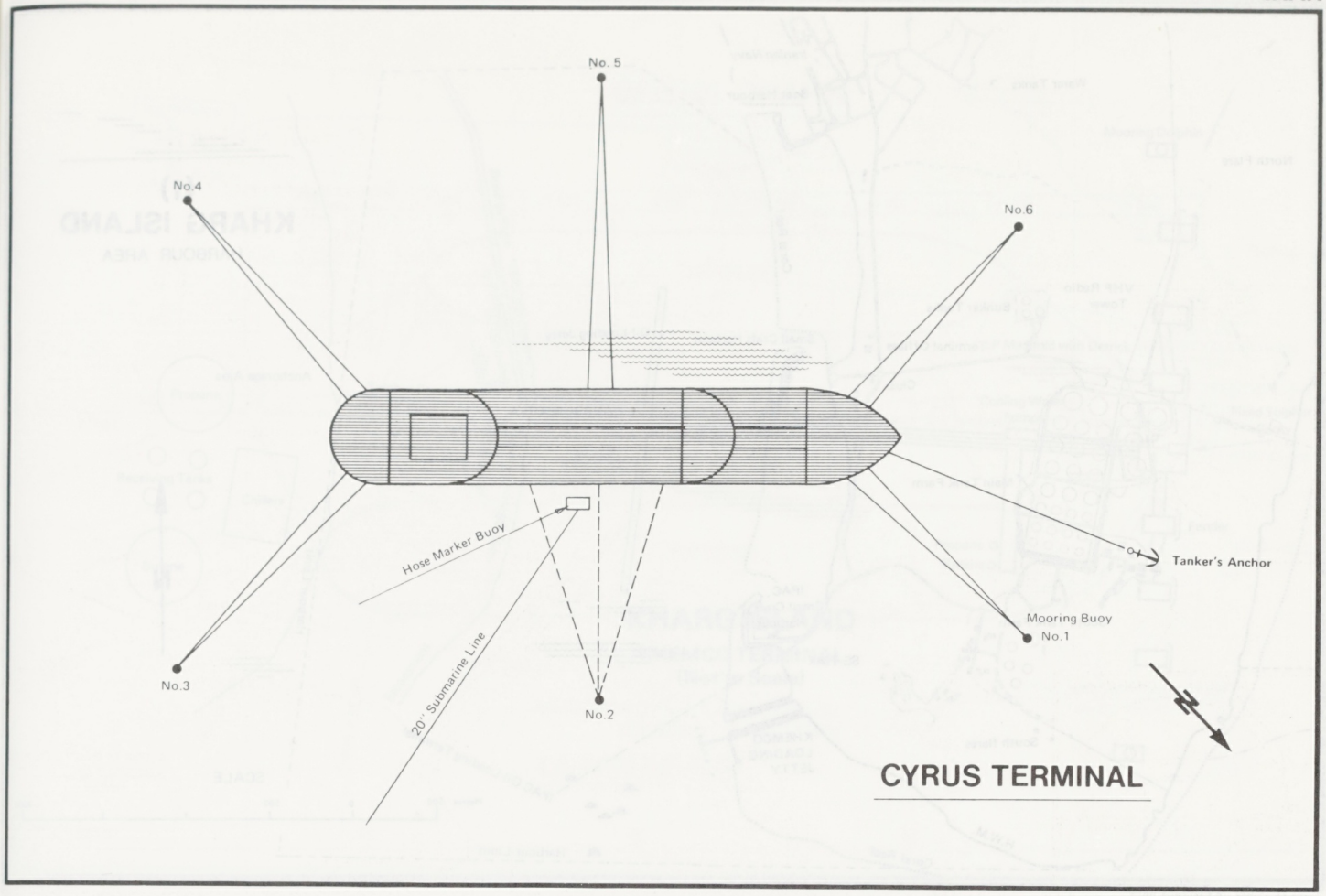

Possible Future Warehouses
Area Reclaimed by Dredged Material
Possible Future Warehouses
14 Berth Extension
NEW PORT AREA
Workshops
Molasses & Vegetable Oils
10 Berth Extension
Container Berth
KHOR DOWRAQ
N
Open Storage Area
Ro/Ro Facilities
4 Berth Extension
Western Jetty
Ship Repair Yard
Eastern Jetty
Floating Cranes
KHOR MUSA
Barge Harbour
Grain Terminal
Site of Fertilizer Complex
BANDAR IMAM KHOMEINI (2)

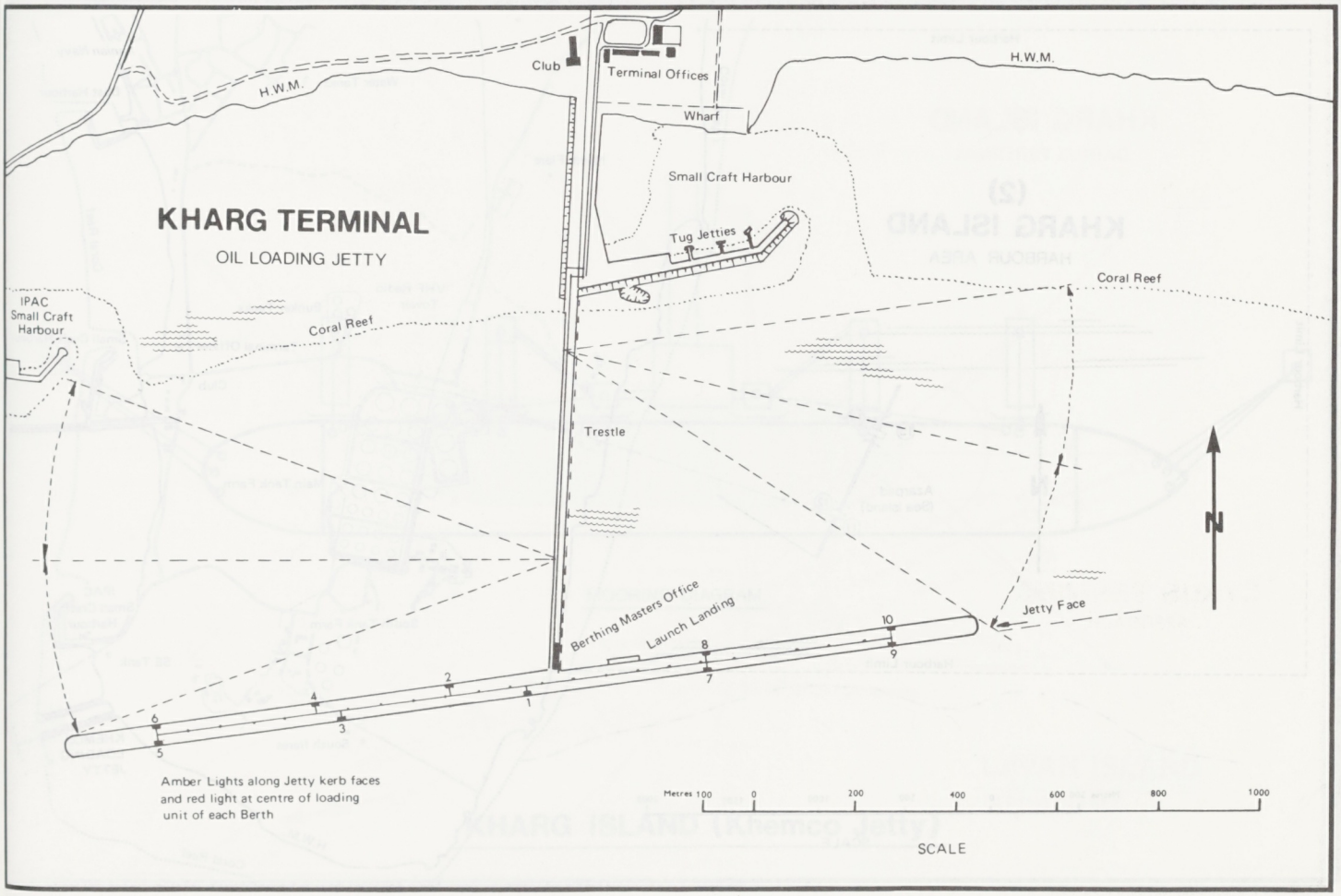

Foreshore Tank Farm
Port Administration Office
MHWM
LWM
No. 6
No. 5
No. 4
No. 3
No. 2
No. 1
42'
18'
60'
KHOR MAHSHAHR
Packed Products Jetty
KHOR MAHDIEH
KHOR GAZALIEH
BANDAR MAHSHAHR
Depths in feet below Chart Datum
Feet 500 0 500 1000 1500 2000 2500 3000 Feet
Metres 100 0 200 400 600 800 1000 Metres

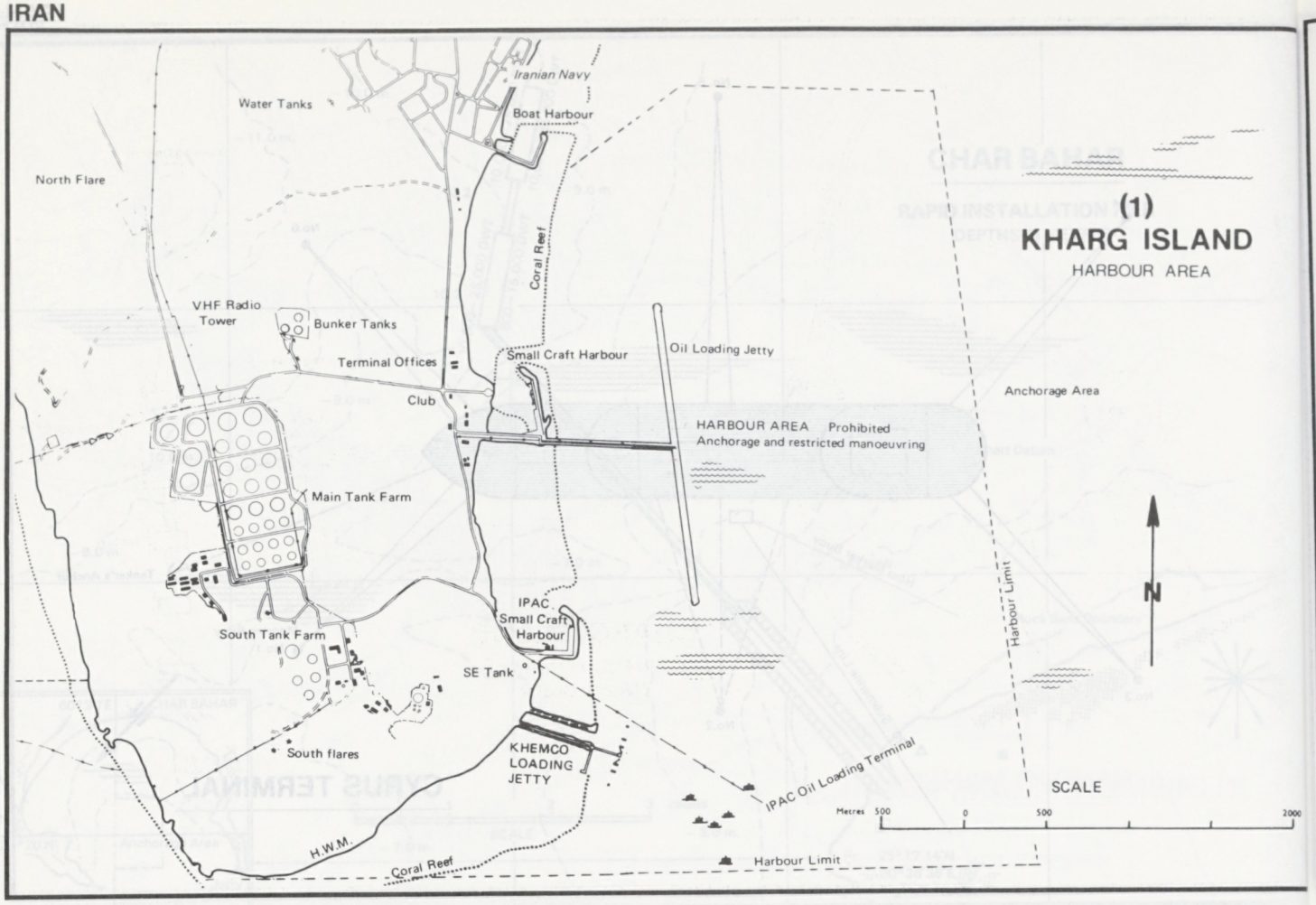

BUSHIRE
DEPTHS IN METRES
OUTER CHANNEL
Distance between buoys 1,840m.
Distance between buoys 1,100m.
INNER CHANNEL
Naval Quay
Commercial Quay
Reclaimed Island
9.5m
7.3m
Khor Sultani
Khor Laskari
Khor Poodar
Naval Quay
Reclaimed Area
10m

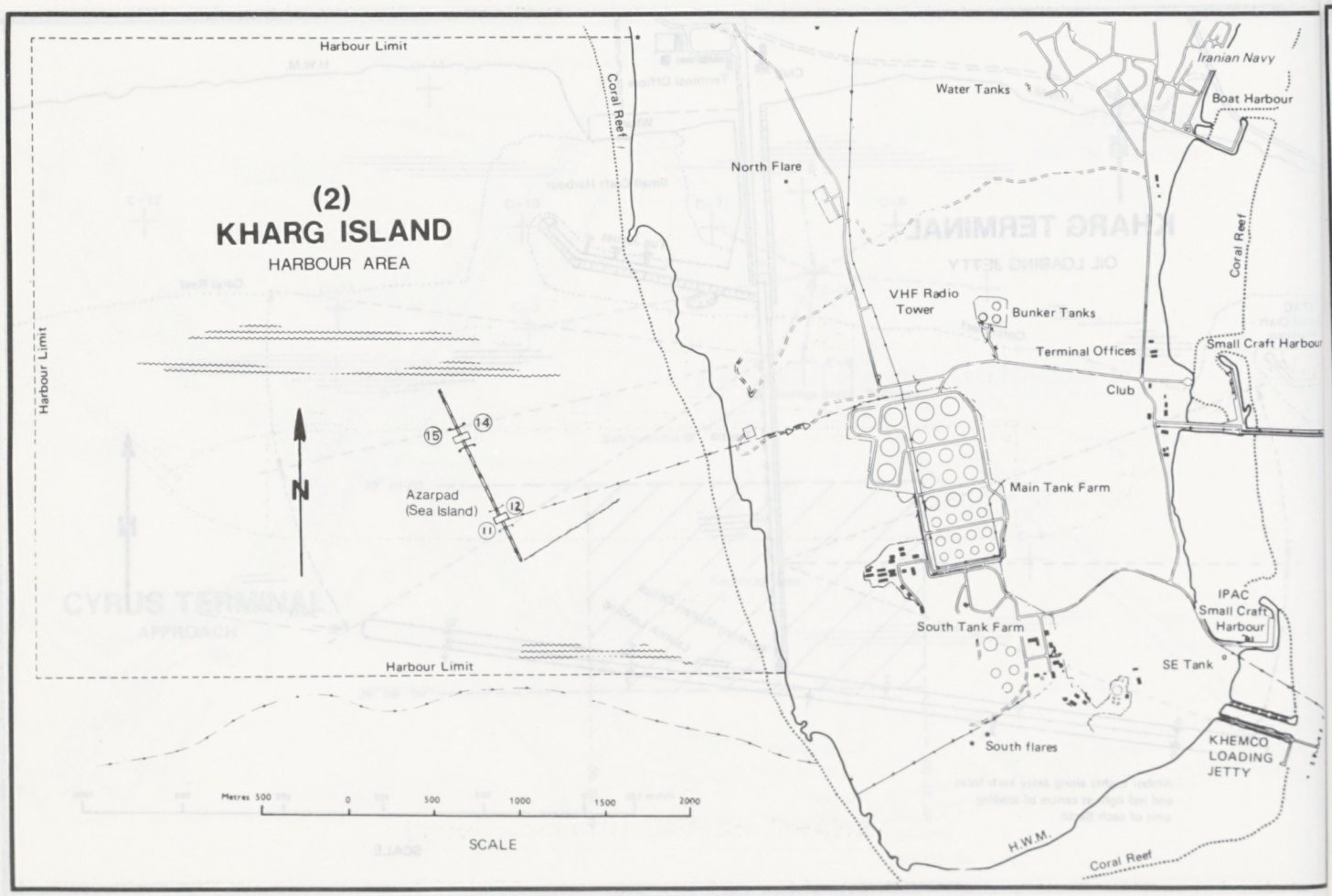

CHAR BAHAR
RAPID INSTALLATION PIER
DEPTHS IN METRES
10,000 – 25,000 DWT
10,000 – 25,000 DWT
10,000 – 25,000 DWT
500 – 15,000 DWT
10.2
10.2
– 10.0 m.
– 11.0 m.
– 9.0 m.
– 9.0 m.
10.0 m.
– 7.0 m.
– 9.0 m.
– 7.0 m.
0.0 Chart Datum
M.L.L.W.
Rock Sand Boundary
60° 30' E ....CHAR BAHAR
25° 20' N.
Anchorage Area
Jetty
OMAN SEA
0 1 2 3 cables
SCALE
– 7.0 m.
– 3.0 m.
– 5.0 m.
25° 17' 14" N
60° 36' 36" E.
Navigation Light Fl. 10s

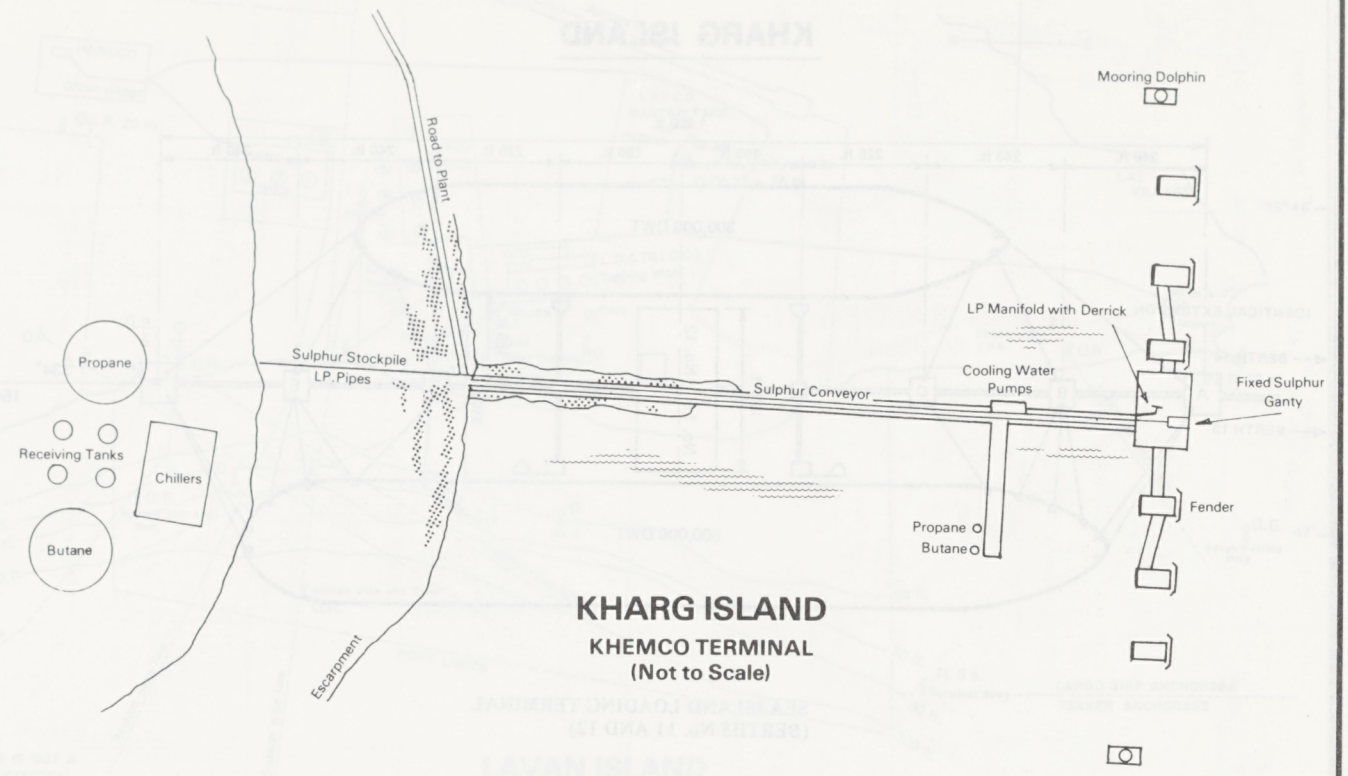

C–11
C–12
C–10
C–6
C–7
C–8
C–13
C–3
C–2A
C–5
C–9
Storage Barge "Pazarged"
Sub terminal
N
29° 01' 00"
Anchorage area
C–4
28° 59" 00"
49° 28' 00"
49° 31' 00"
CYRUS TERMINAL
APPROACH


No. 5
No.4
No.6
Hose Marker Buoy
Tanker's Anchor
Mooring Buoy
No.1
No.3
20" Submarine Line
No.2
N
CYRUS TERMINAL

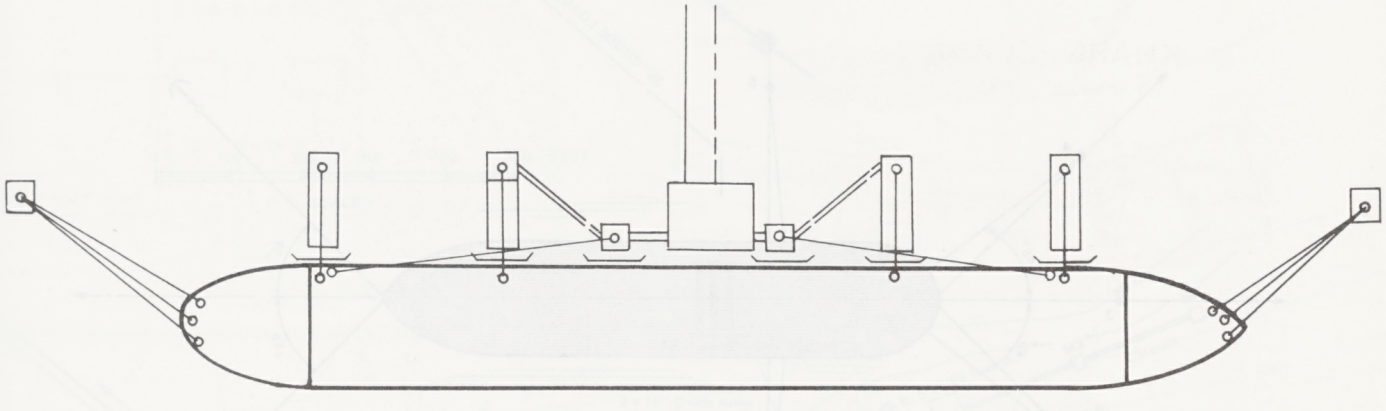

H.W.M.
Club
Terminal Offices
H.W.M.
Wharf
Small Craft Harbour
KHARG TERMINAL
OIL LOADING JETTY
Tug Jetties
Coral Reef
IPAC
Small Craft
Harbour
Coral Reef
Trestle
N
Berthing Masters Office
Launch Landing
Jetty Face
10
8
9
7
2
4
6
3
1
5
Amber Lights along Jetty kerb faces
and red light at centre of loading
unit of each Berth
Metres 100 0 200 400 600 800 1000
SCALE


(1)
KHARG ISLAND
HARBOUR AREA
Iranian Navy
Water Tanks
Boat Harbour
North Flare
Coral Reef
VHF Radio Tower
Bunker Tanks
Terminal Offices
Small Craft Harbour
Oil Loading Jetty
Club
Anchorage Area
HARBOUR AREA Prohibited
Anchorage and restricted manoeuvring
Main Tank Farm
IPAC Small Craft Harbour
South Tank Farm
SE Tank
South flares
KHEMCO LOADING JETTY
IPAC Oil Loading Terminal
Harbour Limit
H.W.M.
Coral Reef
Harbour Limit
N
SCALE
Metres 500 0 500 2000


(2)
KHARG ISLAND
HARBOUR AREA
Harbour Limit
Harbour Limit
Coral Reef
Iranian Navy
Water Tanks
Boat Harbour
North Flare
Coral Reef
VHF Radio Tower
Bunker Tanks
Terminal Offices
Small Craft Harbour
Club
Main Tank Farm
Azarpad (Sea Island)
15
14
12
11
IPAC Small Craft Harbour
South Tank Farm
SE Tank
South flares
KHEMCO LOADING JETTY
Harbour Limit
H.W.M.
Coral Reef
N
SCALE
Metres 500 0 500 1000 1500 2000



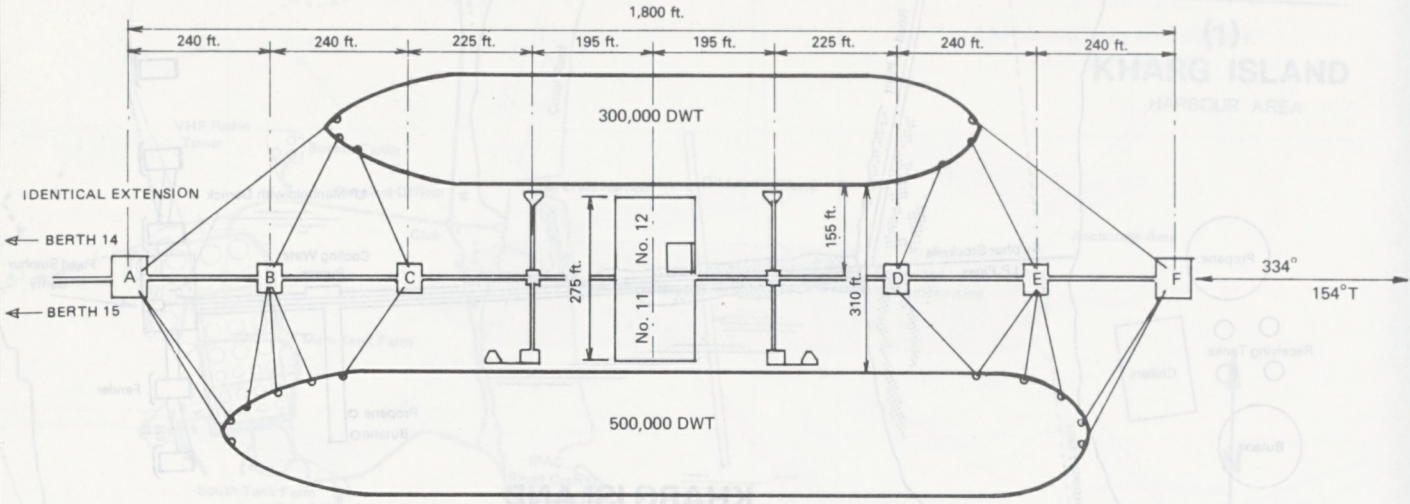
"Plan supplied by Ship's Master"



MOORING DIAGRAM

KHARG ISLAND (Khemco Jetty)

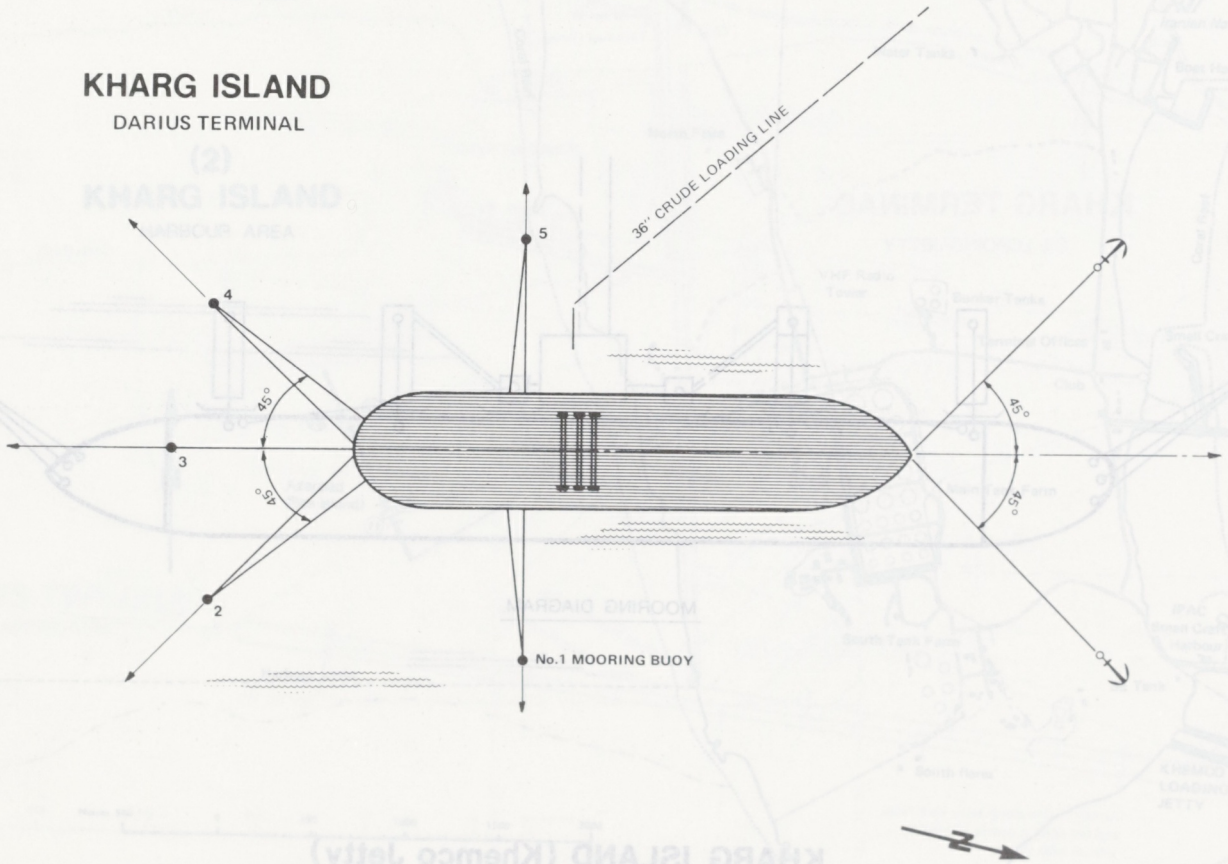
KHARG ISLAND

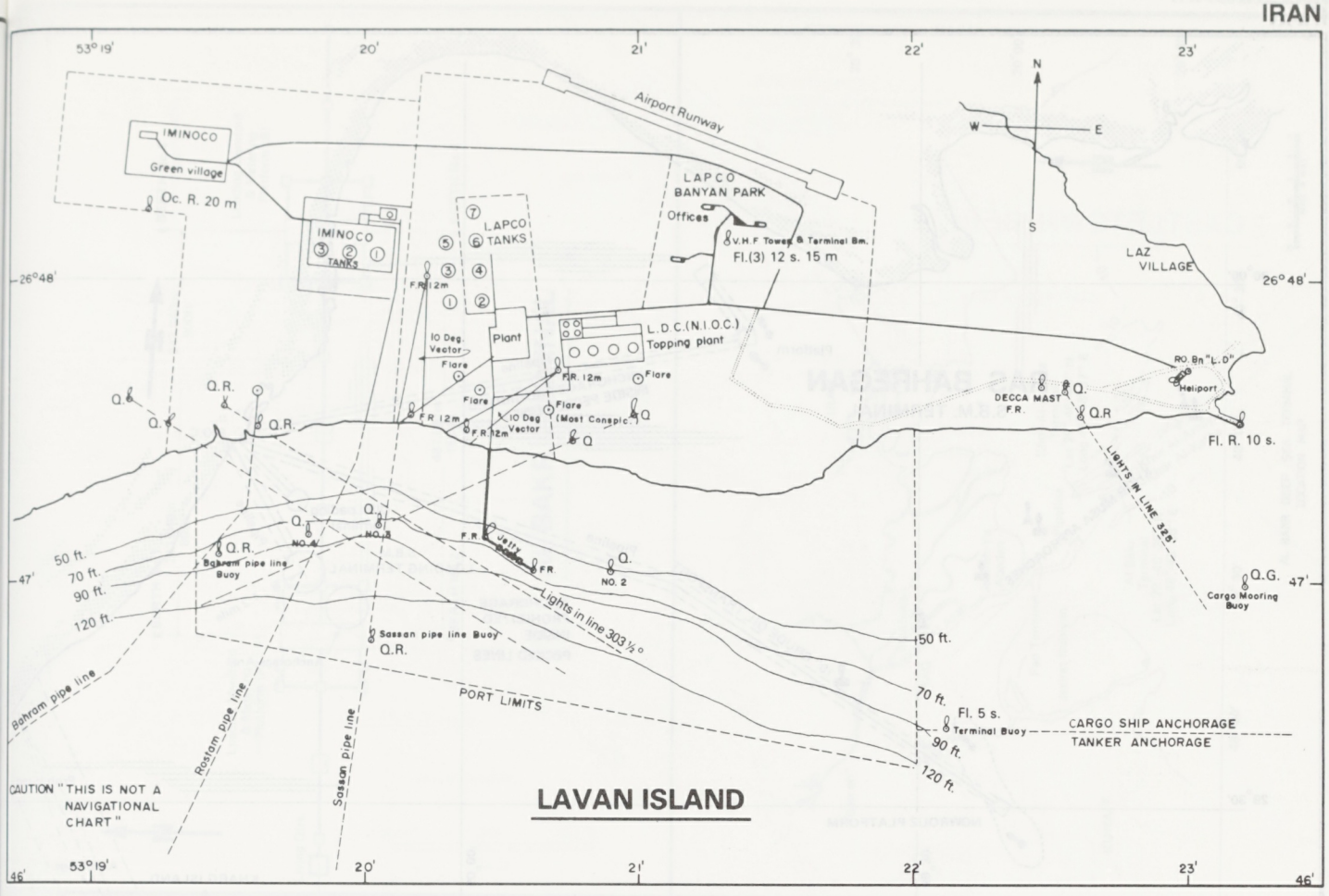


SEA ISLAND LOADING TERMINAL
(BERTHS No. 11 AND 12)

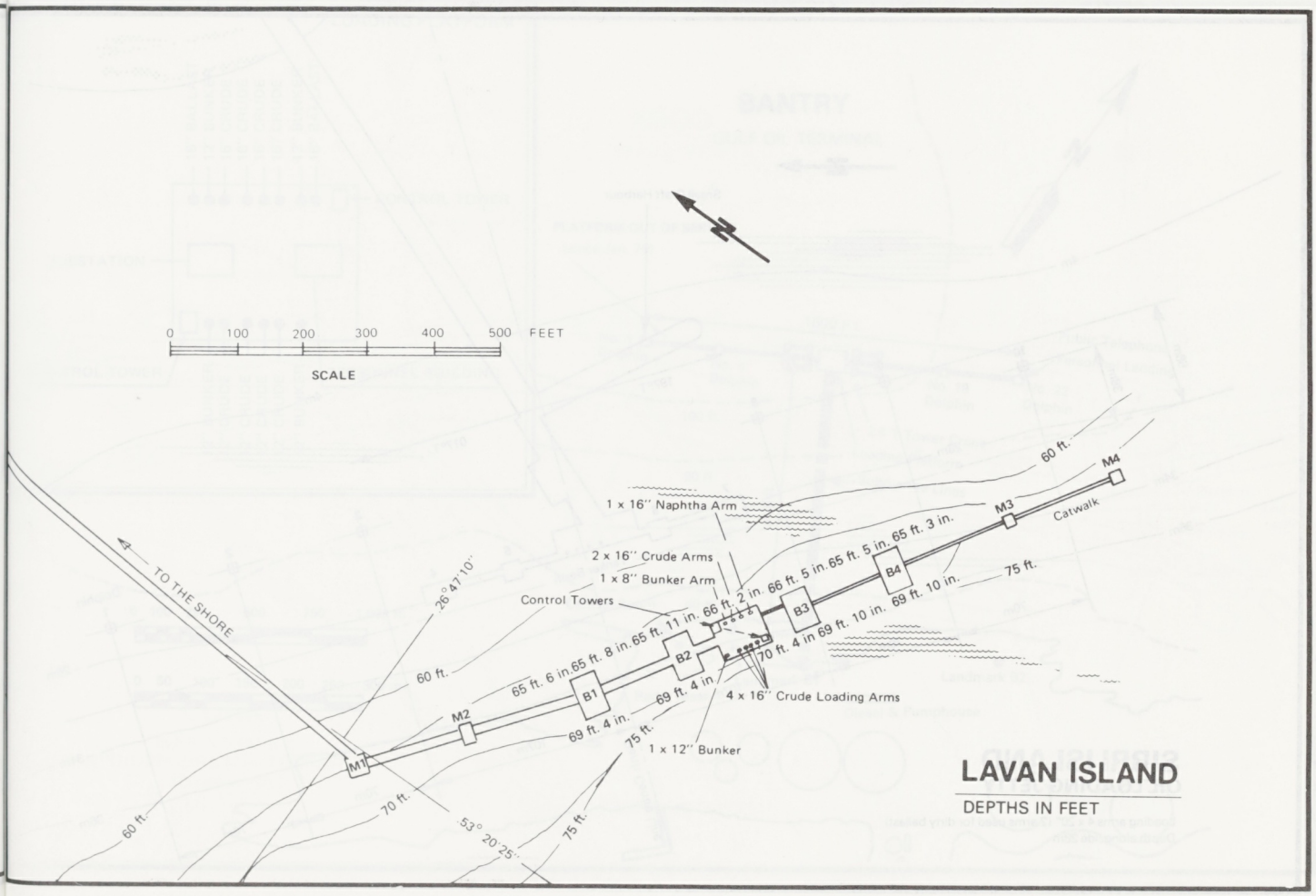
KHARG ISLAND

DARIUS TERMINAL



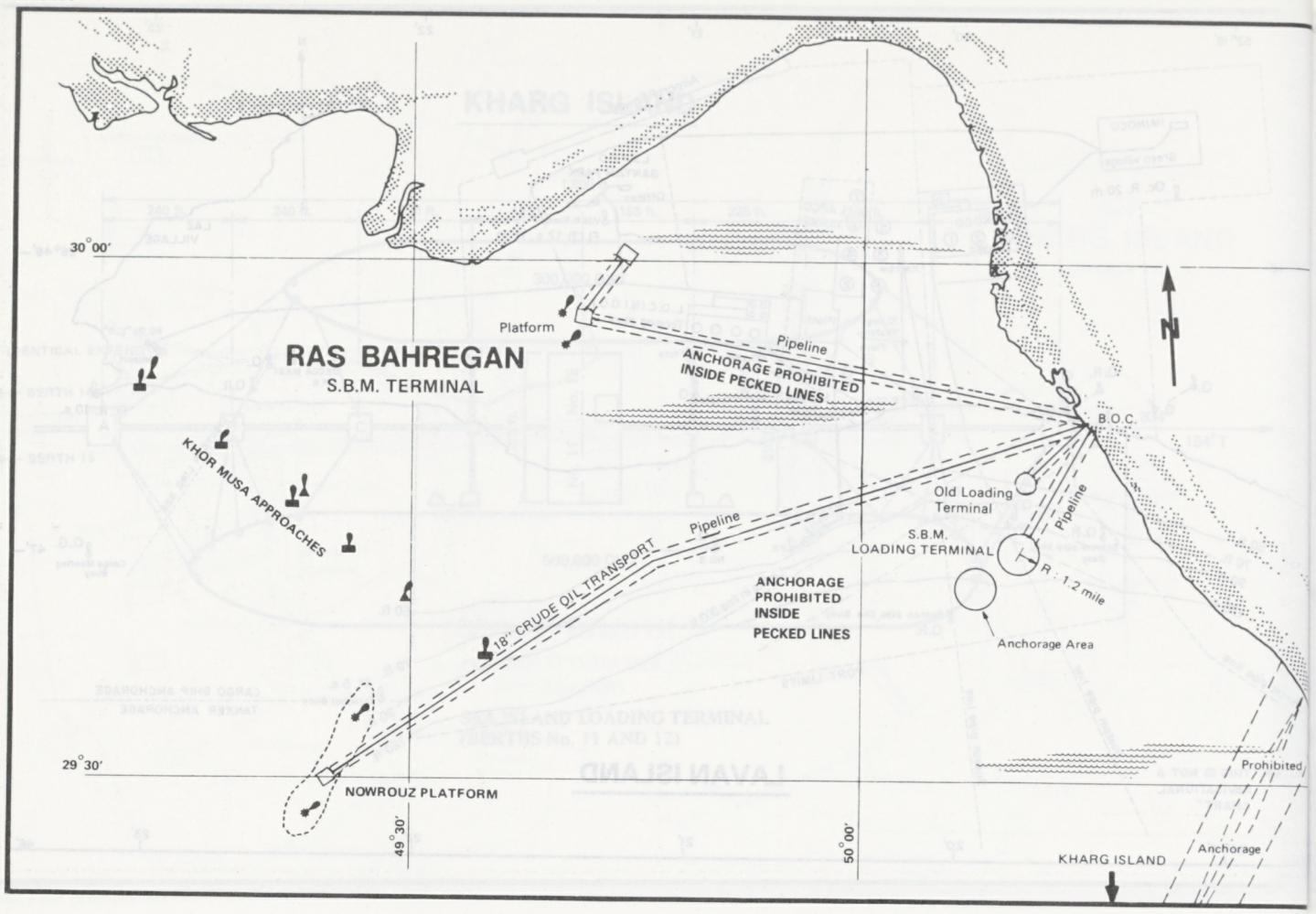


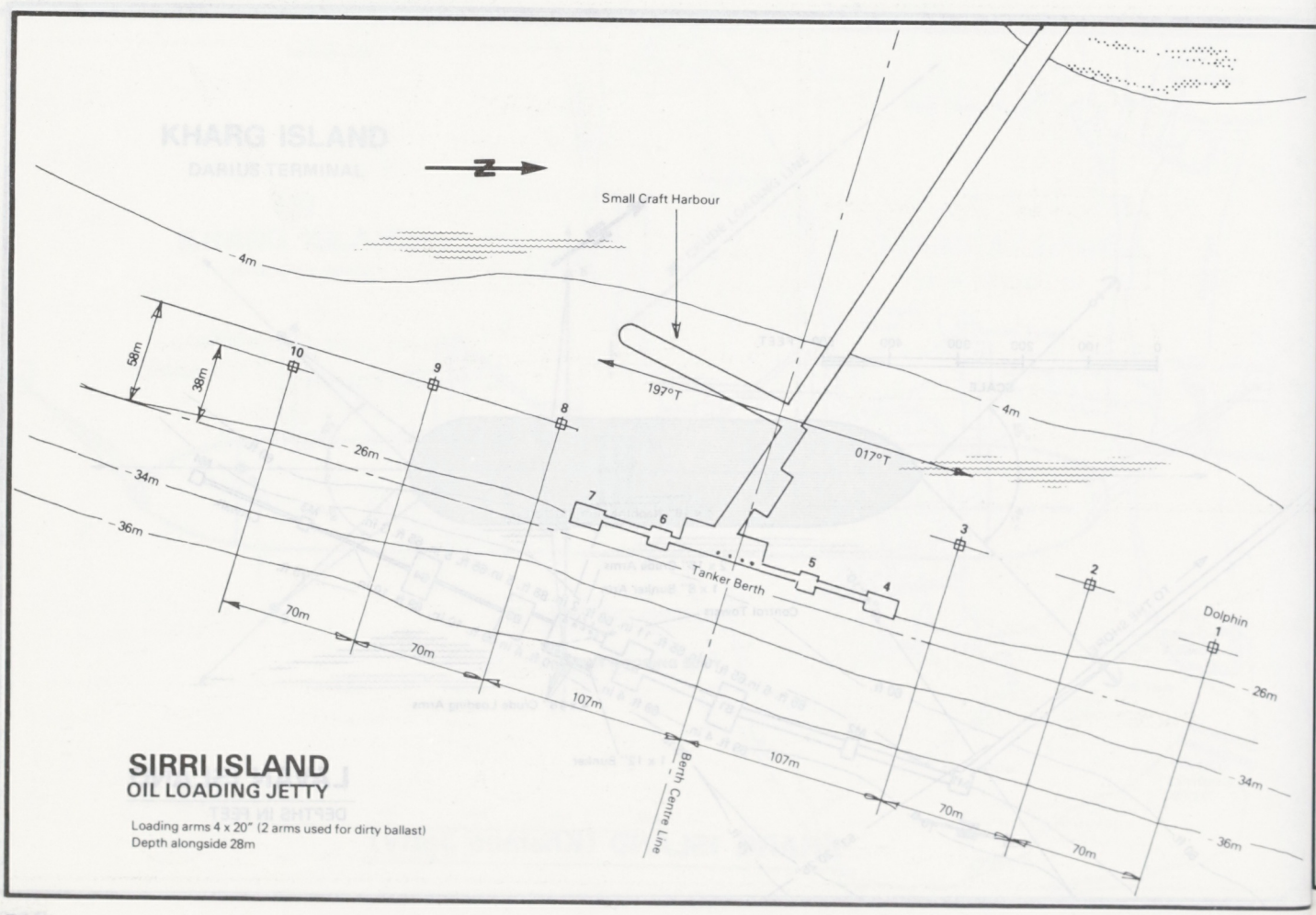
LAVAN ISLAND



LAVAN ISLAND

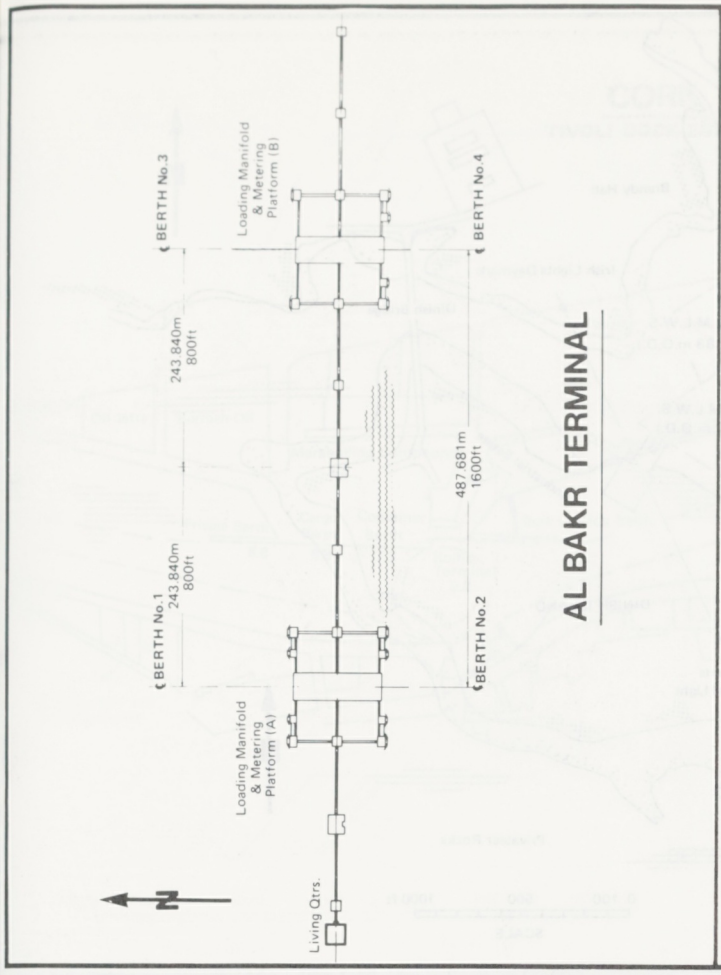
DEPTHS IN FEET

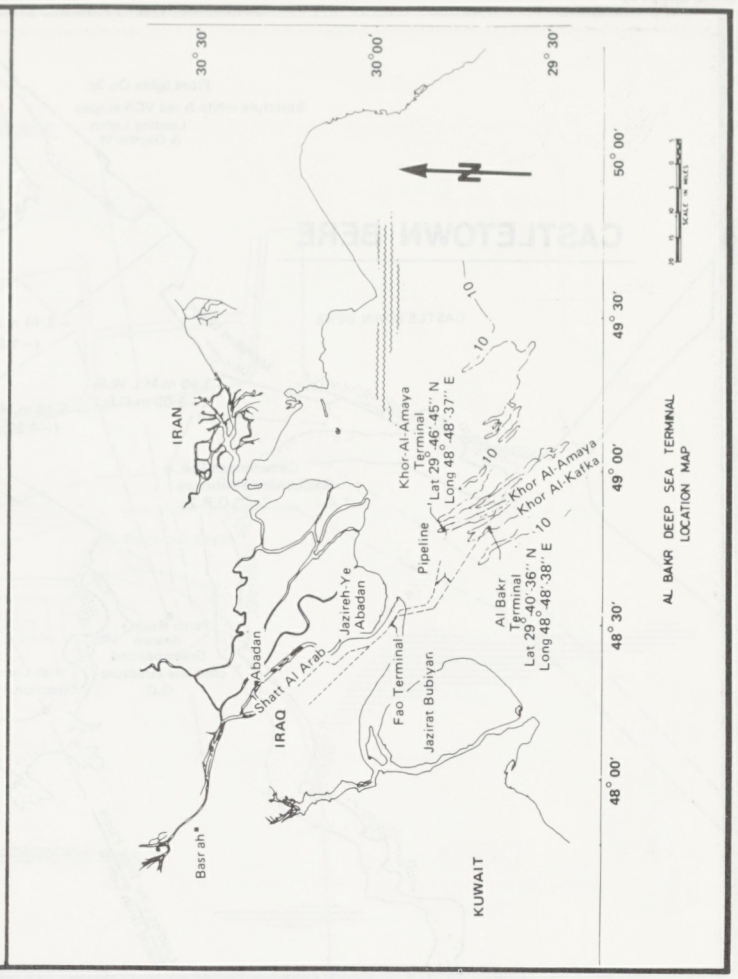


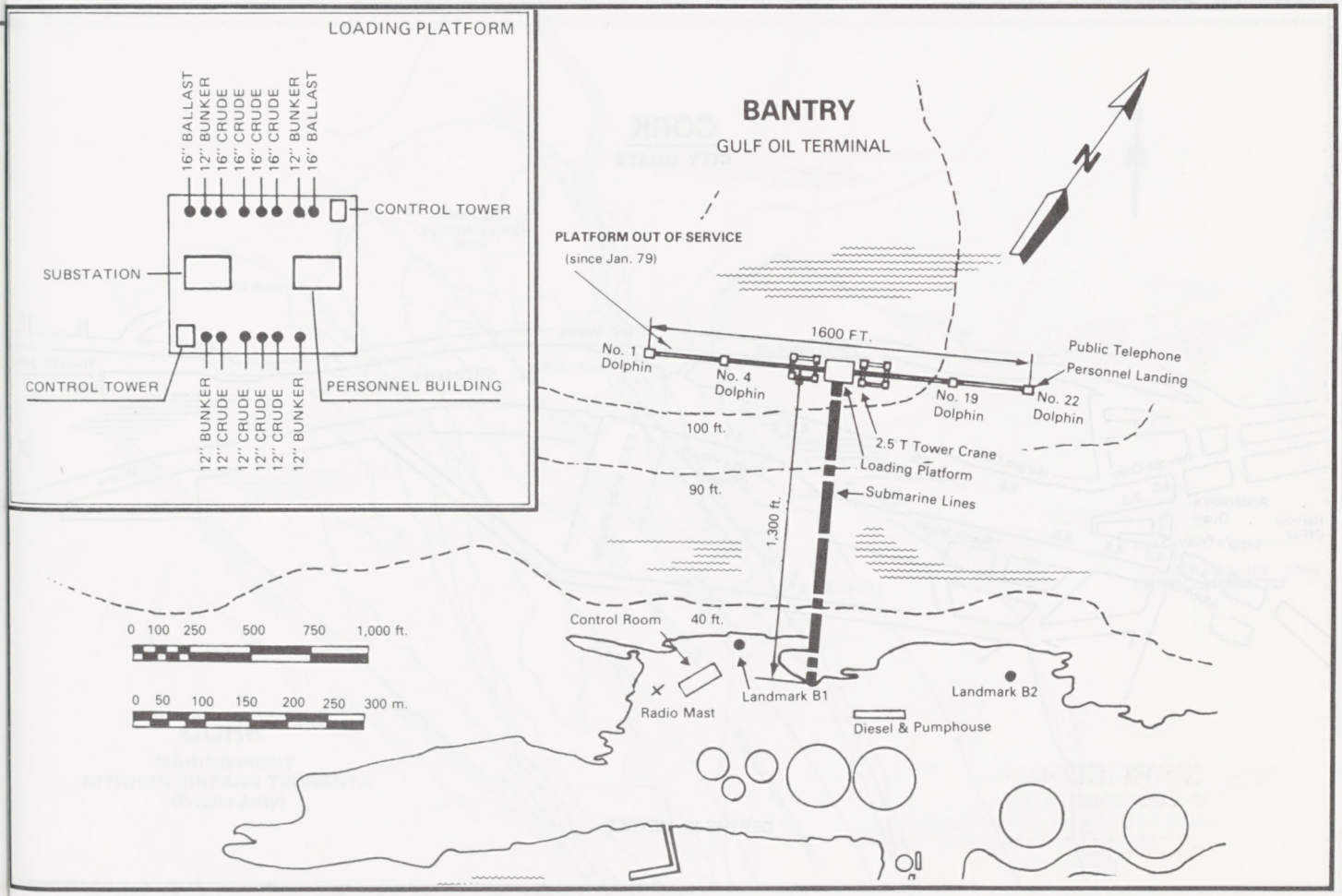


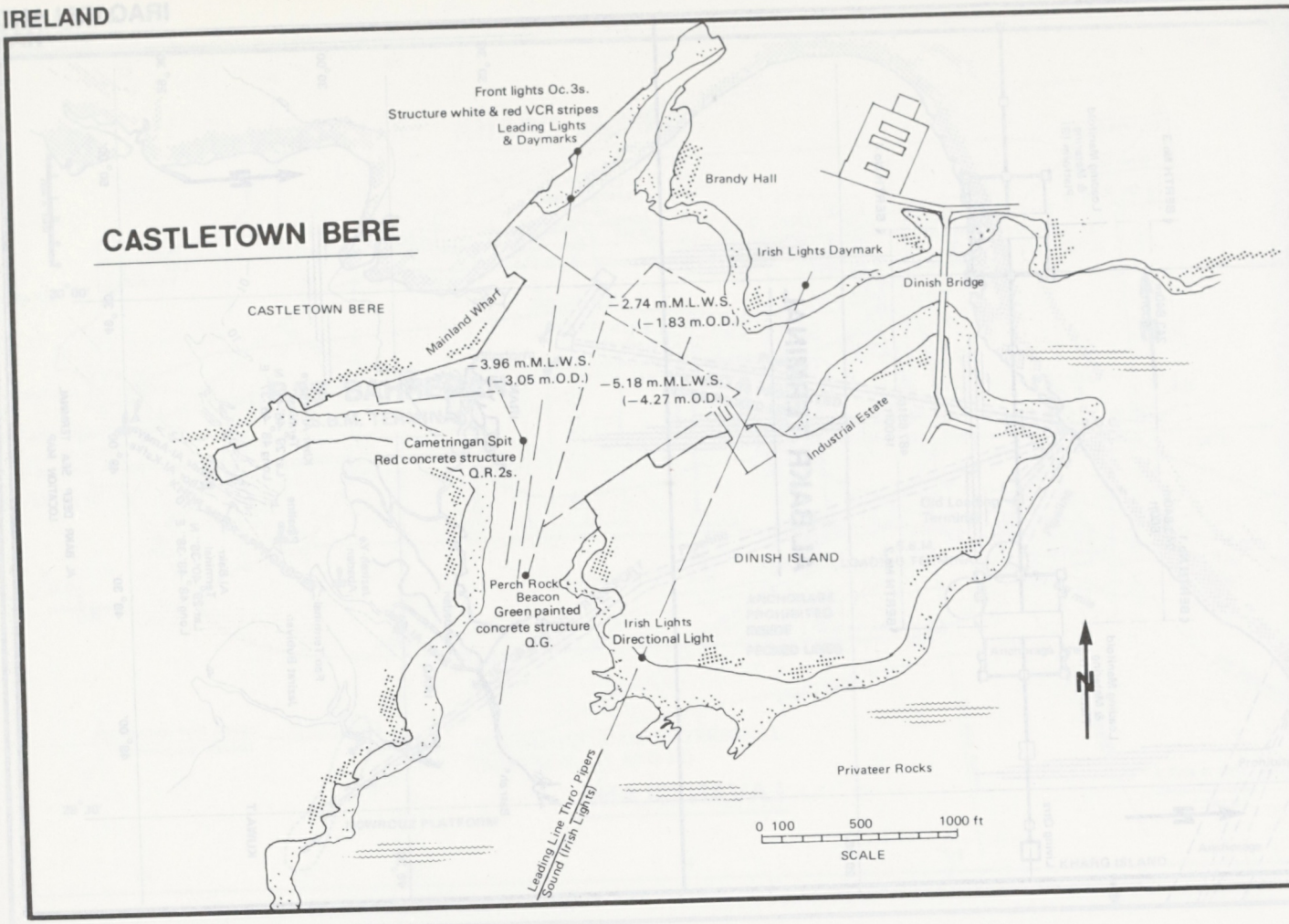
SIRRI ISLAND
OIL LOADING JETTY

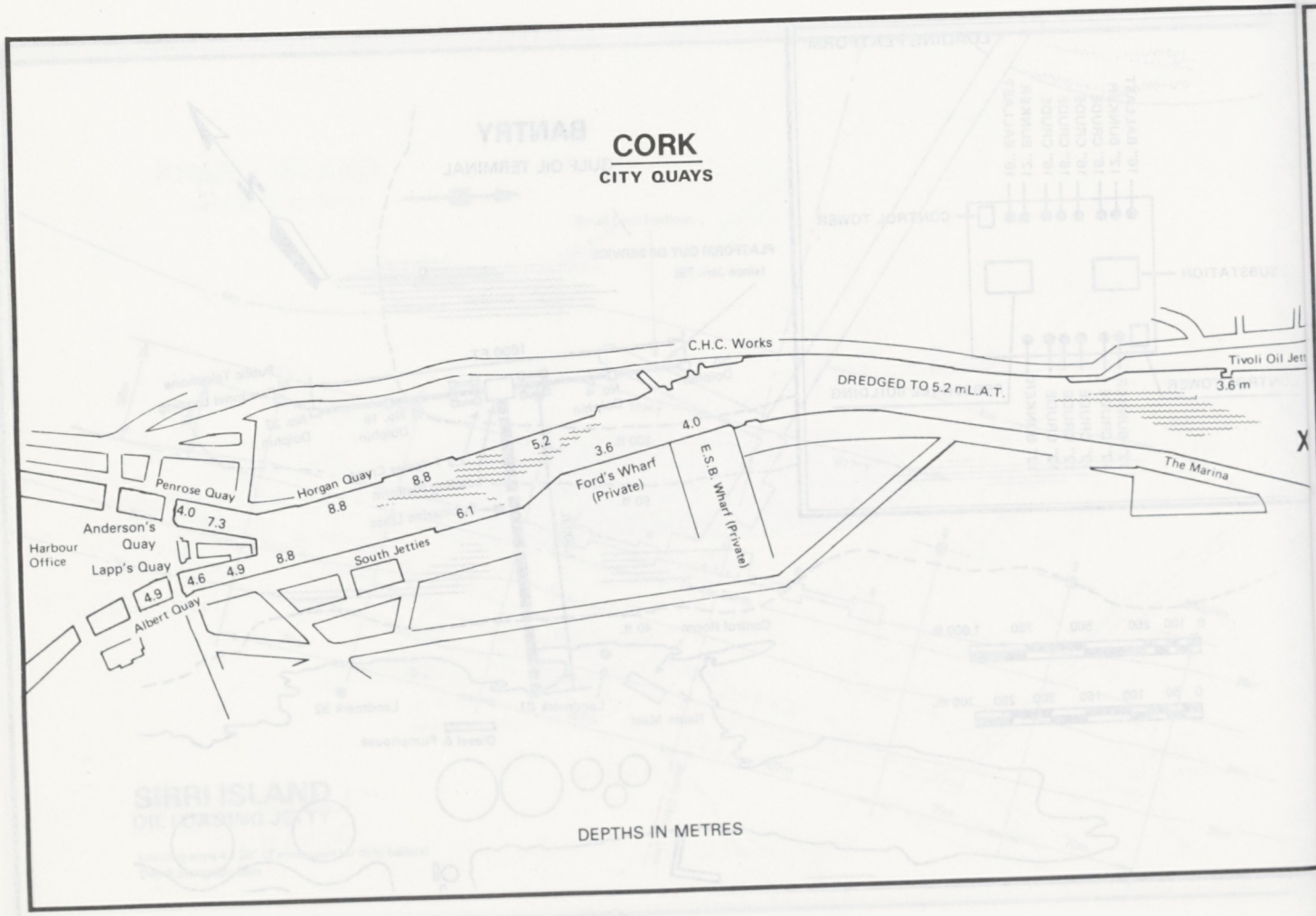
Loading arms 4 x 20" (2 arms used for dirty ballast)
Depth alongside 28m


AL BAKR TERMINAL
BERTH No.3
BERTH No.4
BERTH No.1
BERTH No.2
Loading Manifold & Metering Platform (B)
Loading Manifold & Metering Platform (A)
243 840m 800ft
243 840m 800ft
487 681m 1600ft
Living Qtrs.
N


30° 30'
30° 00'
29° 30'
50° 00'
49° 30'
49° 00'
48° 30'
48° 00'
N
IRAN
IRAQ
KUWAIT
Khor Al-Amaya Terminal Lat 29°46'45" N Long 48°48'37" E
Khor Al-Amaya
Khor Al-Karka
Pipeline
Al Bakr Terminal Lat 29°40'36" N Long 48°48'38" E
Jazireh-Ye Abadan
Abadan
Shatt Al Arab
Fao Terminal
Jazirat Bubiyan
Basrah
AL BAKR DEEP SEA TERMINAL LOCATION MAP

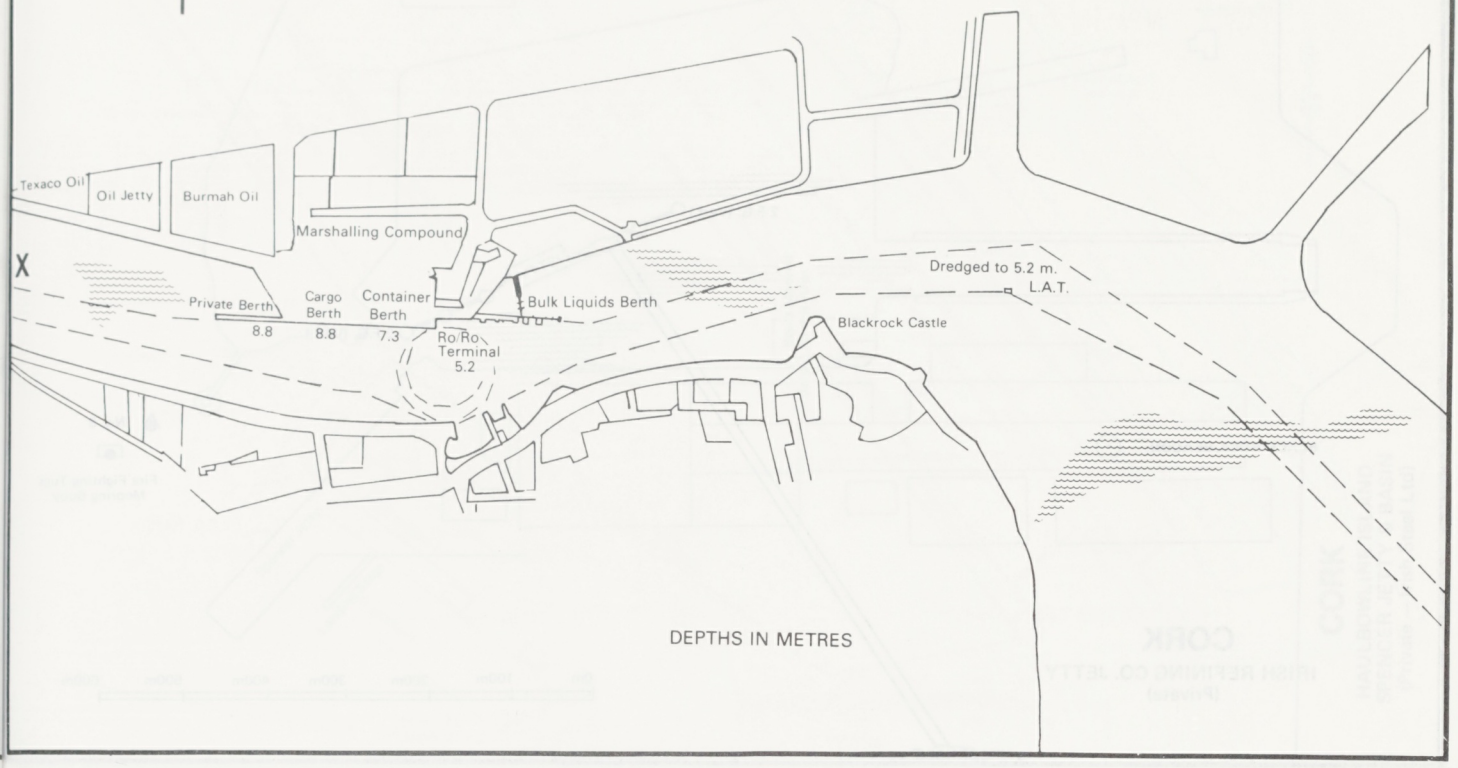

LOADING PLATFORM
16" BALLAST
12" BUNKER
16" CRUDE
16" CRUDE
16" CRUDE
16" CRUDE
12" BUNKER
16" BALLAST
CONTROL TOWER
SUBSTATION
CONTROL TOWER
PERSONNEL BUILDING
12" BUNKER
12" CRUDE
12" CRUDE
12" CRUDE
12" CRUDE
12" BUNKER
BANTRY
GULF OIL TERMINAL
N
PLATFORM OUT OF SERVICE
(since Jan. 79)
1600 FT.
No. 1 Dolphin
No. 4 Dolphin
No. 19 Dolphin
No. 22 Dolphin
Public Telephone
Personnel Landing
100 ft.
2.5 T Tower Crane
Loading Platform
90 ft.
Submarine Lines
1,300 ft.
Control Room
40 ft.
Landmark B1
Landmark B2
Radio Mast
Diesel & Pumphouse
0 100 250 500 750 1,000 ft.
0 50 100 150 200 250 300 m.

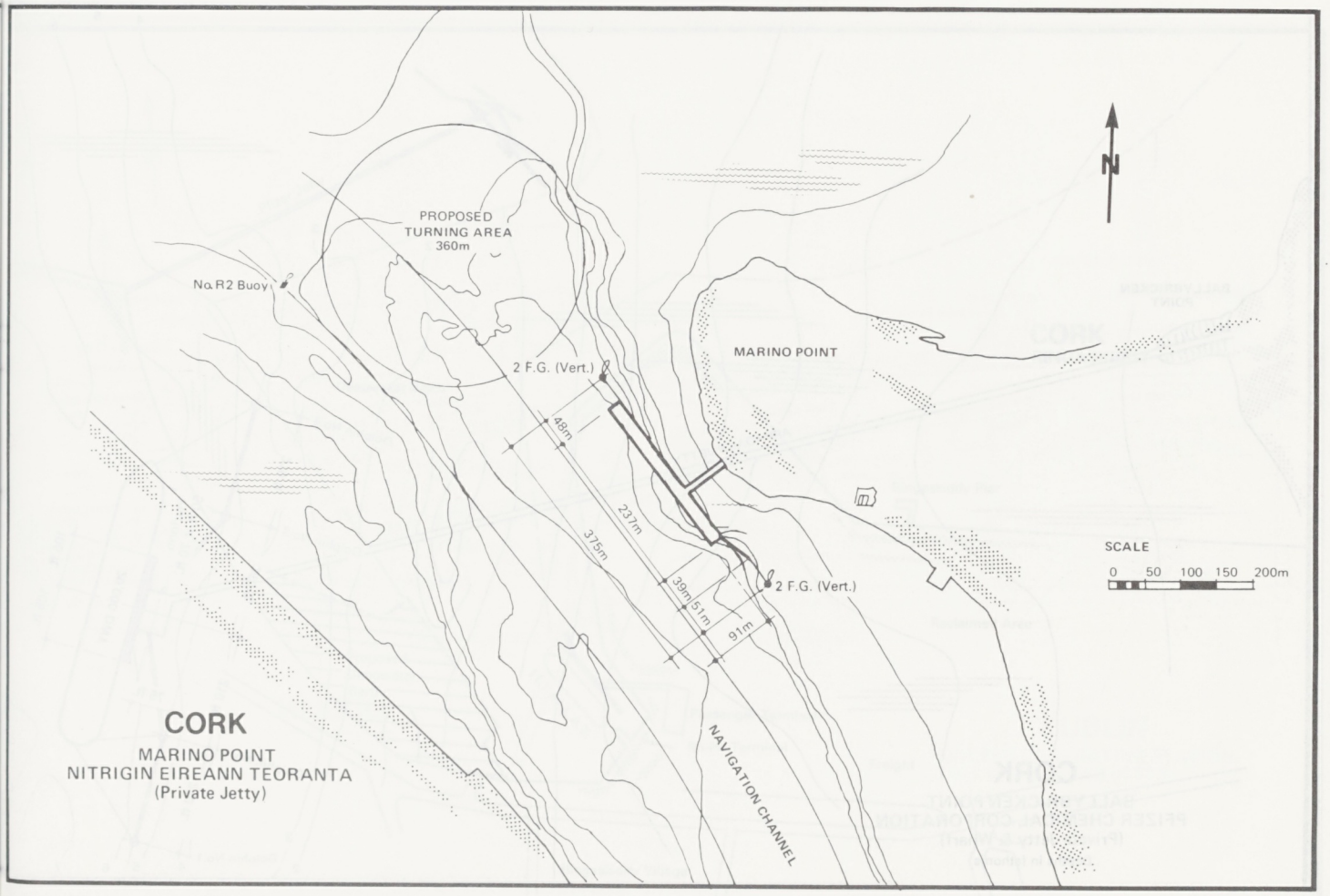

CASTLETOWN BERE
Front lights Oc.3s.
Structure white & red VCR stripes
Leading Lights
& Daymarks
Brandy Hall
Irish Lights Daymark
Dinish Bridge
CASTLETOWN BERE
Mainland Wharf
2.74 m.M.L.W.S.
(−1.83 m.O.D.)
3.96 m.M.L.W.S.
(−3.05 m.O.D.)
5.18 m.M.L.W.S.
(−4.27 m.O.D.)
Industrial Estate
Cametringan Spit
Red concrete structure
Q.R.2s.
DINISH ISLAND
Perch Rock
Beacon
Green painted
concrete structure
Q.G.
Irish Lights
Directional Light
N
Privateer Rocks
Leading Line Thro' Pipers
Sound (Irish Lights)
0 100 500 1000 ft
SCALE


CORK
CITY QUAYS
C.H.C. Works
Tivoli Oil Jett
3.6 m
DREDGED TO 5.2 m L.A.T.
4.0
5.2
3.6
8.8
8.8
6.1
Penrose Quay
Horgan Quay
Ford's Wharf
(Private)
E.S.B. Wharf (Private)
The Marina
4.0
7.3
Anderson's
Quay
Harbour
Office
Lapp's Quay
4.6
4.9
8.8
South Jetties
4.9
Albert Quay
DEPTHS IN METRES

CORK

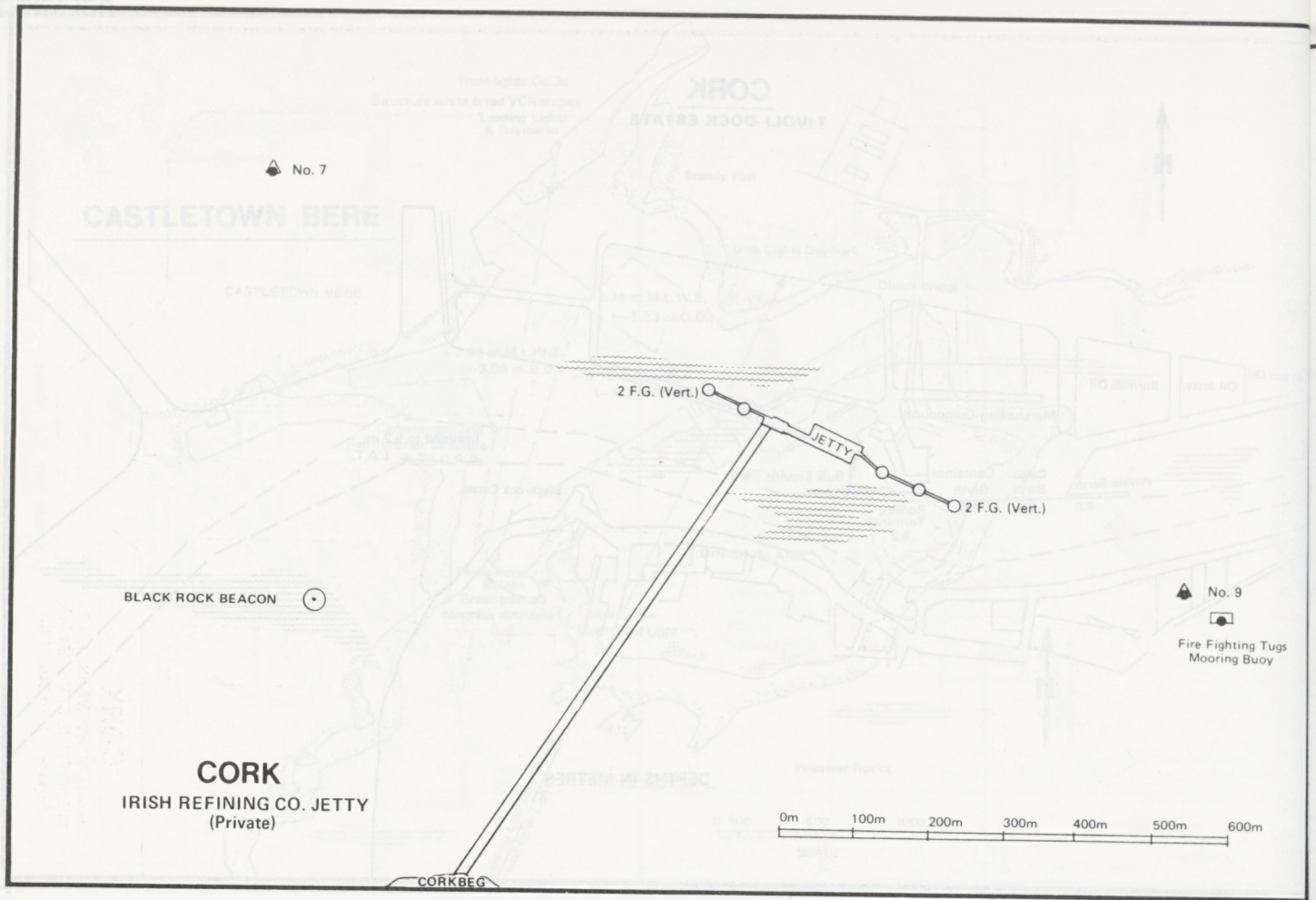
TIVOLI DOCK ESTATE





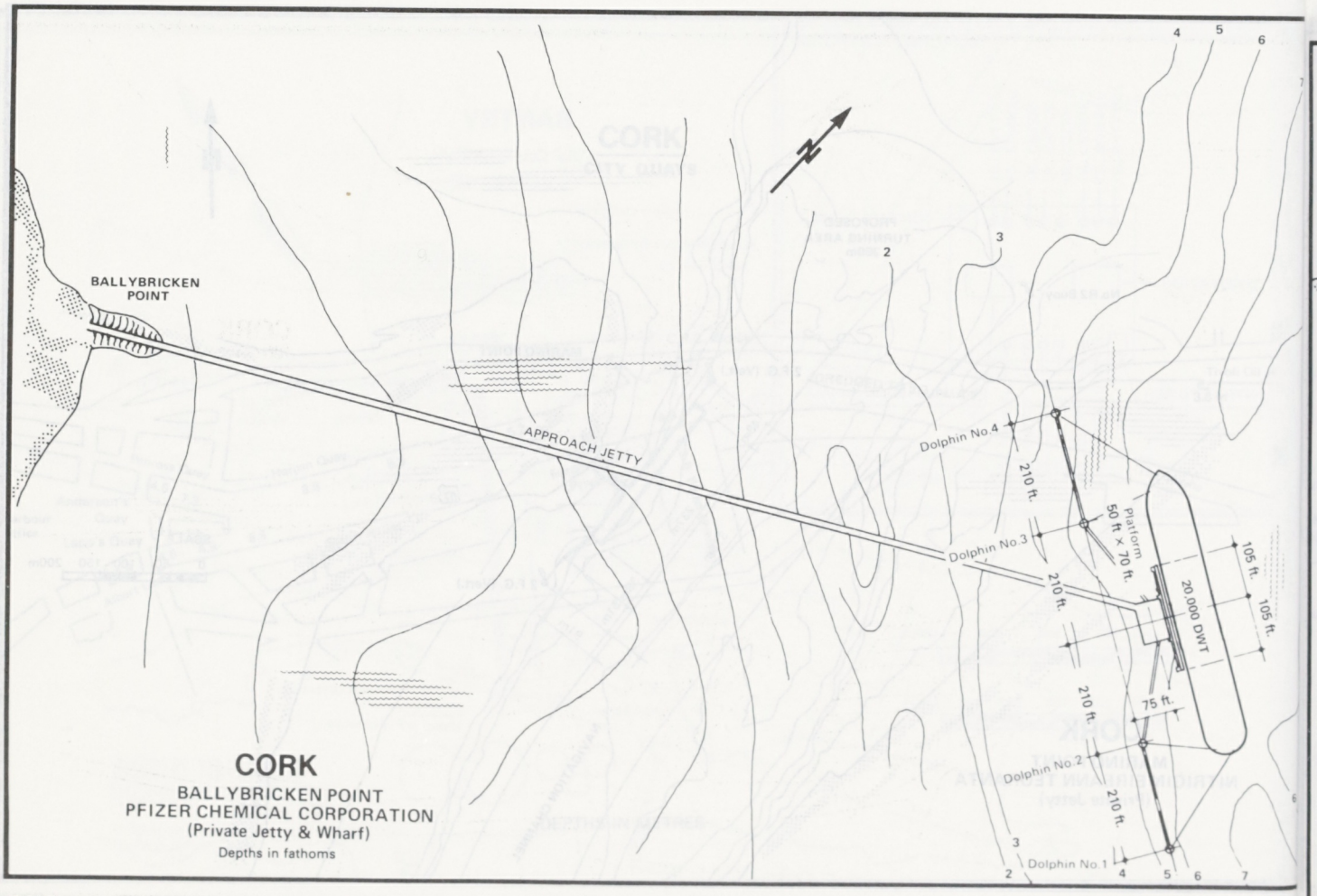
CORK

MARINO POINT
NITRIGIN EIREANN TEORANTA
(Private Jetty)



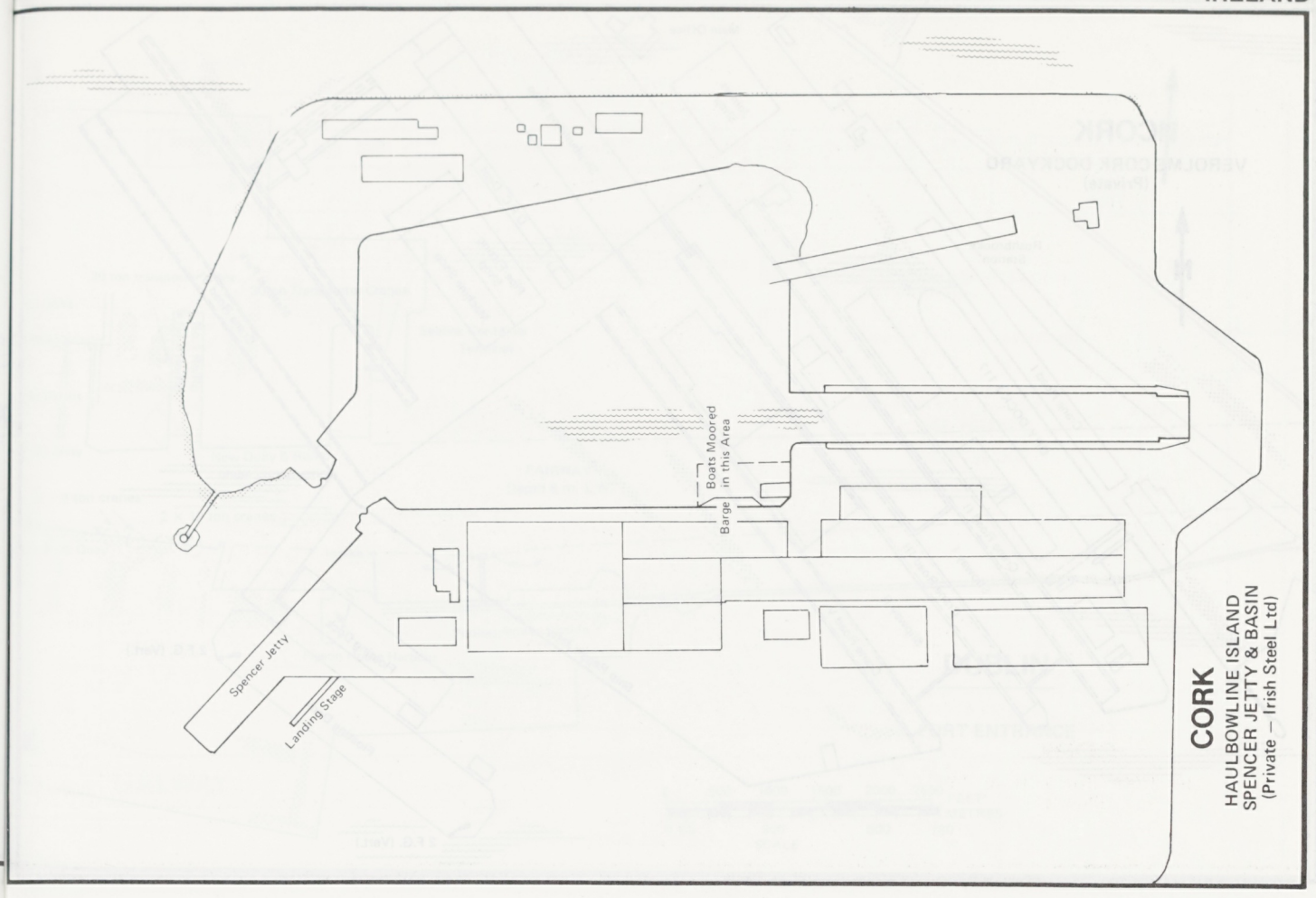
CORK

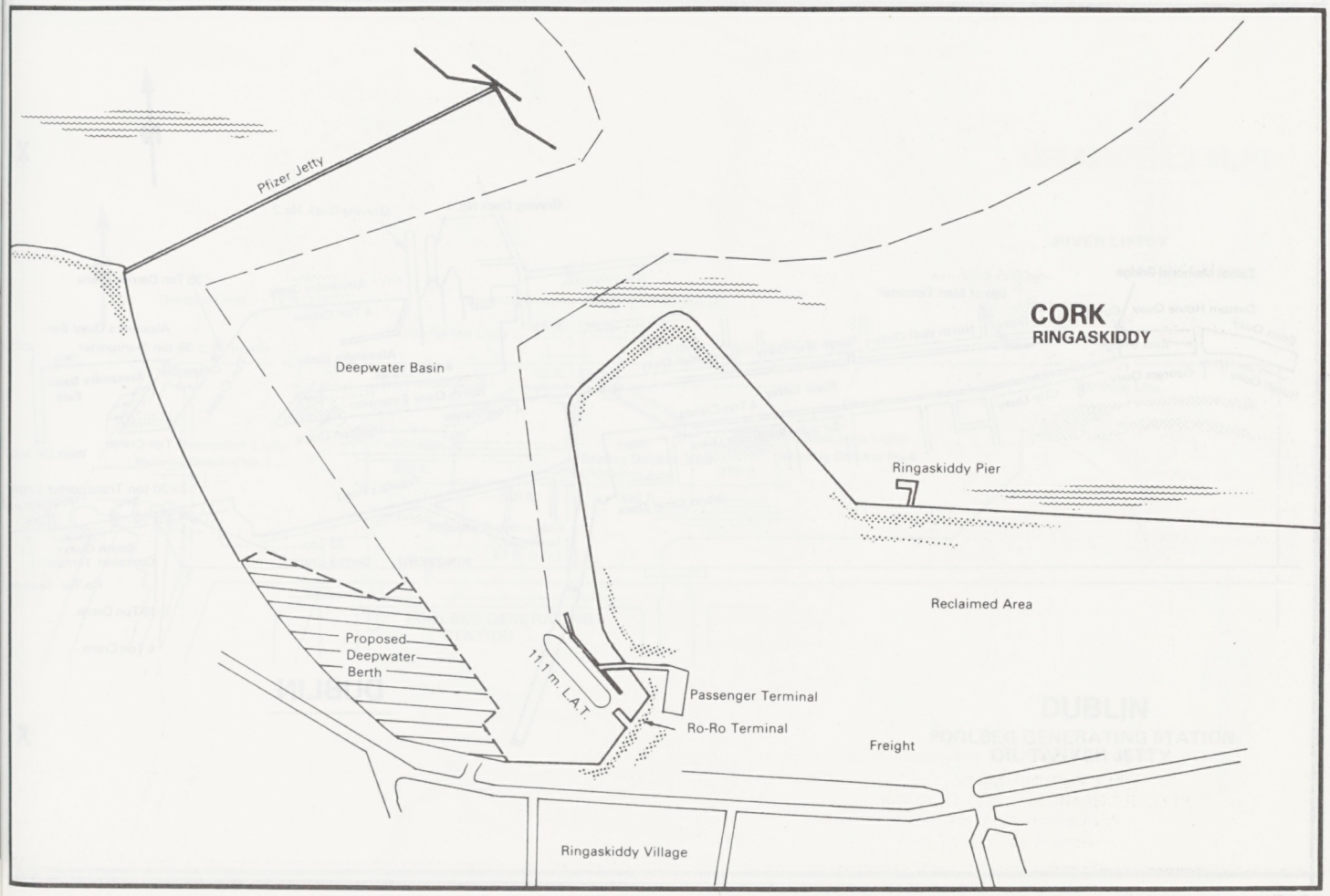
IRISH REFINING CO. JETTY
(Private)

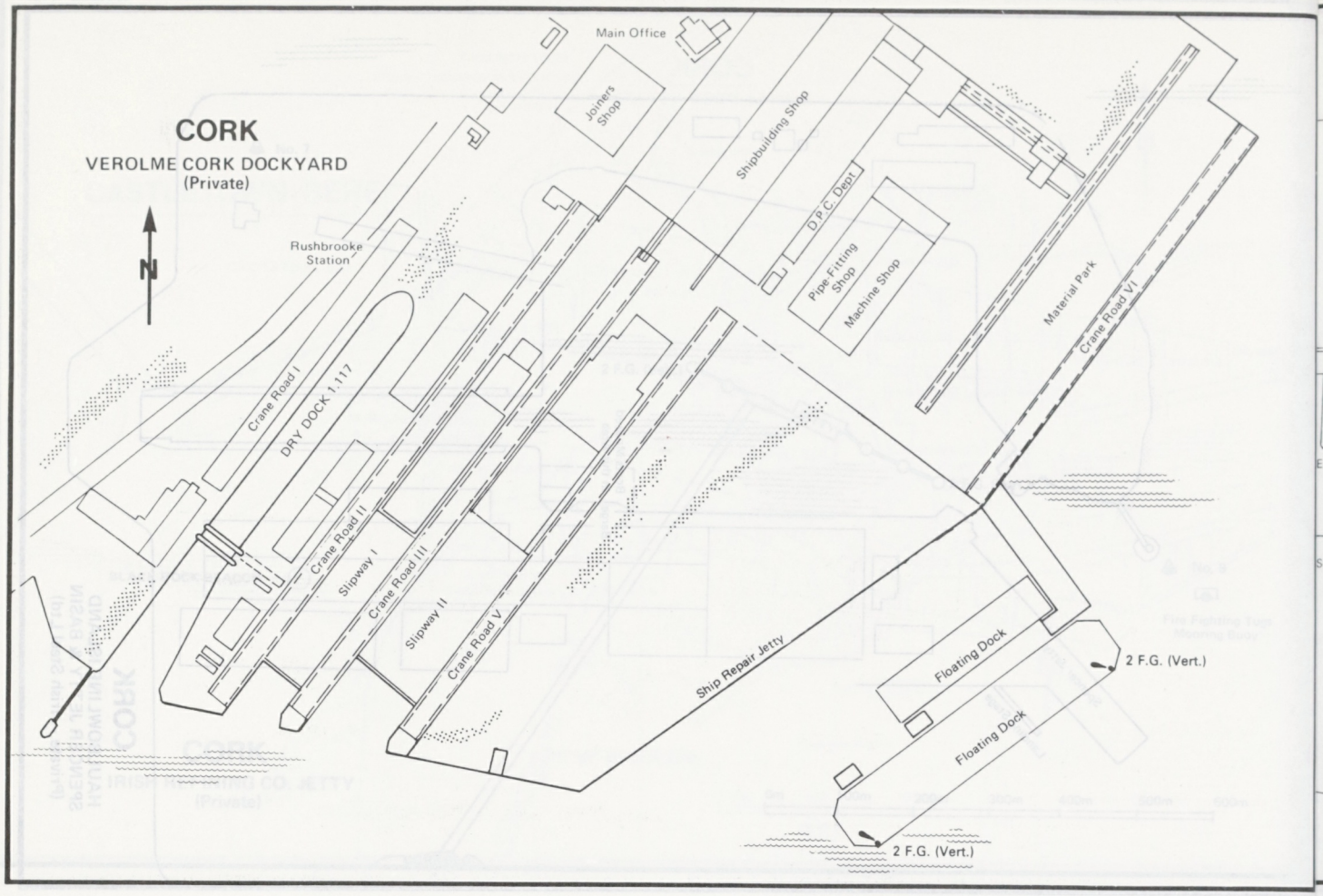


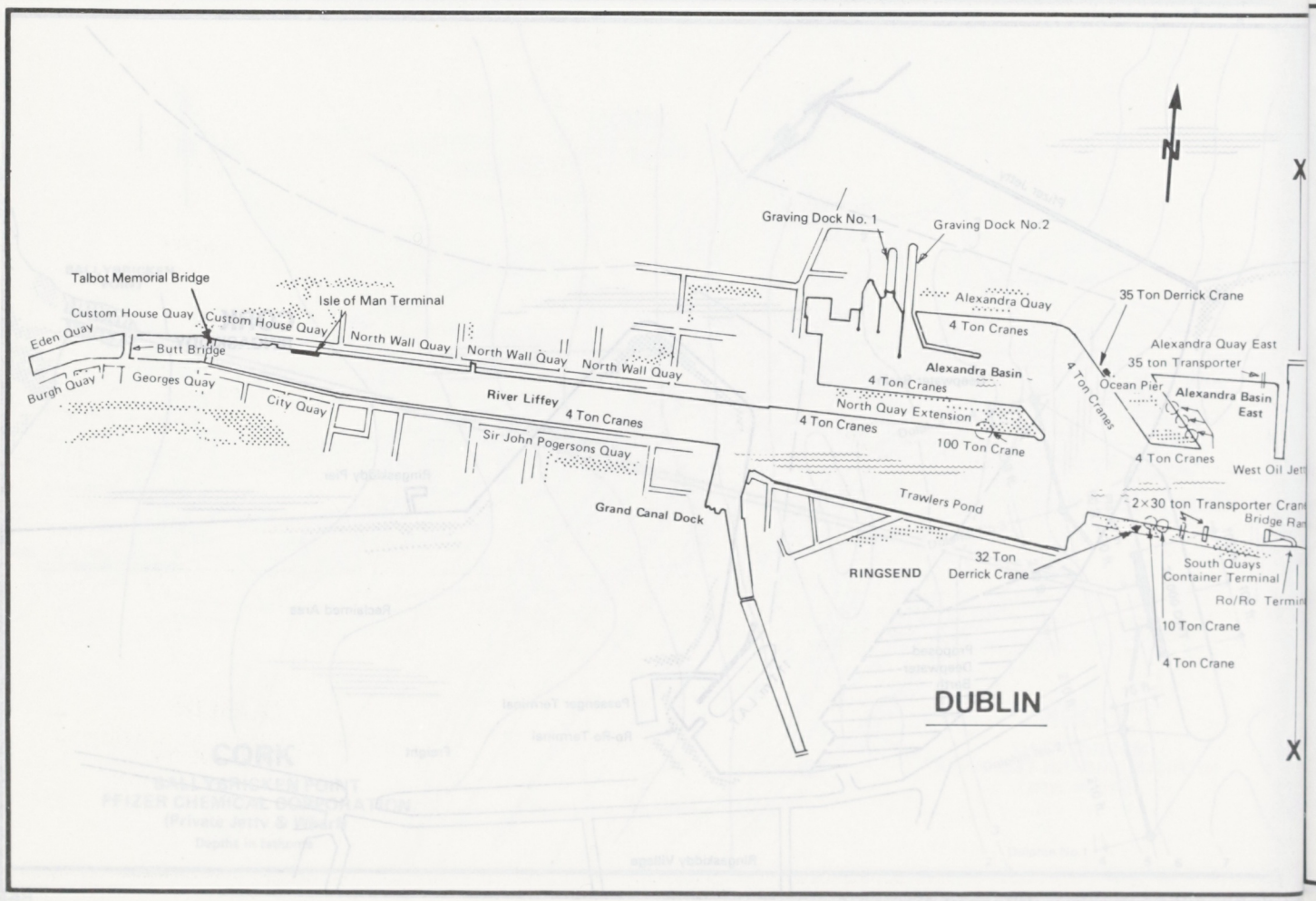
CORK

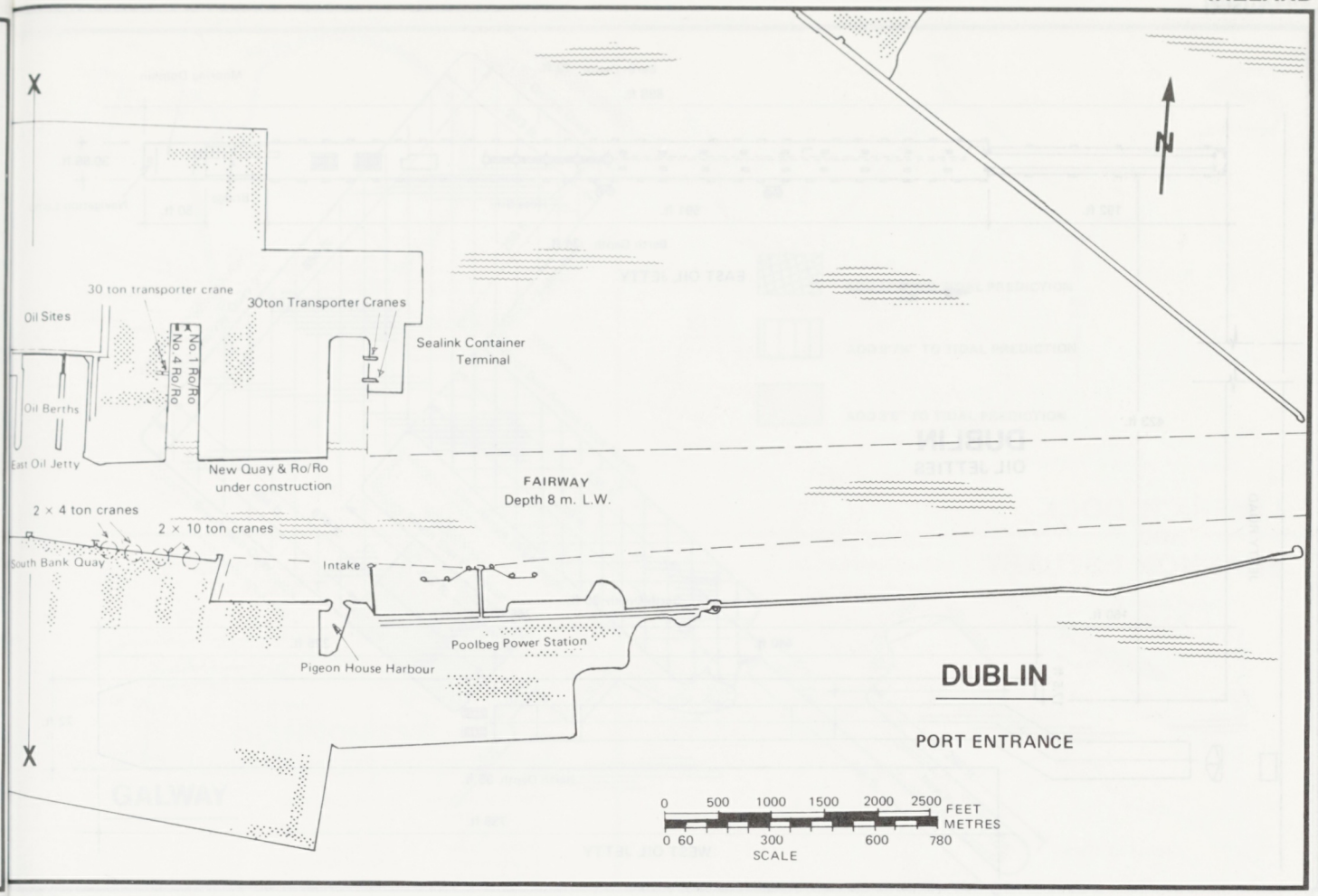
BALLYBRICKEN POINT
PFIZER CHEMICAL CORPORATION
(Private Jetty & Wharf)
Depths in fathoms

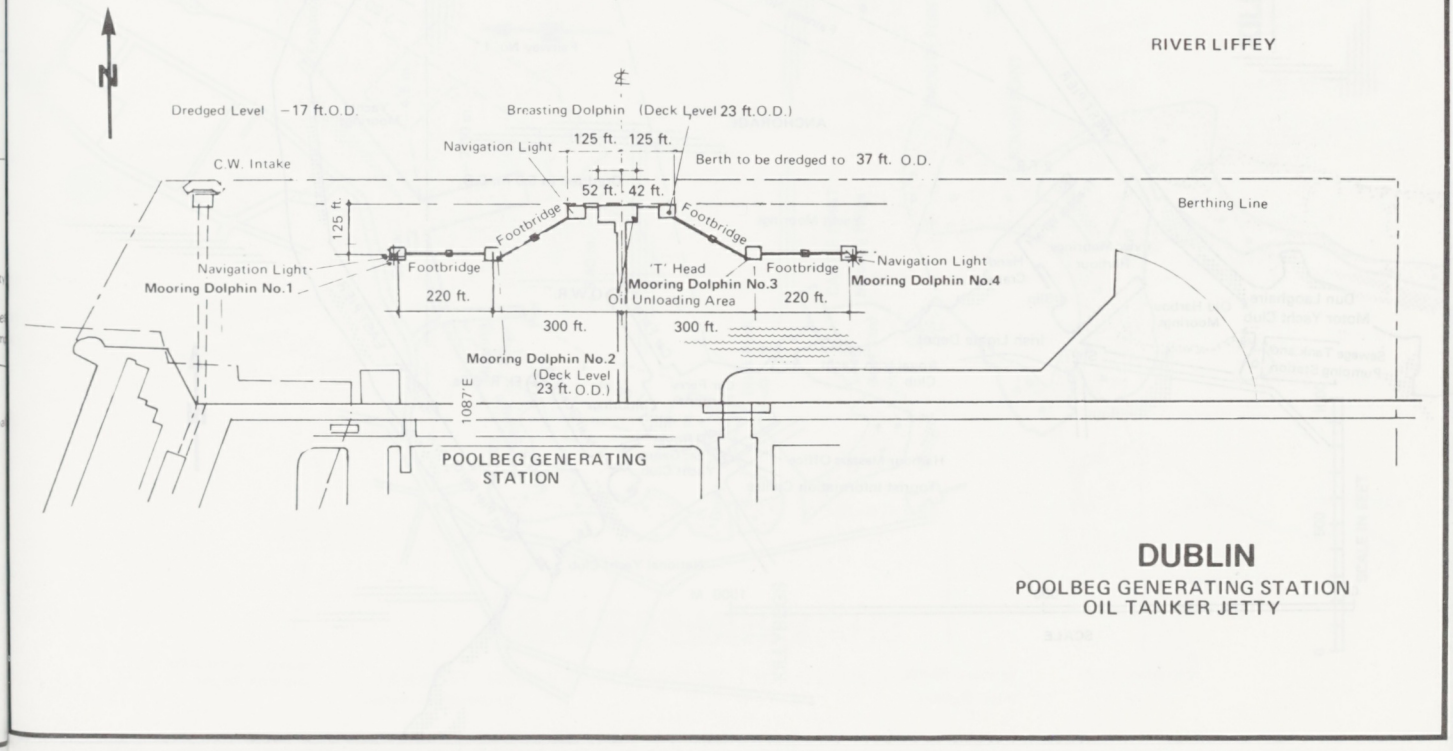

Boats Moored in this Area
Barge
Spencer Jetty
Landing Stage
CORK
HAULBOWLINE ISLAND
SPENCER JETTY & BASIN
(Private – Irish Steel Ltd)

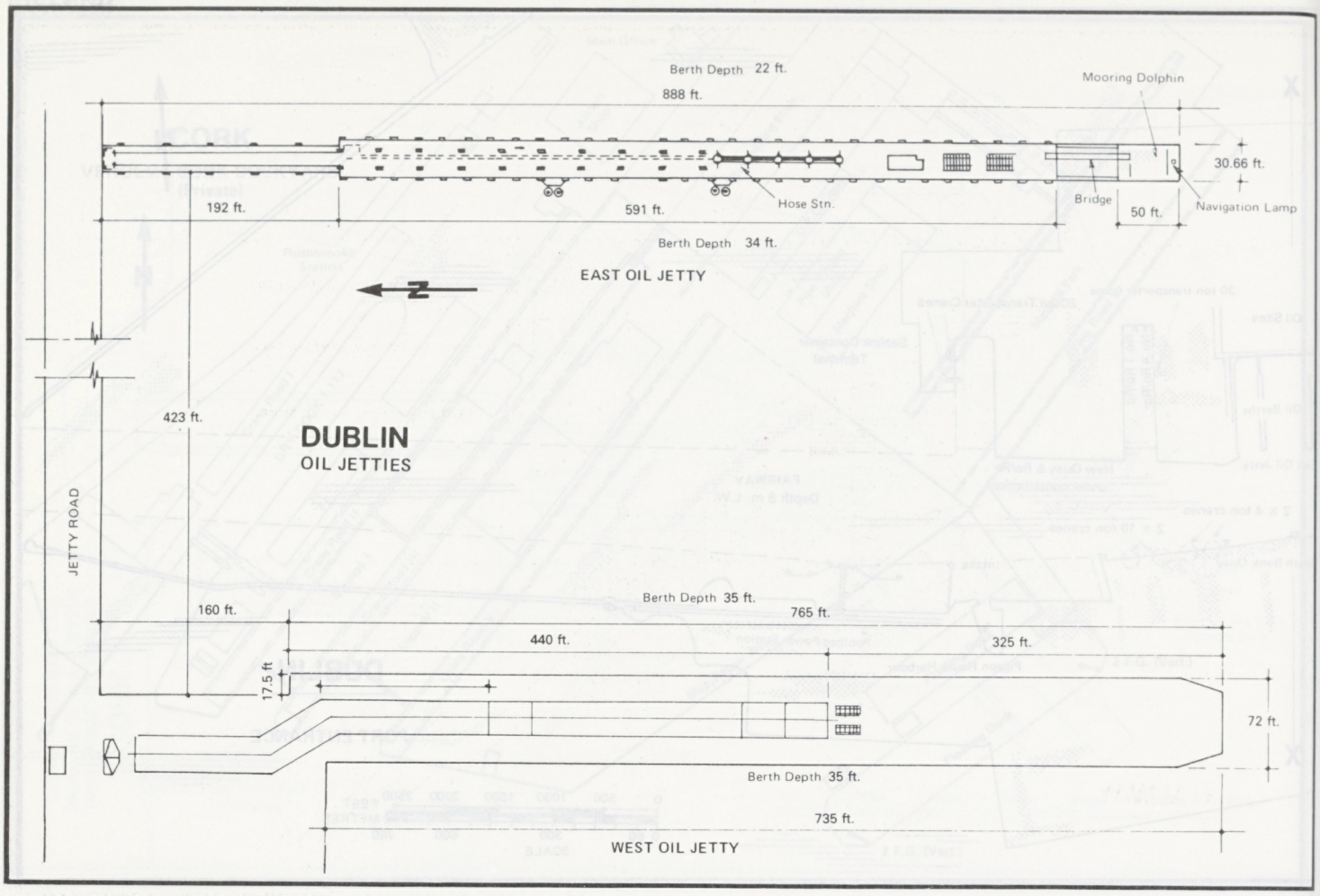

Pfizer Jetty
Deepwater Basin
CORK
RINGASKIDDY
Ringaskiddy Pier
Reclaimed Area
Proposed Deepwater Berth
11.1 m. L.A.T.
Passenger Terminal
Ro-Ro Terminal
Freight
Ringaskiddy Village

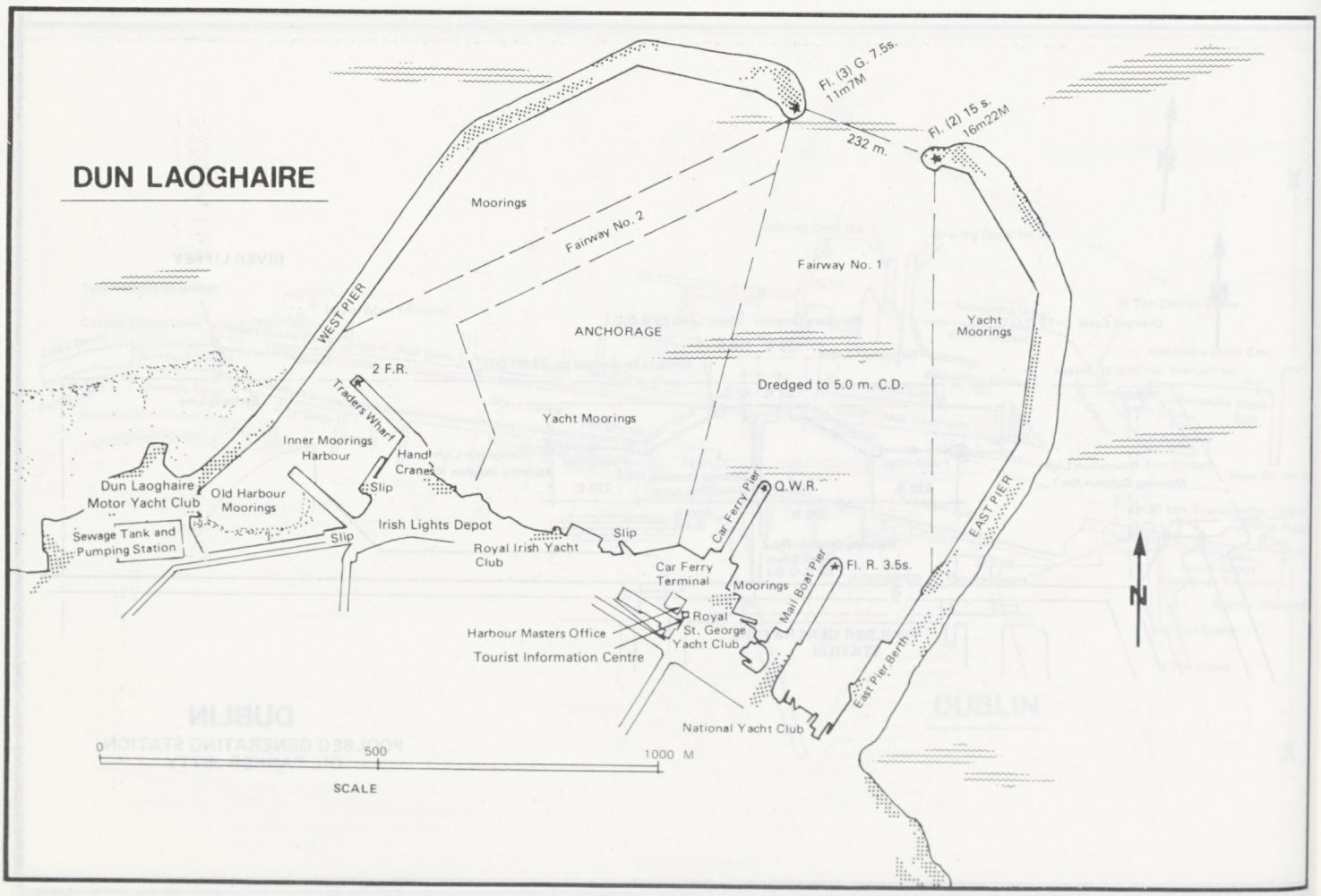

CORK
VEROLME CORK DOCKYARD
(Private)
N
Main Office
Joiners Shop
Shipbuilding Shop
D.P.C. Dept.
Pipe Fitting Shop
Machine Shop
Material Park
Crane Road VI
Rushbrooke Station
Crane Road I
DRY DOCK 1,117
Crane Road II
Slipway I
Crane Road III
Slipway II
Crane Road V
Ship Repair Jetty
Floating Dock
Floating Dock
2 F.G. (Vert.)
2 F.G. (Vert.)

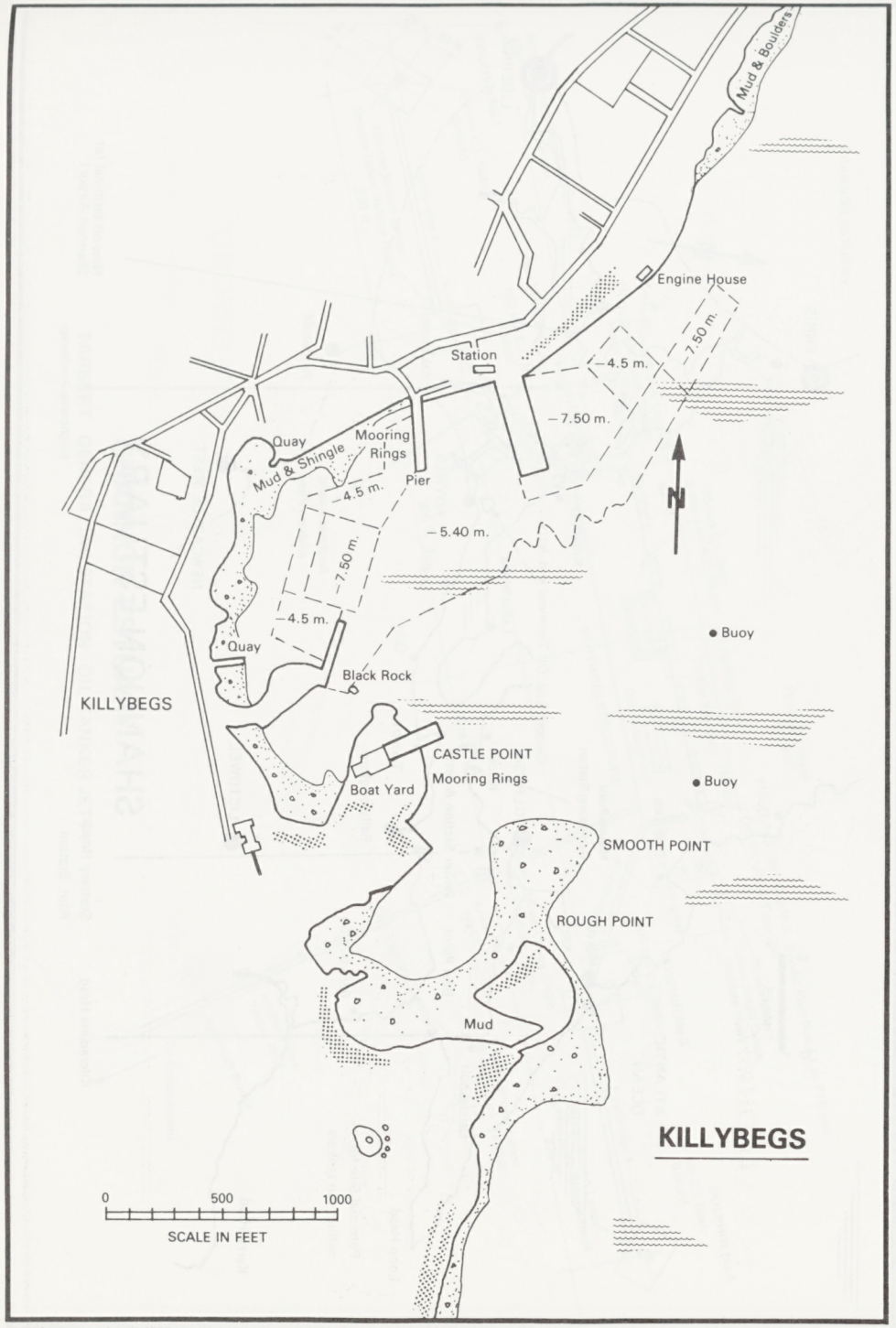

N
Graving Dock No. 1
Graving Dock No.2
Talbot Memorial Bridge
Isle of Man Terminal
Custom House Quay
Custom House Quay
Eden Quay
Butt Bridge
Burgh Quay
Georges Quay
City Quay
North Wall Quay
North Wall Quay
North Wall Quay
River Liffey
4 Ton Cranes
Sir John Pogersons Quay
Grand Canal Dock
Alexandra Quay
4 Ton Cranes
Alexandra Basin
4 Ton Cranes
North Quay Extension
4 Ton Cranes
100 Ton Crane
35 Ton Derrick Crane
Alexandra Quay East
35 ton Transporter
Ocean Pier
Alexandra Basin East
4 Ton Cranes
West Oil Jetty
4 Ton Cranes
Trawlers Pond
2×30 ton Transporter Crane
Bridge Ramp
RINGSEND
32 Ton Derrick Crane
South Quays Container Terminal
Ro/Ro Terminal
10 Ton Crane
4 Ton Crane
DUBLIN
X
X

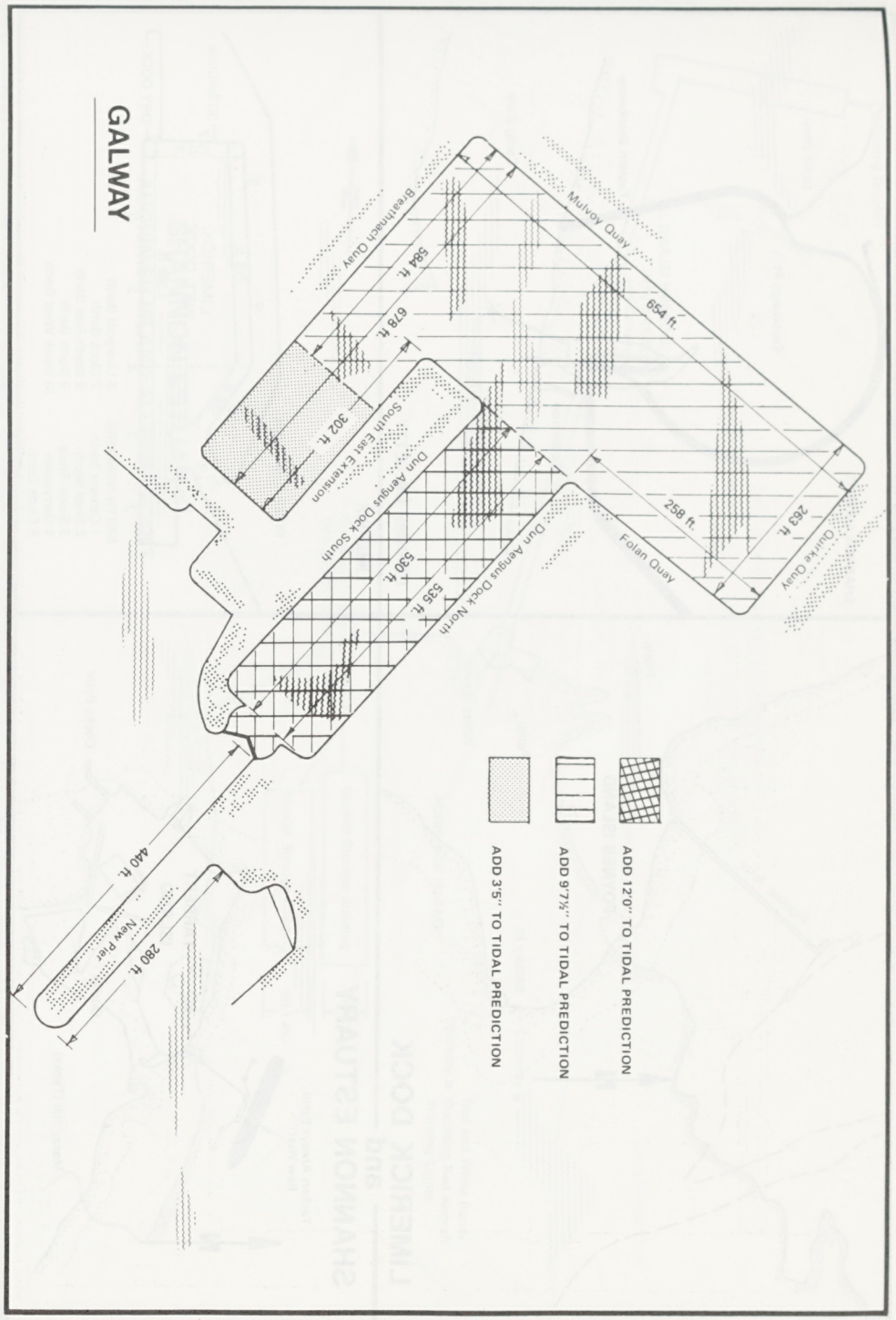

X
N
30 ton transporter crane
30ton Transporter Cranes
Oil Sites
No. 1 Ro/Ro
No. 4 Ro/Ro
Sealink Container Terminal
Oil Berths
East Oil Jetty
New Quay & Ro/Ro under construction
FAIRWAY
Depth 8 m. L.W.
2 × 4 ton cranes
2 × 10 ton cranes
South Bank Quay
Intake
Poolbeg Power Station
Pigeon House Harbour
DUBLIN
PORT ENTRANCE
0 500 1000 1500 2000 2500 FEET
0 60 300 600 780 METRES
SCALE


N
RIVER LIFFEY
Dredged Level −17 ft.O.D.
Breasting Dolphin (Deck Level 23 ft.O.D.)
Navigation Light
125 ft. 125 ft.
Berth to be dredged to 37 ft. O.D.
C.W. Intake
52 ft. 42 ft.
Berthing Line
125 ft.
Footbridge
Footbridge
Footbridge
Footbridge
Navigation Light
Mooring Dolphin No.1
'T' Head
Mooring Dolphin No.3
Navigation Light
Mooring Dolphin No.4
220 ft.
Oil Unloading Area
220 ft.
300 ft.
300 ft.
Mooring Dolphin No.2
(Deck Level 23 ft. O.D.)
1087'E
POOLBEG GENERATING STATION
DUBLIN
POOLBEG GENERATING STATION
OIL TANKER JETTY

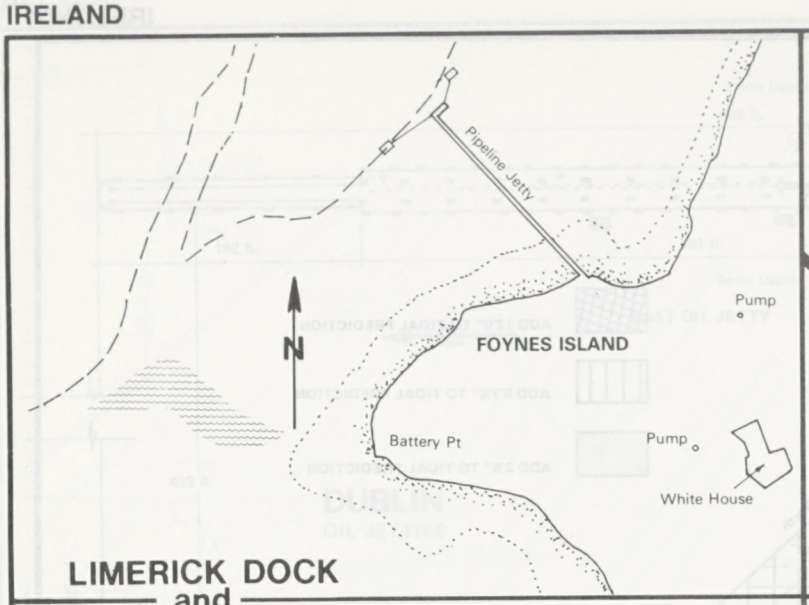

Berth Depth 22 ft.
888 ft.
Mooring Dolphin
30.66 ft.
192 ft.
591 ft.
Hose Stn.
Bridge
50 ft.
Navigation Lamp
Berth Depth 34 ft.
EAST OIL JETTY
423 ft.
DUBLIN
OIL JETTIES
JETTY ROAD
160 ft.
Berth Depth 35 ft.
765 ft.
440 ft.
325 ft.
17.5 ft
72 ft.
Berth Depth 35 ft.
735 ft.
WEST OIL JETTY


DUN LAOGHAIRE
Fl. (3) G. 7.5s. 11m7M
Fl. (2) 15 s. 16m22M
232 m.
Moorings
Fairway No. 2
Fairway No. 1
WEST PIER
ANCHORAGE
Yacht Moorings
2 F.R.
Traders Wharf
Dredged to 5.0 m. C.D.
Yacht Moorings
Inner Moorings
Harbour
Hand Cranes
Slip
Q.W.R.
Car Ferry Pier
Dun Laoghaire Motor Yacht Club
Old Harbour Moorings
Sewage Tank and Pumping Station
Slip
Irish Lights Depot
Royal Irish Yacht Club
Slip
Car Ferry Terminal
Moorings
Fl. R. 3.5s.
Mail Boat Pier
EAST PIER
Harbour Masters Office
Tourist Information Centre
Royal St. George Yacht Club
East Pier Berth
National Yacht Club
0
500
1000 M
SCALE

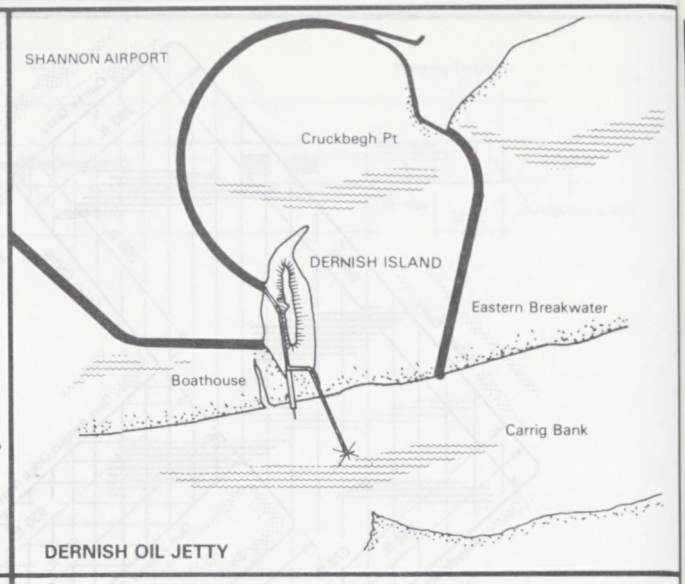

Mud & Boulders
Engine House
Station
−4.5 m.
−7.50 m.
−7.50 m.
Quay
Mud & Shingle
Mooring Rings
Pier
−4.5 m.
−5.40 m.
−7.50 m.
−4.5 m.
Quay
Buoy
Black Rock
KILLYBEGS
CASTLE POINT
Mooring Rings
Boat Yard
Buoy
SMOOTH POINT
ROUGH POINT
Mud
KILLYBEGS
0
500
1000
SCALE IN FEET


GALWAY
Breathnach Quay
Mulvoy Quay
584 ft.
678 ft.
654 ft.
302 ft.
South East Extension
Dun Aengus Dock South
Dun Aengus Dock North
530 ft.
535 ft.
258 ft.
263 ft.
Quirke Quay
Folan Quay
440 ft.
New Pier
280 ft.
ADD 3'5" TO TIDAL PREDICTION
ADD 9'7½" TO TIDAL PREDICTION
ADD 12'0" TO TIDAL PREDICTION

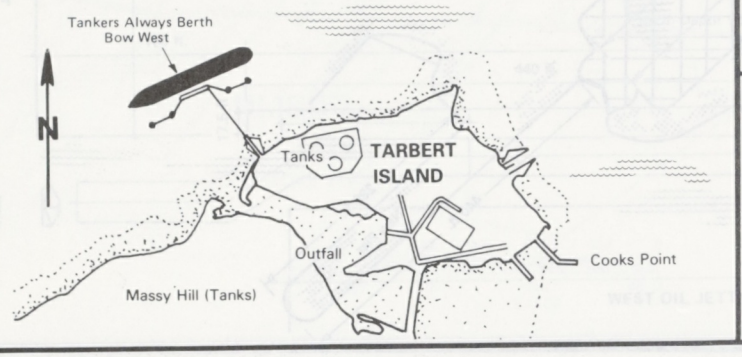
IRELAND



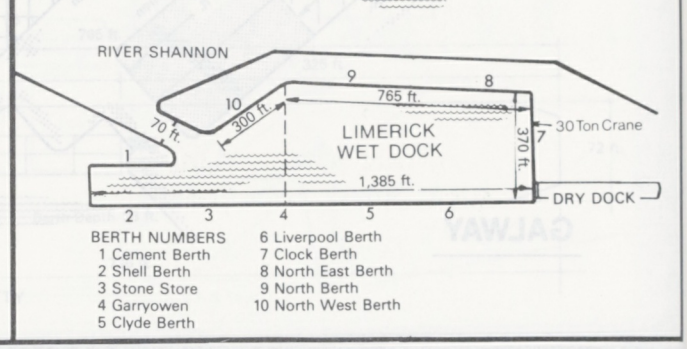
LIMERICK DOCK and SHANNON ESTUARY



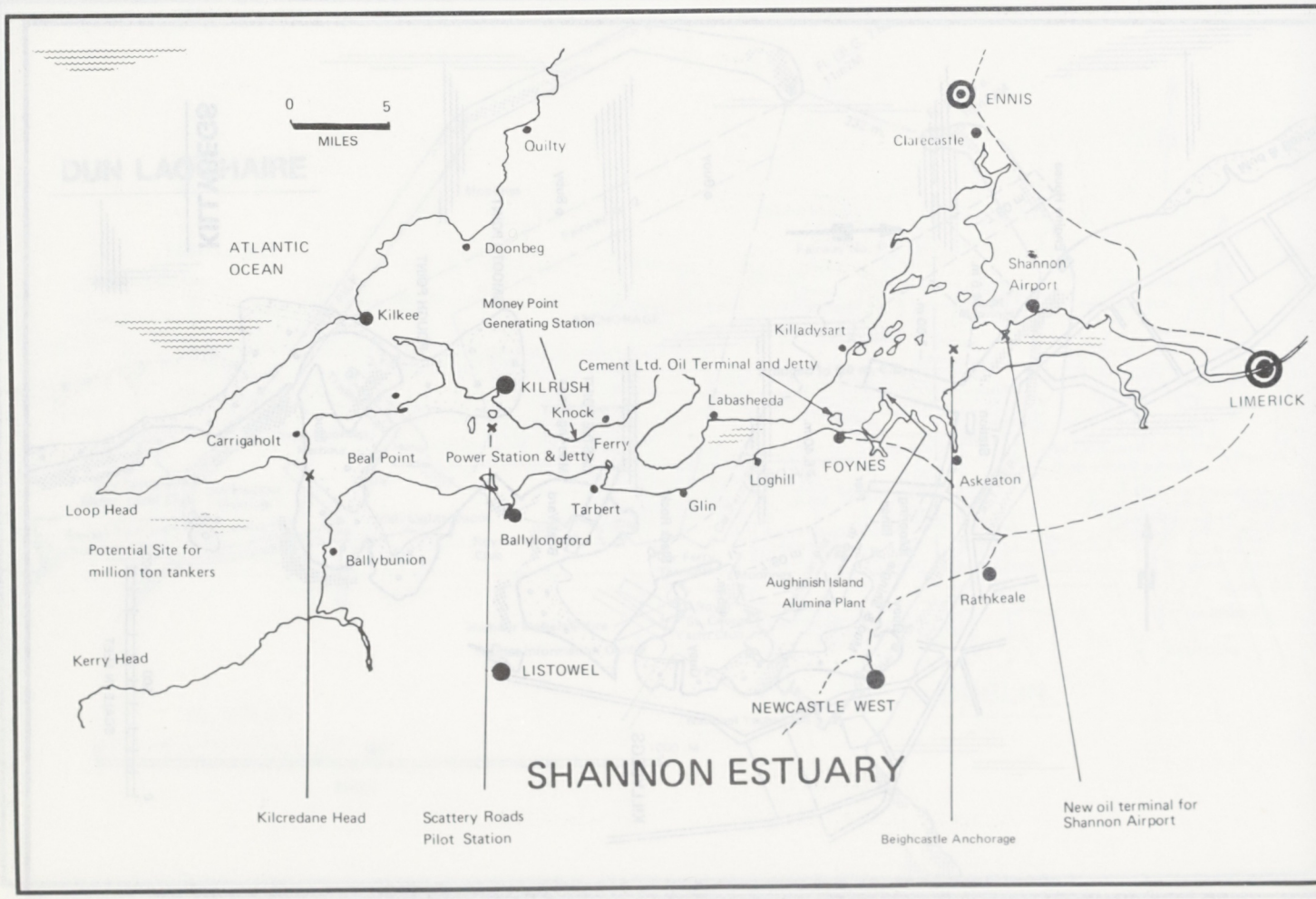
DERNISH OIL JETTY

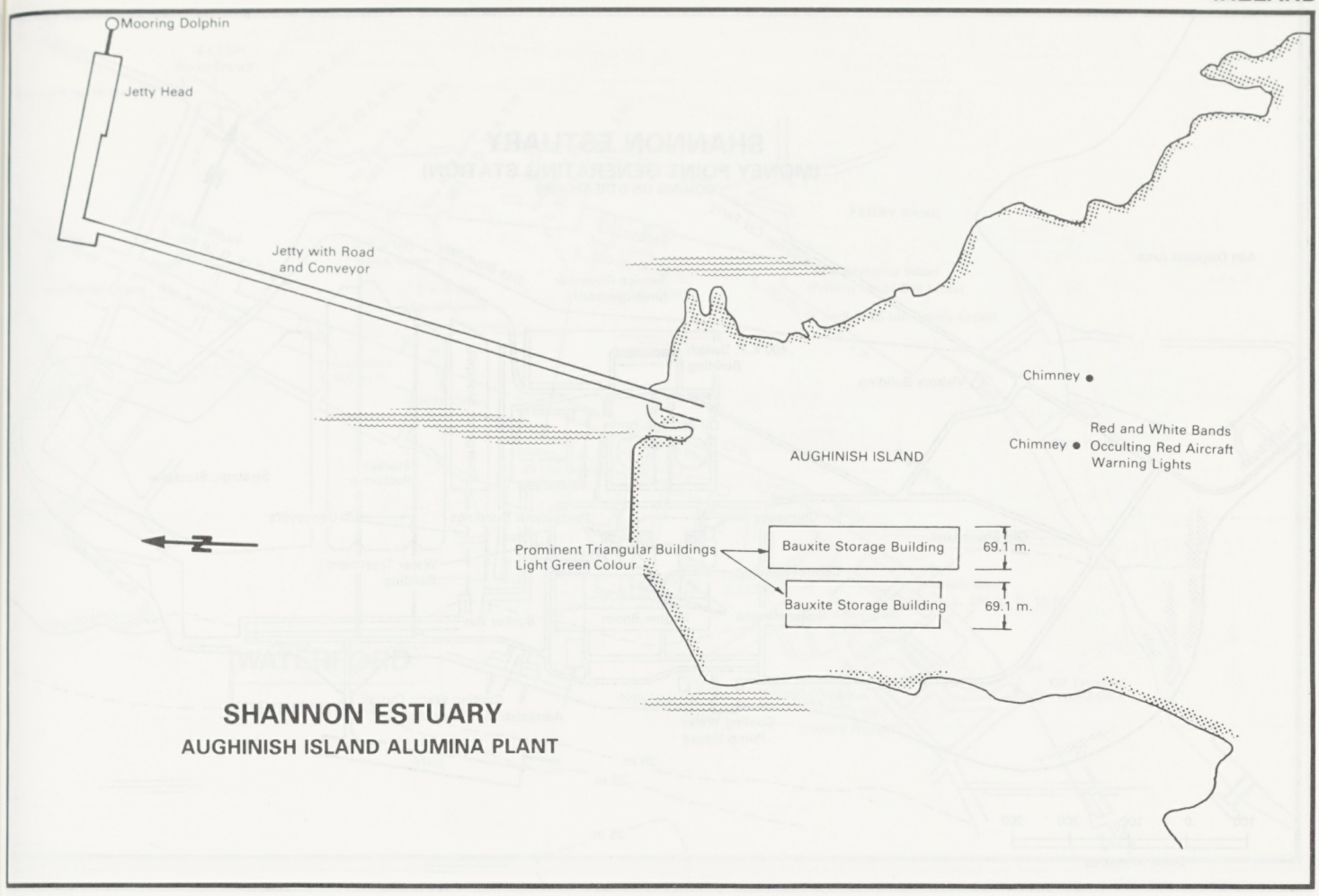


LIMERICK



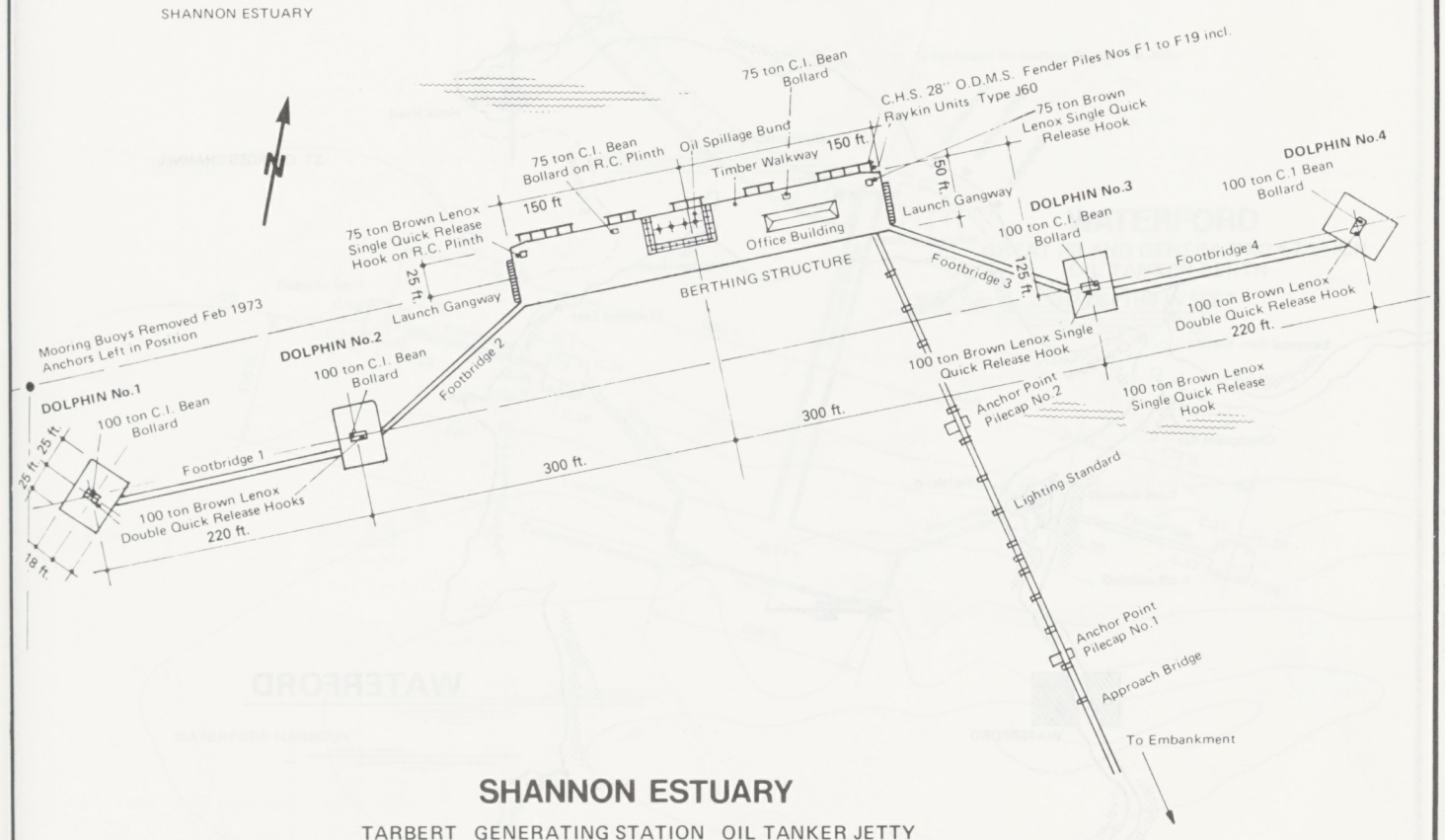
BERTH NUMBERS
1 Cement Berth
2 Shell Berth
3 Stone Store
4 Garryowen
5 Clyde Berth
6 Liverpool Berth
7 Clock Berth
8 North East Berth
9 North Berth
10 North West Berth





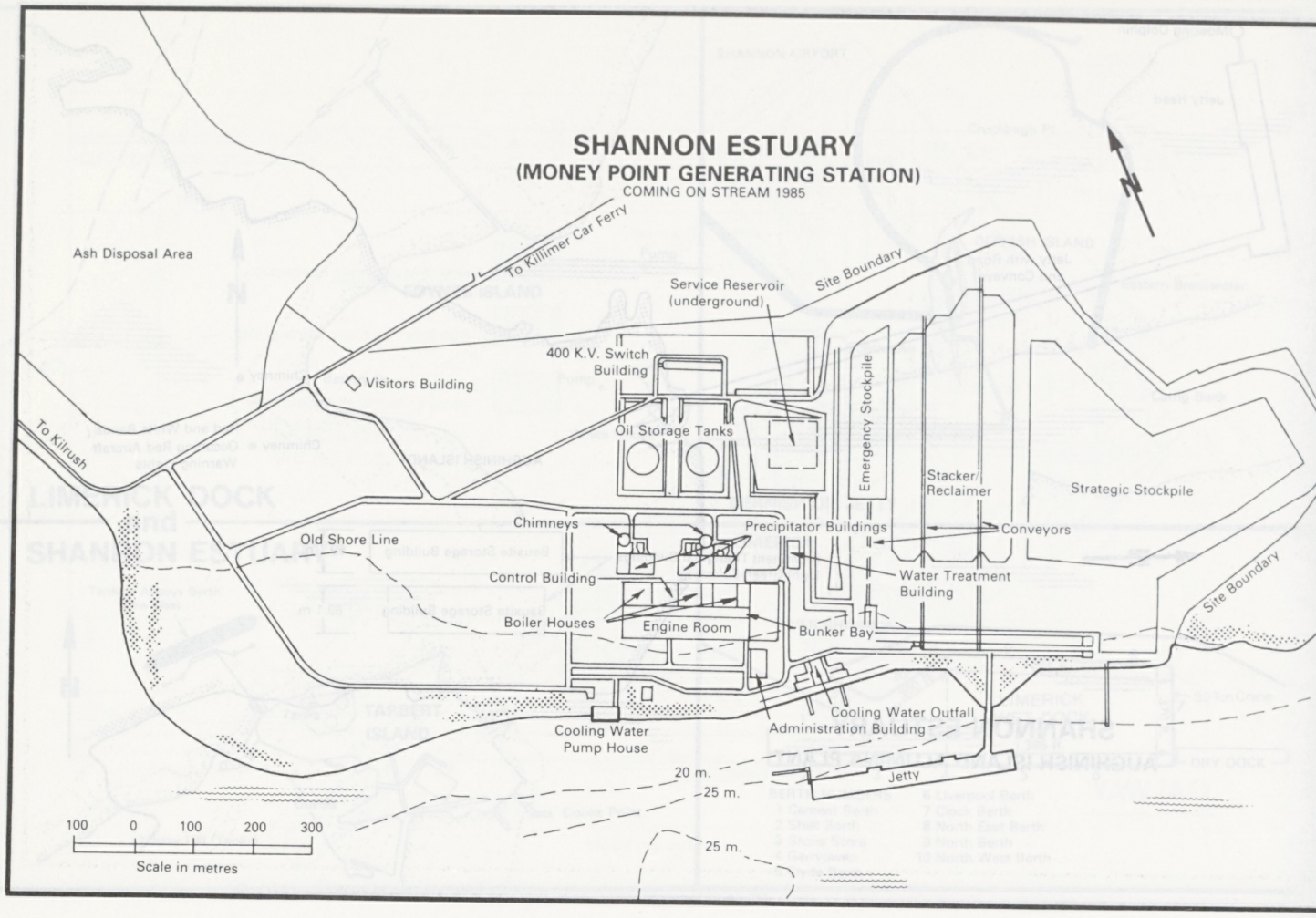
SHANNON ESTUARY

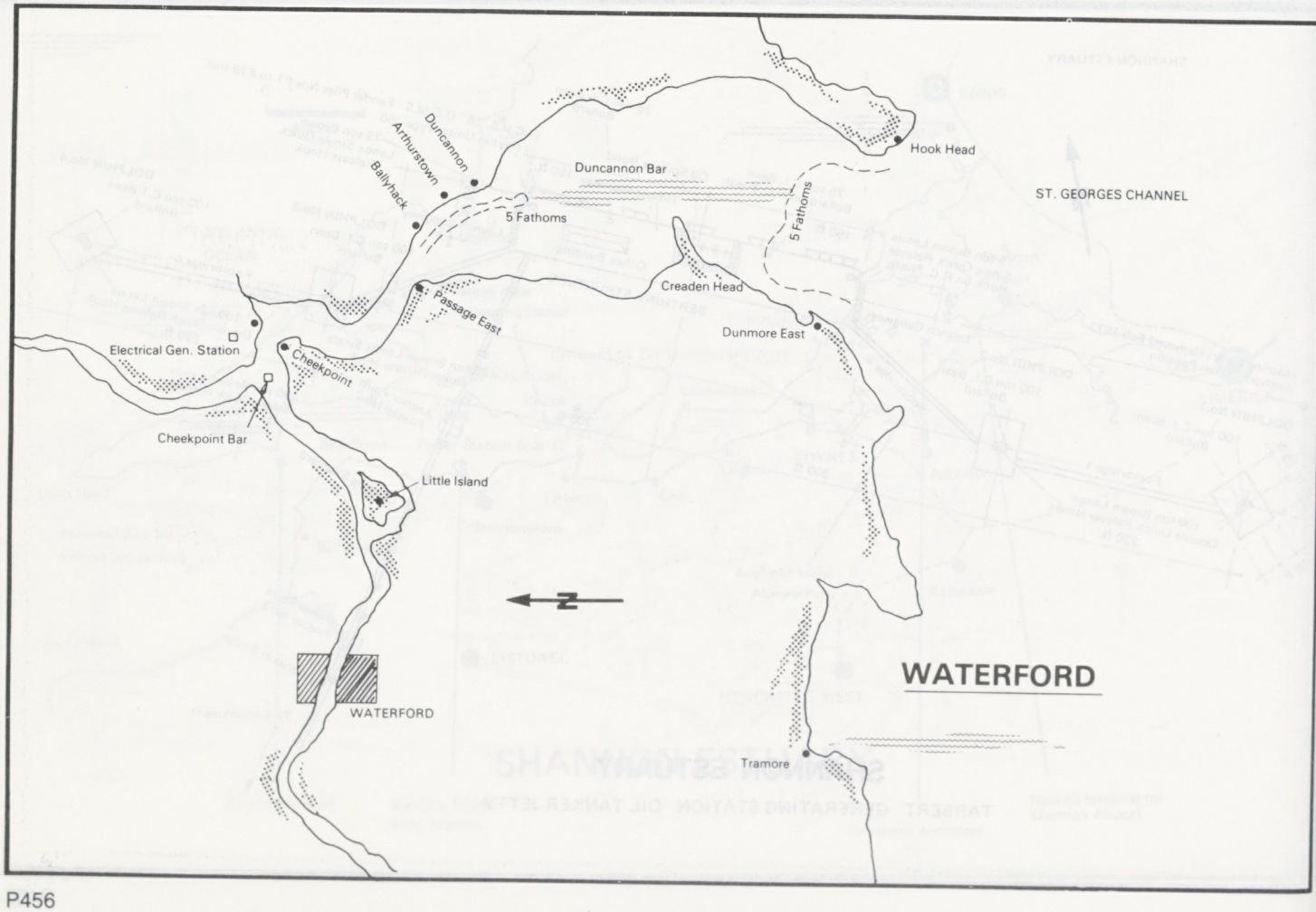
AUGHINISH ISLAND ALUMINA PLANT

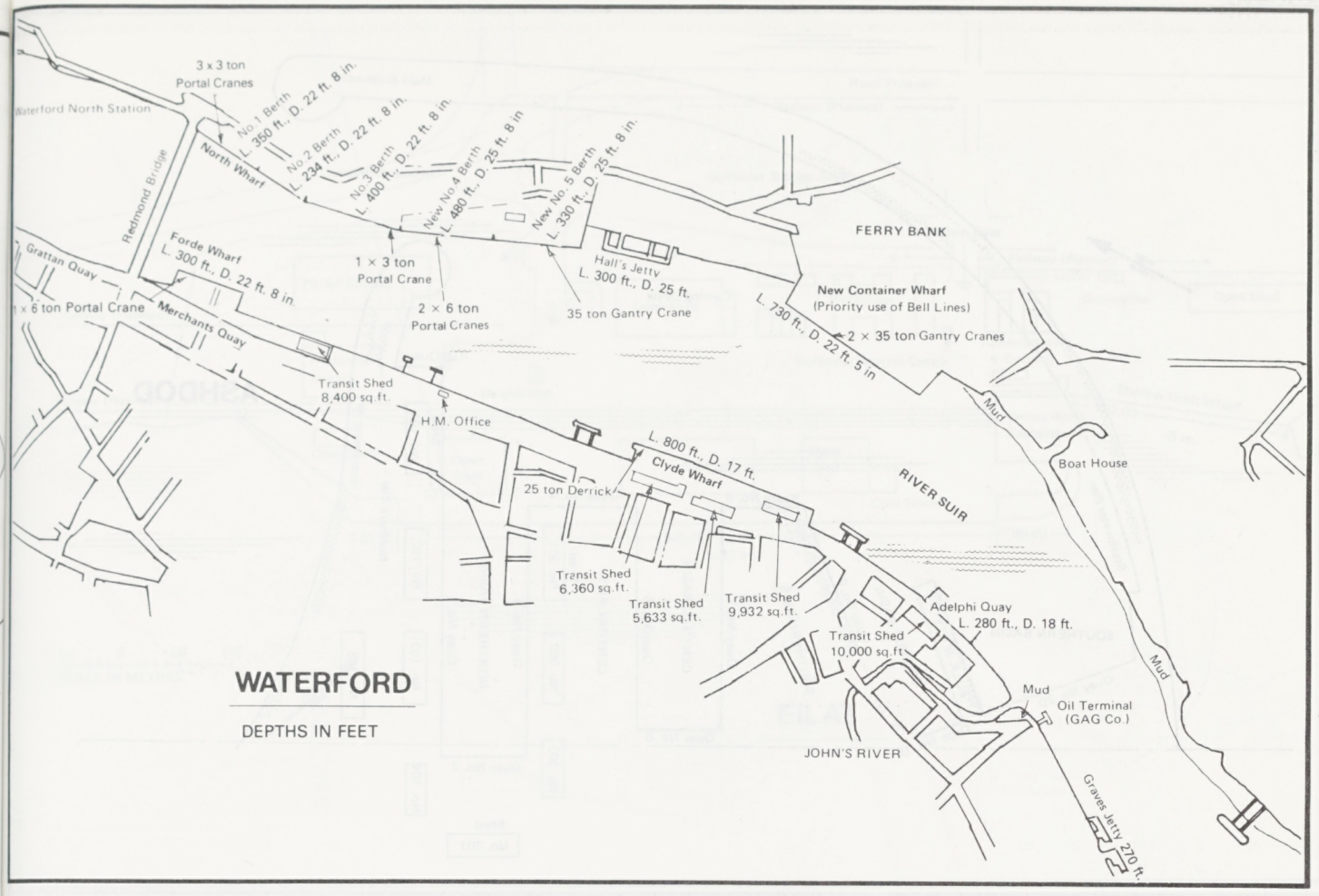


SHANNON ESTUARY

TARBERT GENERATING STATION OIL TANKER JETTY

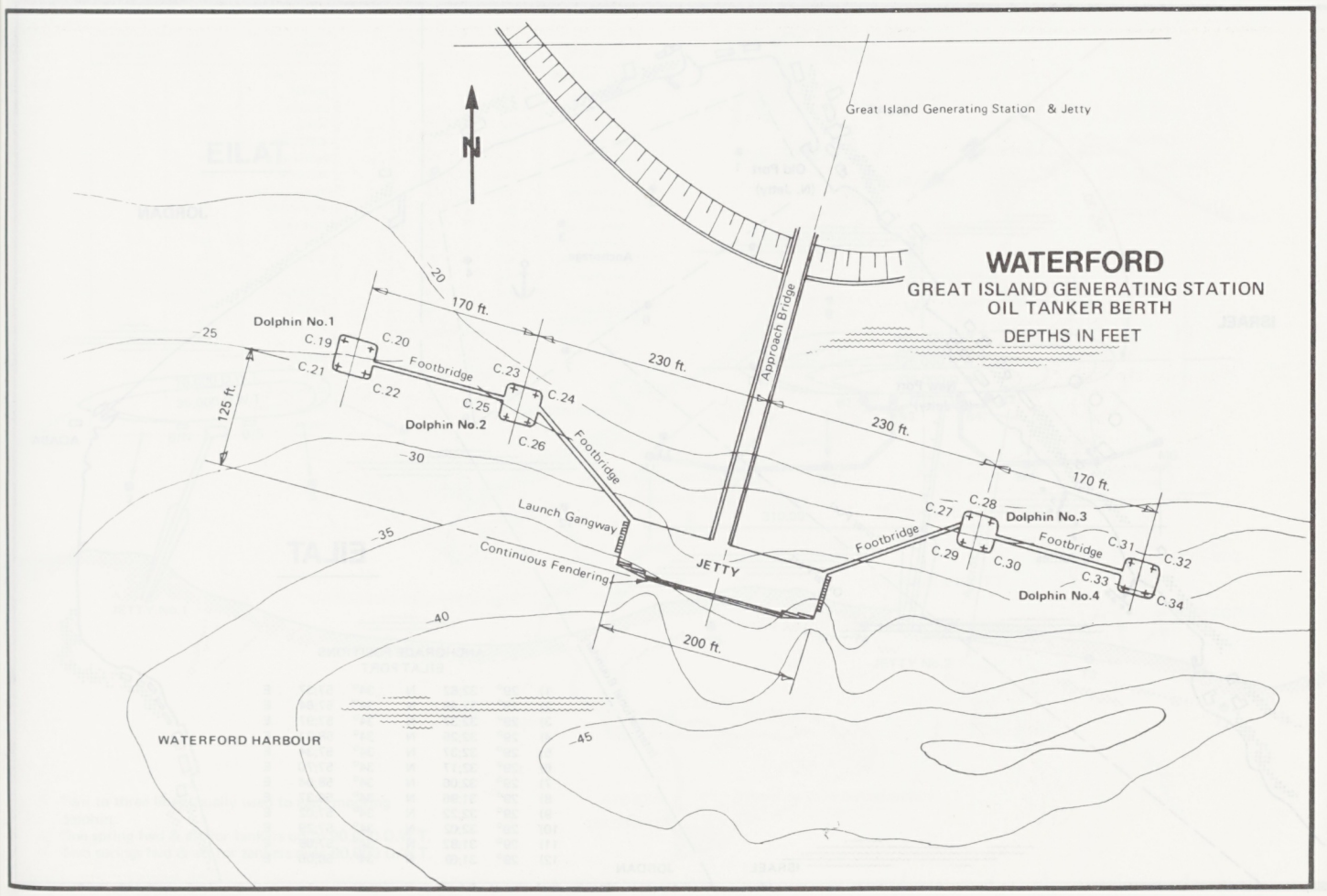

SHANNON ESTUARY
(MONEY POINT GENERATING STATION)
COMING ON STREAM 1985
N
Ash Disposal Area
To Killimer Car Ferry
Site Boundary
Service Reservoir (underground)
400 K.V. Switch Building
Visitors Building
To Kilrush
Oil Storage Tanks
Emergency Stockpile
Stacker/ Reclaimer
Strategic Stockpile
Chimneys
Precipitator Buildings
Conveyors
Old Shore Line
Control Building
Water Treatment Building
Boiler Houses
Engine Room
Bunker Bay
Site Boundary
Cooling Water Outfall
Administration Building
Cooling Water Pump House
Jetty
20 m.
25 m.
25 m.
100 0 100 200 300
Scale in metres

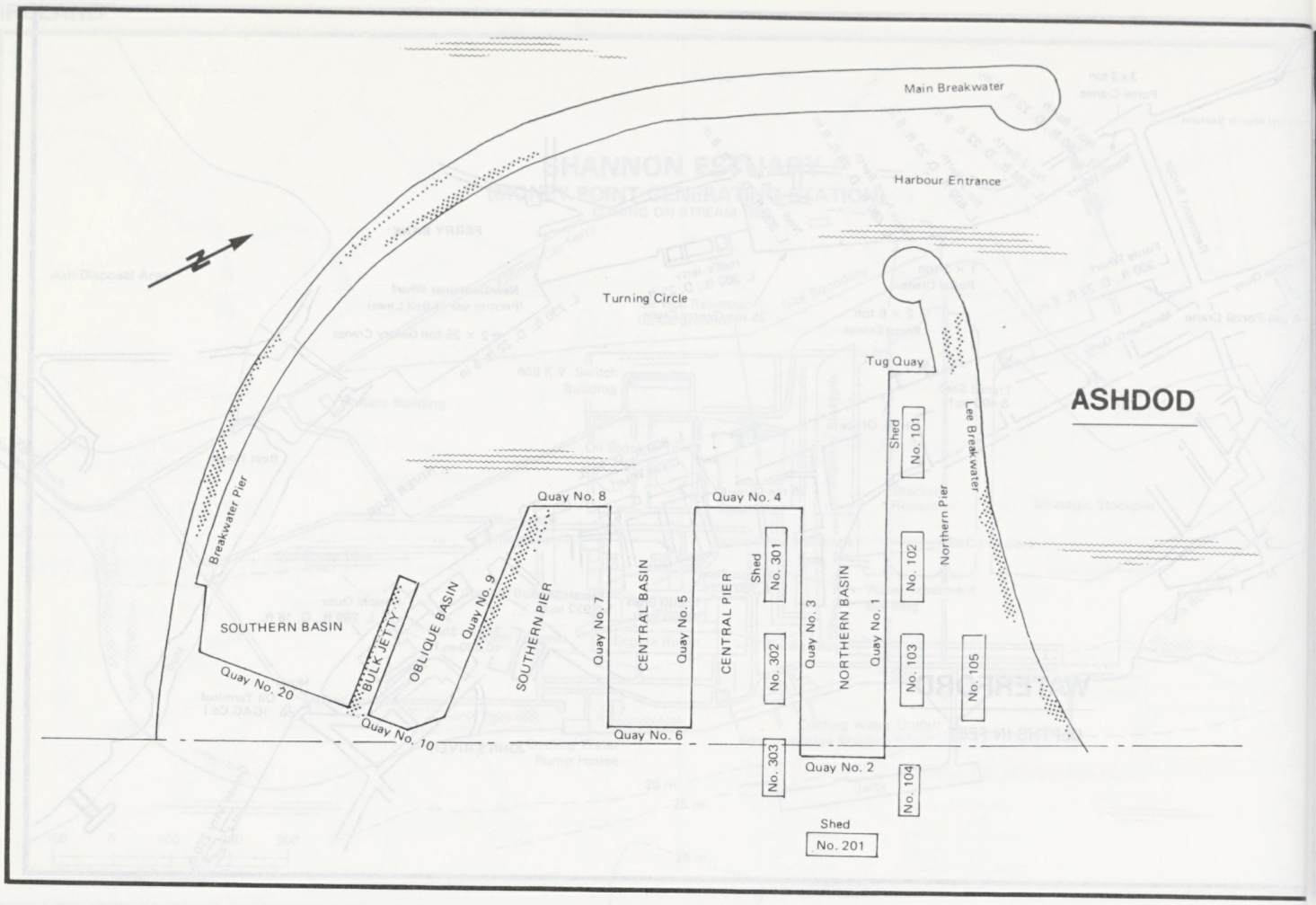

Duncannon
Arthurstown
Ballyhack
Duncannon Bar
Hook Head
ST. GEORGES CHANNEL
5 Fathoms
5 Fathoms
Creaden Head
Passage East
Dunmore East
Electrical Gen. Station
Cheekpoint
Cheekpoint Bar
Little Island
N
WATERFORD
WATERFORD
Tramore

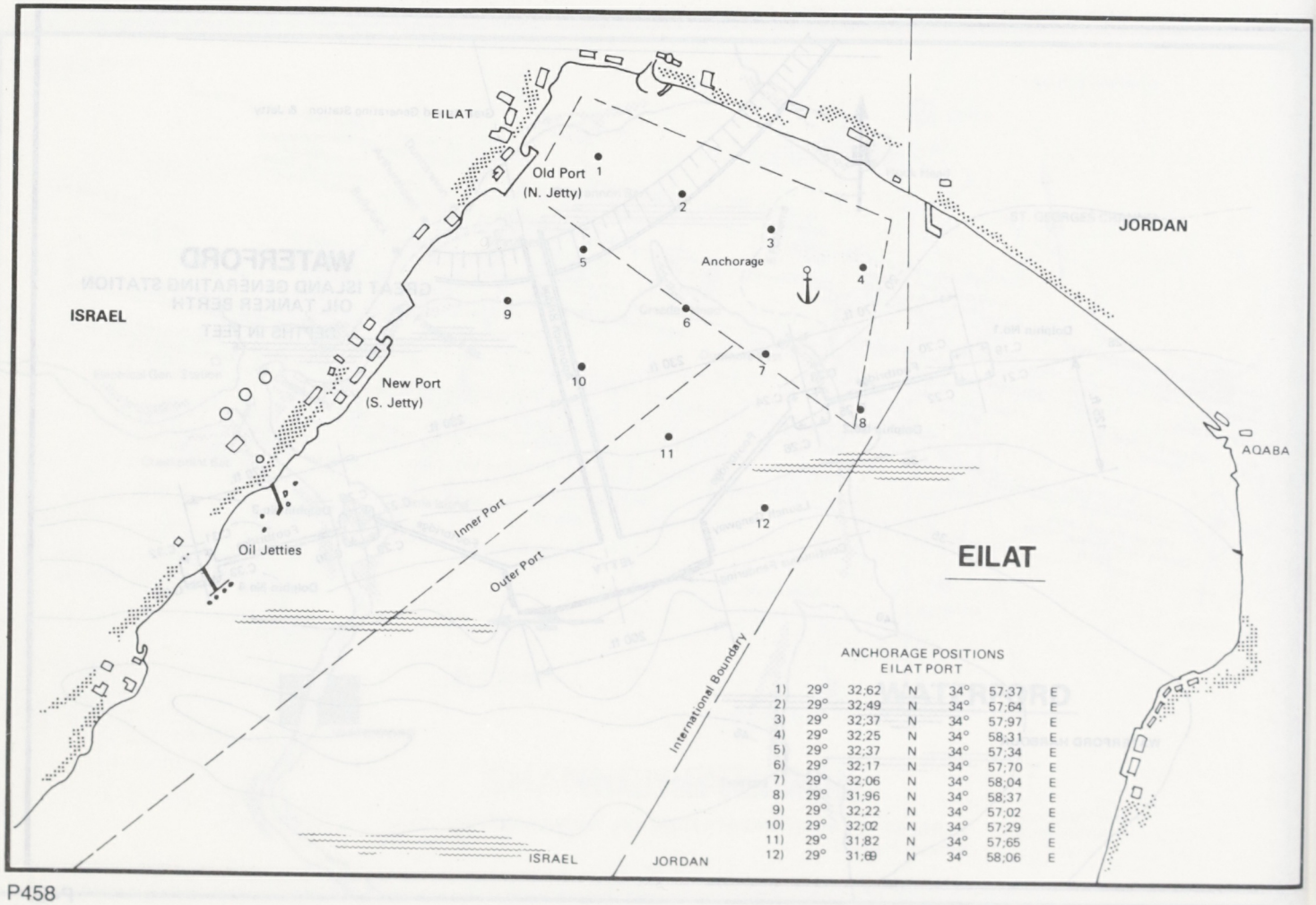


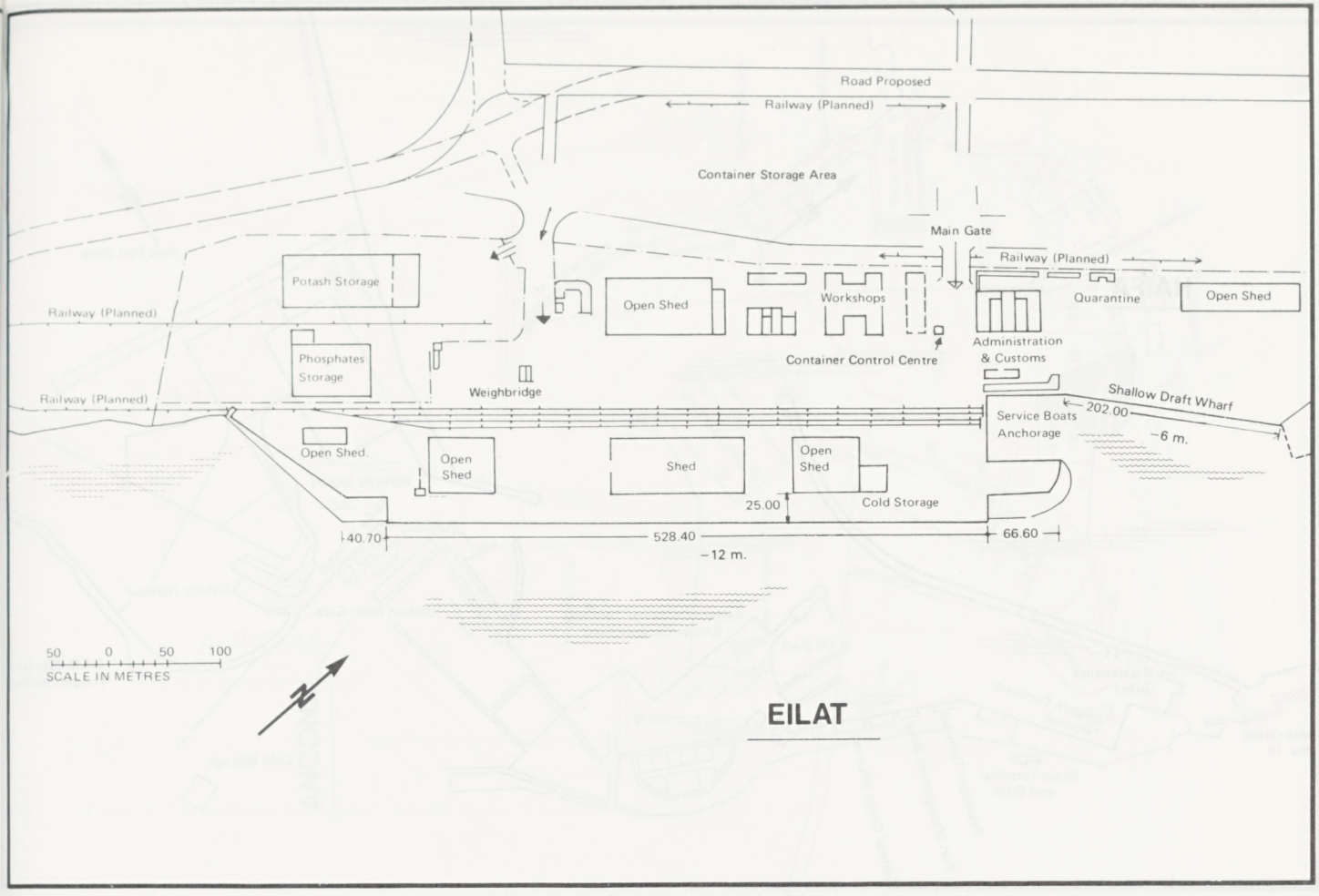
WATERFORD

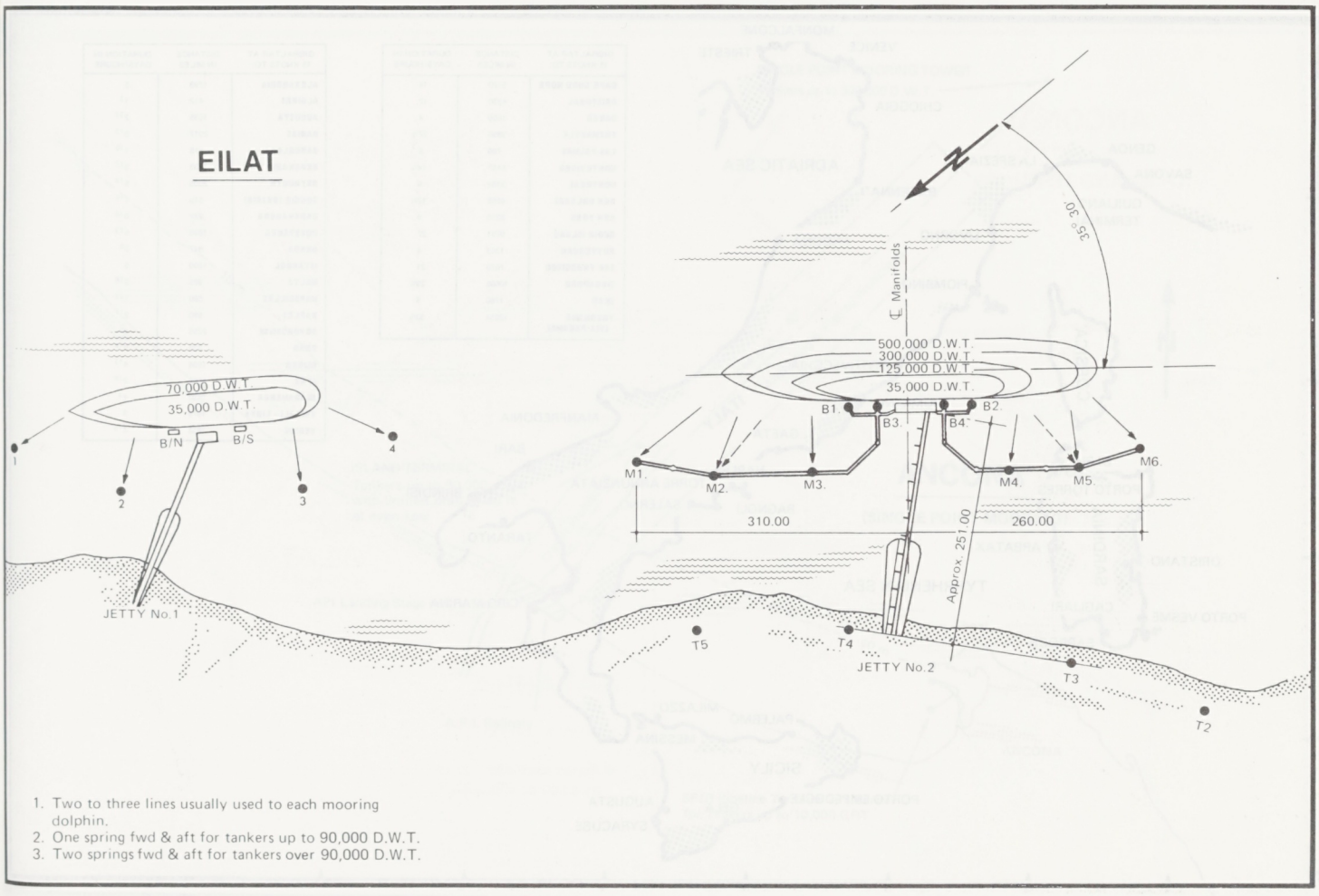
DEPTHS IN FEET



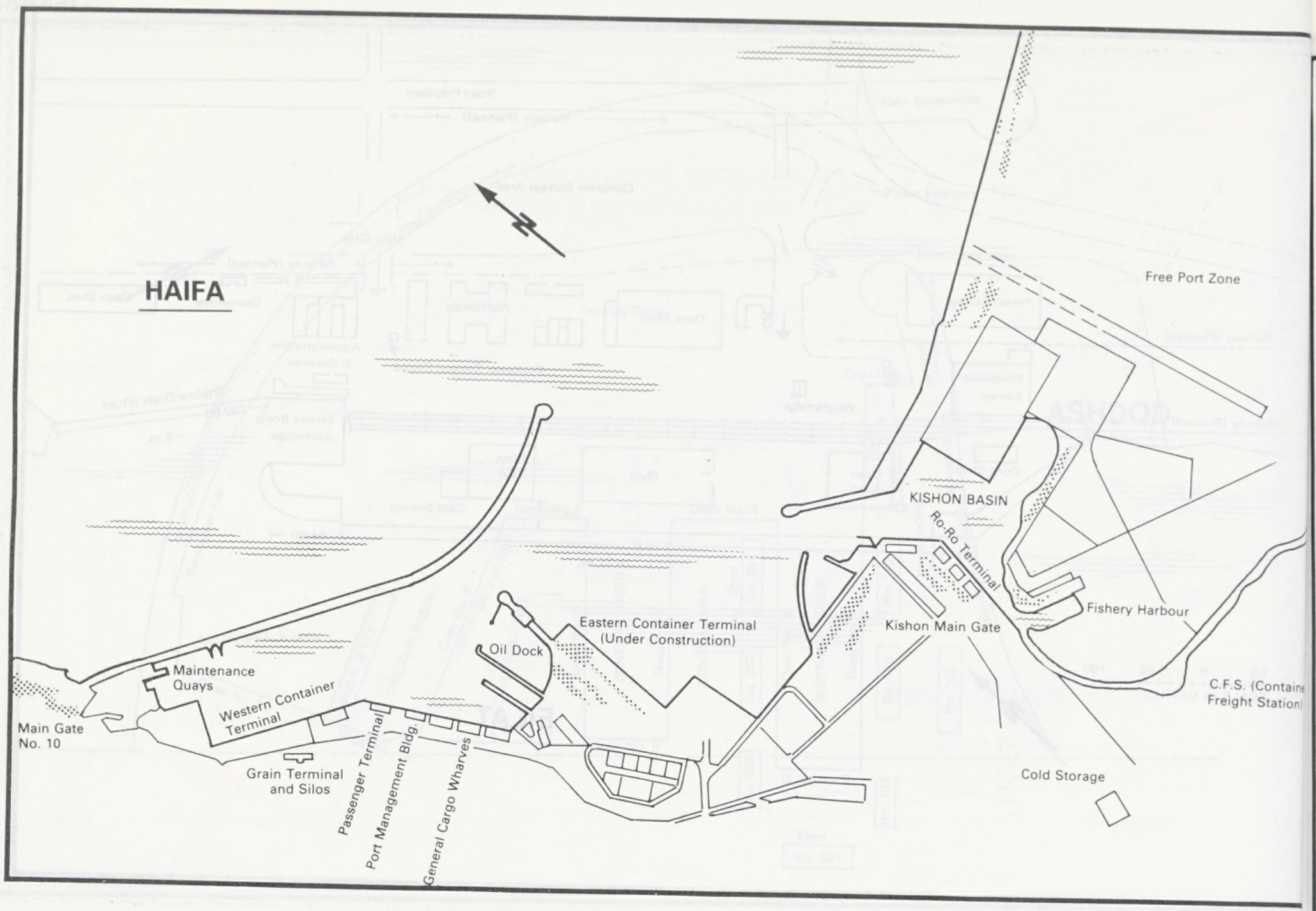

Main Breakwater
Harbour Entrance
Turning Circle
Tug Quay
ASHDOD
Lee Breakwater
Northern Pier
Shed No. 101
Shed No. 301
No. 102
No. 302
No. 103
No. 303
No. 104
No. 105
Shed No. 201
Breakwater Pier
SOUTHERN BASIN
BULK JETTY
OBLIQUE BASIN
Quay No. 9
SOUTHERN PIER
Quay No. 8
Quay No. 7
CENTRAL BASIN
Quay No. 5
Quay No. 4
CENTRAL PIER
Quay No. 3
NORTHERN BASIN
Quay No. 1
Quay No. 2
Quay No. 6
Quay No. 10
Quay No. 20

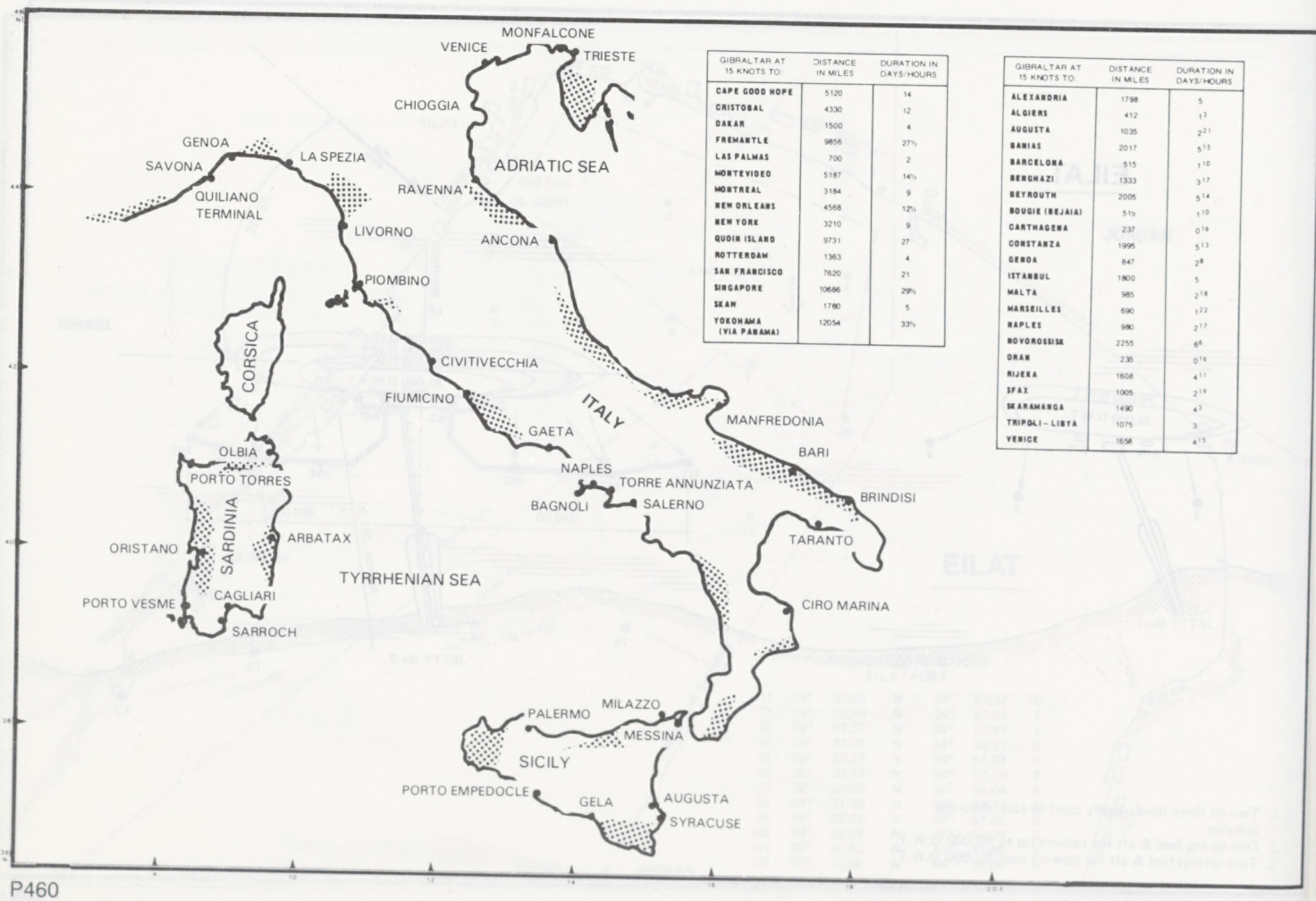

EILAT
Old Port
(N. Jetty)
New Port
(S. Jetty)
Oil Jetties
Inner Port
Outer Port
Anchorage
ISRAEL
JORDAN
AQABA
EILAT
International Boundary
ISRAEL
JORDAN
ANCHORAGE POSITIONS
EILAT PORT
1) 29° 32;62 N 34° 57;37 E
2) 29° 32;49 N 34° 57;64 E
3) 29° 32;37 N 34° 57;97 E
4) 29° 32;25 N 34° 58;31 E
5) 29° 32;37 N 34° 57;34 E
6) 29° 32;17 N 34° 57;70 E
7) 29° 32;06 N 34° 58;04 E
8) 29° 31;96 N 34° 58;37 E
9) 29° 32;22 N 34° 57;02 E
10) 29° 32;02 N 34° 57;29 E
11) 29° 31;82 N 34° 57;65 E
12) 29° 31;69 N 34° 58;06 E





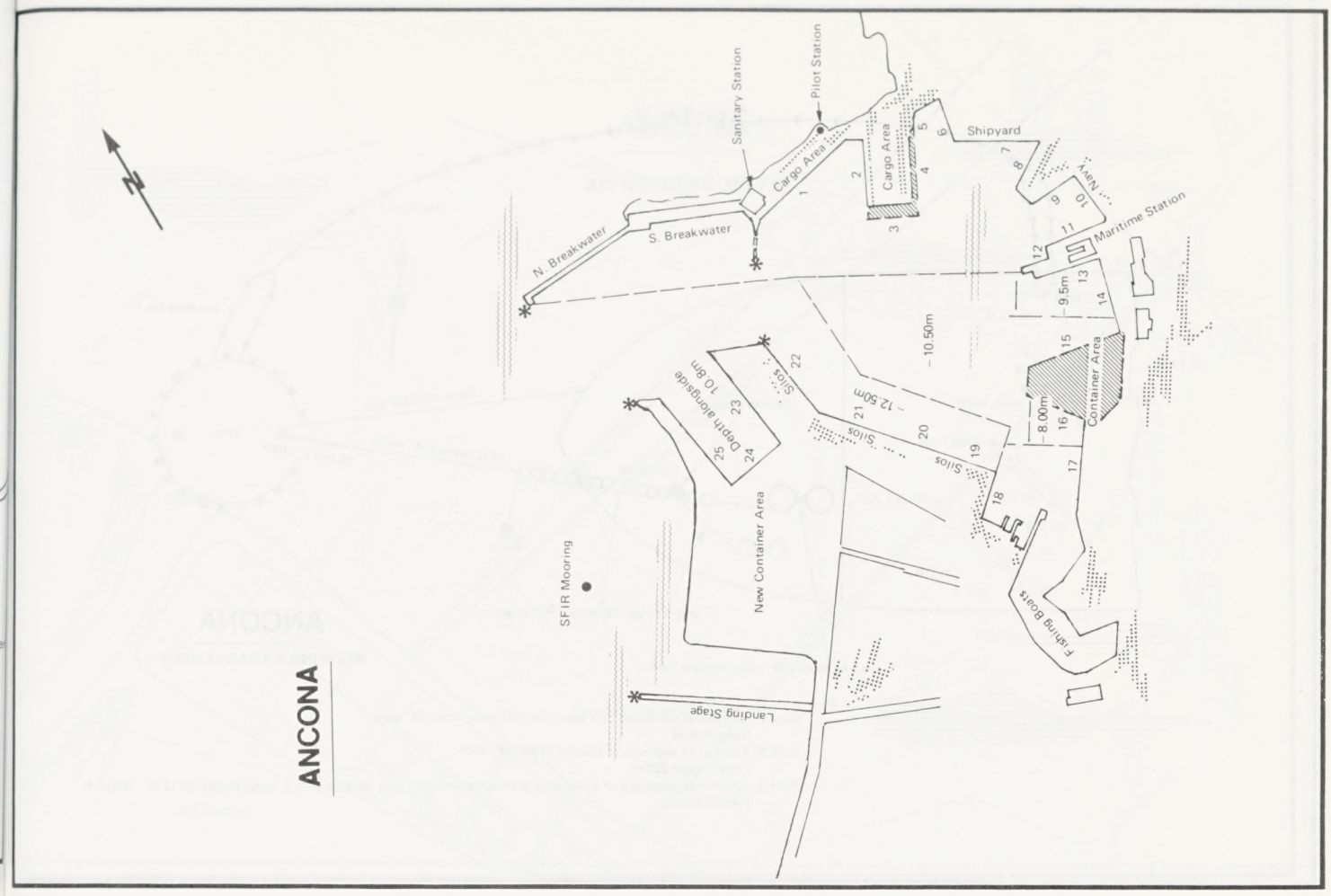
1. Two to three lines usually used to each mooring dolphin.
2. One spring fwd & aft for tankers up to 90,000 D.W.T.
3. Two springs fwd & aft for tankers over 90,000 D.W.T.

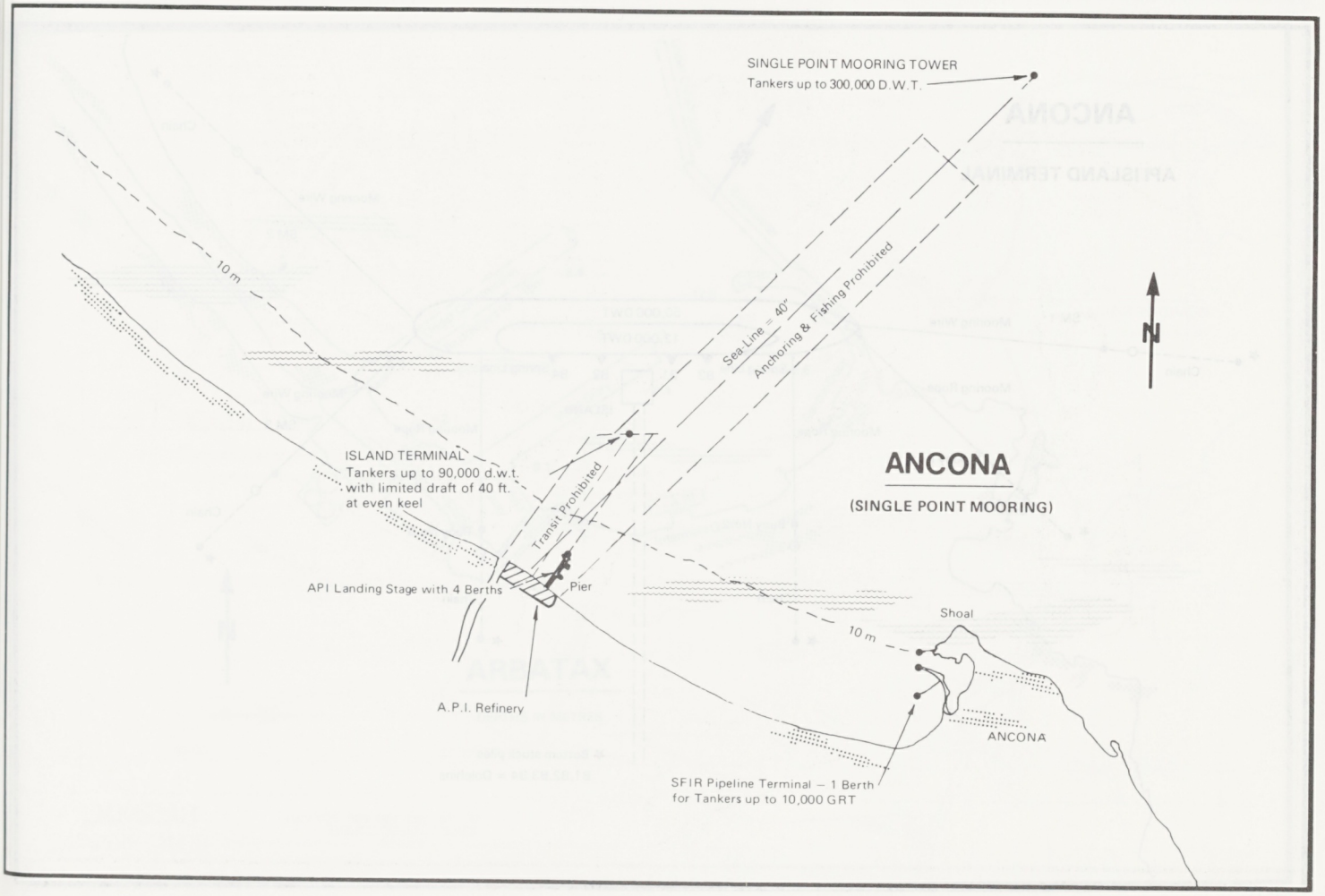


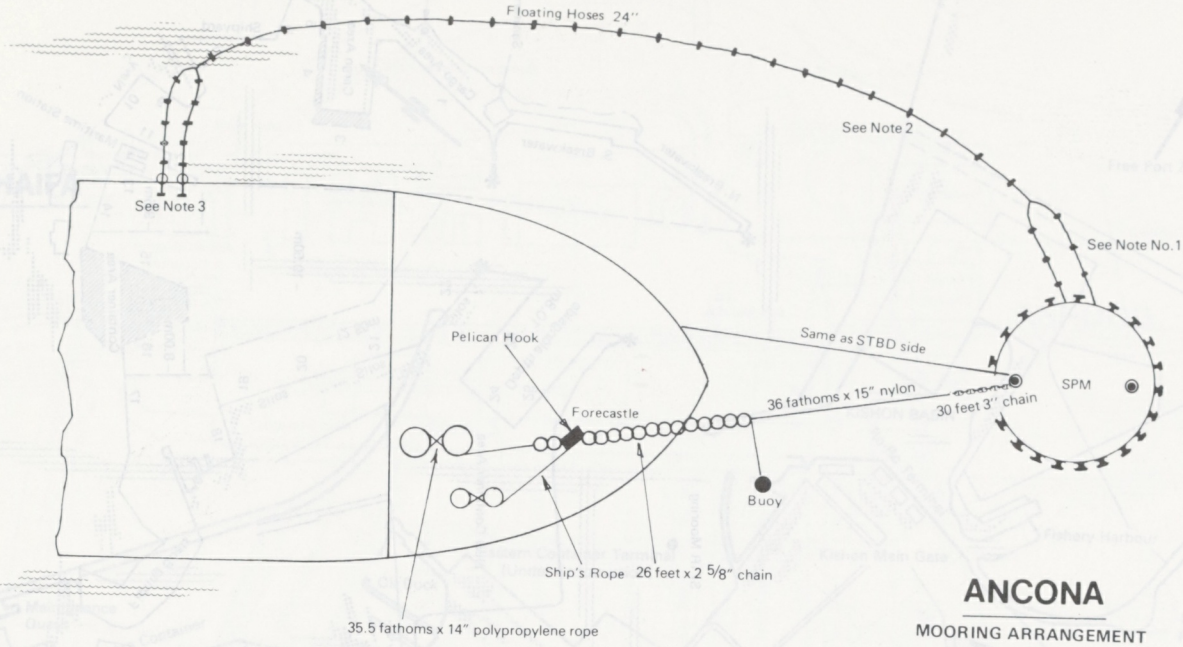


GIBRALTAR AT 15 KNOTS TO:	DISTANCE IN MILES	DURATION IN DAYS/HOURS
CAPE GOOD HOPE	5120	14
CRISTOBAL	4330	12
DAKAR	1500	4
FREMANTLE	9856	27½
LAS PALMAS	700	2
MONTEVIDEO	5187	14½
MONTREAL	3184	9
NEW ORLEANS	4568	12½
NEW YORK	3210	9
QUOIN ISLAND	9731	27
ROTTERDAM	1363	4
SAN FRANCISCO	7620	21
SINGAPORE	10686	29½
SKAW	1760	5
YOKOHAMA (VIA PANAMA)	12054	33½

GIBRALTAR AT 15 KNOTS TO:	DISTANCE IN MILES	DURATION IN DAYS/HOURS
ALEXANDRIA	1798	5
ALGIERS	412	1^{3}
AUGUSTA	1035	2^{21}
BANIAS	2017	5^{13}
BARCELONA	515	1^{10}
BENGHAZI	1333	3^{17}
BEYROUTH	2005	5^{14}
BOUGIE (BEJAIA)	515	1^{10}
CARTHAGENA	237	0^{16}
CONSTANZA	1995	5^{13}
GENOA	847	2^{8}
ISTANBUL	1800	5
MALTA	985	2^{18}
MARSEILLES	590	1^{22}
NAPLES	980	2^{17}
NOVOROSSISK	2255	6^{8}
ORAN	235	0^{16}
RIJEKA	1608	4^{11}
SFAX	1005	2^{19}
SKARAMANGA	1490	4^{3}
TRIPOLI – LIBYA	1075	3
VENICE	1658	4^{15}


ANCONA
N
Sanitary Station
Pilot Station
Cargo Area
Cargo Area
Shipyard
Navy
Maritime Station
N. Breakwater
S. Breakwater
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
9.5m
10.50m
12.50m
8.00m
Container Area
Silos
Silos
Silos
Depth alongside 10.8m
SFIR Mooring
New Container Area
Landing Stage
Fishing Boats


SINGLE POINT MOORING TOWER
Tankers up to 300,000 D.W.T.
10 m
ISLAND TERMINAL
Tankers up to 90,000 d.w.t.
with limited draft of 40 ft.
at even keel
Transit Prohibited
Sea-Line = 40"
Anchoring & Fishing Prohibited
N
ANCONA
(SINGLE POINT MOORING)
API Landing Stage with 4 Berths
Pier
A.P.I. Refinery
Shoal
10 m
ANCONA
SFIR Pipeline Terminal – 1 Berth
for Tankers up to 10,000 GRT



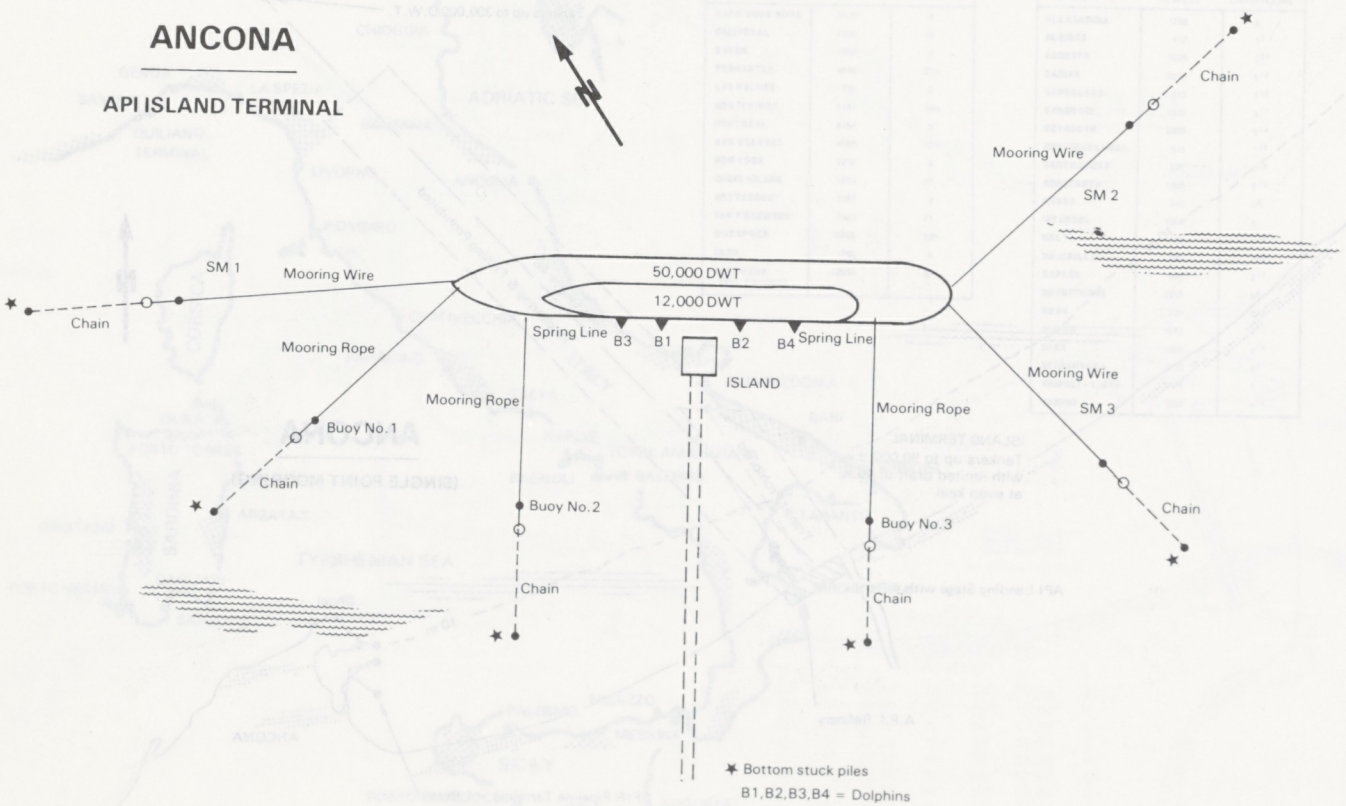
ANCONA

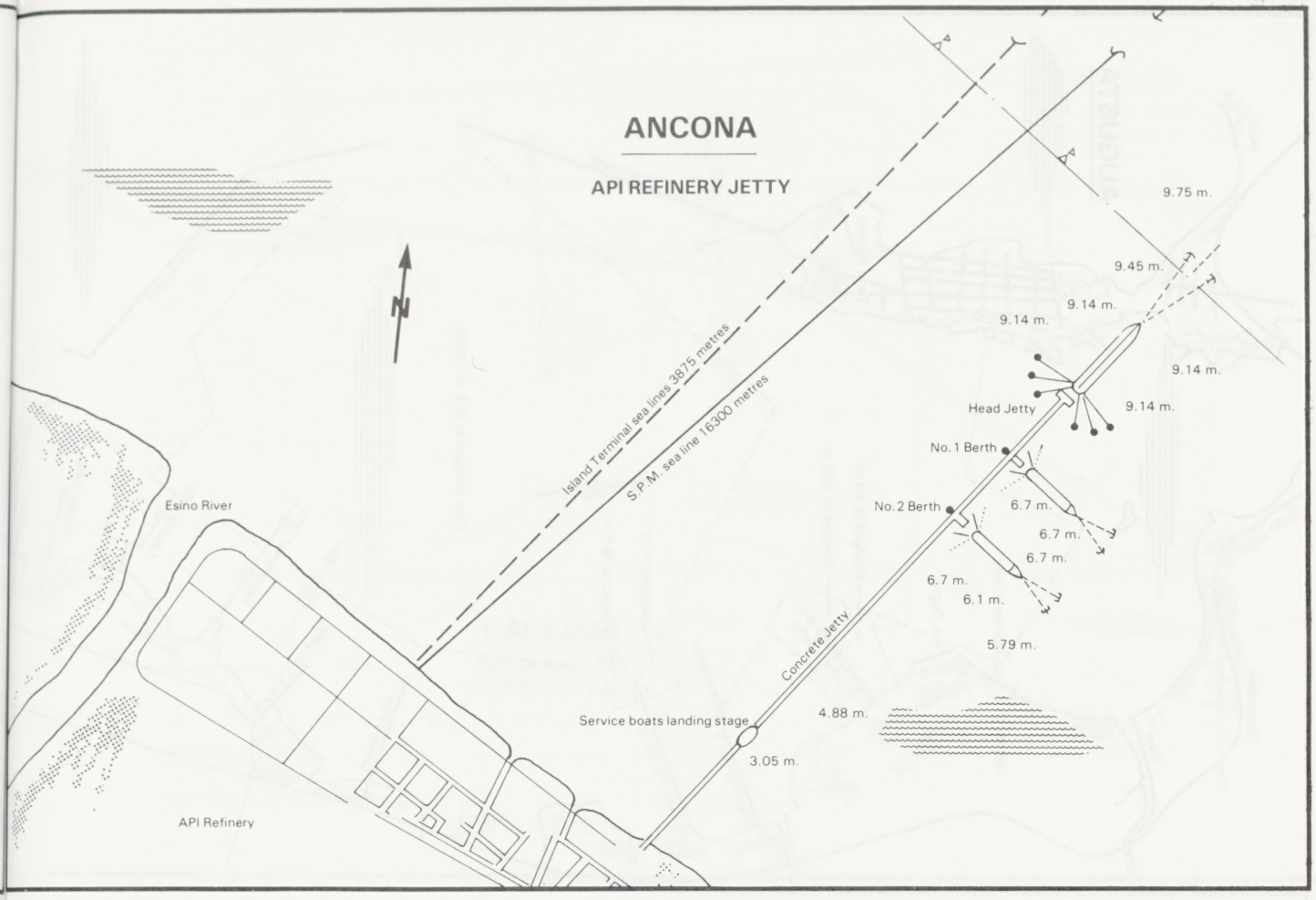
MOORING ARRANGEMENT

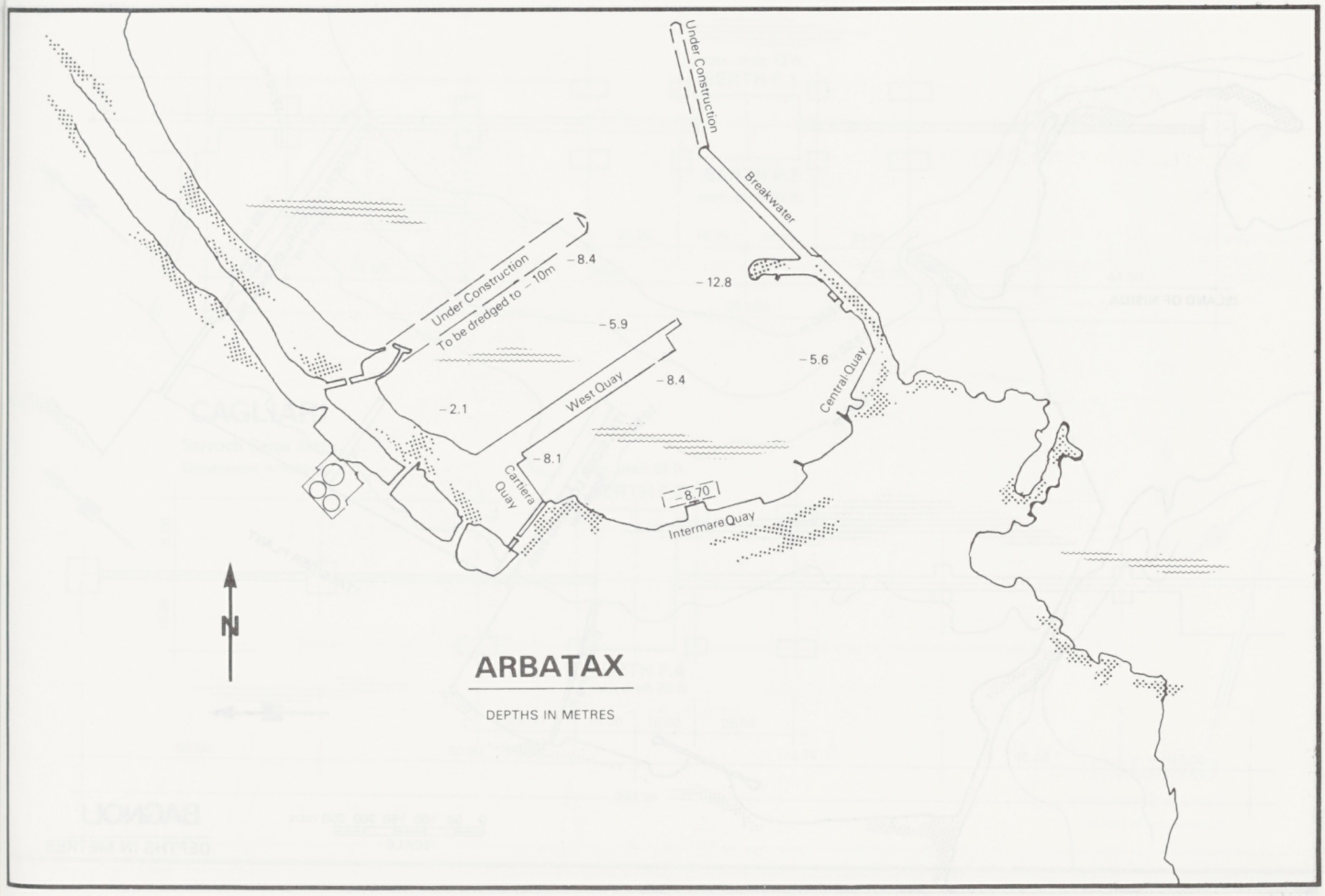
Note 1. 2 branches composed of 3 segments of floating hoses 24" each (Length 34m)
Note 2 1 line of 21 segments of floating hoses 24" each (Total Length 223m)
Note 3 2 branches composed of 4 segments of floating hoses 16" each ending with 2 conic hoses 16/12 in. (total 4) (Length 42m)

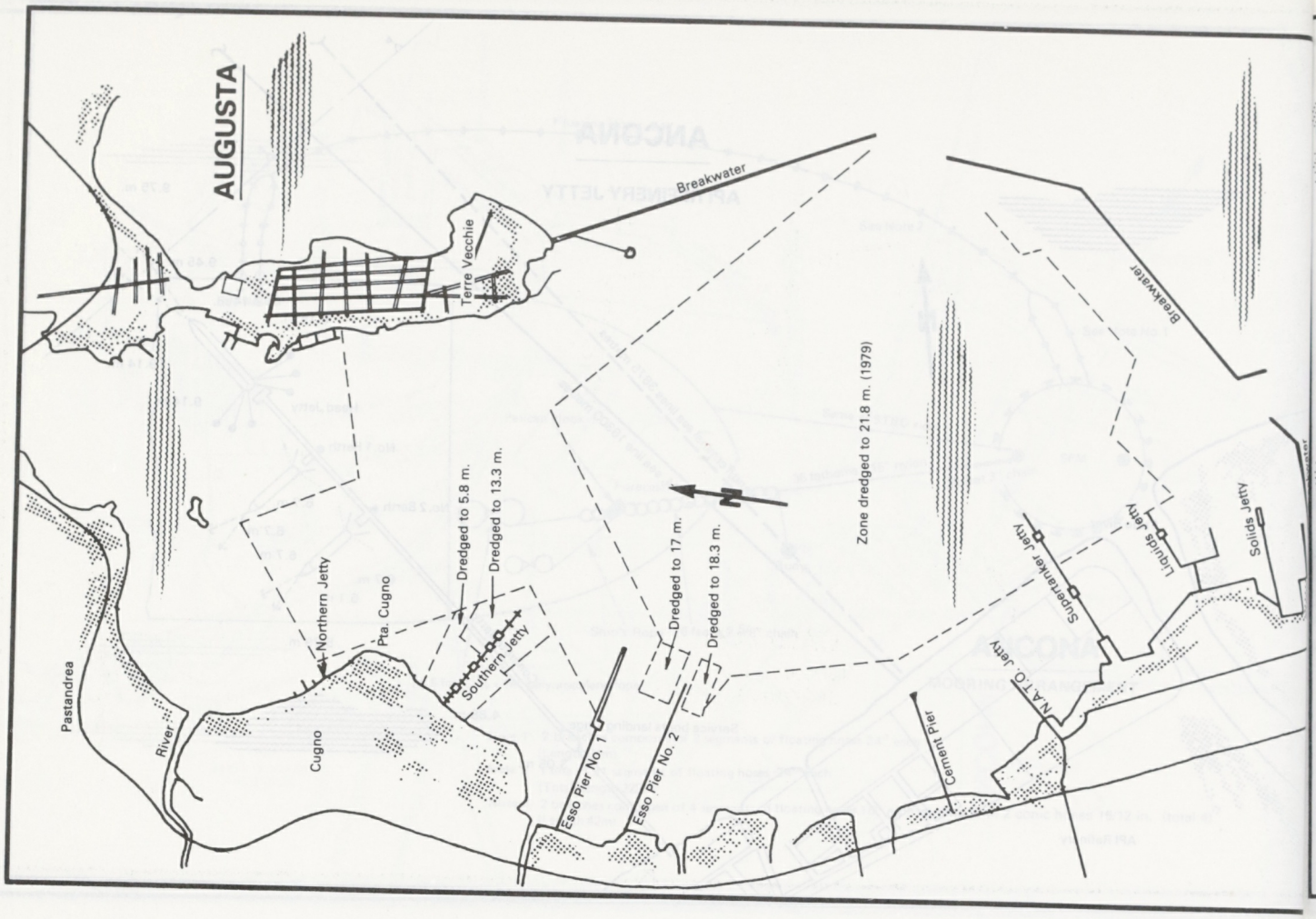
ANCONA

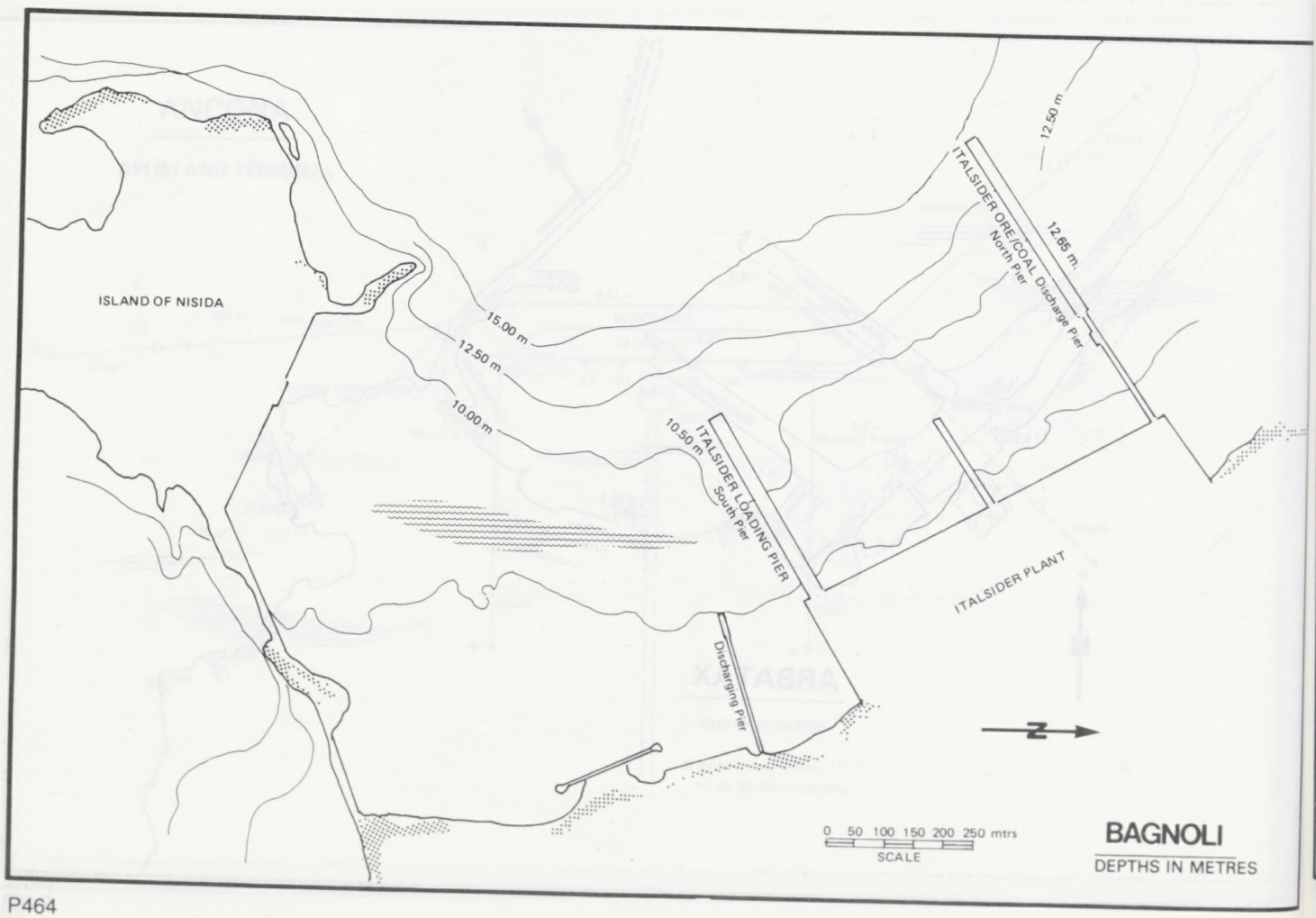
API ISLAND TERMINAL

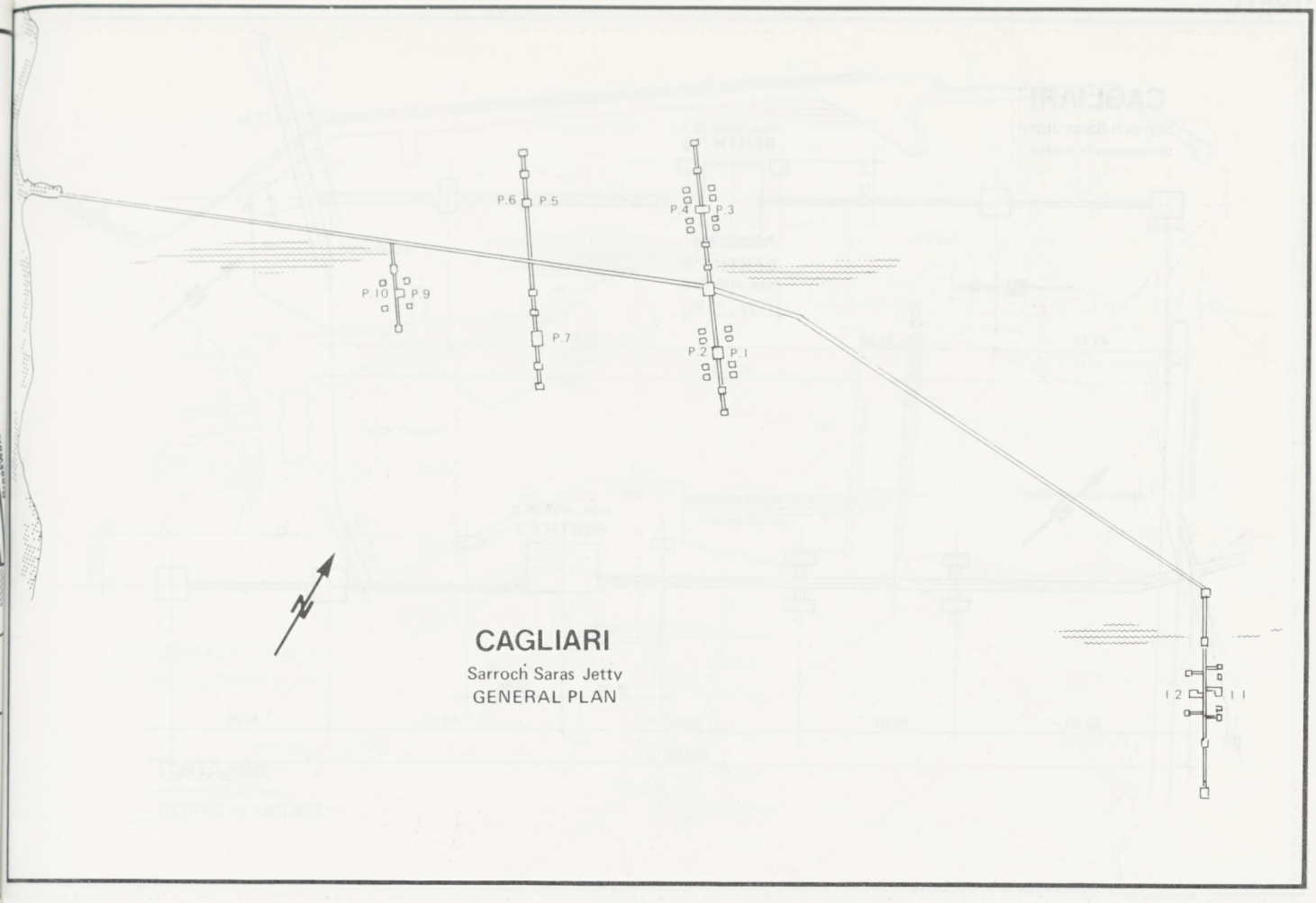



ANCONA
API REFINERY JETTY
N
Island Terminal sea lines 3875 metres
S.P.M. sea line 16300 metres
Esino River
API Refinery
Service boats landing stage
Concrete Jetty
Head Jetty
No. 1 Berth
No. 2 Berth
9.75 m.
9.45 m.
9.14 m.
9.14 m.
9.14 m.
9.14 m.
6.7 m.
6.7 m.
6.7 m.
6.7 m.
6.1 m.
5.79 m.
4.88 m.
3.05 m.


ARBATAX
DEPTHS IN METRES
N
Under Construction
Breakwater
Under Construction
To be dredged to −10m
West Quay
Central Quay
Carriera Quay
Intermare Quay
−8.4
−12.8
−5.9
−5.6
−8.4
−2.1
−8.1
−8.70

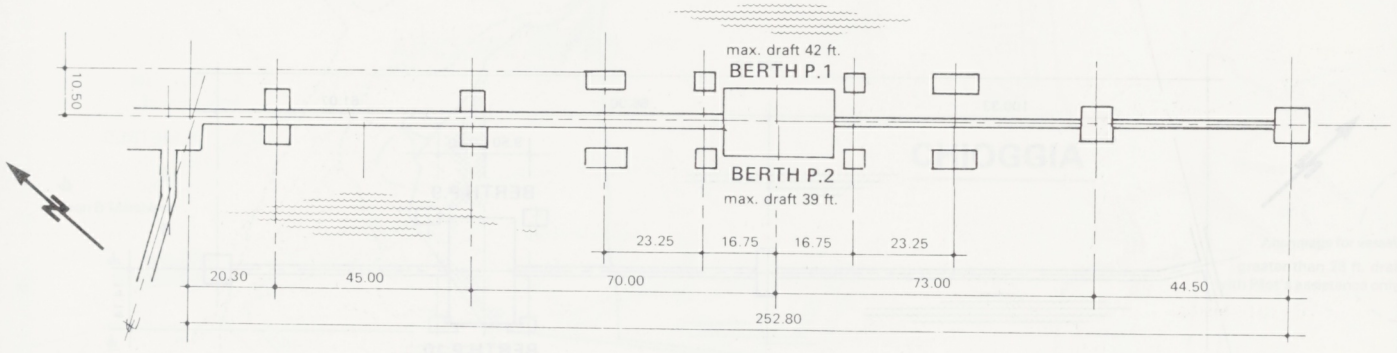

AUGUSTA
Breakwater
Terre Vecchie
Breakwater
Zone dredged to 21.8 m. (1979)
Dredged to 5.8 m.
Dredged to 13.3 m.
Dredged to 17 m.
Dredged to 18.3 m.
Northern Jetty
Pta. Cugno
Southern Jetty
Pastandrea
River
Cugno
Esso Pier No. 1
Esso Pier No. 2
Cement Pier
N.A.T.O. Jetty
Supertanker Jetty
Liquids Jetty
Solids Jetty
N


ISLAND OF NISIDA
15.00 m
12.50 m
10.00 m
12.50 m
12.65 m.
ITALSIDER ORE/COAL Discharge Pier
North Pier
10.50 m.
ITALSIDER LOADING PIER
South Pier
ITALSIDER PLANT
Discharging Pier
N
0 50 100 150 200 250 mtrs
SCALE
BAGNOLI
DEPTHS IN METRES



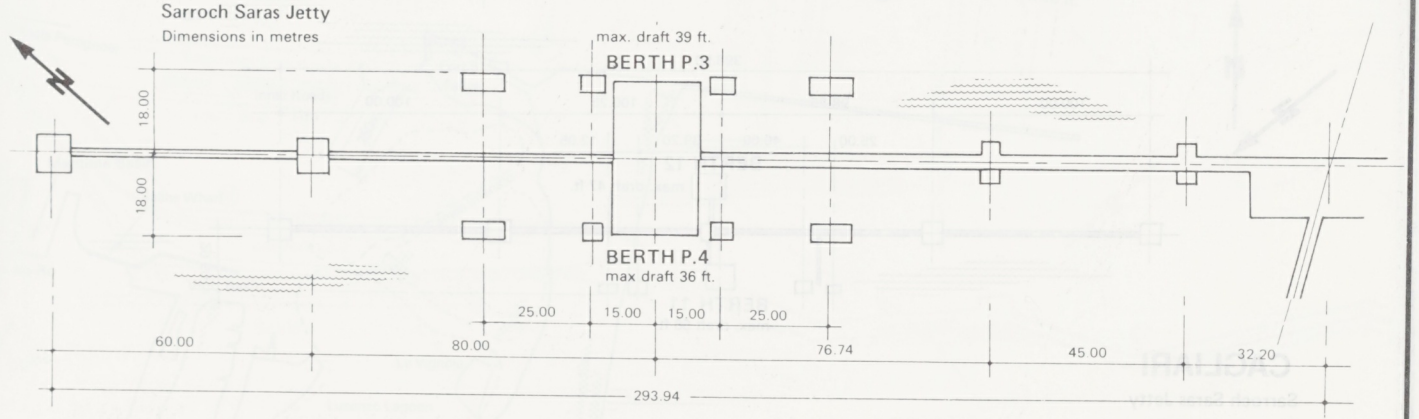
CAGLIARI

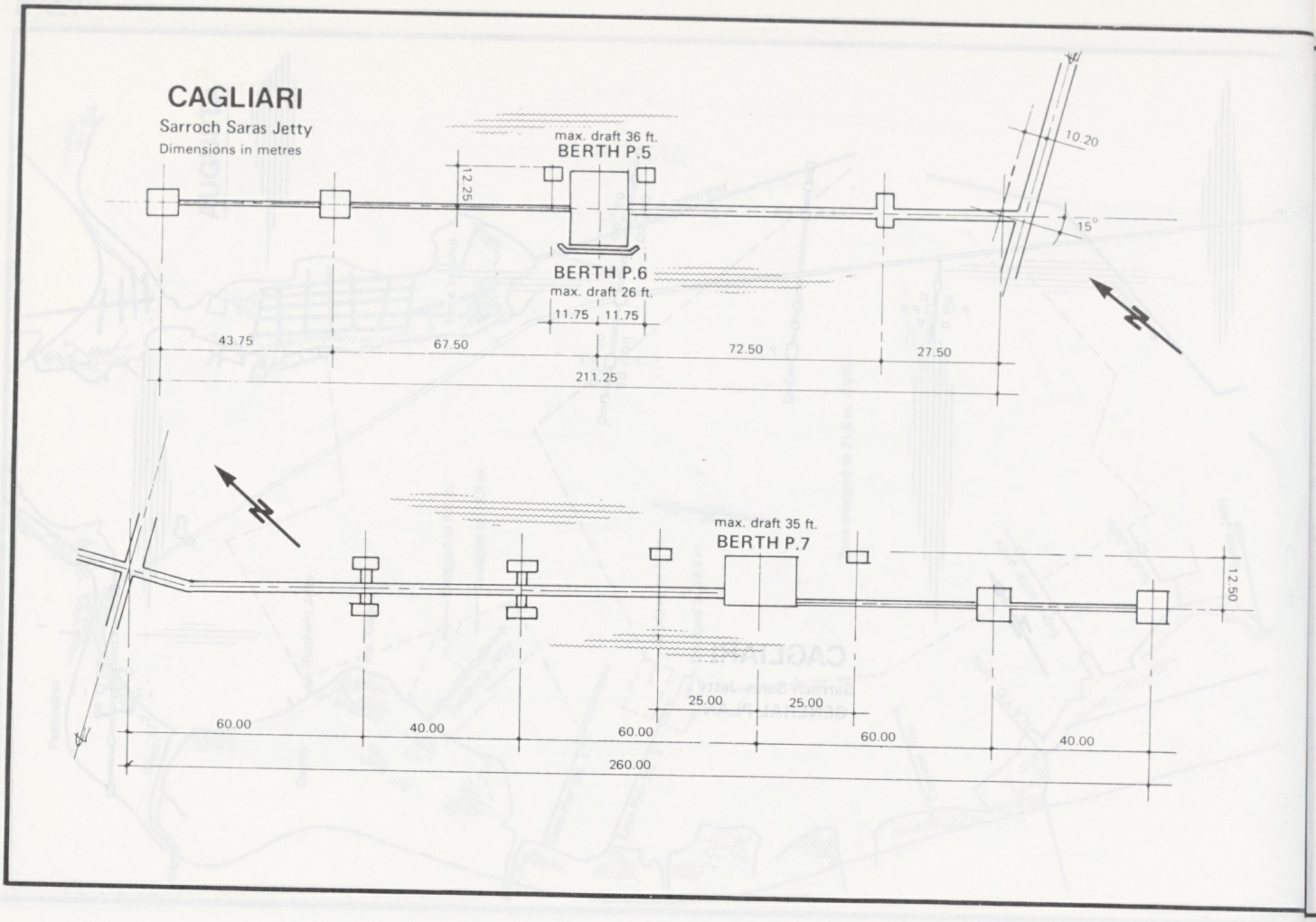
Sarroch Saras Jetty
GENERAL PLAN

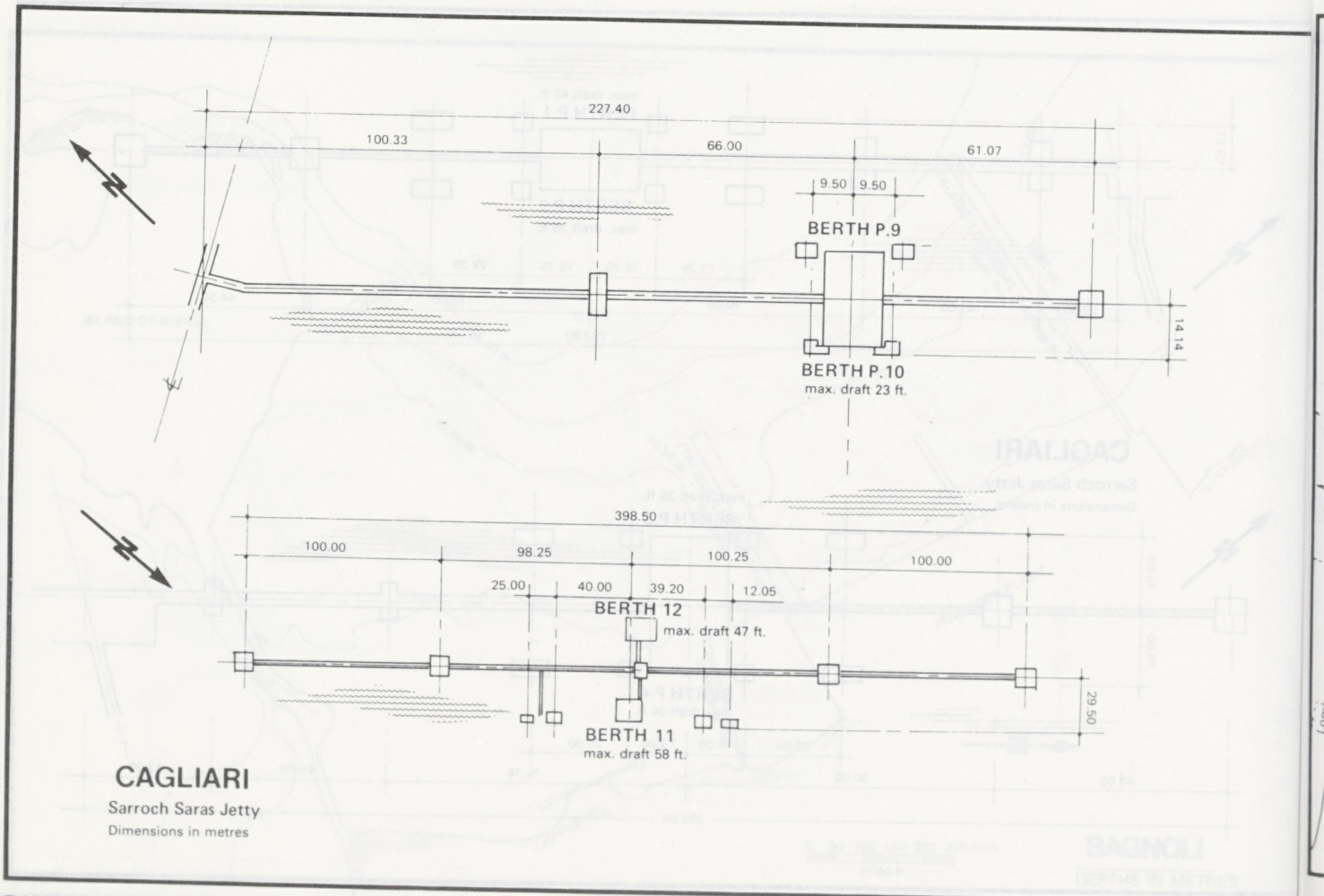


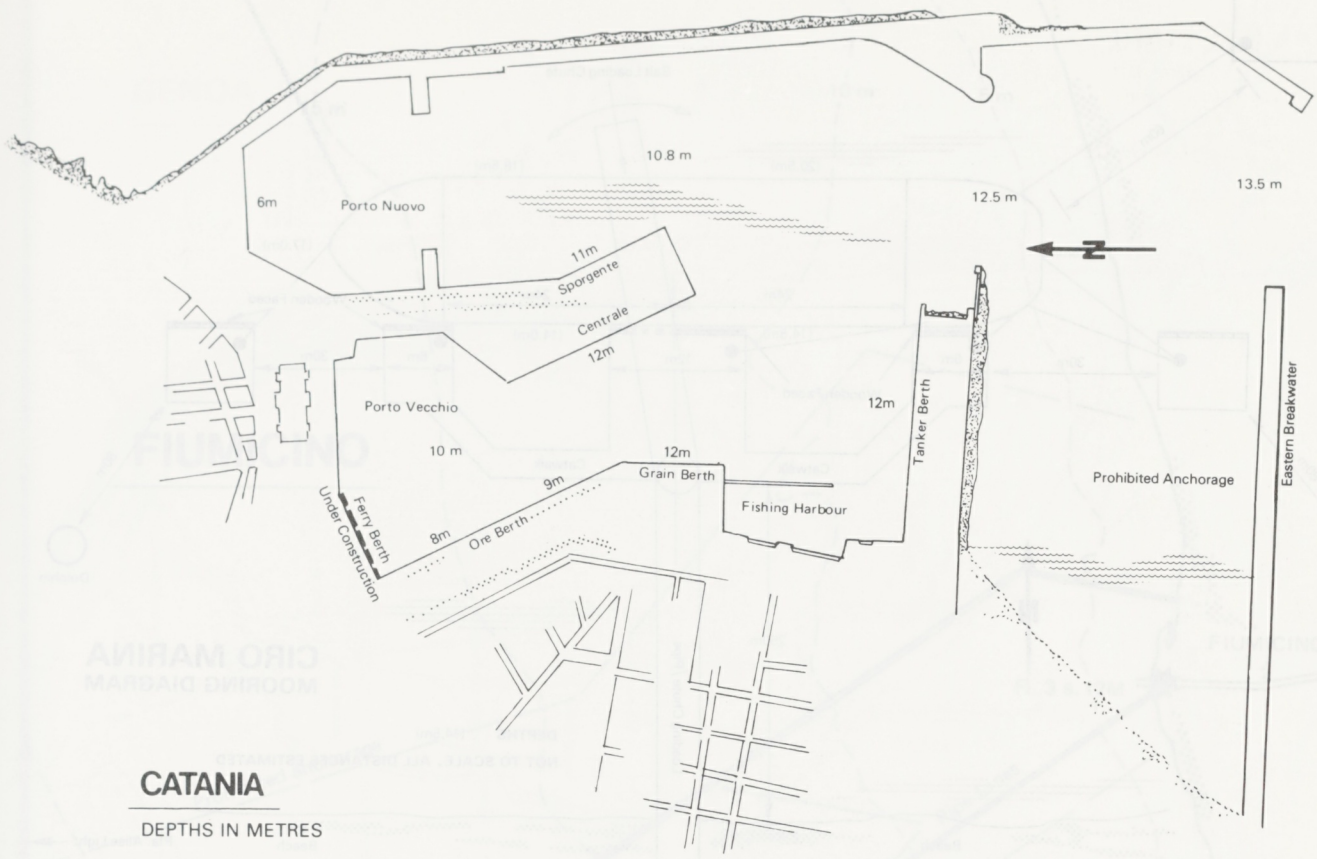
CAGLIARI

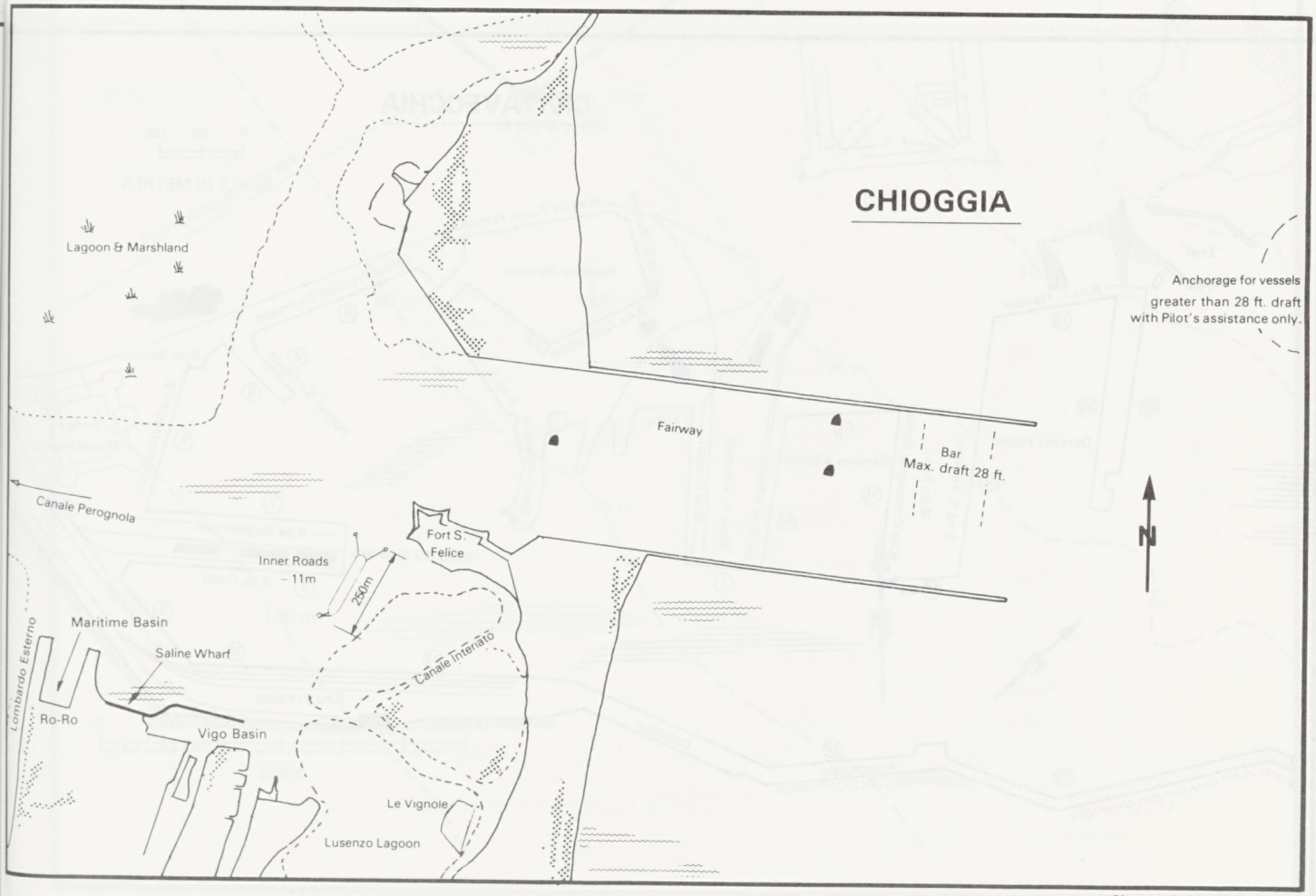
Sarroch Saras Jetty
Dimensions in metres



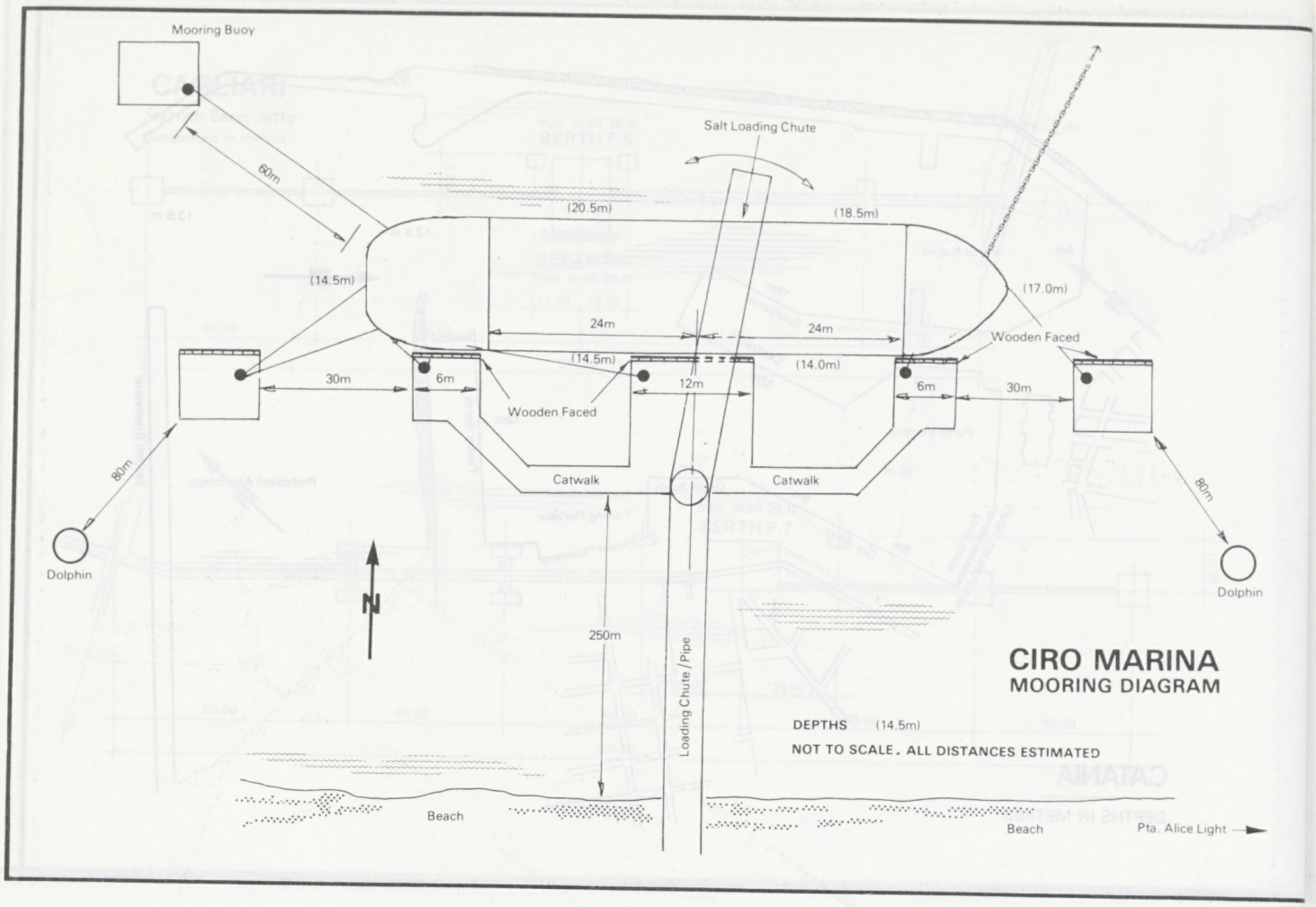

CAGLIARI
Sarroch Saras Jetty
Dimensions in metres
max. draft 36 ft.
BERTH P.5
12.25
10.20
15°
BERTH P.6
max. draft 26 ft.
11.75
11.75
43.75
67.50
72.50
27.50
211.25
max. draft 35 ft.
BERTH P.7
12.50
25.00
25.00
60.00
40.00
60.00
60.00
40.00
260.00


227.40
100.33
66.00
61.07
9.50
9.50
BERTH P.9
14.14
BERTH P.10
max. draft 23 ft.
398.50
100.00
98.25
100.25
100.00
25.00
40.00
39.20
12.05
BERTH 12
max. draft 47 ft.
29.50
BERTH 11
max. draft 58 ft.
CAGLIARI
Sarroch Saras Jetty
Dimensions in metres

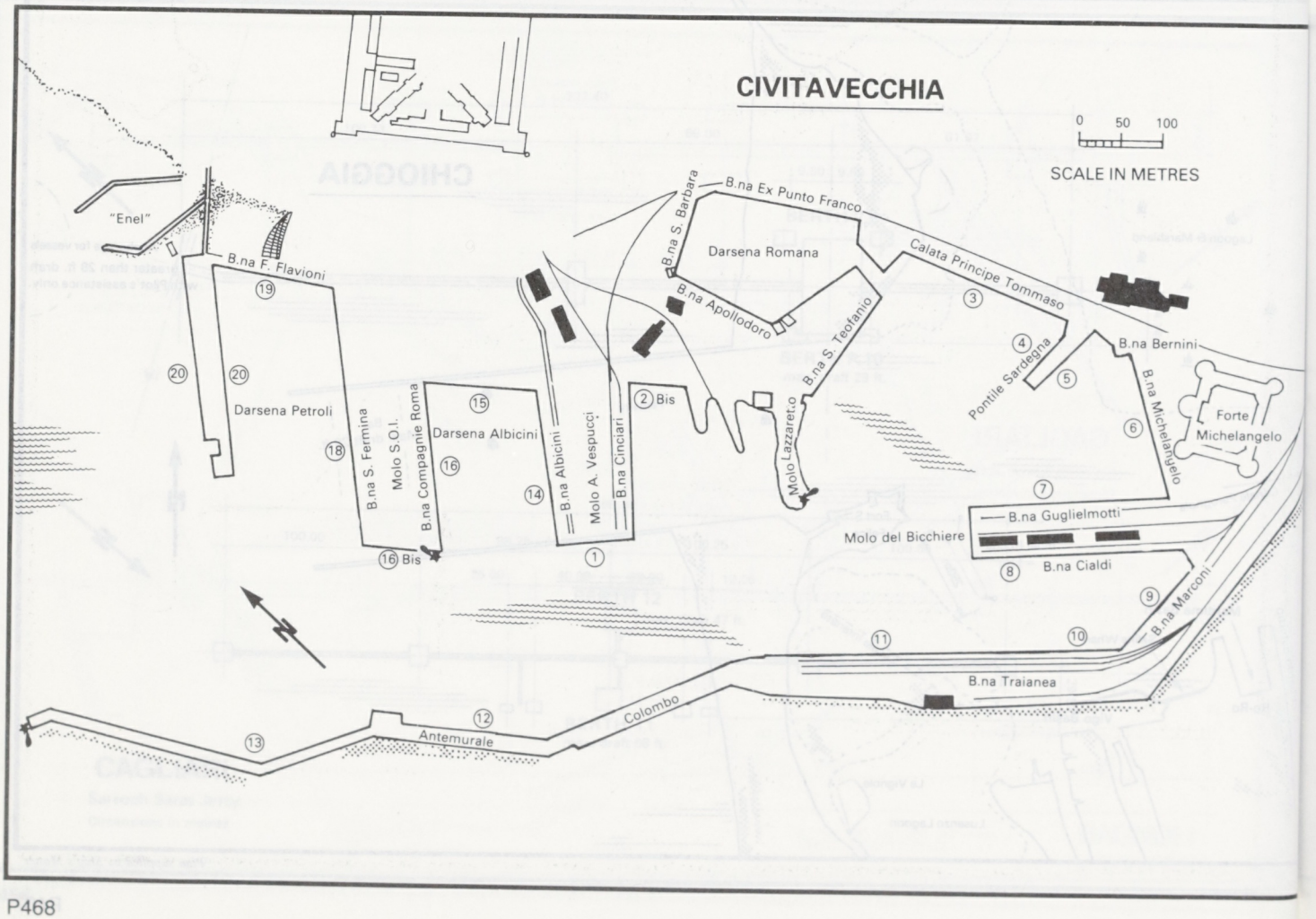


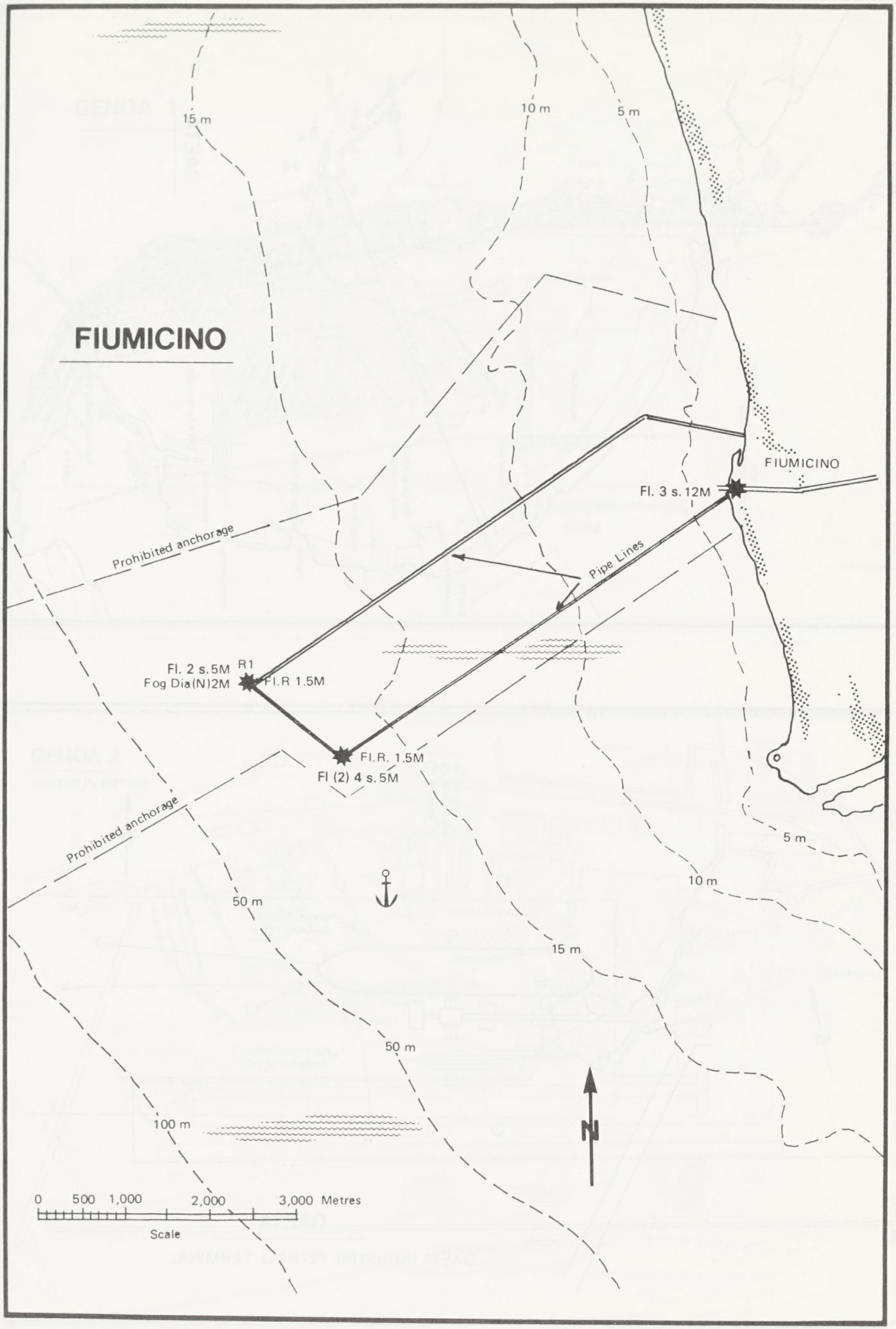


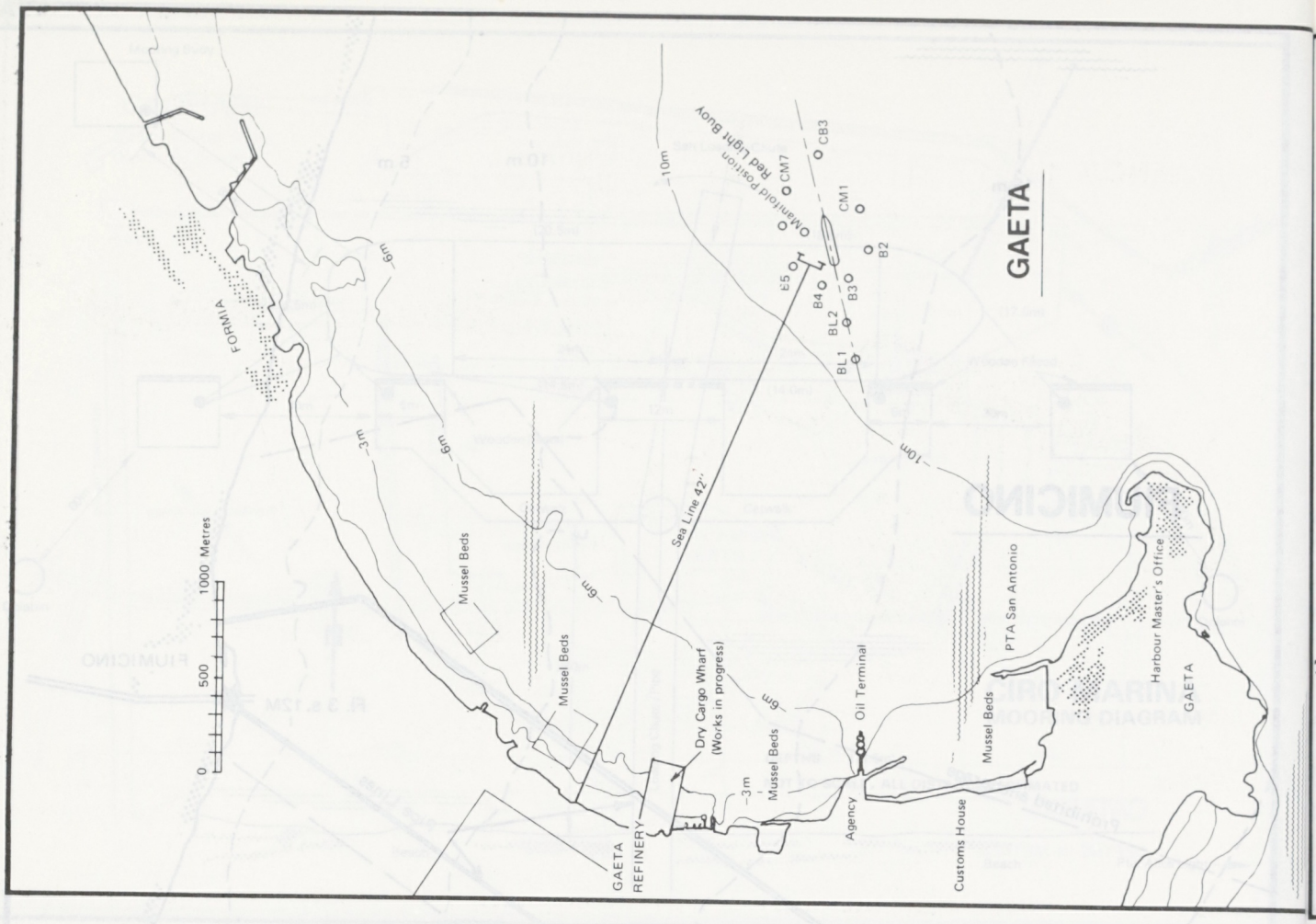
"Plan supplied by Ship's Master"

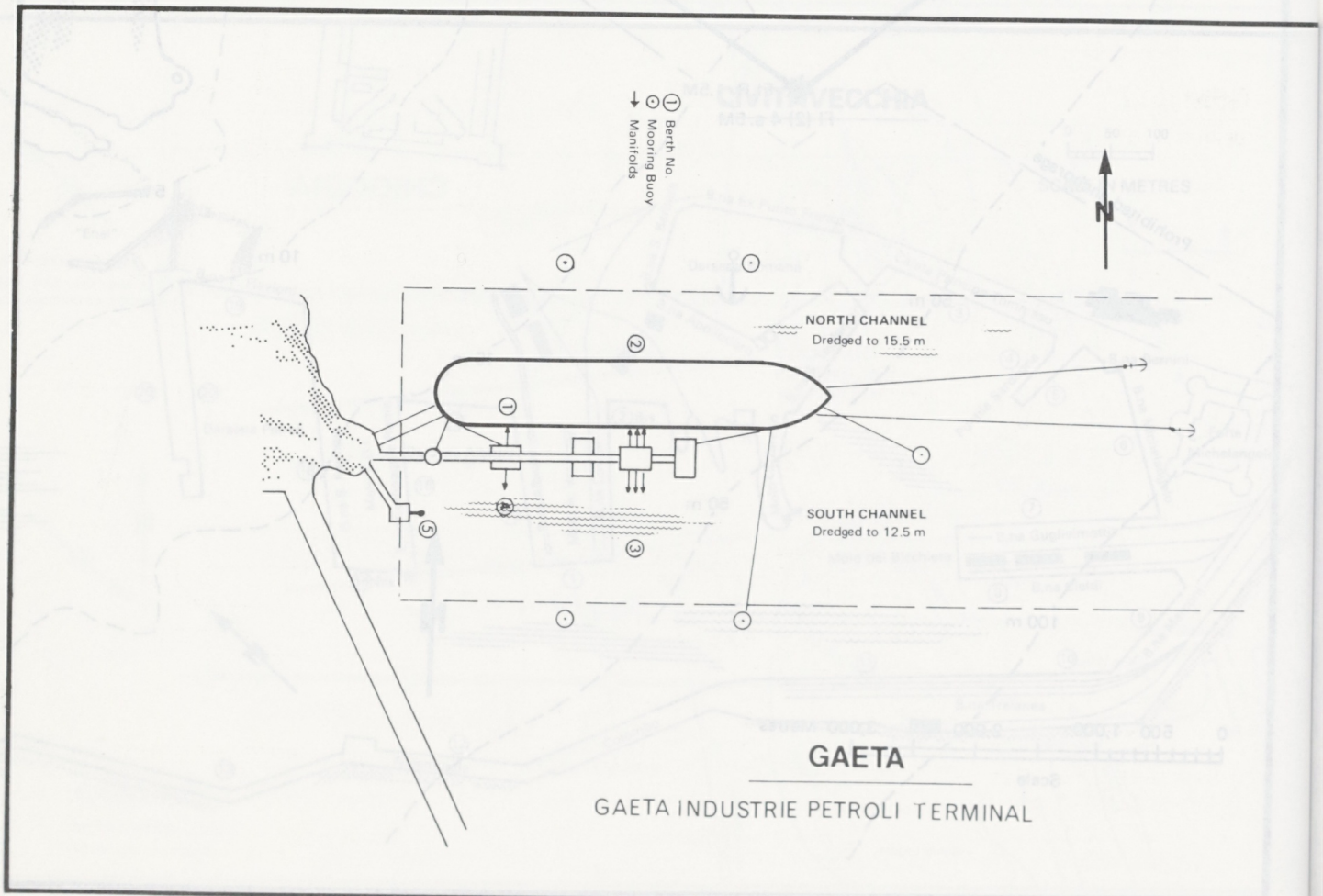


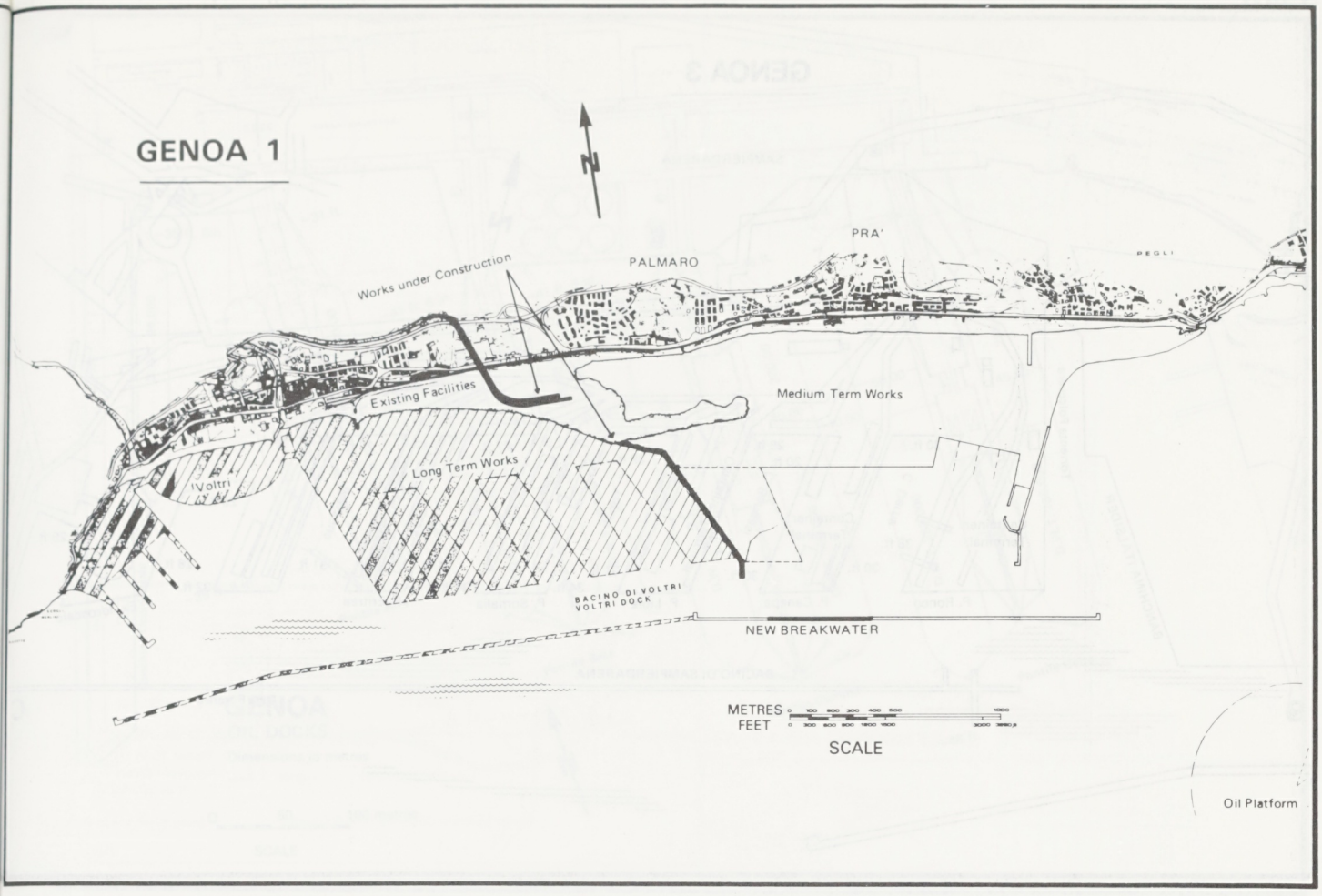
"Plan supplied by Ship's Maste

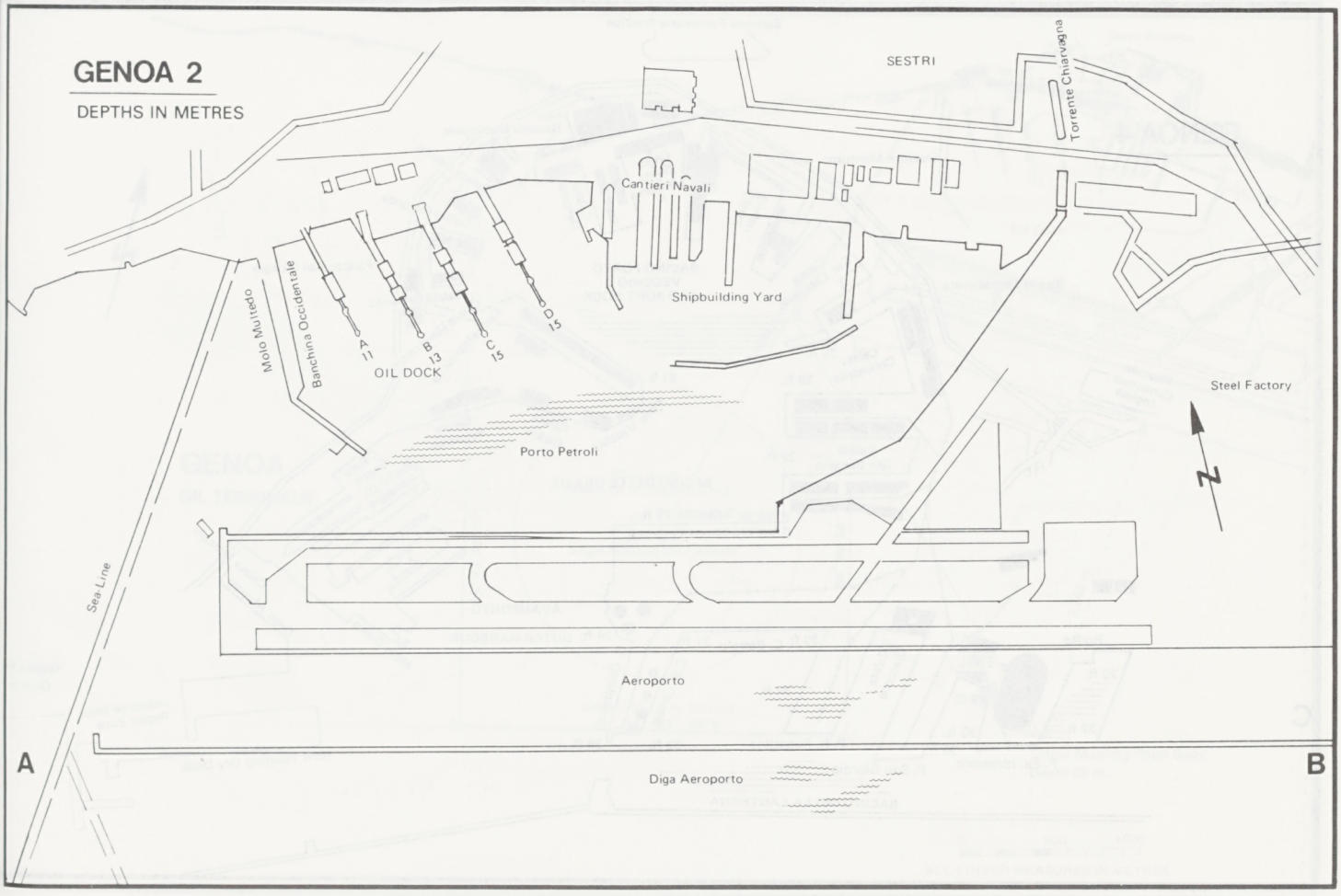


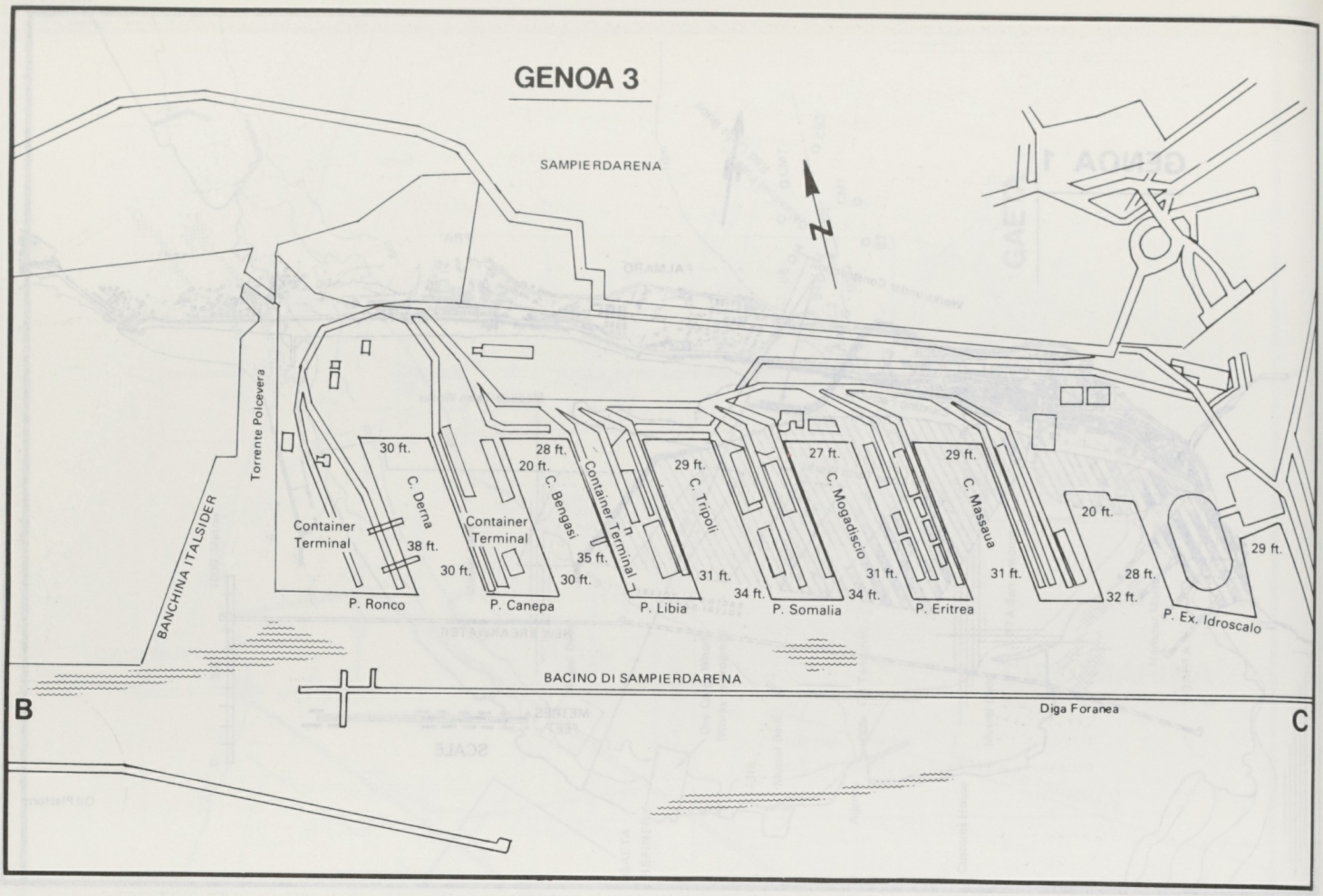

FIUMICINO
15 m
10 m
5 m
FIUMICINO
Fl. 3 s. 12M
Prohibited anchorage
Pipe Lines
Fl. 2 s. 5M R1
Fog Dia(N)2M
Fl.R 1.5M
Fl.R. 1.5M
Fl (2) 4 s. 5M
Prohibited anchorage
5 m
10 m
50 m
15 m
50 m
100 m
N
0 500 1,000 2,000 3,000 Metres
Scale

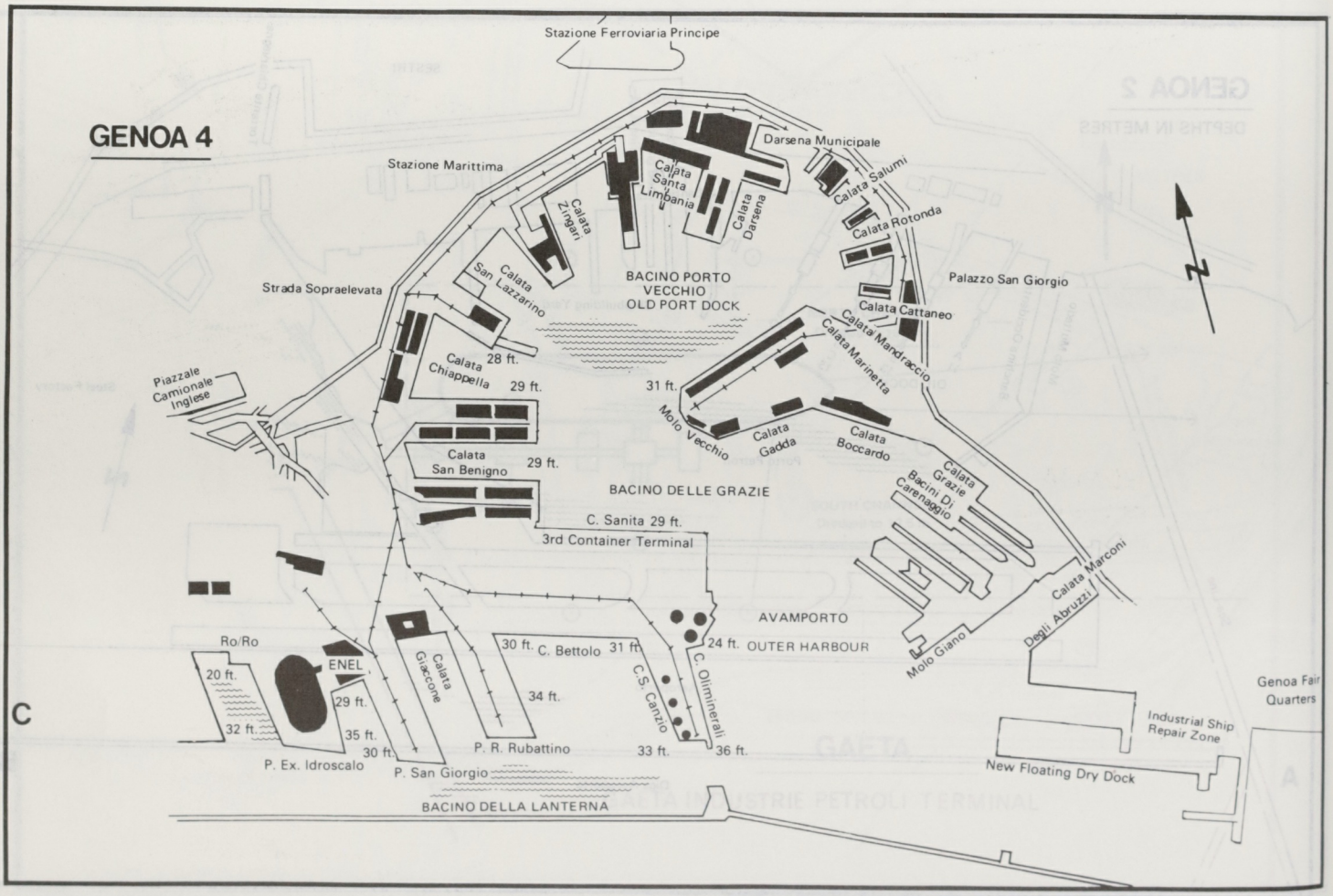

GAETA
FORMIA
Manifold position
Red Light Buoy
CM7
CB3
CM1
B2
B3
B4
BL2
BL1
E5
10m
9m
3m
6m
Sea Line 42"
Mussel Beds
Dry Cargo Wharf
(Works in progress)
Oil Terminal
PTA San Antonio
Harbour Master's Office
GAETA
Customs House
Agency
GAETA
REFINERY
0
500
1000 Metres

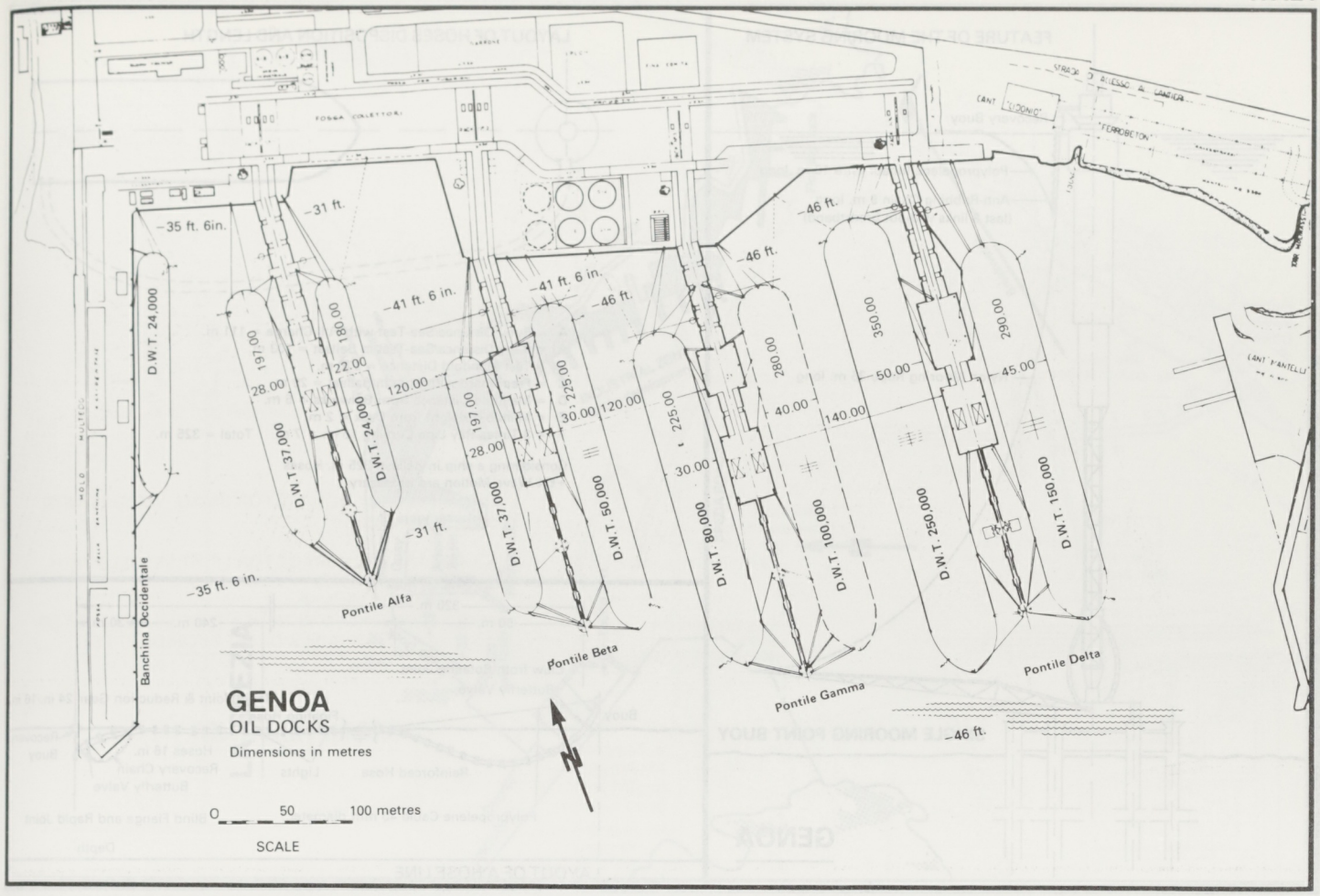

Berth No.
Mooring Buoy
Manifolds
N
NORTH CHANNEL
Dredged to 15.5 m
SOUTH CHANNEL
Dredged to 12.5 m
GAETA
GAETA INDUSTRIE PETROLI TERMINAL

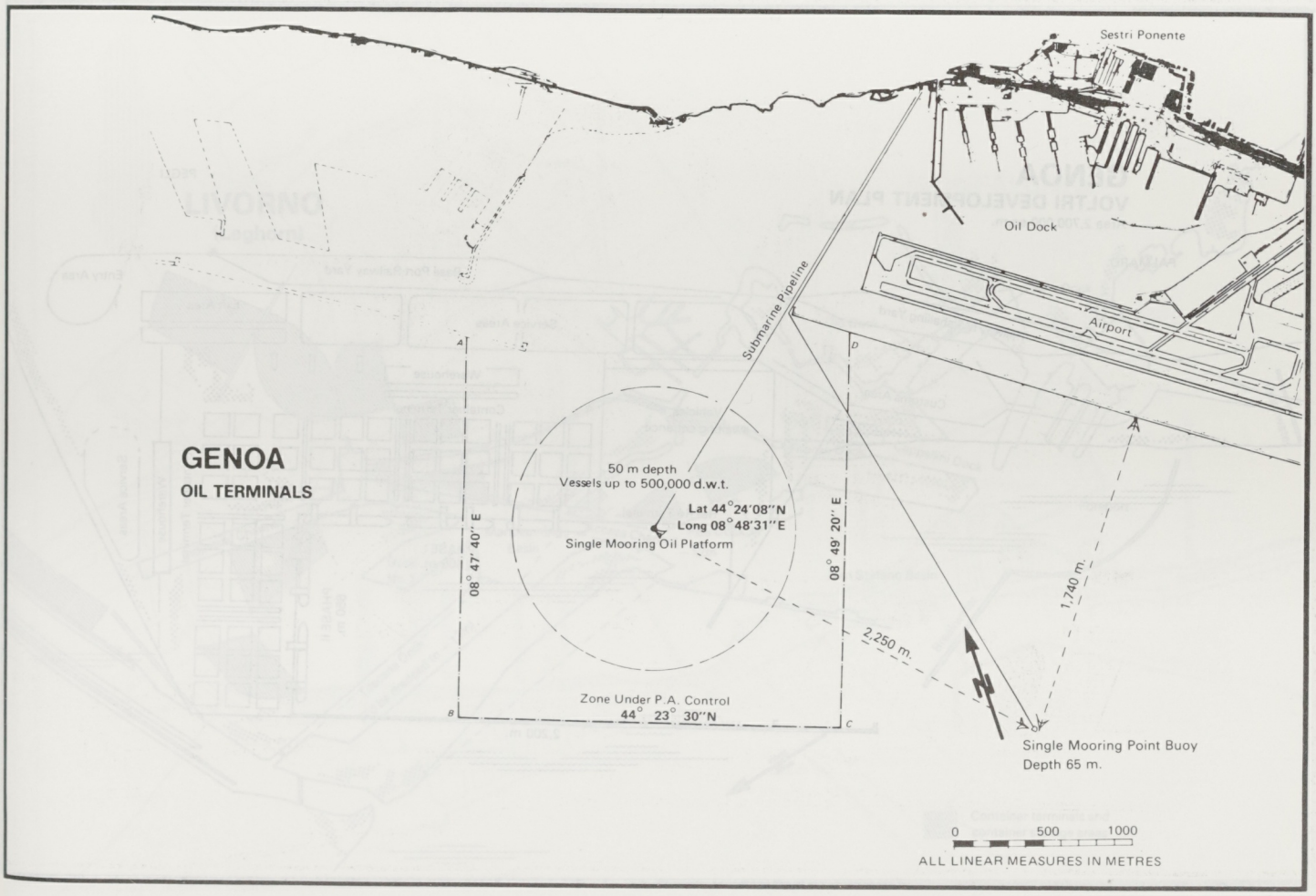

GENOA 1
N
PRA'
PALMARO
Works under Construction
Existing Facilities
Medium Term Works
Long Term Works
Voltri
BACINO DI VOLTRI
VOLTRI DOCK
NEW BREAKWATER
METRES
FEET
SCALE
Oil Platform

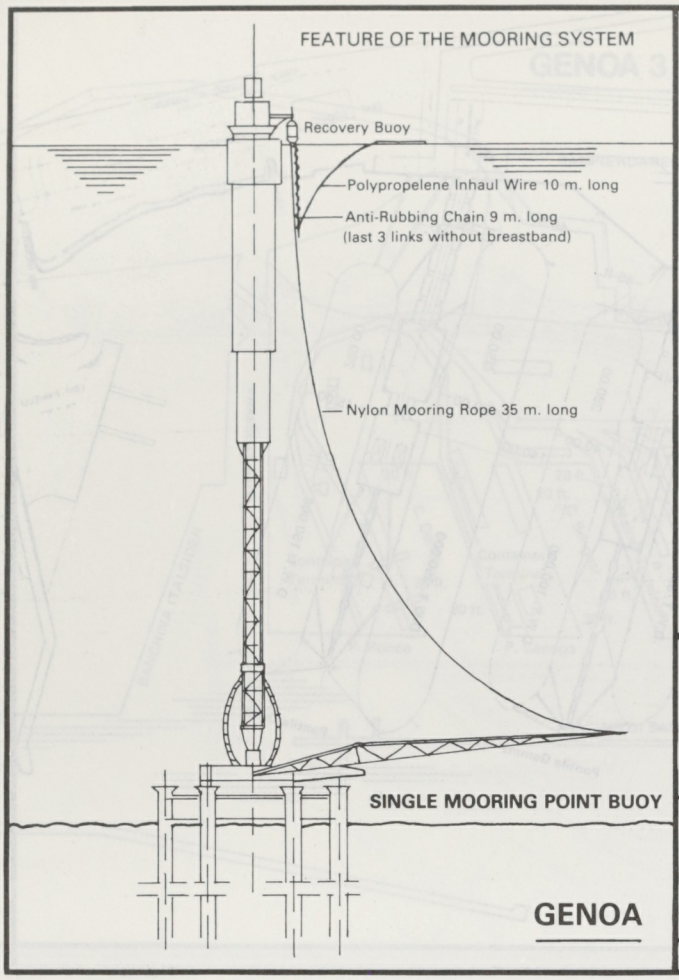

GENOA 2
DEPTHS IN METRES
SESTRI
Torrente Chiaravagna
Cantieri Navali
Shipbuilding Yard
Molo Multedo
Banchina Occidentale
A 11
B 13
C 15
D 15
OIL DOCK
Porto Petroli
Steel Factory
N
Sea Line
Aeroporto
A
B
Diga Aeroporto

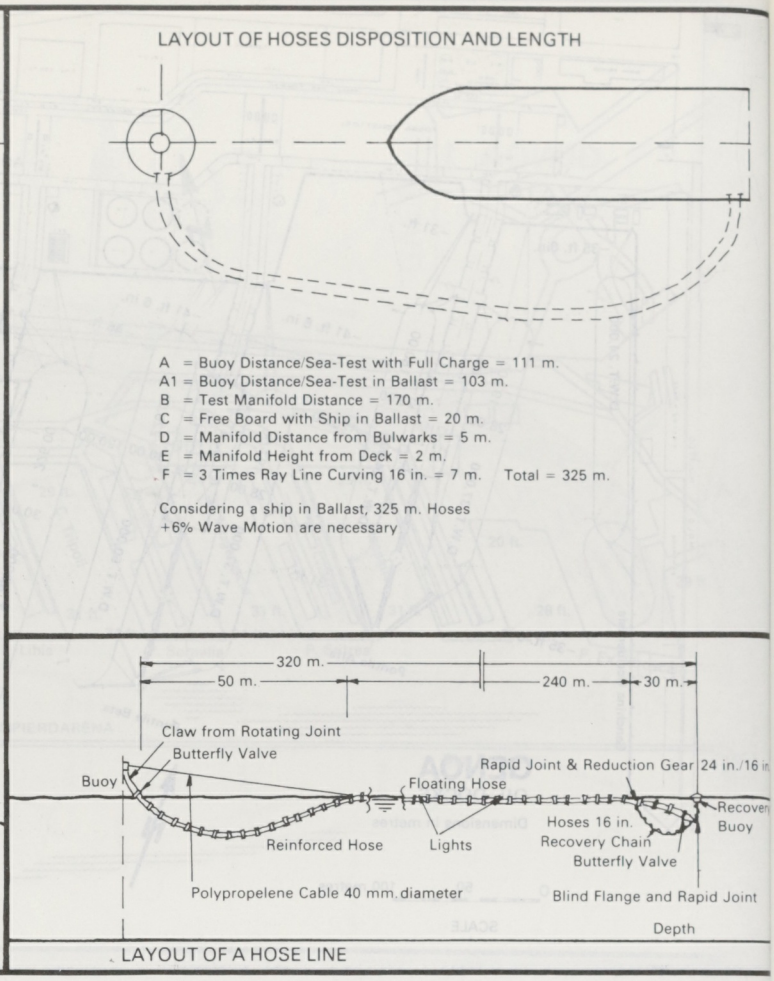

GENOA 3
SAMPIERDARENA
N
Torrente Polcevera
BANCHINA ITALSIDER
Container Terminal
30 ft.
C. Derna
38 ft.
30 ft.
P. Ronco
Container Terminal
28 ft.
20 ft.
C. Bengasi
35 ft.
30 ft.
P. Canepa
Container Terminal
29 ft.
C. Tripoli
31 ft.
34 ft.
P. Libia
27 ft.
C. Mogadiscio
31 ft.
34 ft.
P. Somalia
29 ft.
C. Massaua
31 ft.
P. Eritrea
20 ft.
28 ft.
32 ft.
29 ft.
P. Ex. Idroscalo
BACINO DI SAMPIERDARENA
Diga Foranea
B
C

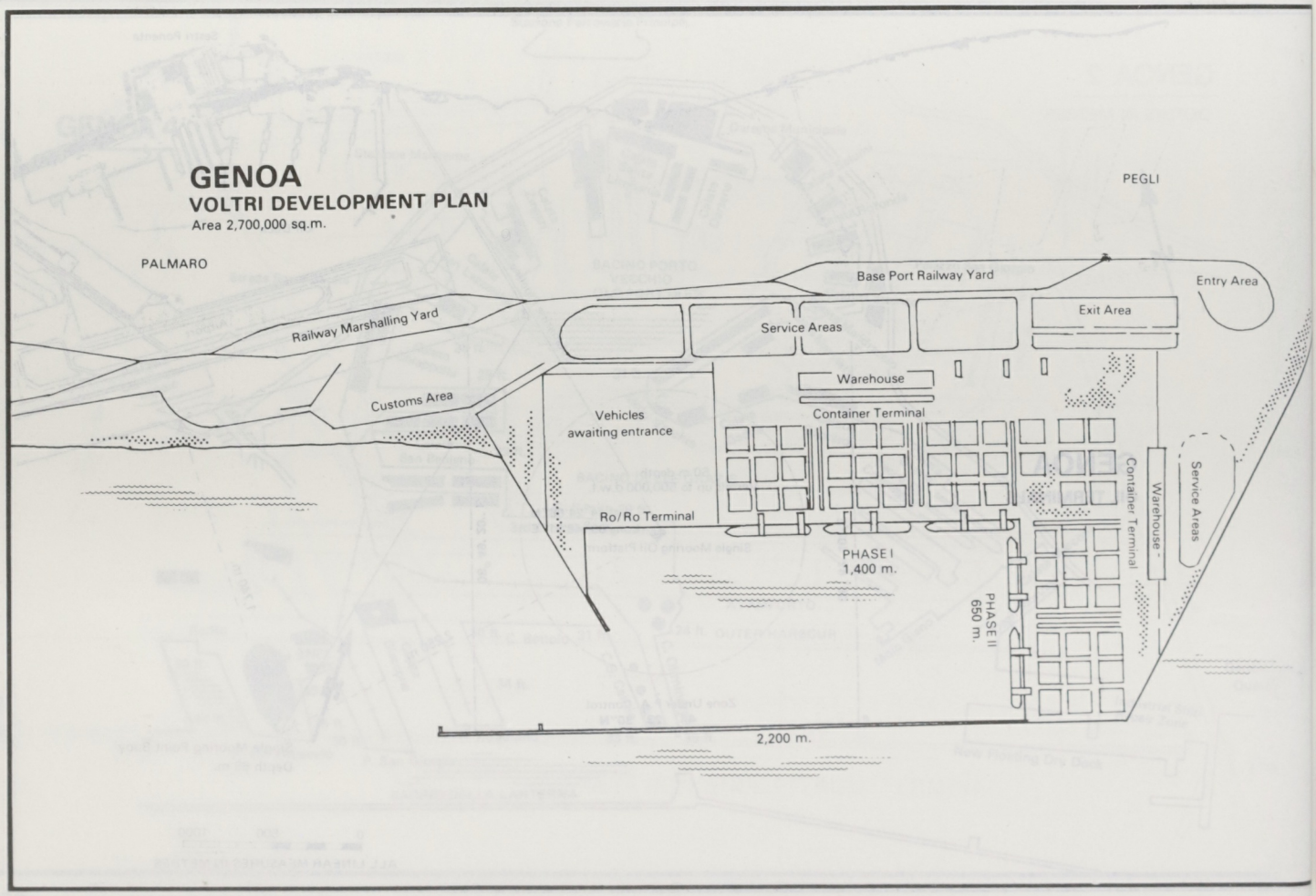

GENOA 4
Stazione Ferroviaria Principe
Stazione Marittima
Darsena Municipale
Calata Santa Limbania
Calata Darsena
Calata Salumi
Calata Rotonda
Calata Zingari
Calata San Lazzarino
BACINO PORTO VECCHIO
OLD PORT DOCK
Palazzo San Giorgio
Calata Cattaneo
Strada Sopraelevata
Calata Mandraccio
Calata Marinetta
Piazzale Camionale Inglese
Calata Chiappella
28 ft.
29 ft.
31 ft.
Molo Vecchio
Calata Gadda
Calata Boccardo
Calata Grazie
Bacini Di Carenaggio
Calata San Benigno
29 ft.
BACINO DELLE GRAZIE
C. Sanita 29 ft.
3rd Container Terminal
Calata Marconi
Degli Abruzzi
AVAMPORTO
OUTER HARBOUR
Molo Giano
Ro/Ro
ENEL
20 ft.
29 ft.
32 ft.
35 ft.
30 ft.
P. Ex. Idroscalo
Calata Giaccone
30 ft.
C. Bettolo
31 ft.
34 ft.
P. R. Rubattino
C.S. Canzio
24 ft.
C. Oliminerali
33 ft.
36 ft.
P. San Giorgio
Genoa Fair Quarters
Industrial Ship Repair Zone
New Floating Dry Dock
BACINO DELLA LANTERNA
C

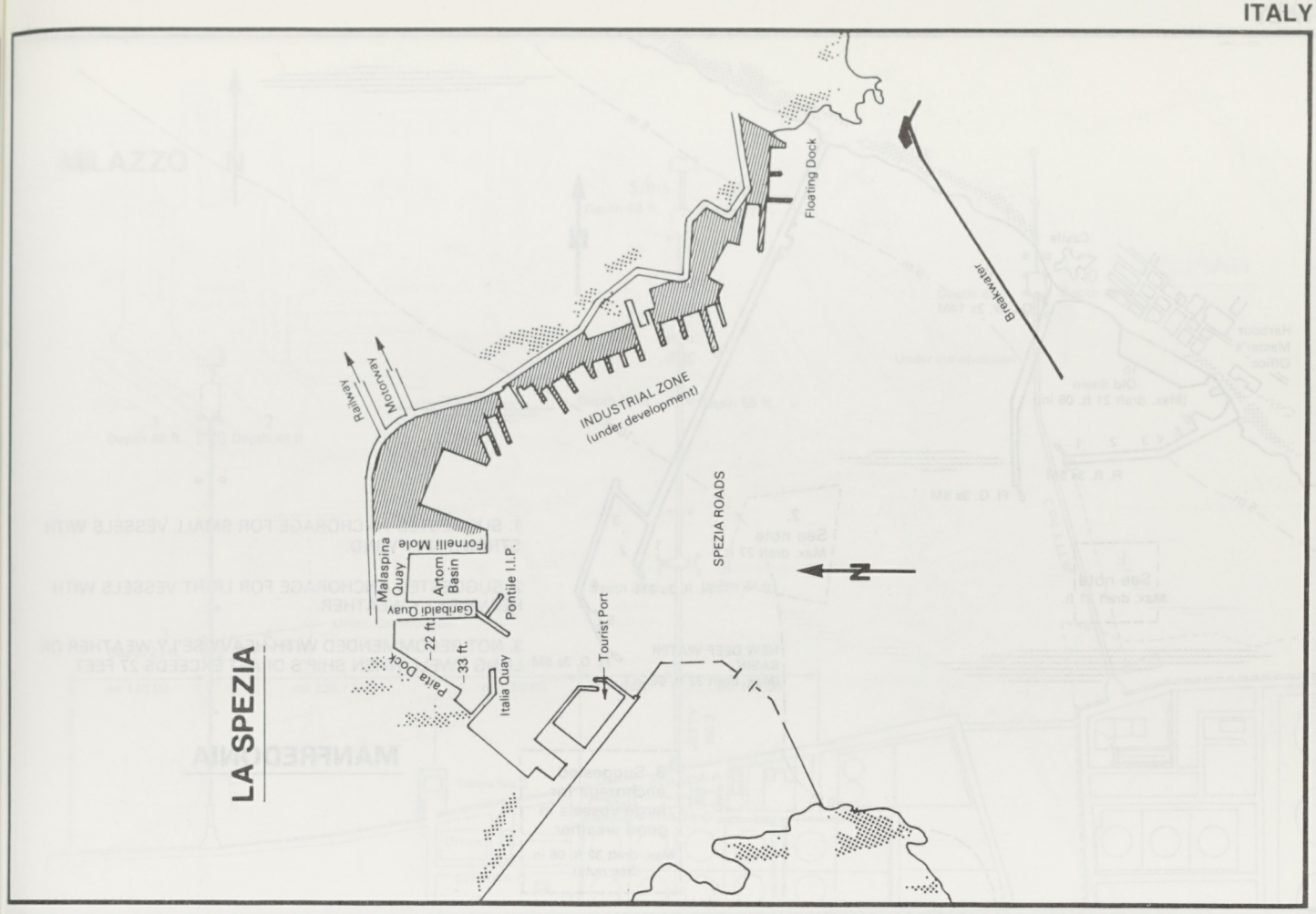

-35 ft. 6in.
-31 ft.
-41 ft. 6 in.
-46 ft.
D.W.T. 24,000
D.W.T. 37,000
D.W.T. 24,000
D.W.T. 37,000
D.W.T. 50,000
D.W.T. 80,000
D.W.T. 100,000
D.W.T. 250,000
D.W.T. 150,000
Banchina Occidentale
Pontile Alfa
Pontile Beta
Pontile Gamma
Pontile Delta
GENOA
OIL DOCKS
Dimensions in metres
0 50 100 metres
SCALE

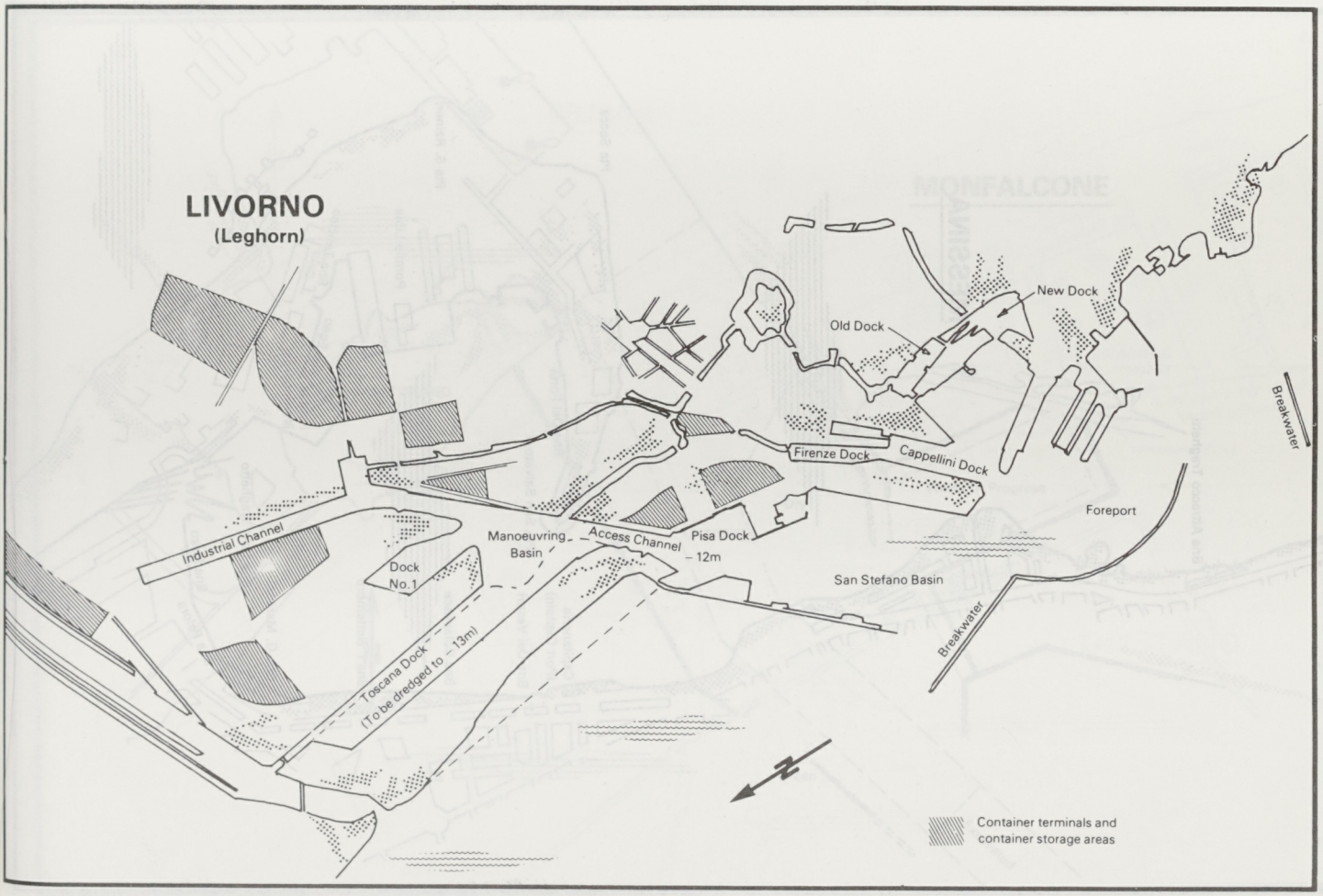

Sestri Ponente
Oil Dock
Airport
Submarine Pipeline
GENOA
OIL TERMINALS
50 m depth
Vessels up to 500,000 d.w.t.
Lat 44°24'08"N
Long 08°48'31"E
Single Mooring Oil Platform
08° 47' 40" E
08° 49' 20" E
2,250 m.
1,740 m.
Zone Under P.A. Control
44° 23' 30"N
Single Mooring Point Buoy
Depth 65 m.
0 500 1000
ALL LINEAR MEASURES IN METRES

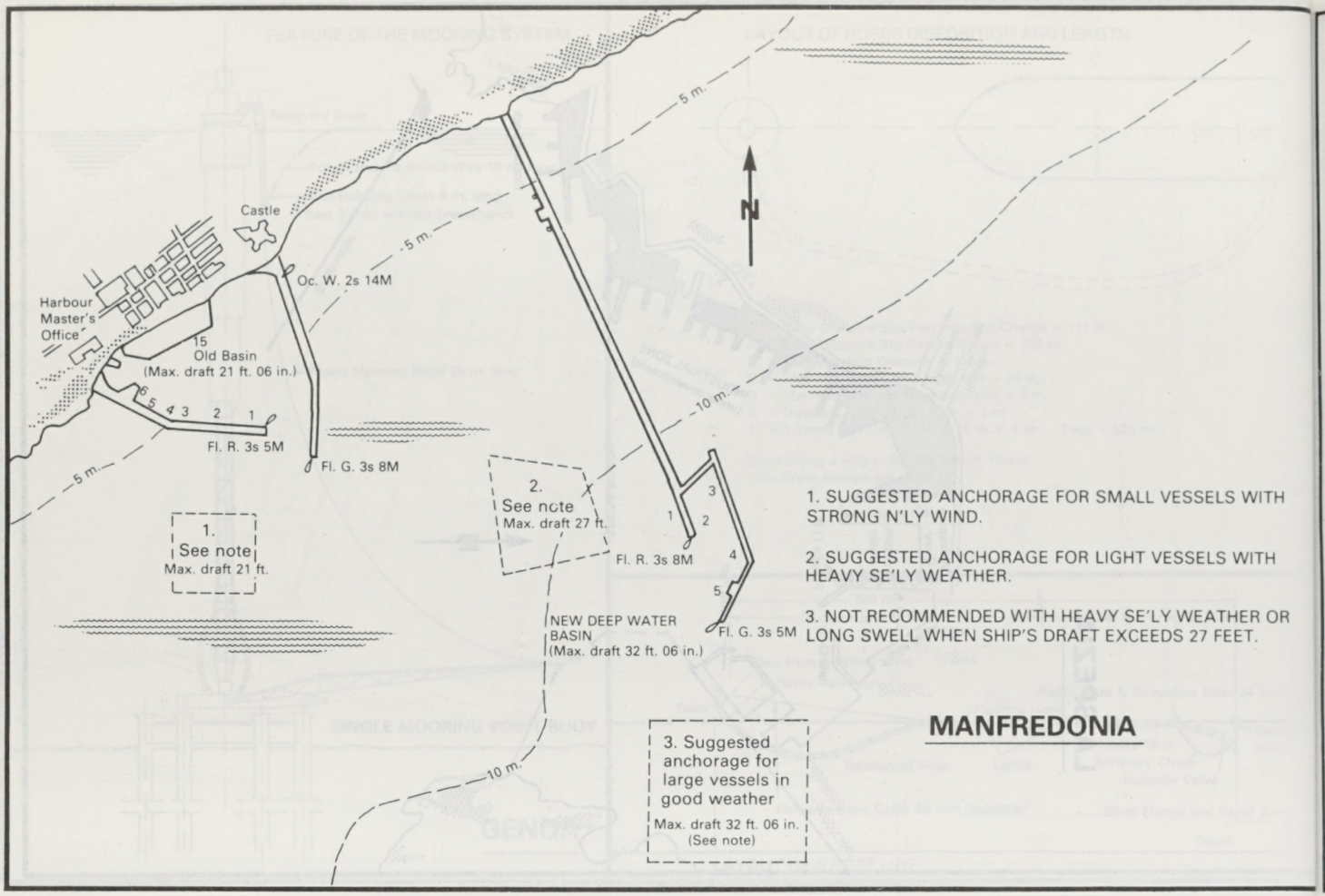

FEATURE OF THE MOORING SYSTEM
Recovery Buoy
Polypropelene Inhaul Wire 10 m. long
Anti-Rubbing Chain 9 m. long
(last 3 links without breastband)
Nylon Mooring Rope 35 m. long
SINGLE MOORING POINT BUOY
GENOA


LAYOUT OF HOSES DISPOSITION AND LENGTH
A = Buoy Distance/Sea-Test with Full Charge = 111 m.
A1 = Buoy Distance/Sea-Test in Ballast = 103 m.
B = Test Manifold Distance = 170 m.
C = Free Board with Ship in Ballast = 20 m.
D = Manifold Distance from Bulwarks = 5 m.
E = Manifold Height from Deck = 2 m.
F = 3 Times Ray Line Curving 16 in. = 7 m. Total = 325 m.
Considering a ship in Ballast, 325 m. Hoses
+6% Wave Motion are necessary
320 m.
50 m.
240 m.
30 m.
Claw from Rotating Joint
Butterfly Valve
Buoy
Floating Hose
Rapid Joint & Reduction Gear 24 in./16 in
Reinforced Hose
Lights
Hoses 16 in.
Recovery Chain
Butterfly Valve
Recover
Buoy
Polypropelene Cable 40 mm. diameter
Blind Flange and Rapid Joint
Depth
LAYOUT OF A HOSE LINE

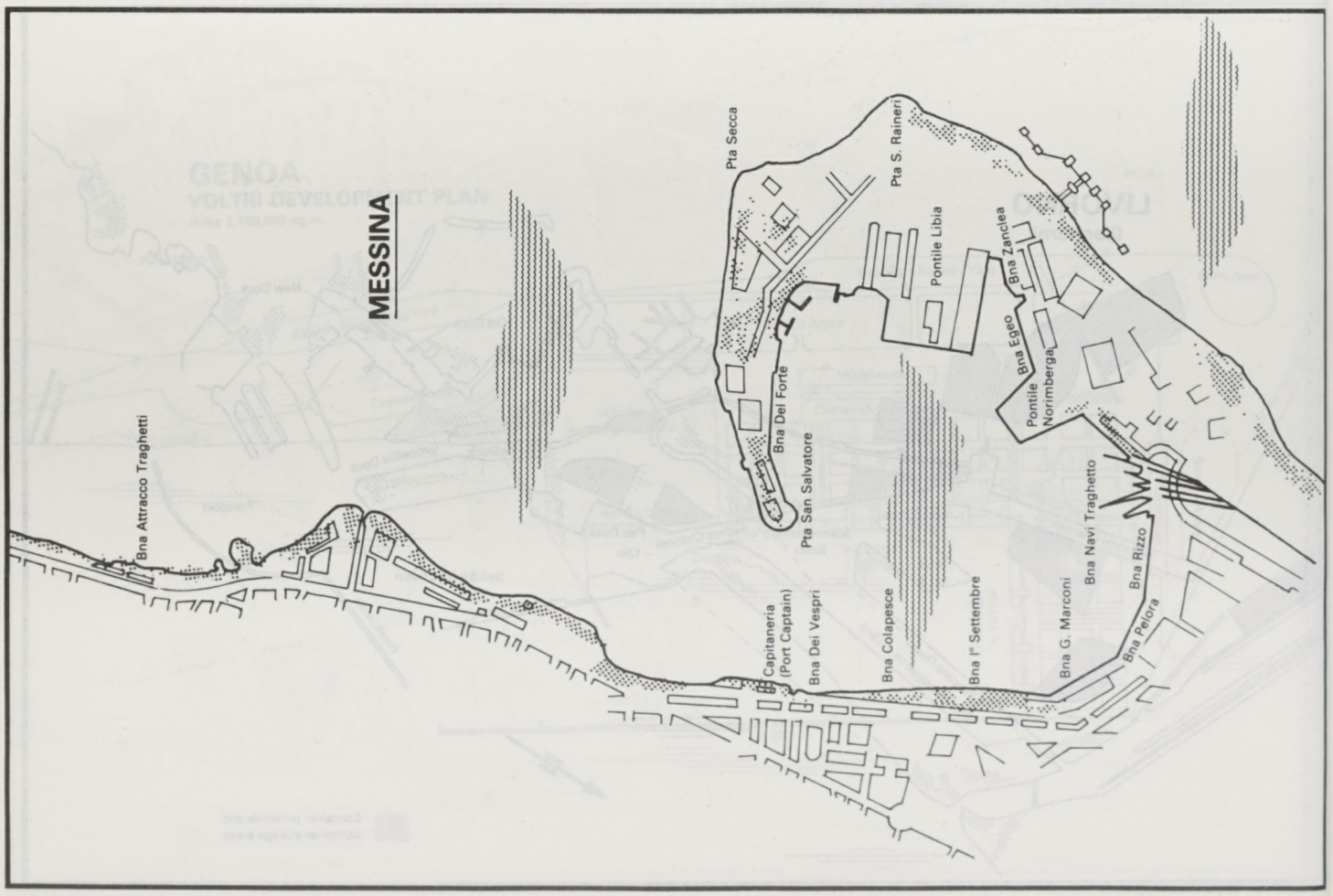

GENOA
VOLTRI DEVELOPMENT PLAN
Area 2,700,000 sq.m.
PEGLI
PALMARO
Base Port Railway Yard
Entry Area
Railway Marshalling Yard
Service Areas
Exit Area
Warehouse
Customs Area
Vehicles
awaiting entrance
Container Terminal
Ro/Ro Terminal
PHASE I
1,400 m.
PHASE II
650 m.
Container Terminal
Warehouse
Service Areas
2,200 m.

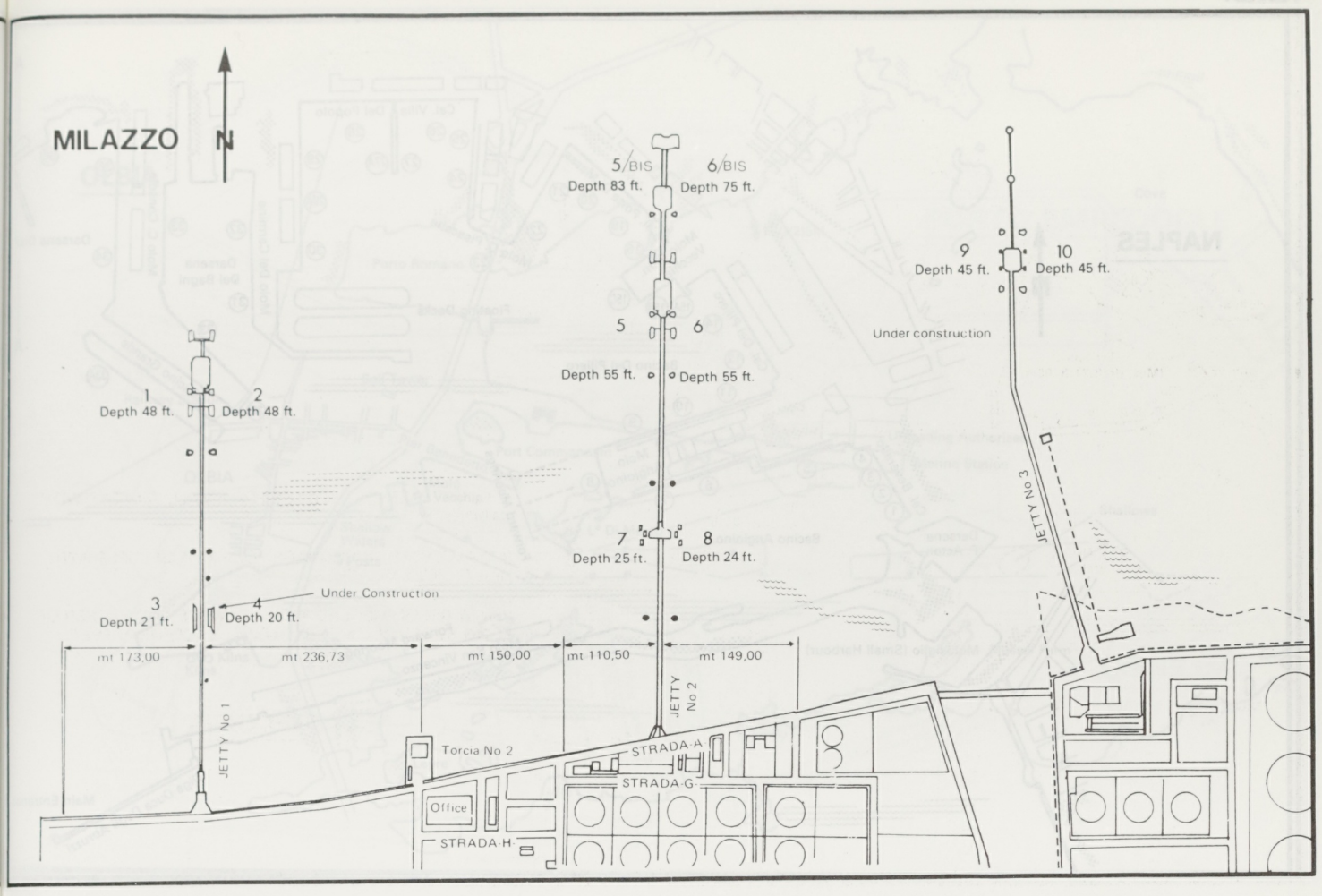

LA SPEZIA
Floating Dock
Breakwater
Railway
Motorway
INDUSTRIAL ZONE
(under development)
SPEZIA ROADS
Malaspina Quay
Fornelli Mole
Artom Basin
Garibaldi Quay
Pontile I.I.P.
Tourist Port
Italia Quay
Pata Dock
– 22 ft.
– 33 ft.
N

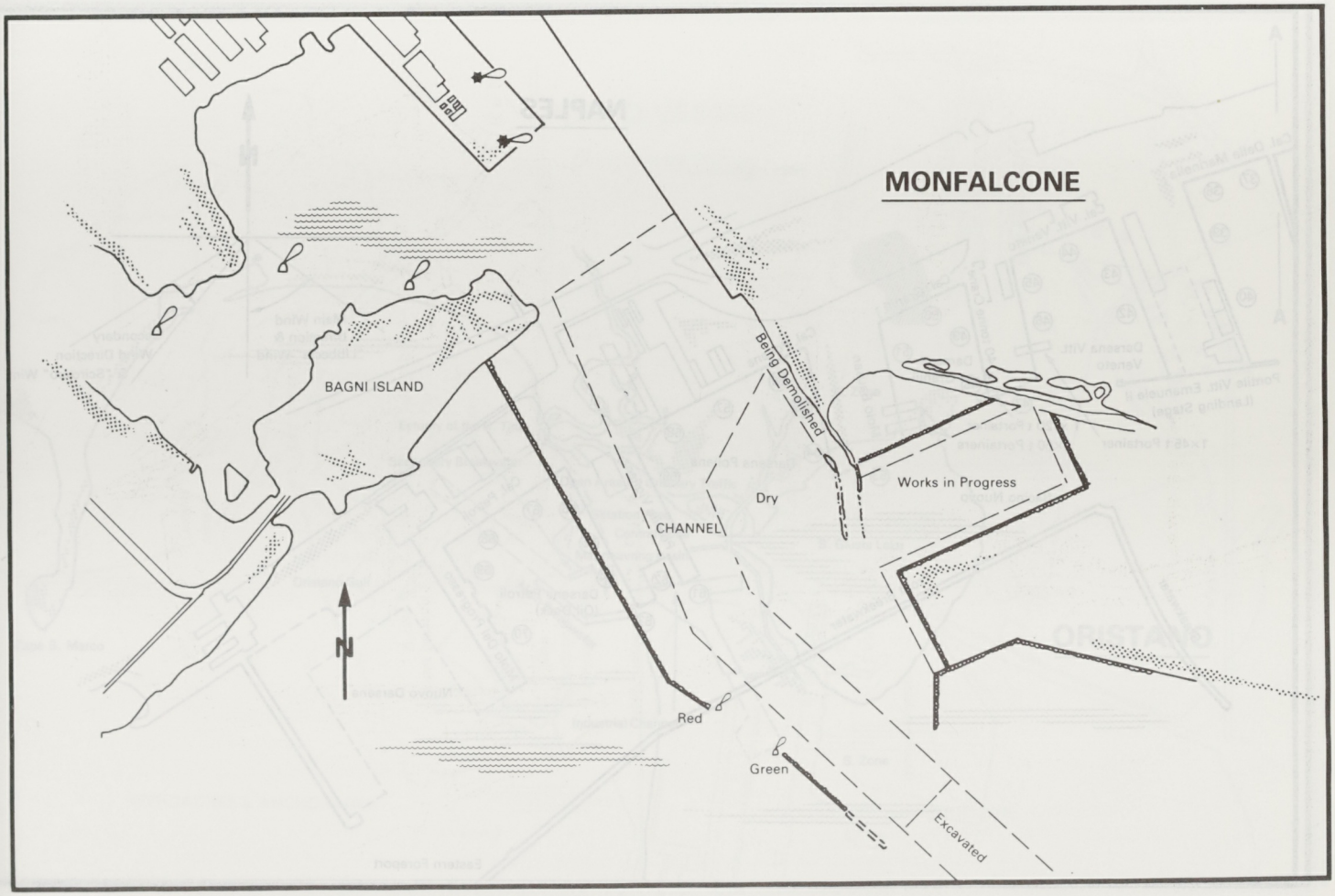

LIVORNO
(Leghorn)
New Dock
Old Dock
Breakwater
Firenze Dock
Cappellini Dock
Foreport
Industrial Channel
Manoeuvring Basin
Access Channel
Pisa Dock
– 12m
Dock No.1
San Stefano Basin
Toscana Dock
(To be dredged to – 13m)
Breakwater
N
Container terminals and container storage areas

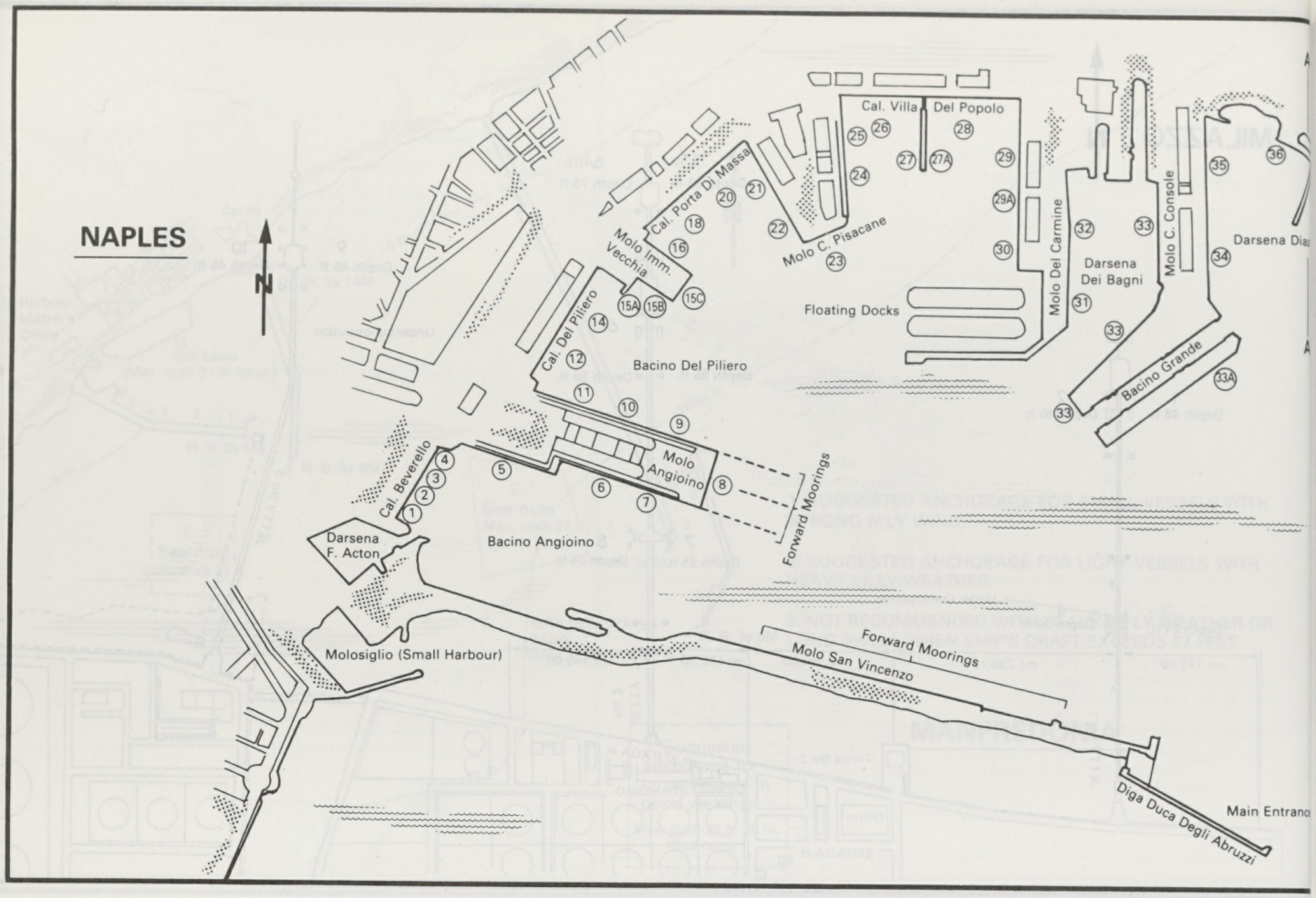


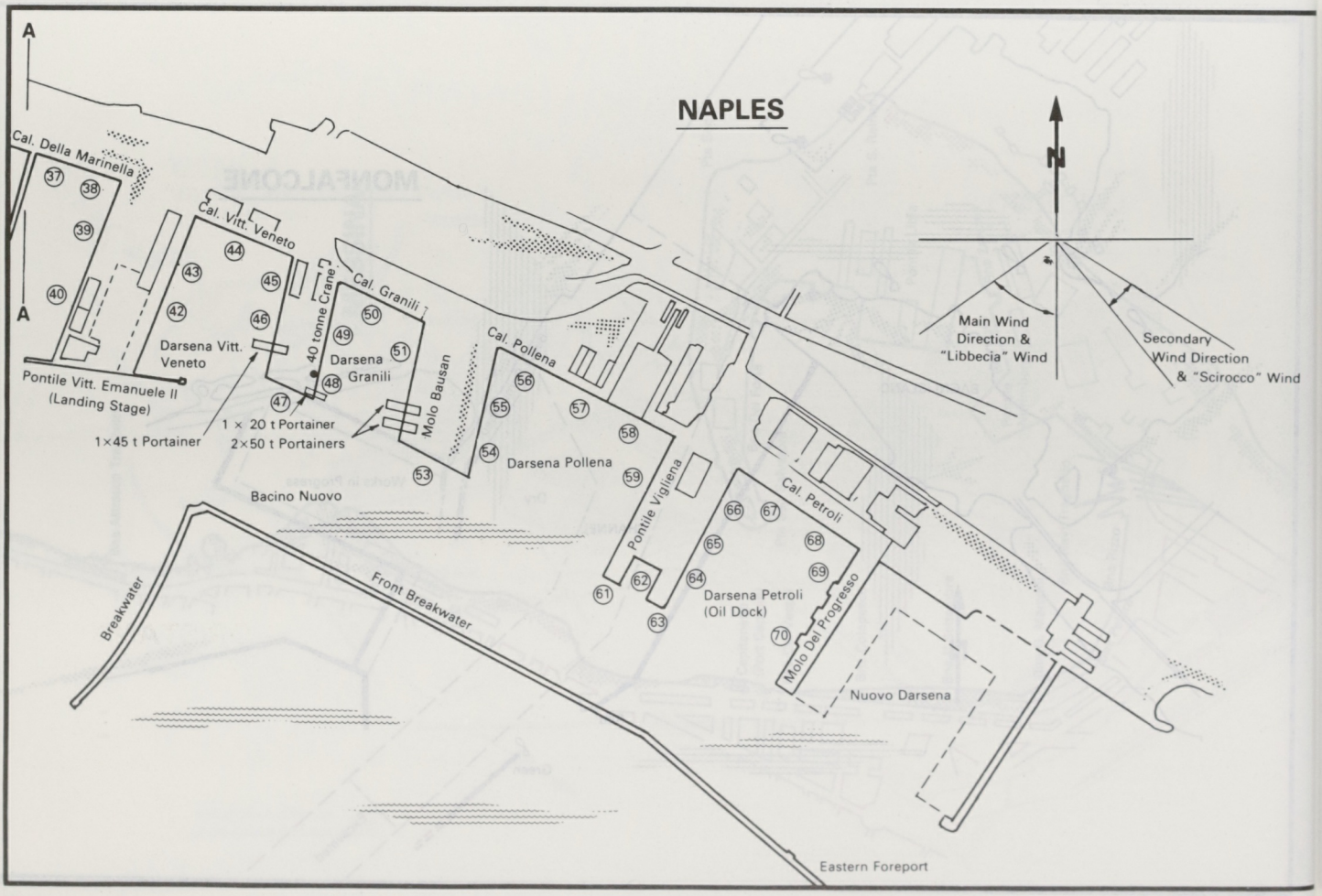
MANFREDONIA

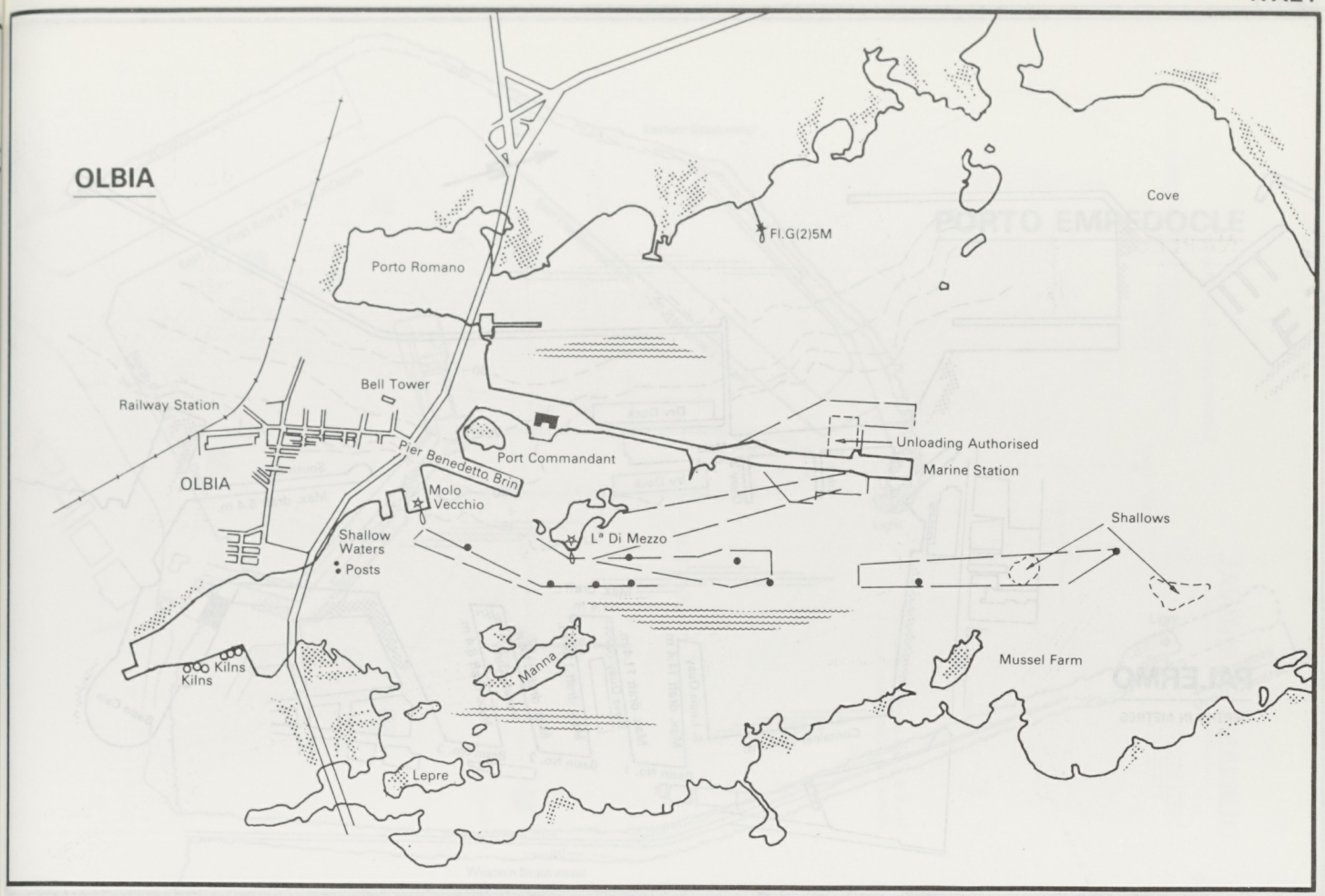


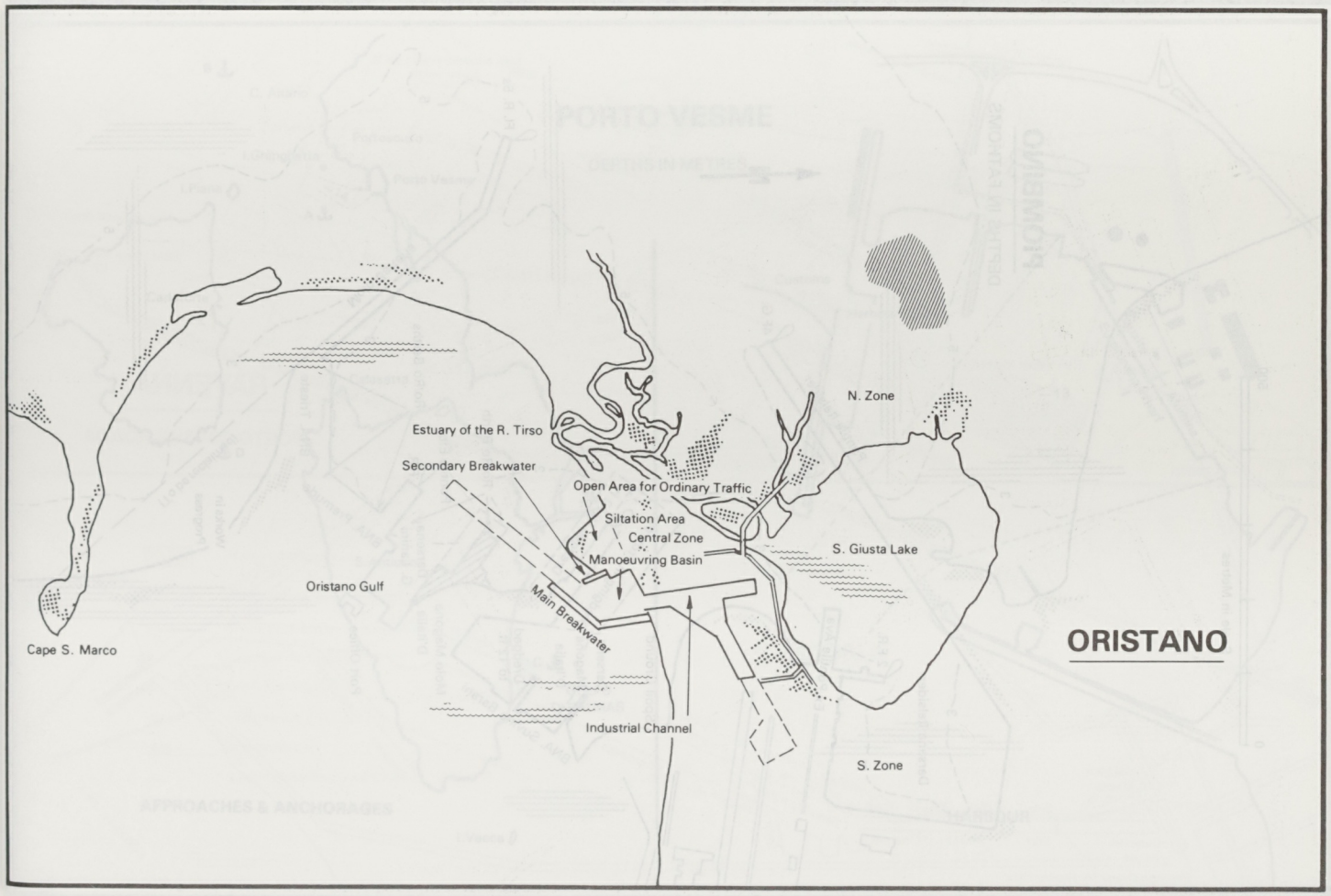

MILAZZO
N
5/BIS
Depth 83 ft.
6/BIS
Depth 75 ft.
9
Depth 45 ft.
10
Depth 45 ft.
Under construction
5
6
Depth 55 ft.
Depth 55 ft.
1
Depth 48 ft.
2
Depth 48 ft.
JETTY No 3
7
Depth 25 ft.
8
Depth 24 ft.
3
Depth 21 ft.
4
Depth 20 ft.
Under Construction
mt 173,00
mt 236,73
mt 150,00
mt 110,50
mt 149,00
JETTY No 1
JETTY No 2
Torcia No 2
STRADA A
STRADA G
Office
STRADA H

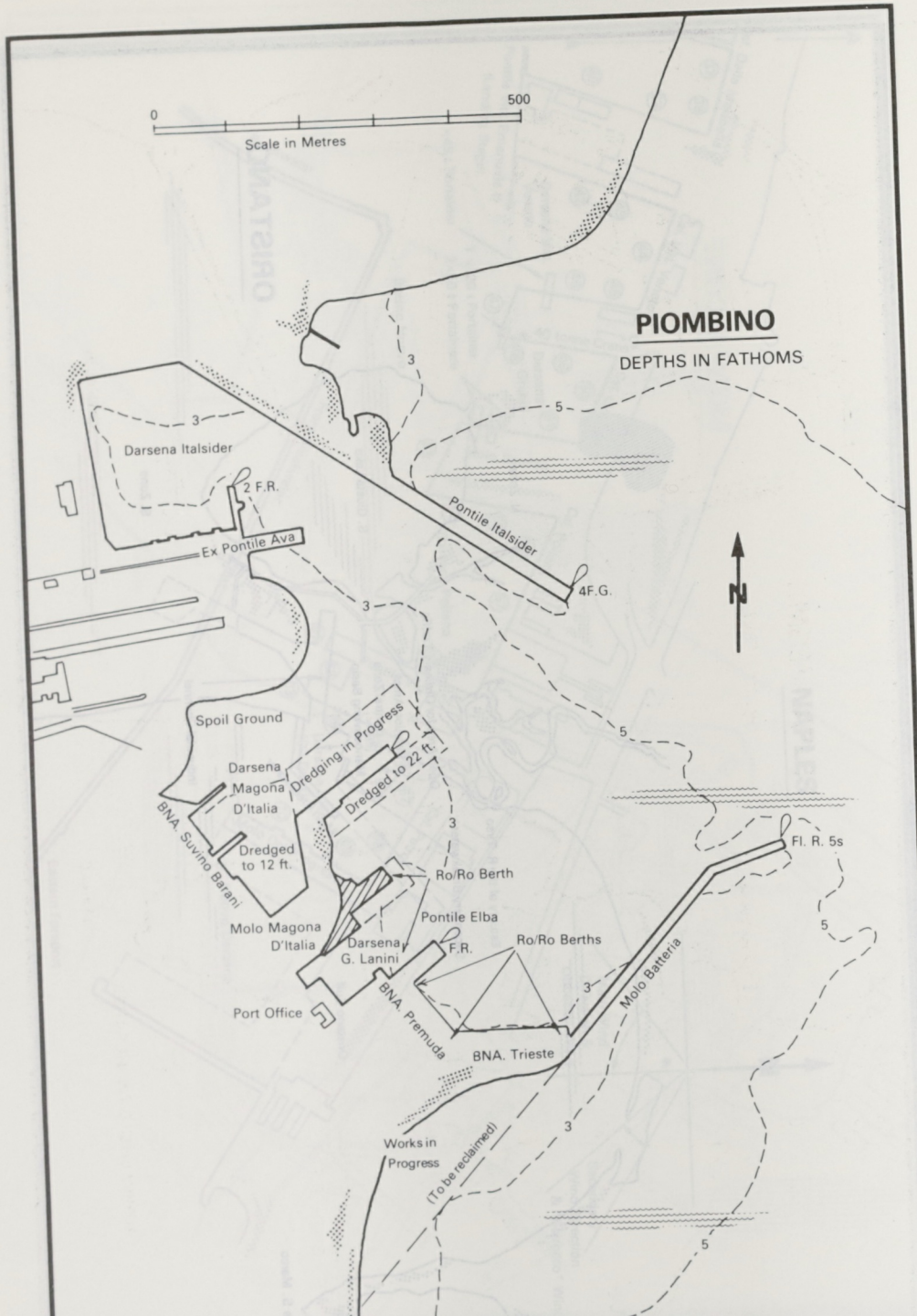

MONFALCONE
BAGNI ISLAND
Being Demolished
Works in Progress
Dry
CHANNEL
N
Red
Green
Excavated

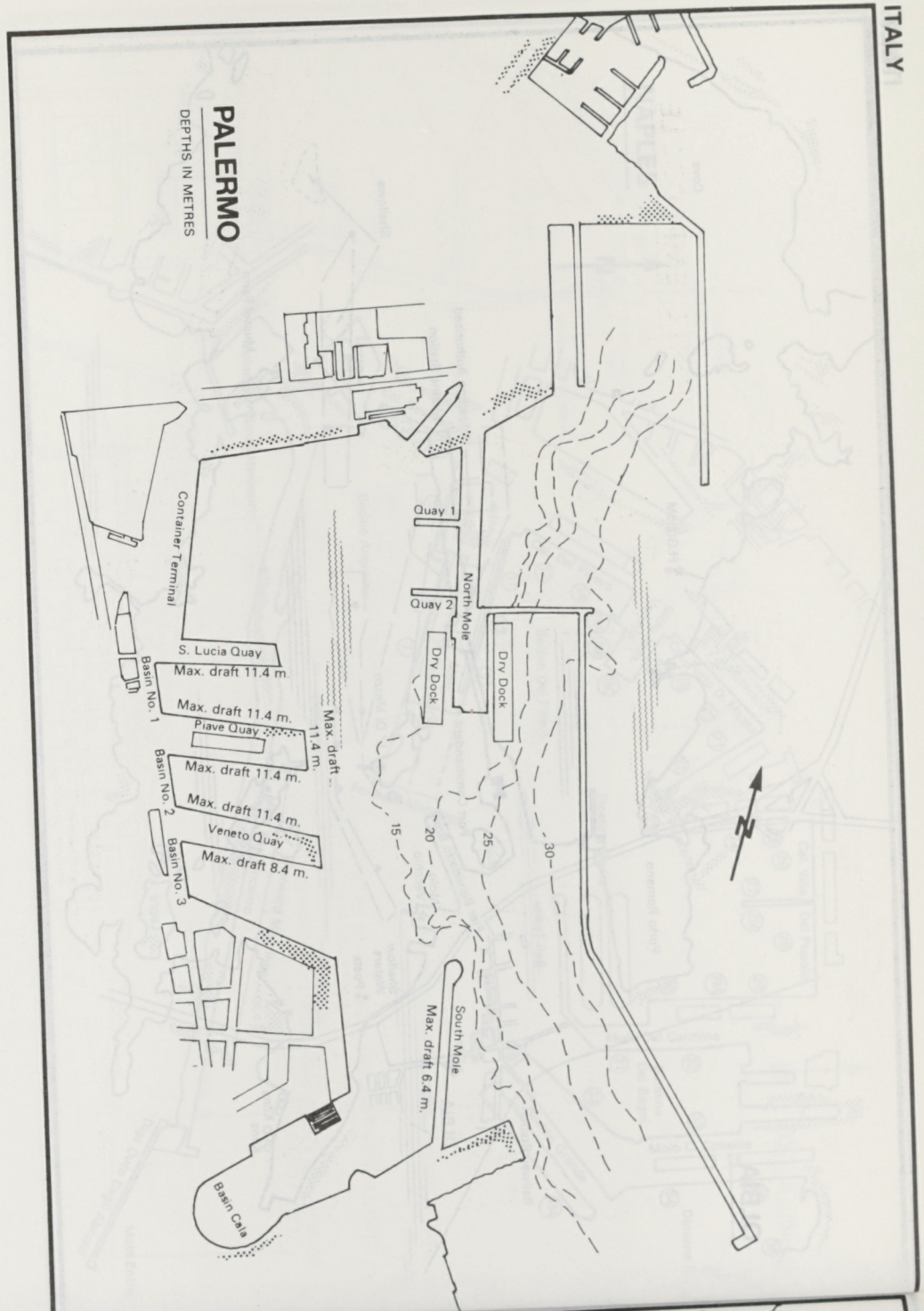

NAPLES
N
Cal. Villa Del Popolo
Cal. Porta Di Massa
Molo Imm. Vecchia
Molo C. Pisacane
Floating Docks
Molo Del Carmine
Darsena Dei Bagni
Molo C. Console
Darsena Diaz
Cal. Del Piliero
Bacino Del Piliero
Bacino Grande
Cal. Beverello
Molo Angioino
Forward Moorings
Darsena F. Acton
Bacino Angioino
Molosiglio (Small Harbour)
Forward Moorings
Molo San Vincenzo
Diga Duca Degli Abruzzi
Main Entranc

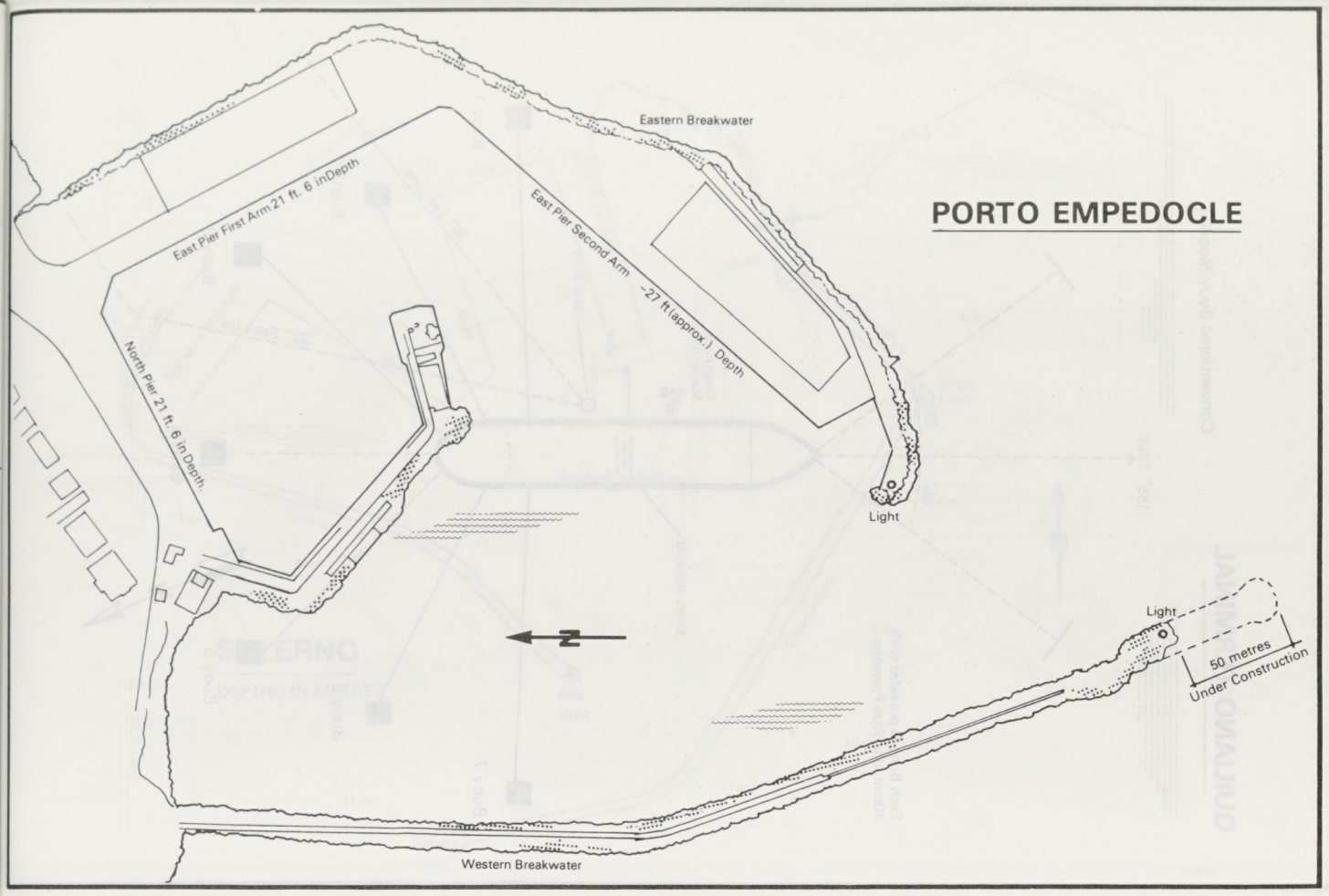

A
A
NAPLES
N
Cal. Della Marinella
Cal. Vitt. Veneto
Cal. Granili
Darsena Vitt. Veneto
40 tonne Crane
Darsena Granili
Cal. Pollena
Molo Bausan
Pontile Vitt. Emanuele II (Landing Stage)
1×45 t Portainer
1 × 20 t Portainer
2×50 t Portainers
Darsena Pollena
Bacino Nuovo
Pontile Vigliena
Cal. Petroli
Darsena Petroli (Oil Dock)
Molo Del Progresso
Nuovo Darsena
Breakwater
Front Breakwater
Eastern Foreport
Main Wind Direction & "Libbecia" Wind
Secondary Wind Direction & "Scirocco" Wind

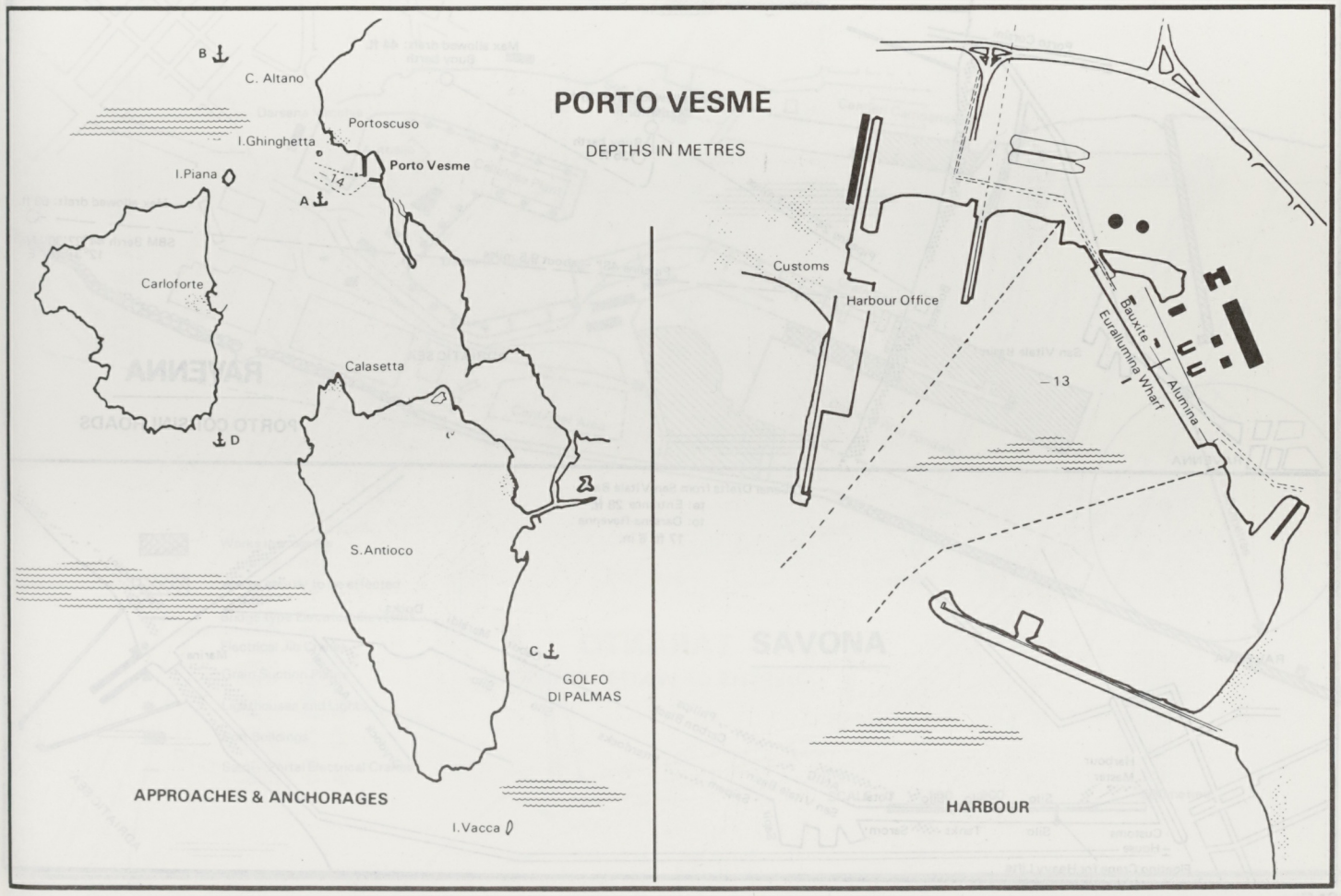

OLBIA
Cove
Fl.G(2)5M
Porto Romano
Bell Tower
Railway Station
Pier Benedetto Brin
Port Commandant
Unloading Authorised
Marine Station
OLBIA
Molo Vecchio
Shallows
Shallow Waters
Posts
L° Di Mezzo
Kilns
Kilns
Manna
Mussel Farm
Lepre

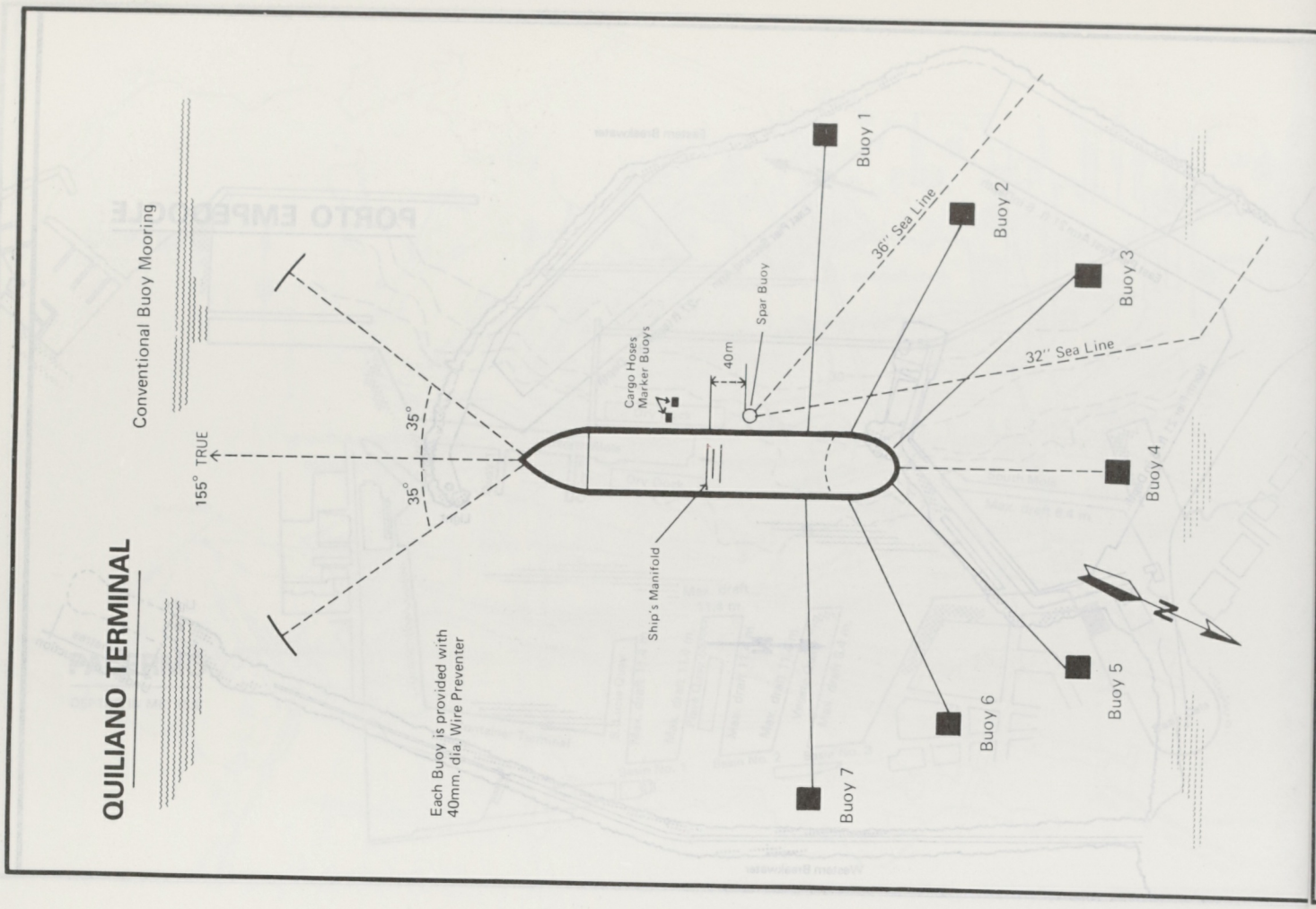

N. Zone
Estuary of the R. Tirso
Secondary Breakwater
Open Area for Ordinary Traffic
Siltation Area
Central Zone
Manoeuvring Basin
S. Giusta Lake
Oristano Gulf
Main Breakwater
Cape S. Marco
ORISTANO
Industrial Channel
S. Zone

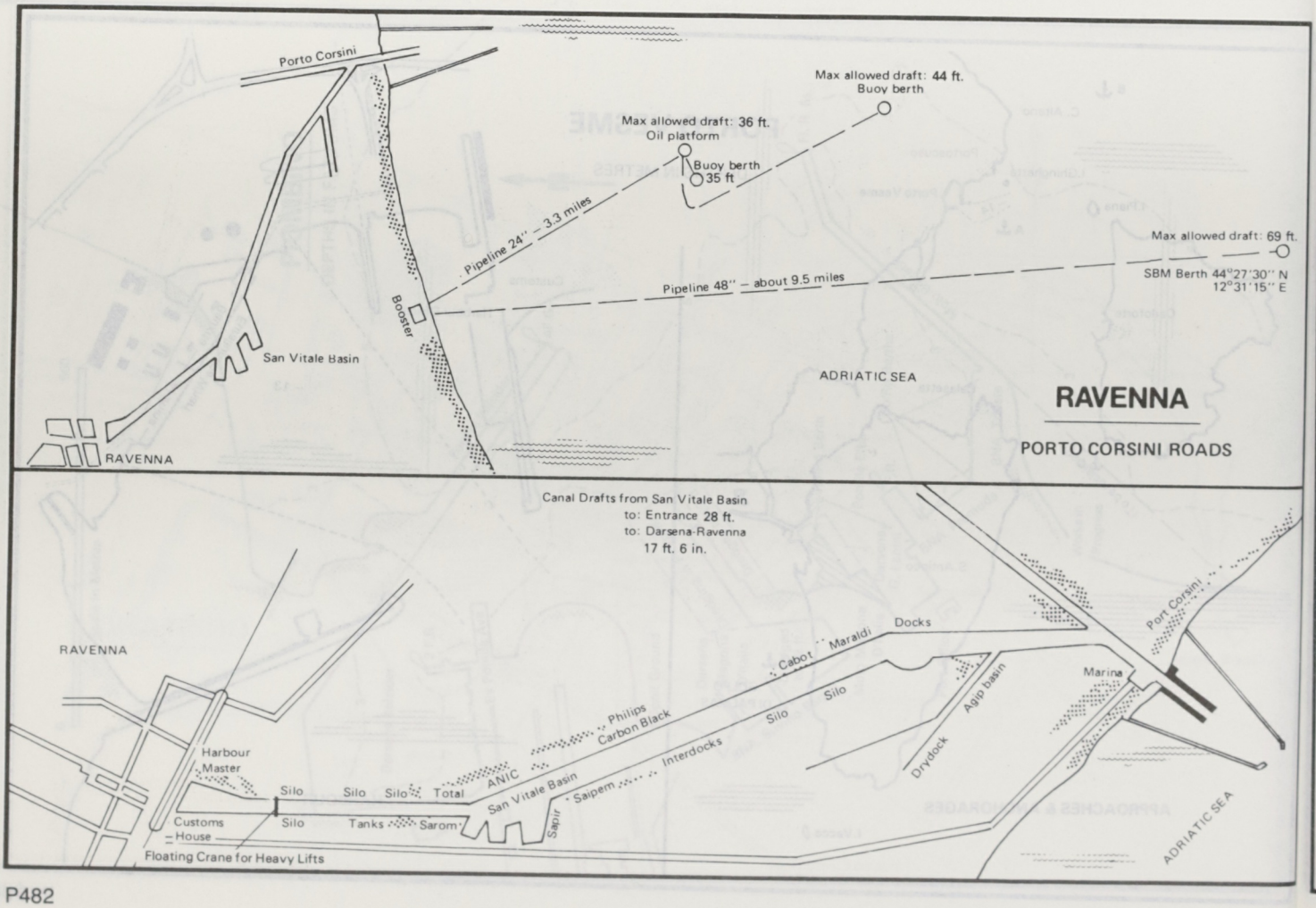

0
500
Scale in Metres
PIOMBINO
DEPTHS IN FATHOMS
Darsena Italsider
2 F.R.
Ex Pontile Ava
Pontile Italsider
4F.G.
Spoil Ground
Dredging in Progress
Dredged to 22 ft.
Darsena Magona D'Italia
Dredged to 12 ft.
BNA. Suvino Barani
Molo Magona D'Italia
Ro/Ro Berth
Pontile Elba
Darsena G. Lanini
F.R.
Ro/Ro Berths
Fl. R. 5s
Molo Batteria
Port Office
BNA. Premuda
BNA. Trieste
Works in Progress
(To be reclaimed)
3
5

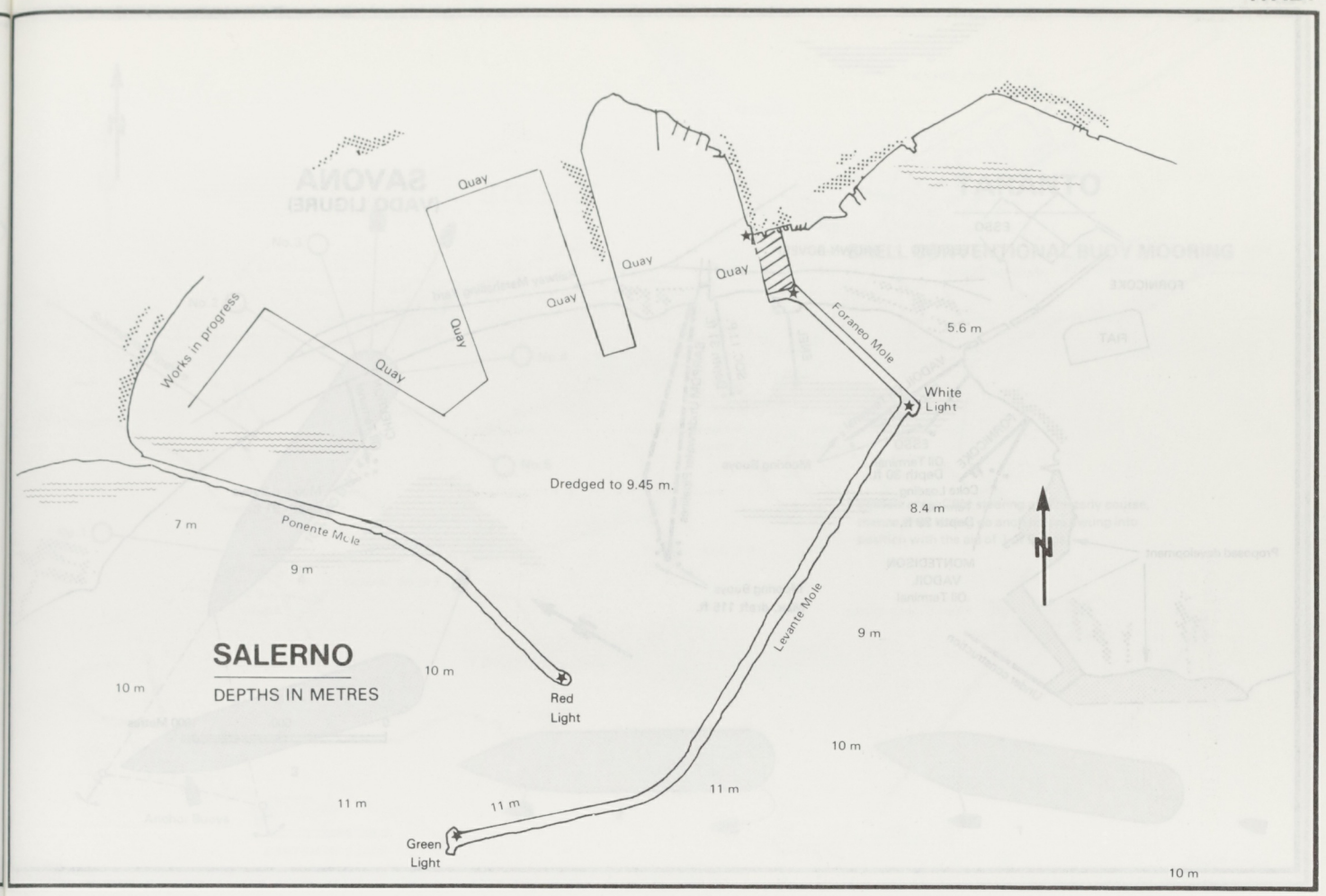

PALERMO
DEPTHS IN METRES
Container Terminal
Quay 1
Quay 2
North Mole
Dry Dock
Dry Dock
S. Lucia Quay
Max. draft 11.4 m.
Basin No. 1
Max. draft 11.4 m.
Piave Quay
Max. draft 11.4 m.
Basin No. 2
Max. draft 11.4 m.
Veneto Quay
Basin No. 3
Max. draft 8.4 m.
Max. draft 11.4 m.
Max. draft 6.4 m.
South Mole
Basin Cala
15
20
25
30

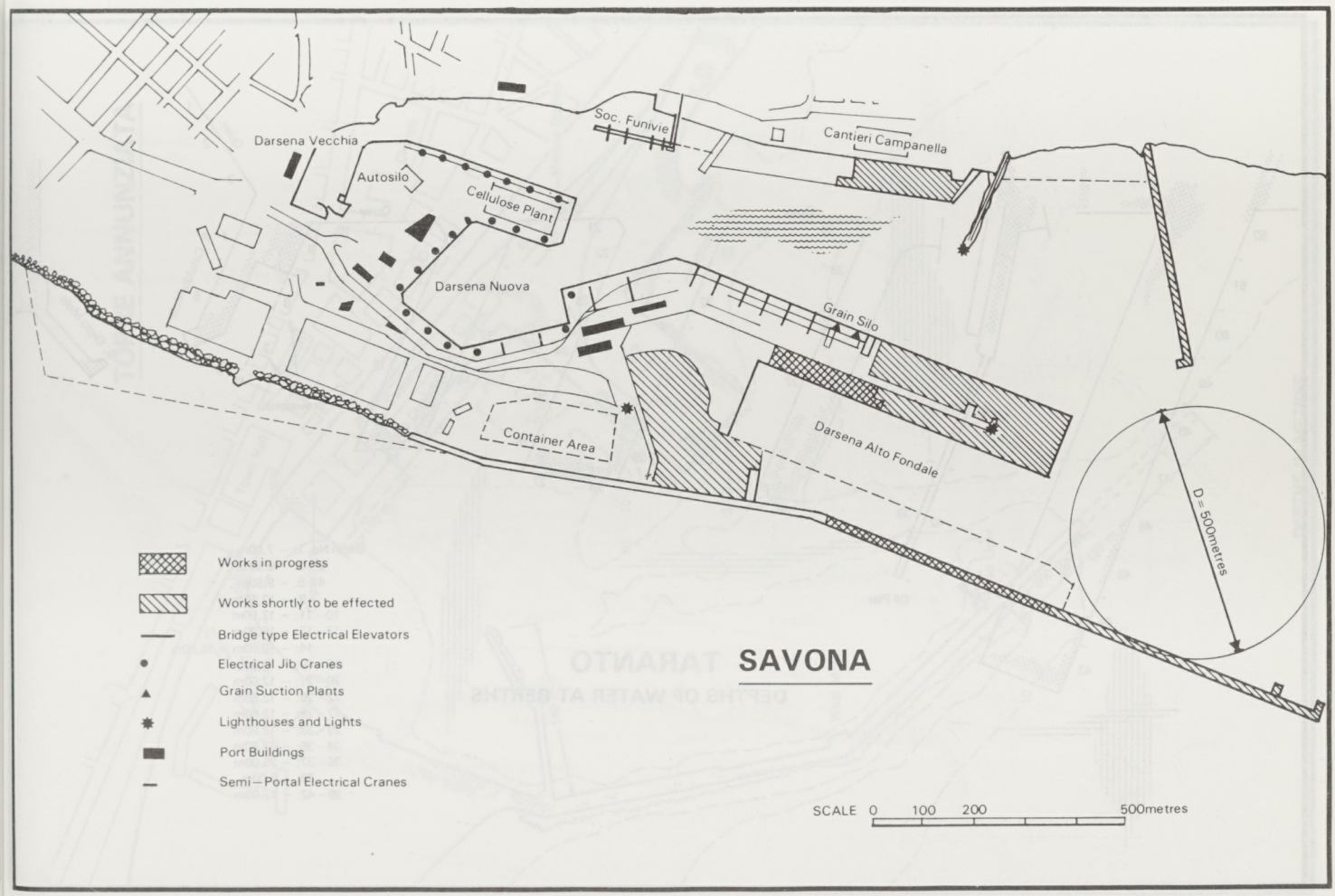

PORTO EMPEDOCLE
Eastern Breakwater
East Pier First Arm 21 ft. 6 in Depth
East Pier Second Arm -27 ft (approx.) Depth
North Pier 21 ft. 6 in Depth
Light
Light
50 metres
Under Construction
Western Breakwater

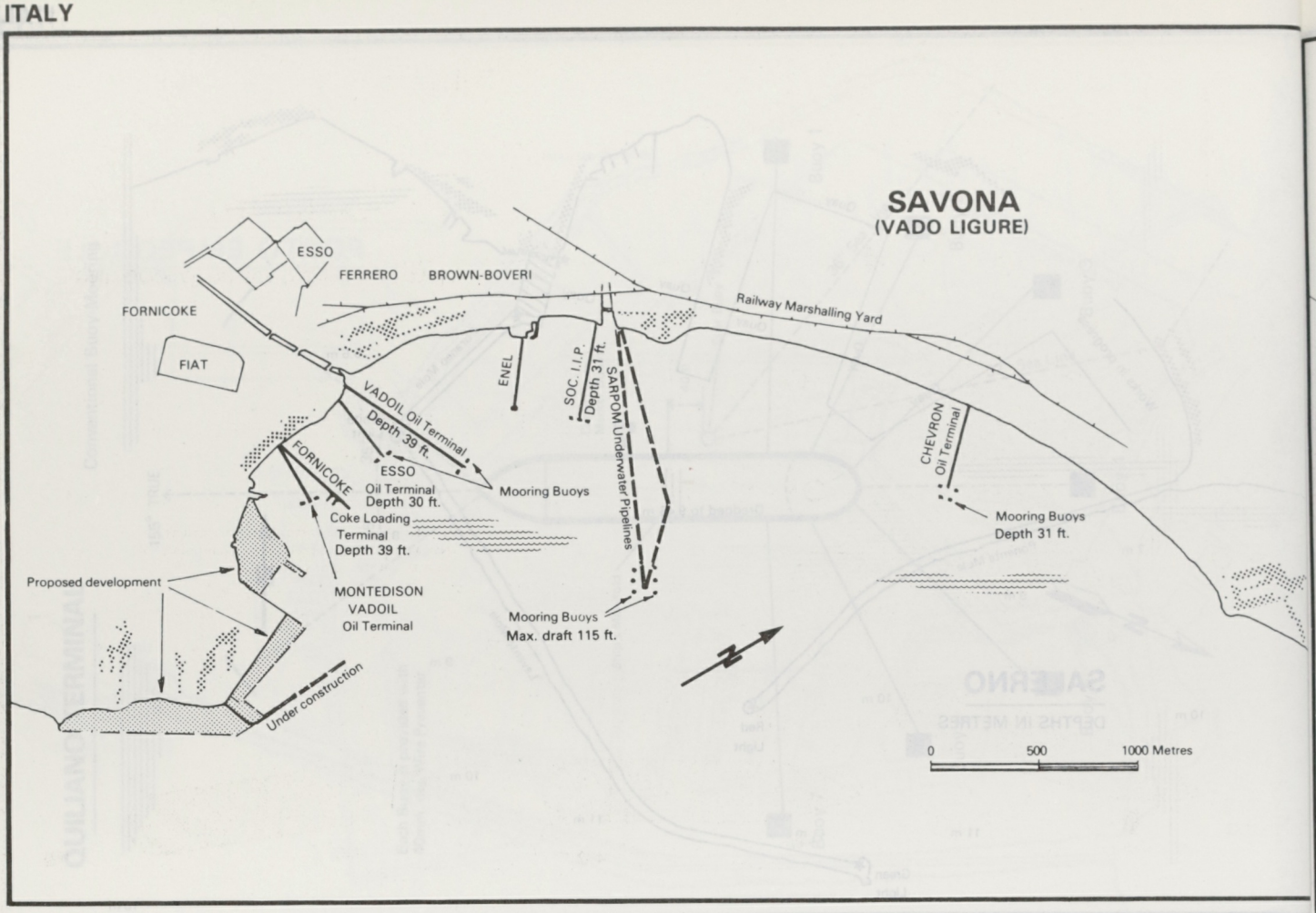

PORTO VESME
DEPTHS IN METRES
B
C. Altano
Portoscuso
I.Ghinghetta
Porto Vesme
I.Piana
14
A
Carloforte
D
Calasetta
S.Antioco
C
GOLFO
DI PALMAS
I.Vacca
APPROACHES & ANCHORAGES
Customs
Harbour Office
Bauxite
Eurallumina Wharf
Alumina
13
HARBOUR

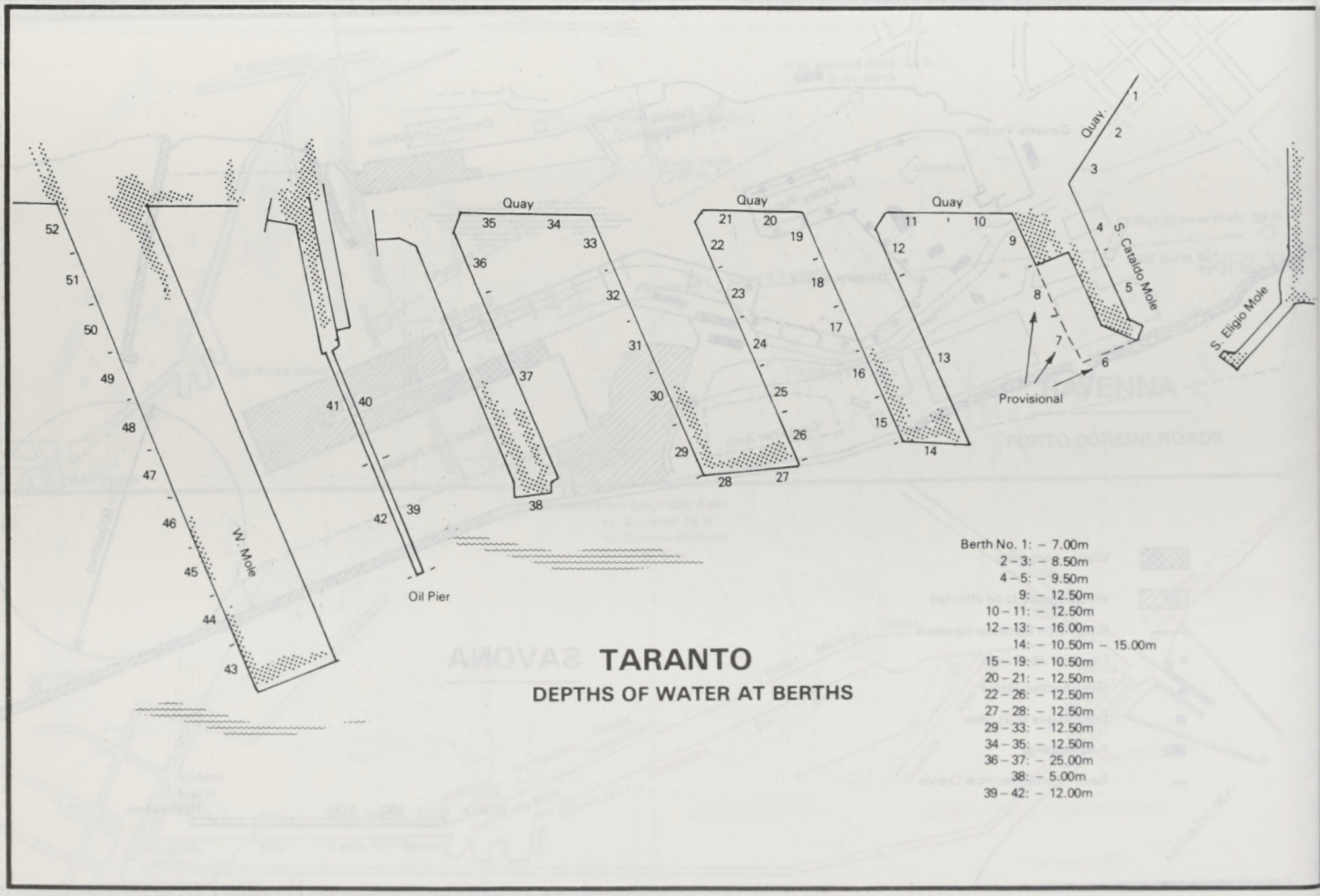

QUILIANO TERMINAL
Conventional Buoy Mooring
155° TRUE
35°
35°
Each Buoy is provided with 40mm. dia. Wire Preventer
Ship's Manifold
Cargo Hoses Marker Buoys
40m
Spar Buoy
36" Sea Line
32" Sea Line
Buoy 1
Buoy 2
Buoy 3
Buoy 4
Buoy 5
Buoy 6
Buoy 7
N


Porto Corsini
Max allowed draft: 44 ft.
Buoy berth
Max allowed draft: 36 ft.
Oil platform
Buoy berth
35 ft
Pipeline 24" – 3.3 miles
Max allowed draft: 69 ft.
SBM Berth 44°27'30" N
12°31'15" E
Pipeline 48" – about 9.5 miles
Booster
San Vitale Basin
RAVENNA
ADRIATIC SEA
RAVENNA
PORTO CORSINI ROADS
Canal Drafts from San Vitale Basin
to: Entrance 28 ft.
to: Darsena-Ravenna
17 ft. 6 in.
RAVENNA
Harbour Master
Customs House
Floating Crane for Heavy Lifts
Silo
Silo
Silo
Total
ANIC
Philips Carbon Black
San Vitale Basin
Saipem
Interdocks
Silo
Tanks
Sarom
Sapir
Cabot
Maraldi
Docks
Silo
Agip basin
Drydock
Marina
Port Corsini
ADRIATIC SEA


Quay
Quay
Quay
Quay
Quay
Quay
Works in progress
Foraneo Mole
5.6 m
White Light
Dredged to 9.45 m.
8.4 m
7 m
Ponente Mole
9 m
Levante Mole
9 m
SALERNO
DEPTHS IN METRES
10 m
10 m
Red Light
10 m
11 m
11 m
11 m
Green Light
10 m


Darsena Vecchia
Autosilo
Cellulose Plant
Soc. Funivie
Cantieri Campanella
Darsena Nuova
Grain Silo
Container Area
Darsena Alto Fondale
D = 500metres
Works in progress
Works shortly to be effected
Bridge type Electrical Elevators
Electrical Jib Cranes
Grain Suction Plants
Lighthouses and Lights
Port Buildings
Semi – Portal Electrical Cranes
SAVONA
SCALE 0 100 200 500metres

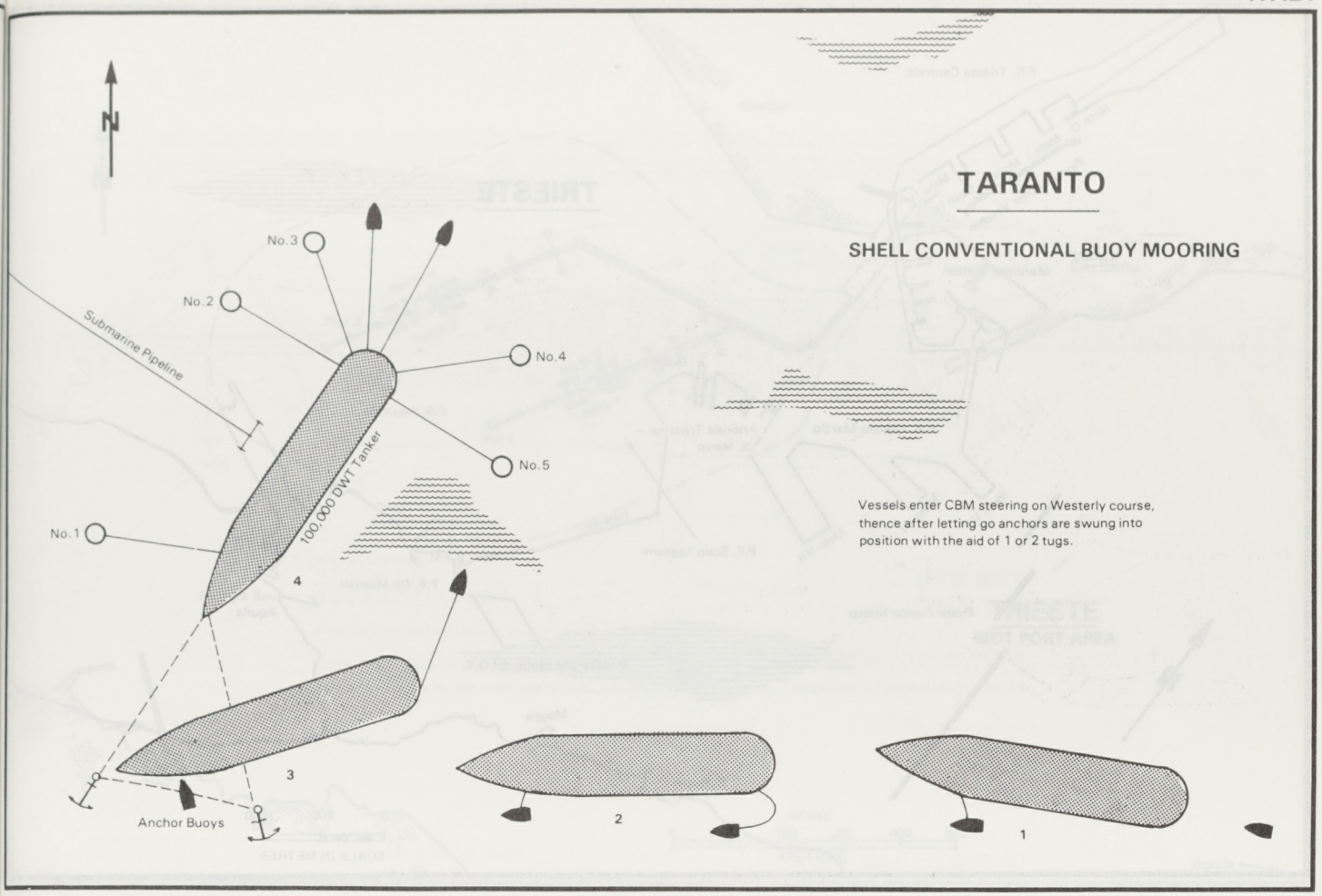




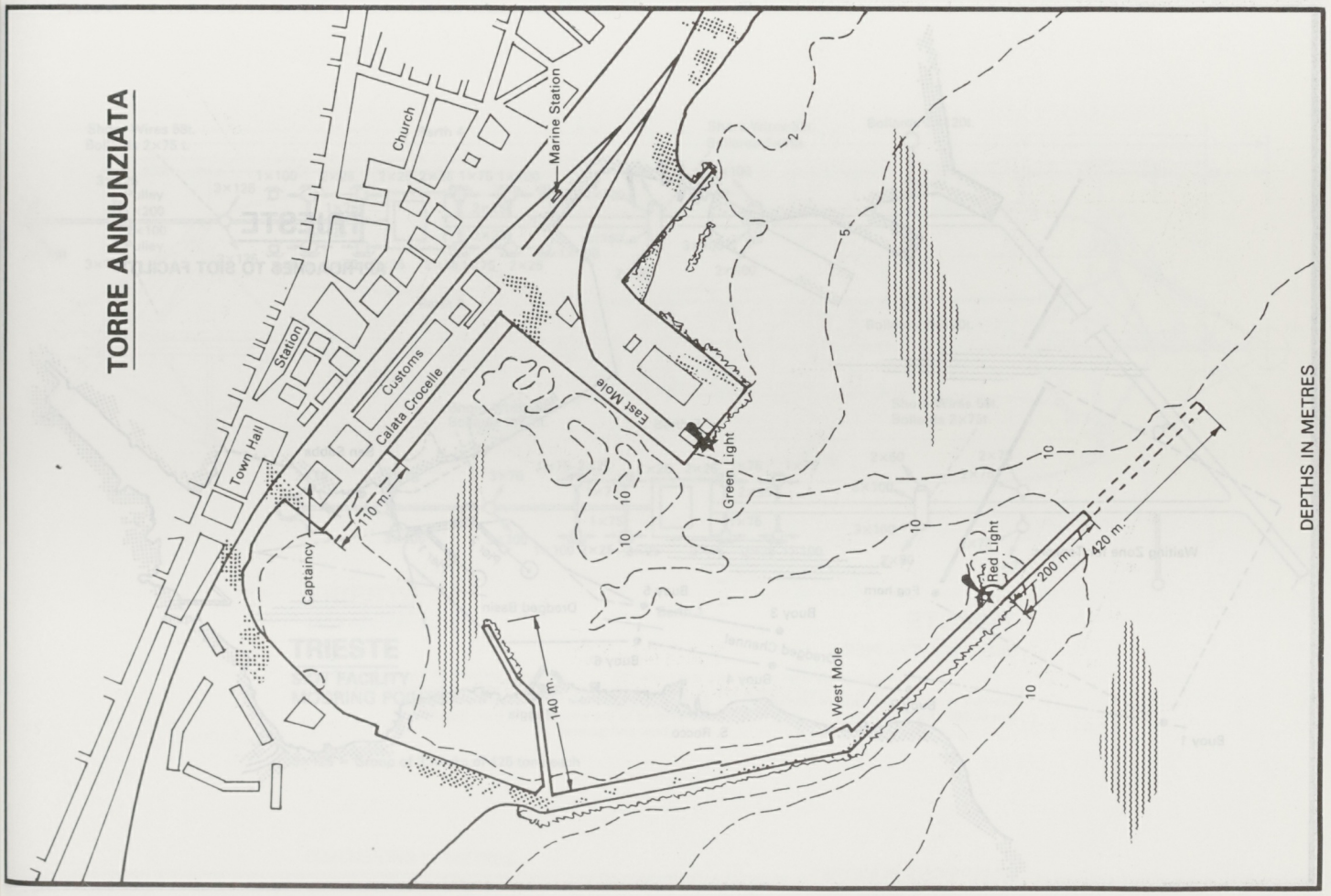
TARANTO

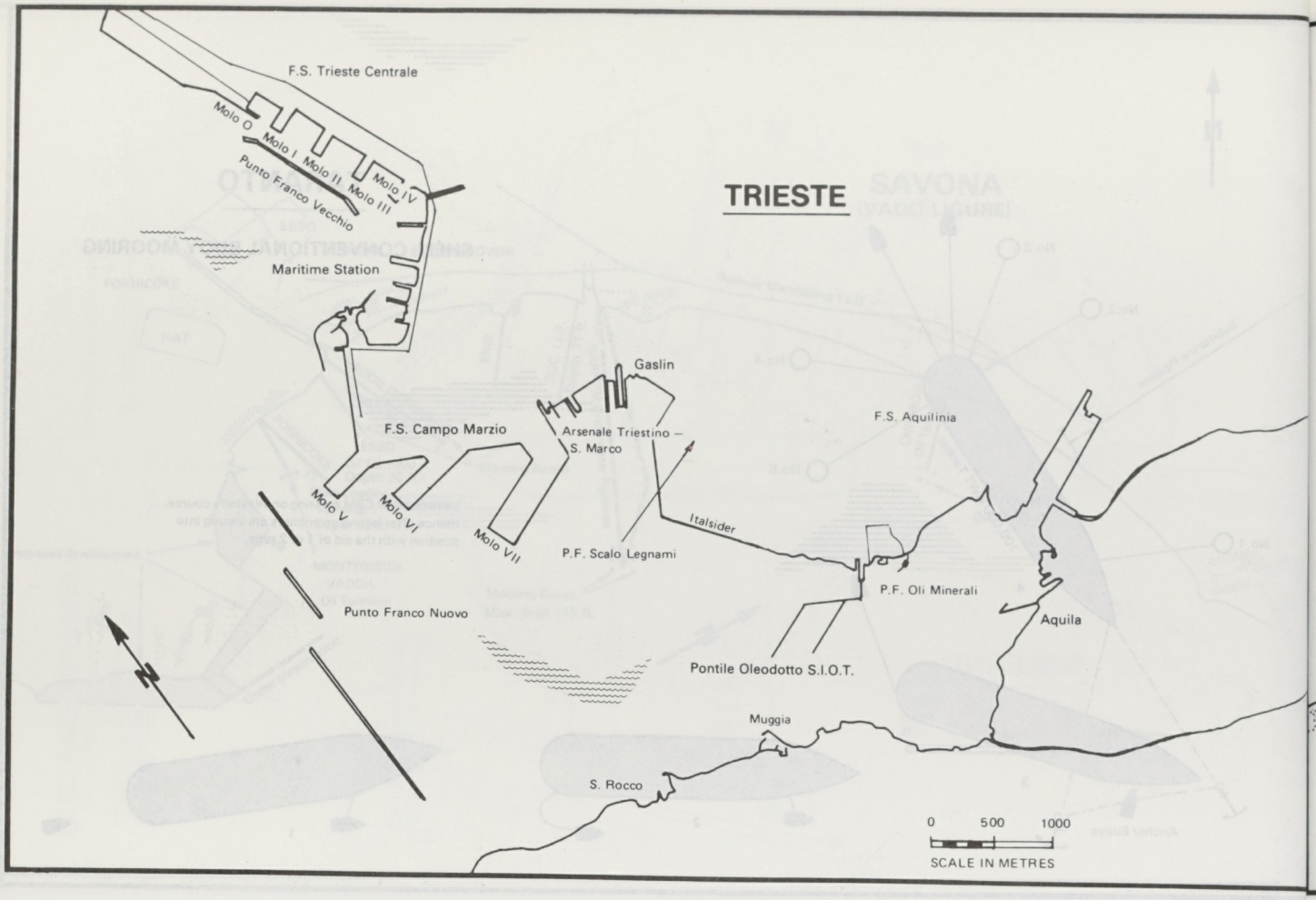
DEPTHS OF WATER AT BERTHS

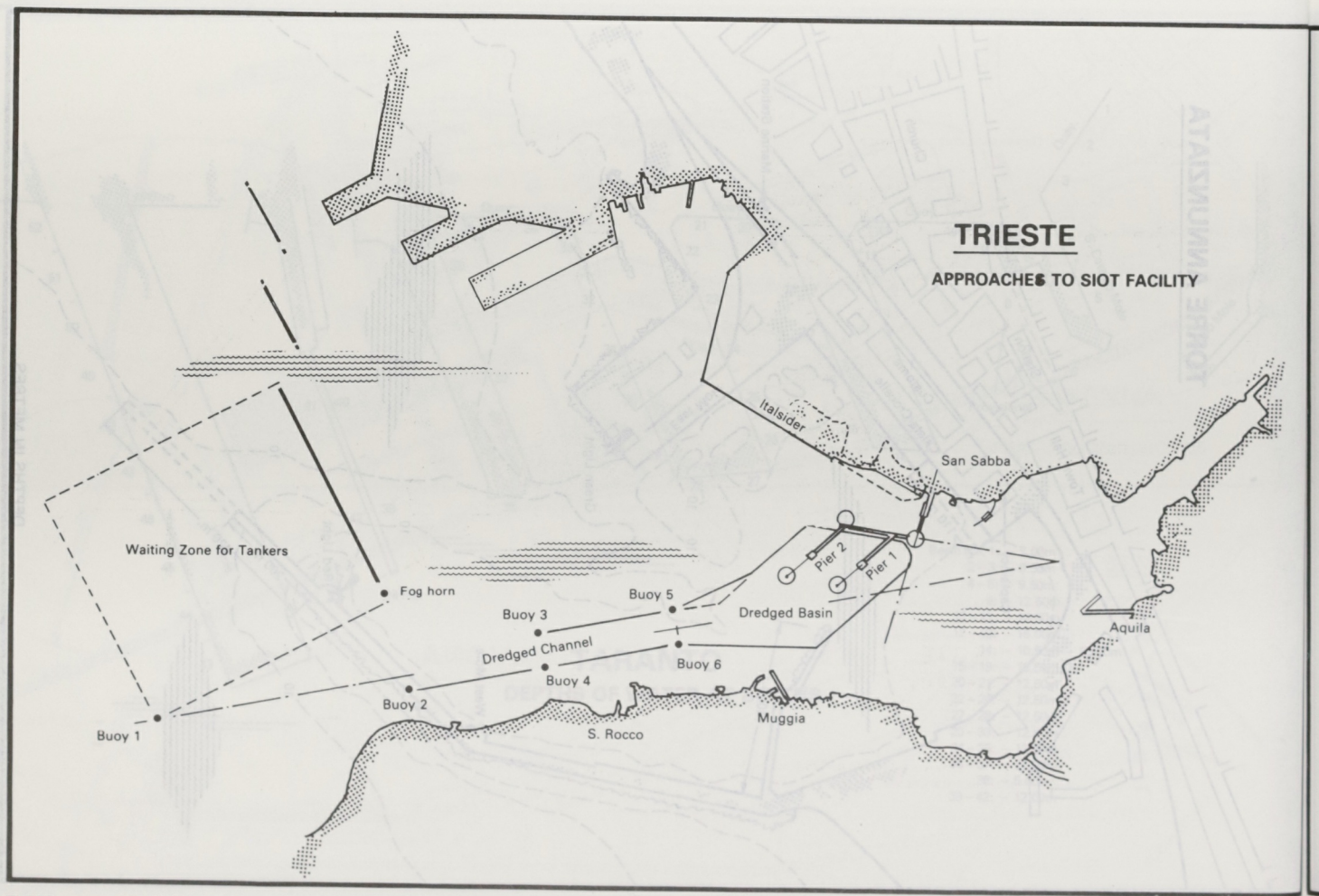
Berth No. 1: – 7.00m
2 – 3: – 8.50m
4 – 5: – 9.50m
9: – 12.50m
10 – 11: – 12.50m
12 – 13: – 16.00m
14: – 10.50m – 15.00m
15 – 19: – 10.50m
20 – 21: – 12.50m
22 – 26: – 12.50m
27 – 28: – 12.50m
29 – 33: – 12.50m
34 – 35: – 12.50m
36 – 37: – 25.00m
38: – 5.00m
39 – 42: – 12.00m

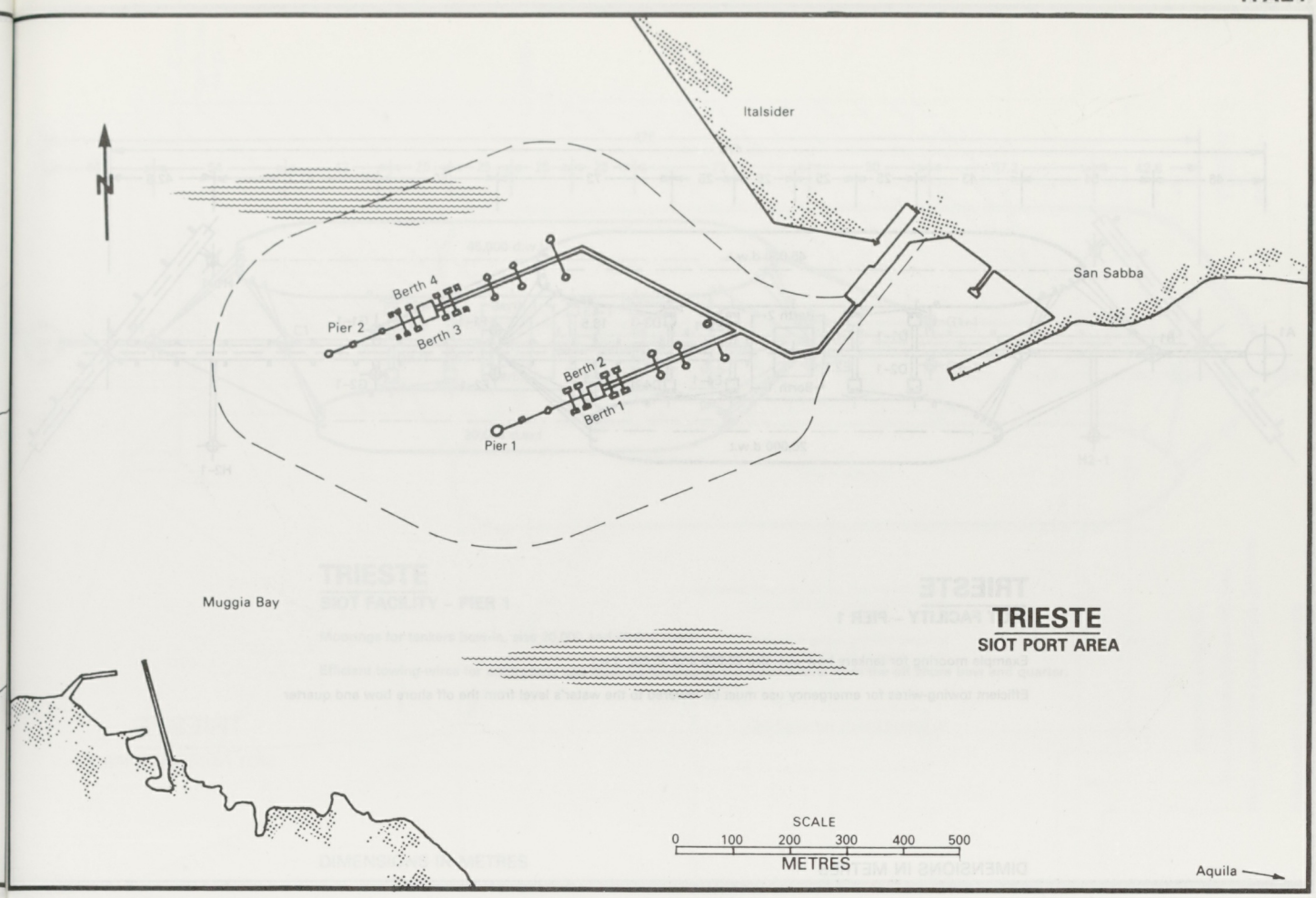


"Plan supplied by Ship's Master".

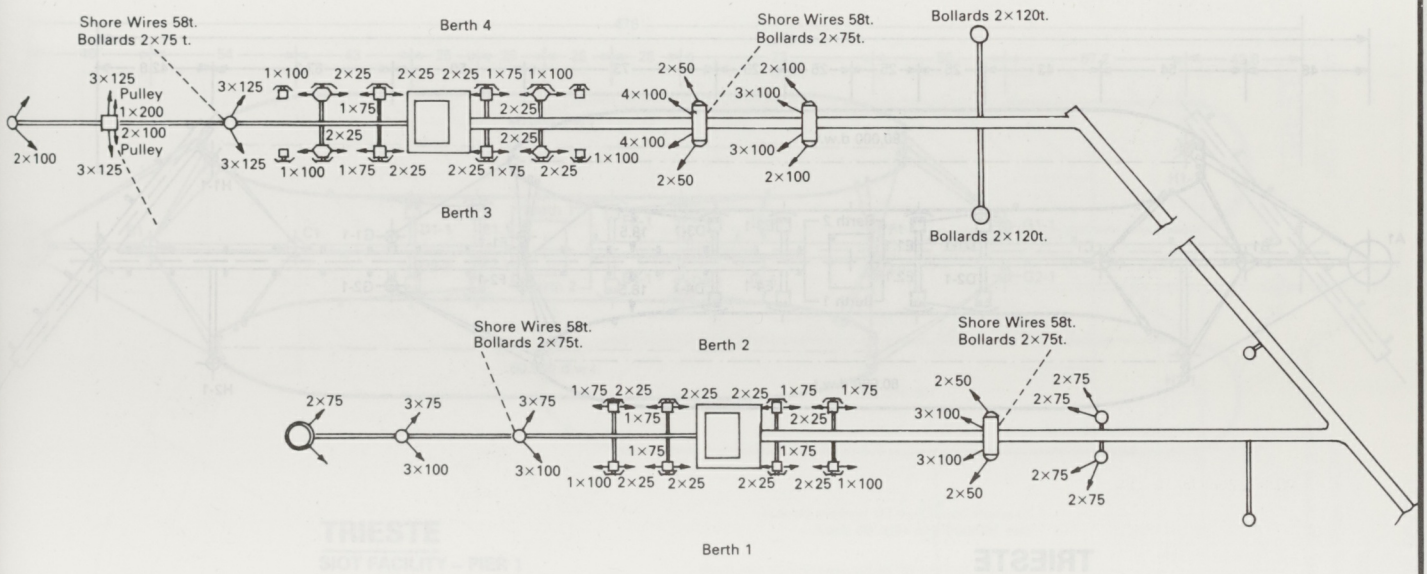



TRIESTE
F.S. Trieste Centrale
Molo O
Molo I
Molo II
Molo III
Molo IV
Punto Franco Vecchio
Maritime Station
Gaslin
F.S. Campo Marzio
Arsenale Triestino – S. Marco
F.S. Aquilinia
Molo V
Molo VI
Molo VII
Italsider
P.F. Scalo Legnami
P.F. Oli Minerali
Punto Franco Nuovo
Aquila
Pontile Oleodotto S.I.O.T.
Muggia
S. Rocco
0 500 1000
SCALE IN METRES


TRIESTE
APPROACHES TO SIOT FACILITY
Italsider
San Sabba
Waiting Zone for Tankers
Fog horn
Pier 2
Pier 1
Buoy 5
Buoy 3
Dredged Basin
Aquila
Dredged Channel
Buoy 6
Buoy 4
Buoy 2
Muggia
Buoy 1
S. Rocco

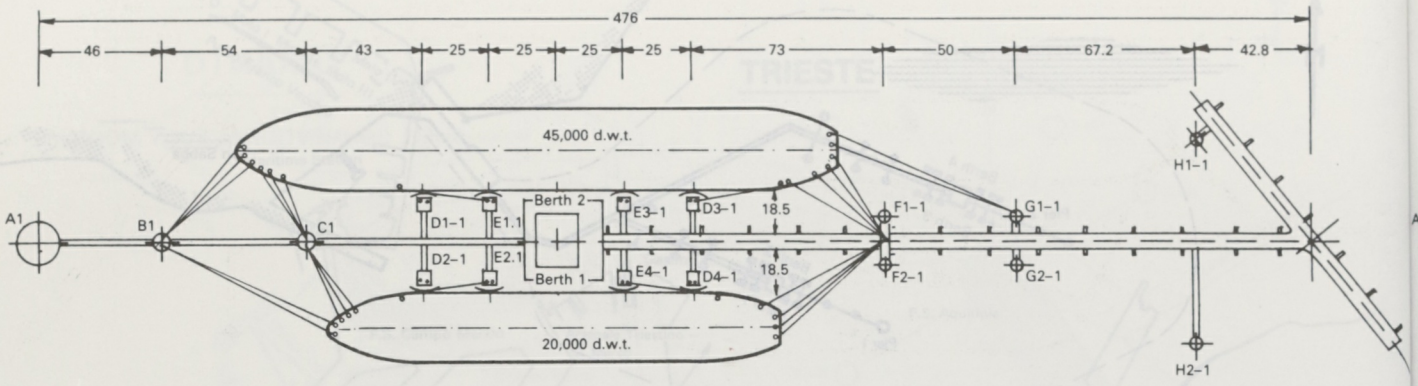


TRIESTE
SIOT PORT AREA



TRIESTE
SIOT FACILITY
MOORING POINTS

3×125 = Group of 3 hooks of 125 tons each



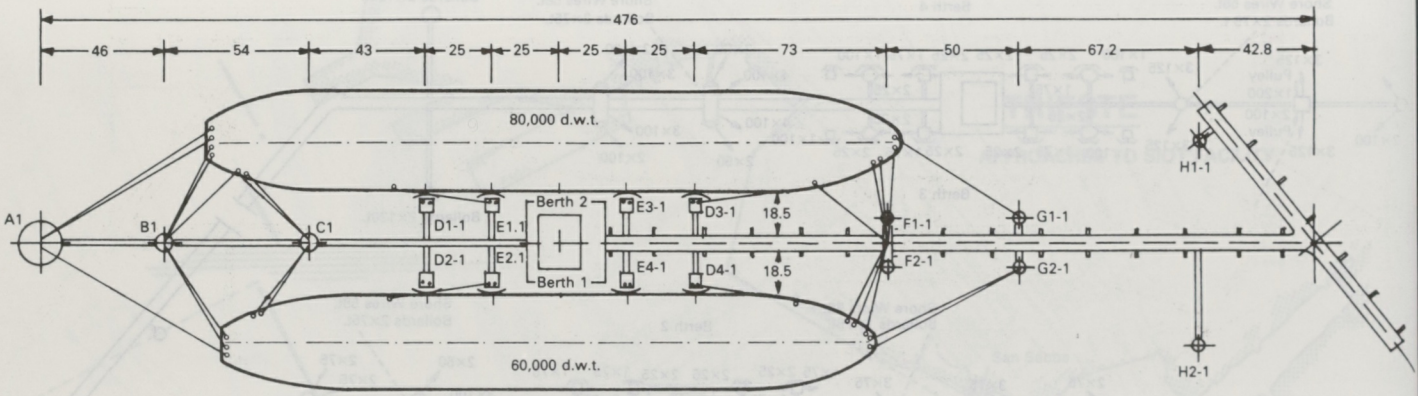
TRIESTE

SIOT FACILITY – PIER 1

Example mooring for tankers bow-out, size 20,000 and 45,000 d.w.t.

Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter

DIMENSIONS IN METRES



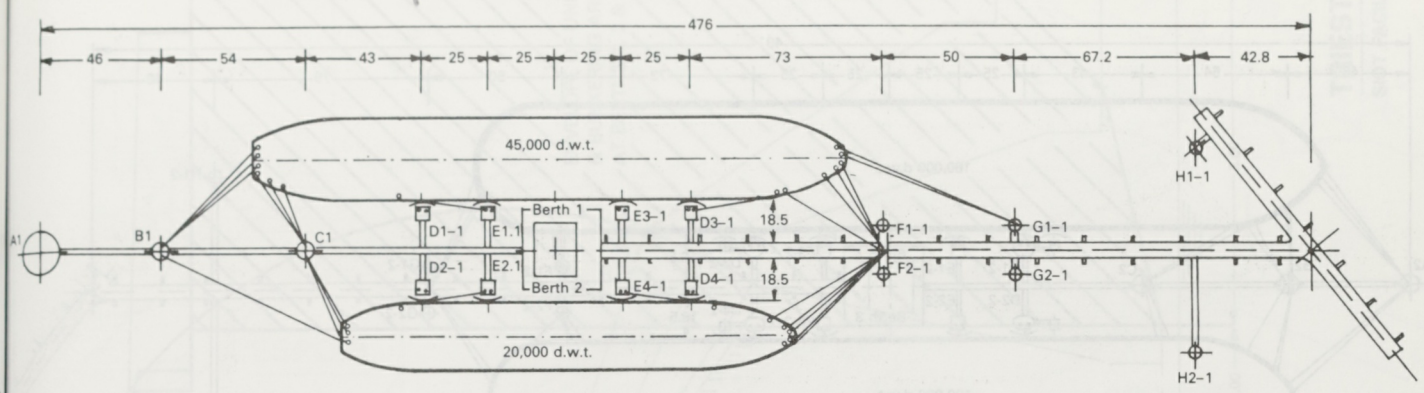
TRIESTE

SIOT FACILITY – PIER 1

Example moorings for tankers bow-in, size 60,000 and 80,000 d.w.t.

Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter.

DIMENSIONS IN METRES



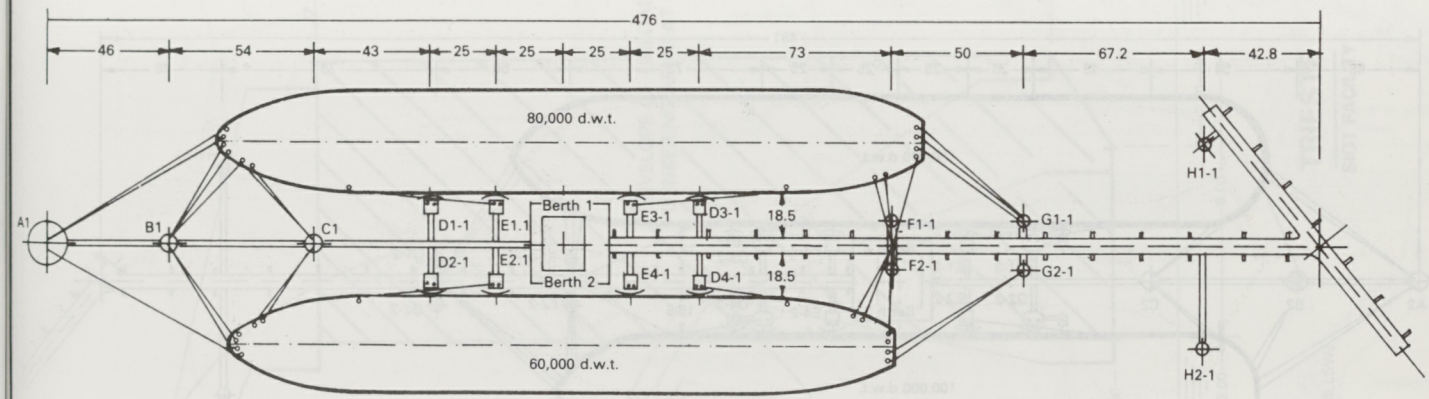
TRIESTE

SIOT FACILITY – PIER 1

Moorings for tankers bow-in, size 20,000 and 45,000 d.w.t.

Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter.

DIMENSIONS IN METRES



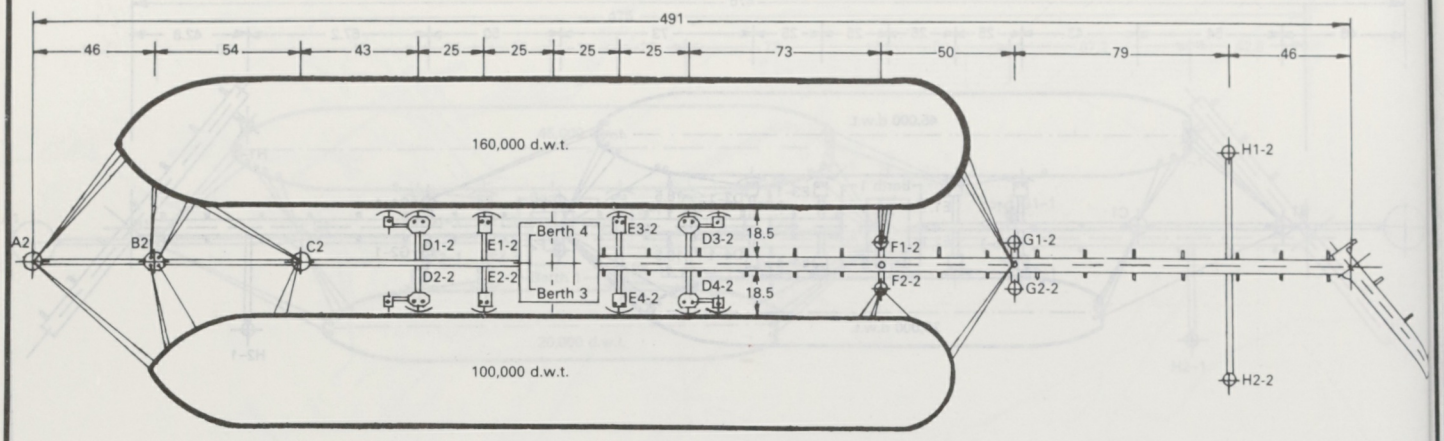
TRIESTE

SIOT FACILITY – PIER 1

Example moorings for tankers bow-out, size 60,000 and 80,000 d.w.t.

Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter.

DIMENSIONS IN METRES



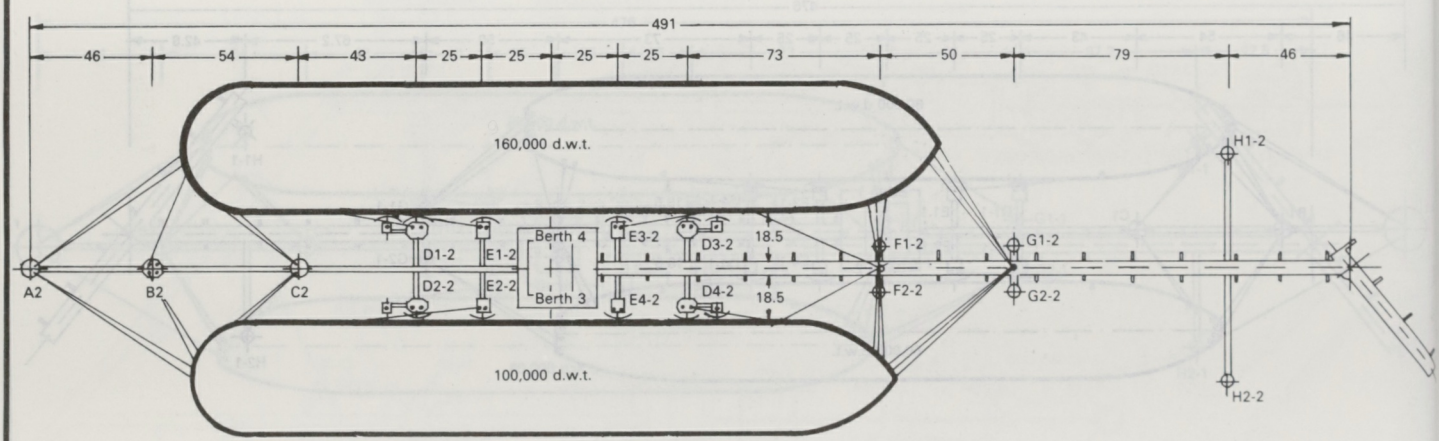
Example moorings for tankers bow-out, size 100,000 and 160,000 d.w.t.

Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter.

DIMENSIONS IN METRES

TRIESTE

SIOT FACILITY – PIER 2



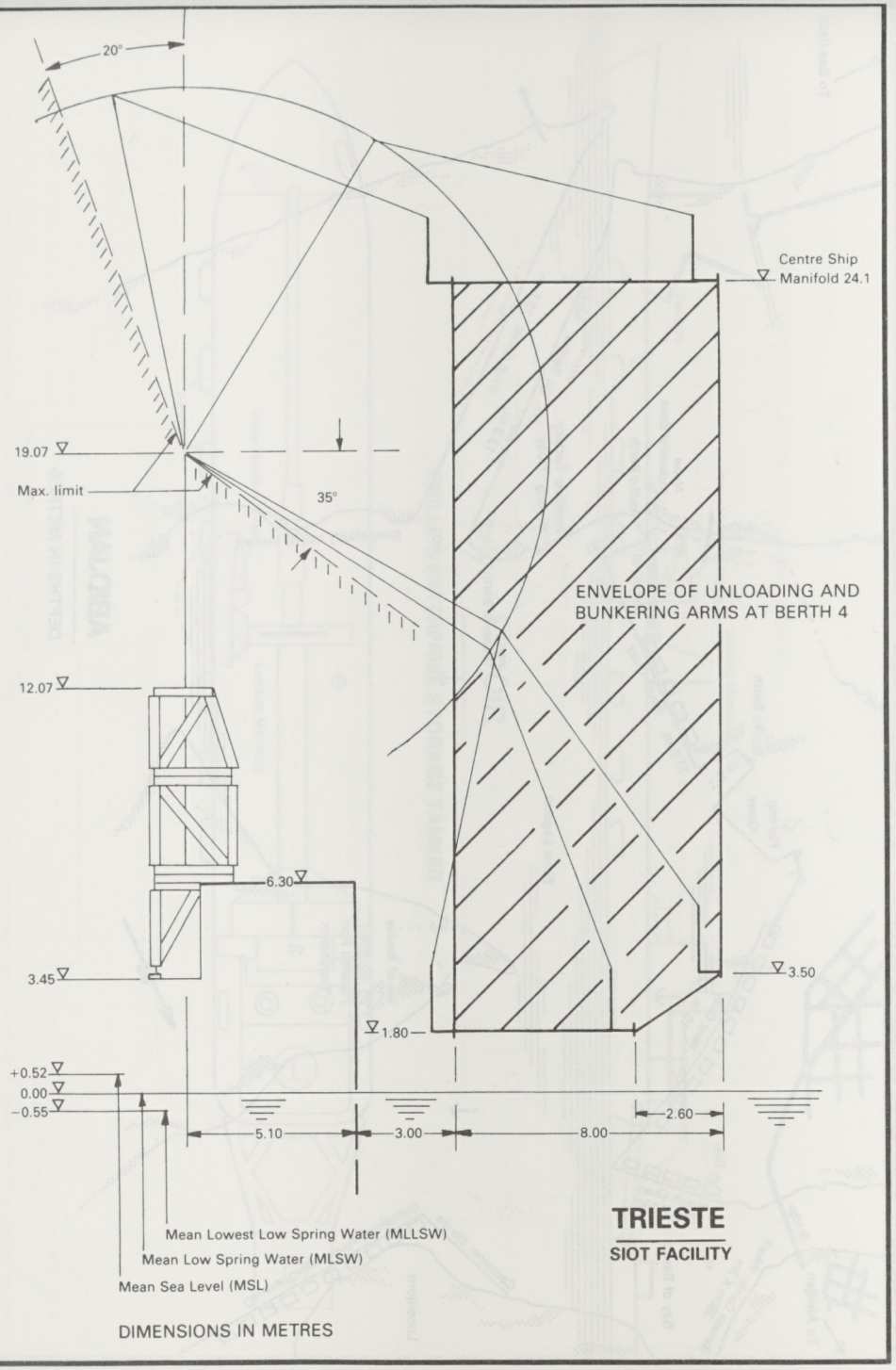
Example moorings for tankers bow-in, size 100,000 and 160,000 d.w.t.

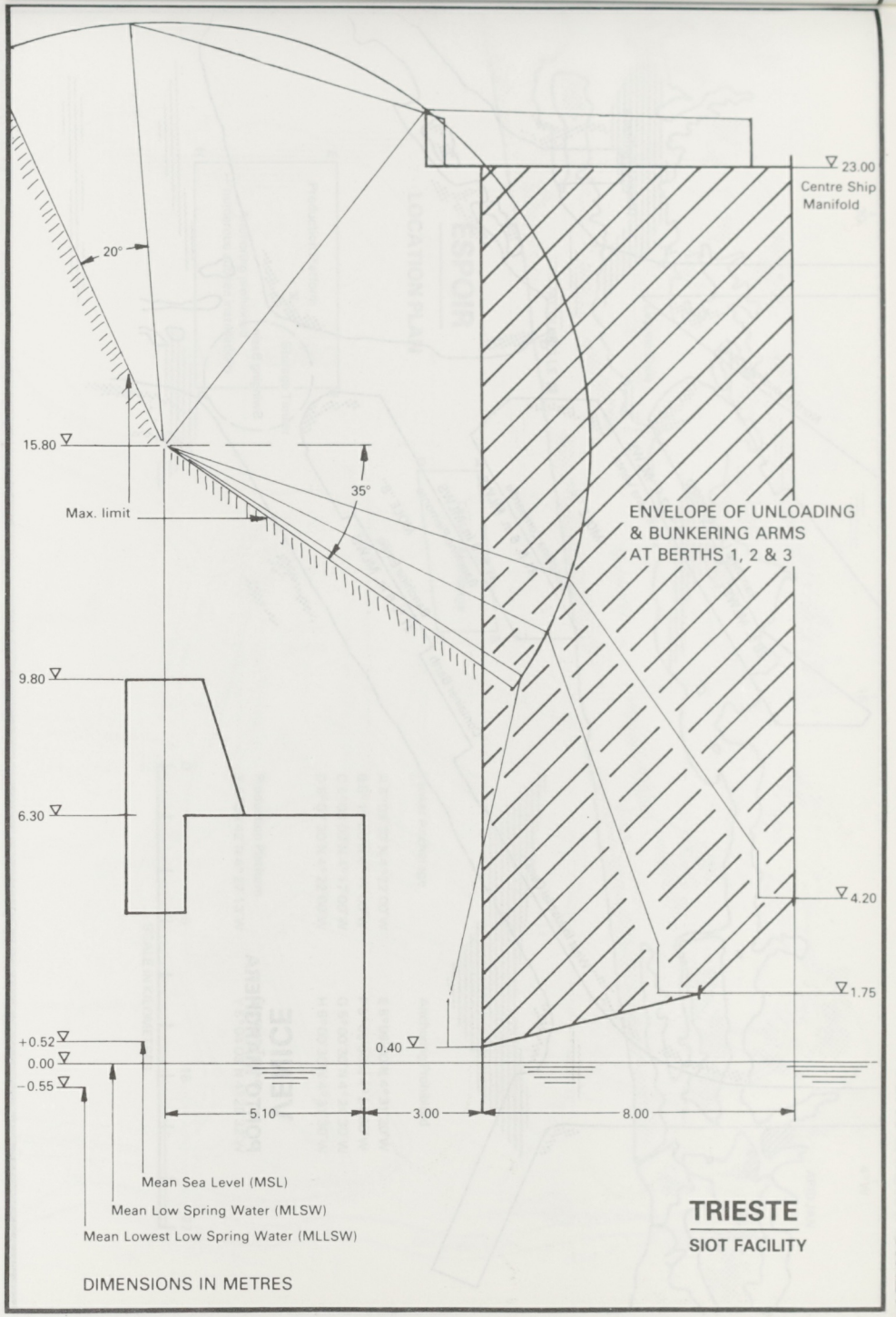
Efficient towing-wires for emergency use must be lowered to the water's level from the off shore bow and quarter.

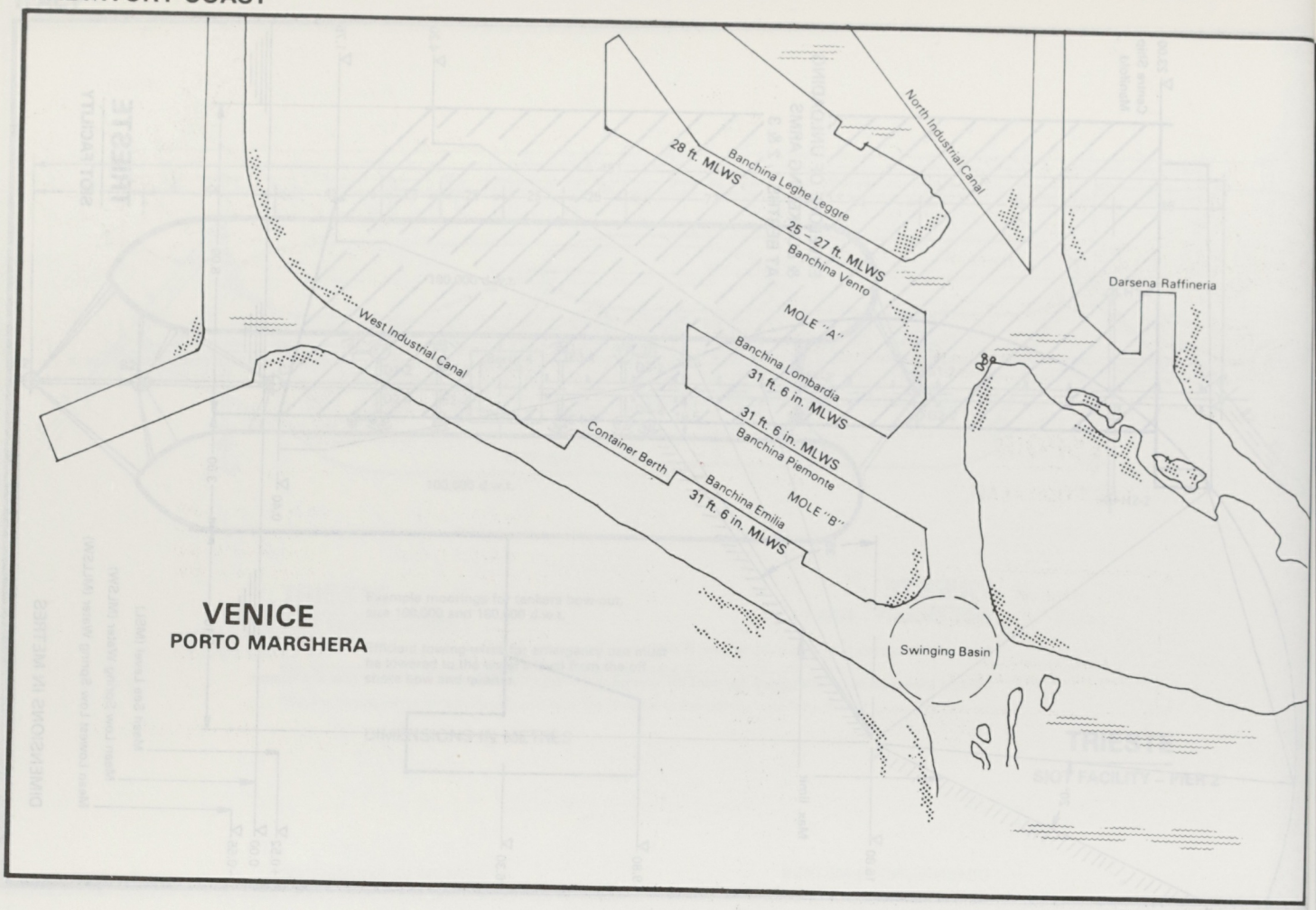
DIMENSIONS IN METRES

TRIESTE

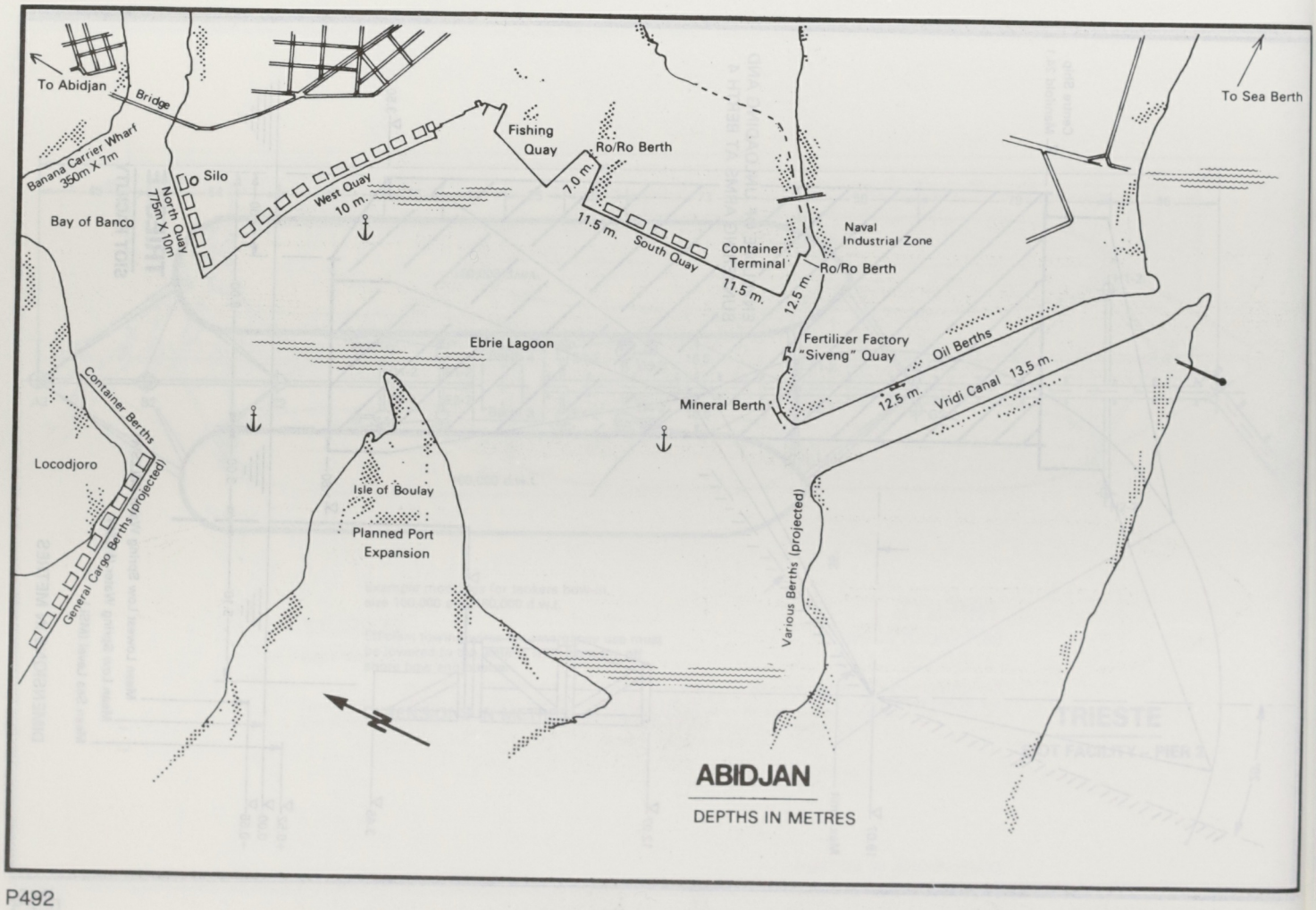
SIOT FACILITY – PIER 2

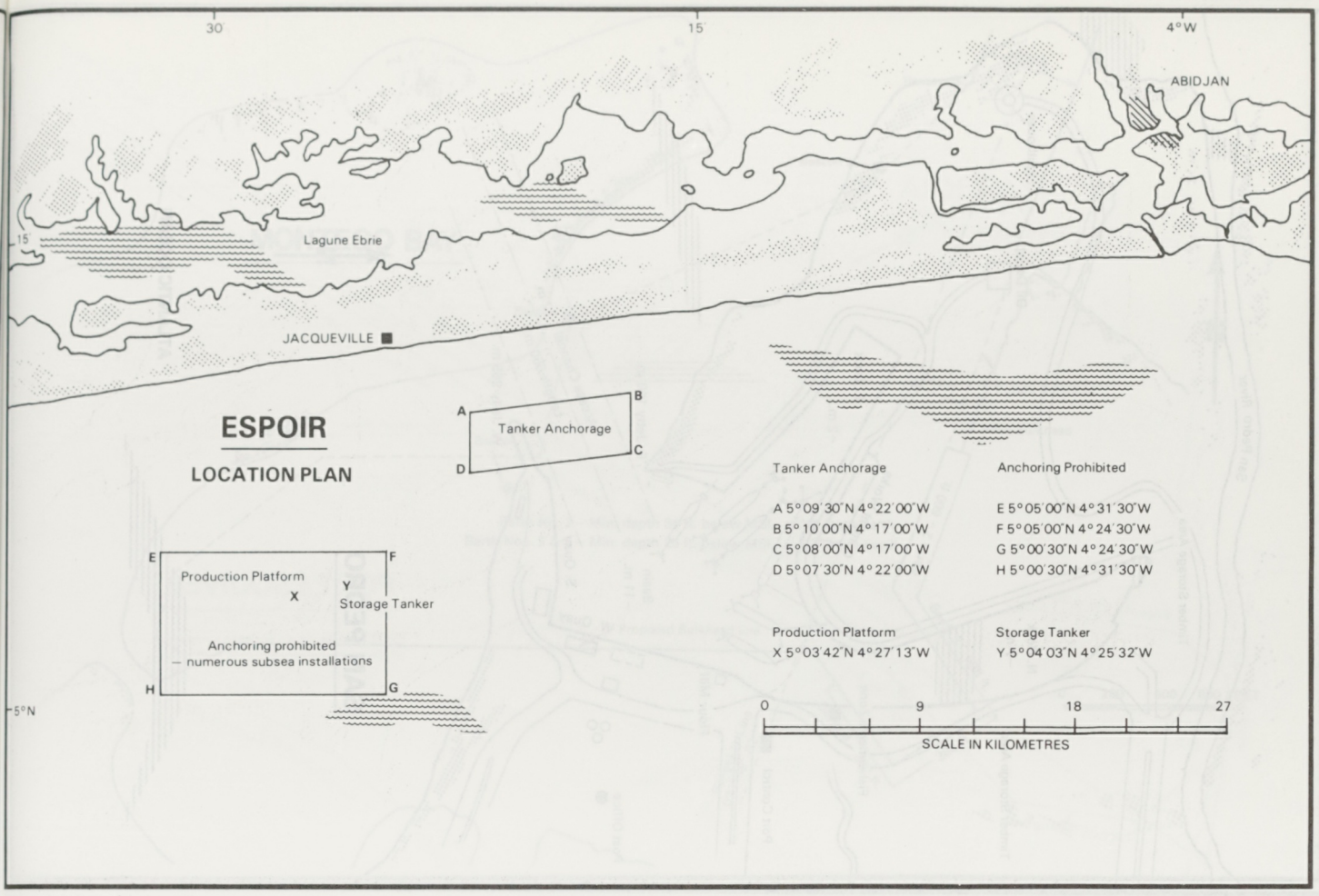

20°
Centre Ship
Manifold 24.1
19.07
Max. limit
35°
ENVELOPE OF UNLOADING AND
BUNKERING ARMS AT BERTH 4
12.07
6.30
3.45
3.50
1.80
+0.52
0.00
−0.55
5.10
3.00
8.00
2.60
Mean Lowest Low Spring Water (MLLSW)
Mean Low Spring Water (MLSW)
Mean Sea Level (MSL)
TRIESTE
SIOT FACILITY
DIMENSIONS IN METRES


23.00
Centre Ship
Manifold
20°
15.80
35°
Max. limit
ENVELOPE OF UNLOADING
& BUNKERING ARMS
AT BERTHS 1, 2 & 3
9.80
6.30
4.20
1.75
0.40
+0.52
0.00
−0.55
5.10
3.00
8.00
Mean Sea Level (MSL)
Mean Low Spring Water (MLSW)
Mean Lowest Low Spring Water (MLLSW)
TRIESTE
SIOT FACILITY
DIMENSIONS IN METRES



"Plan supplied by Ship's Master"



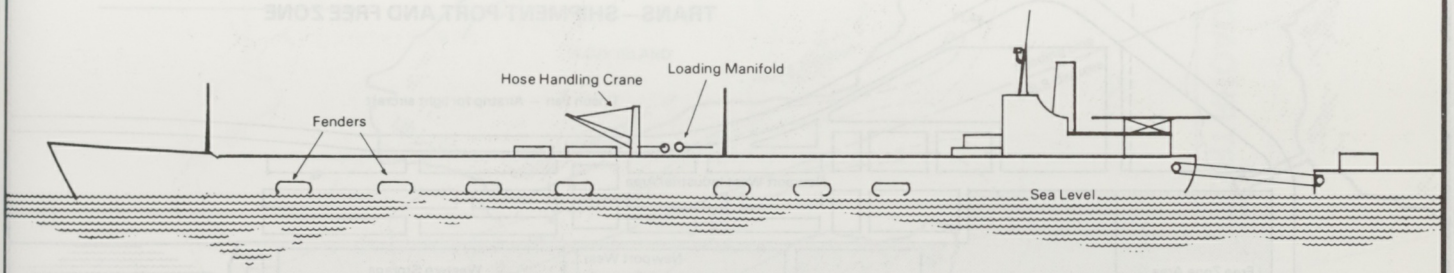


ESPOIR

LOCATION PLAN

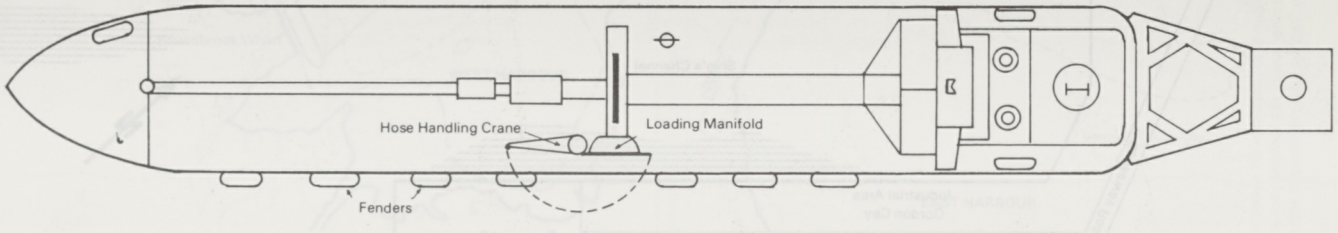
Tanker Anchorage	Anchoring Prohibited
A 5°09'30"N 4°22'00"W	E 5°05'00"N 4°31'30"W
B 5°10'00"N 4°17'00"W	F 5°05'00"N 4°24'30"W
C 5°08'00"N 4°17'00"W	G 5°00'30"N 4°24'30"W
D 5°07'30"N 4°22'00"W	H 5°00'30"N 4°31'30"W

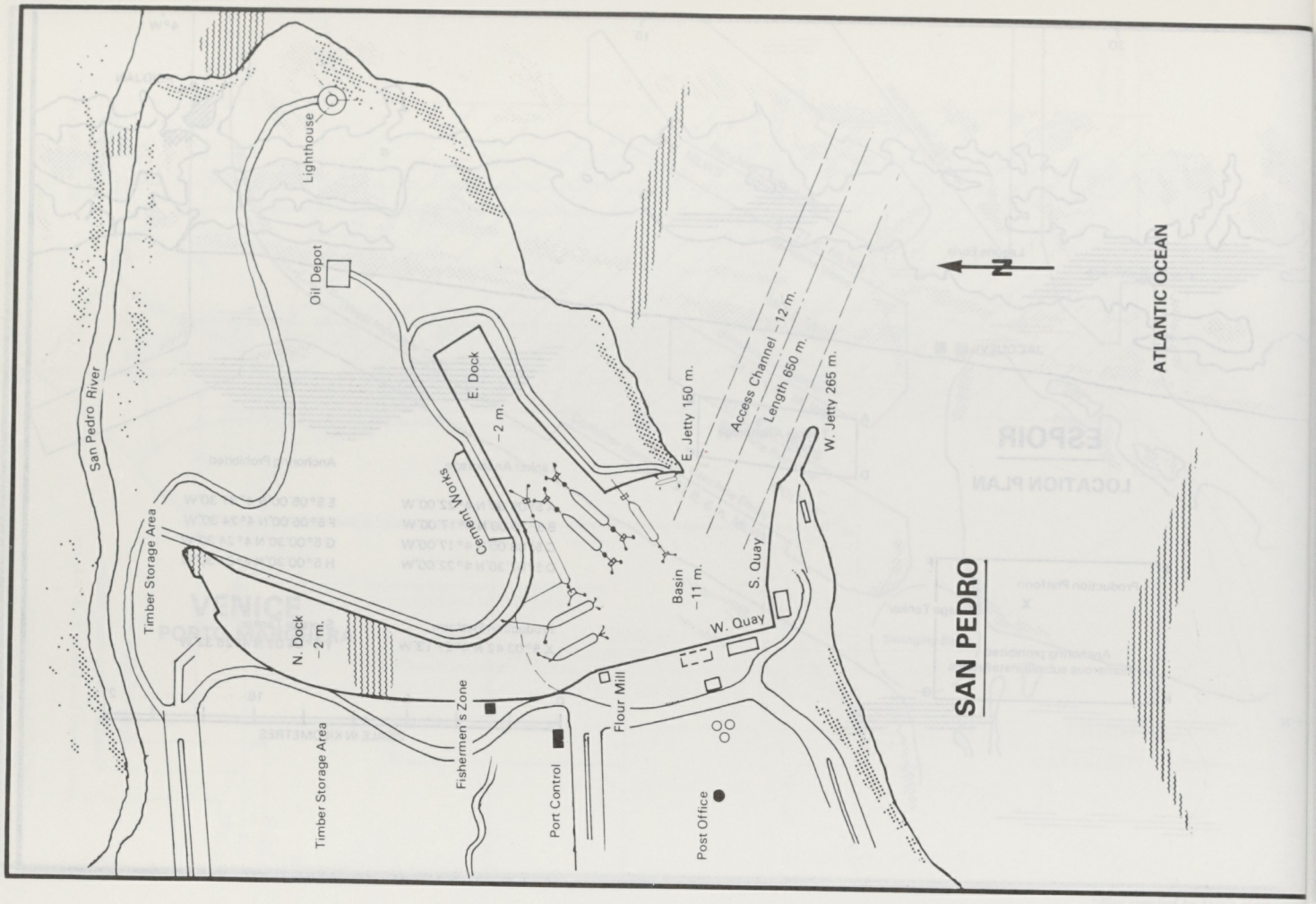
Production Platform	Storage Tanker
X 5°03'42"N 4°27'13"W	Y 5°04'03"N 4°25'32"W

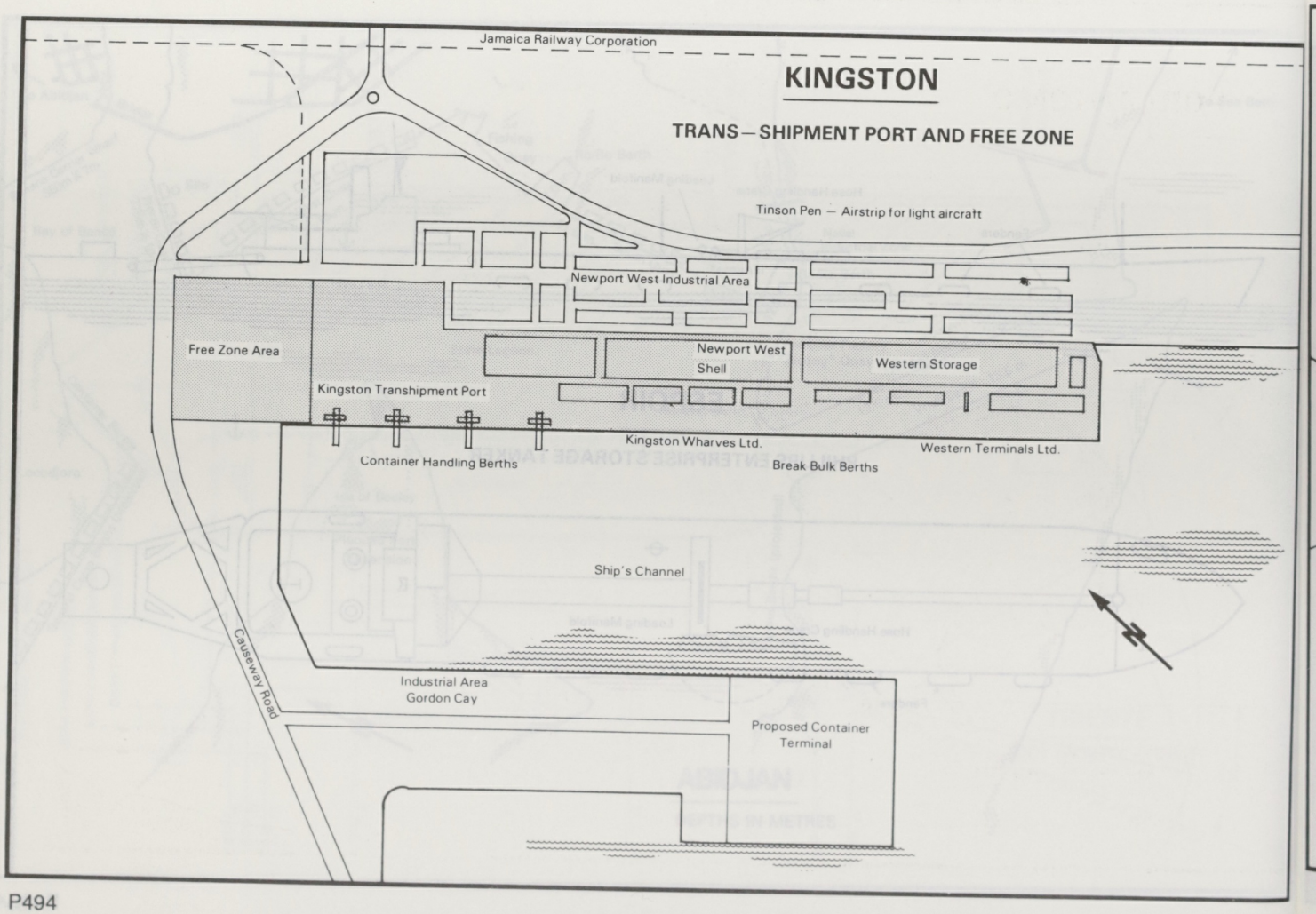


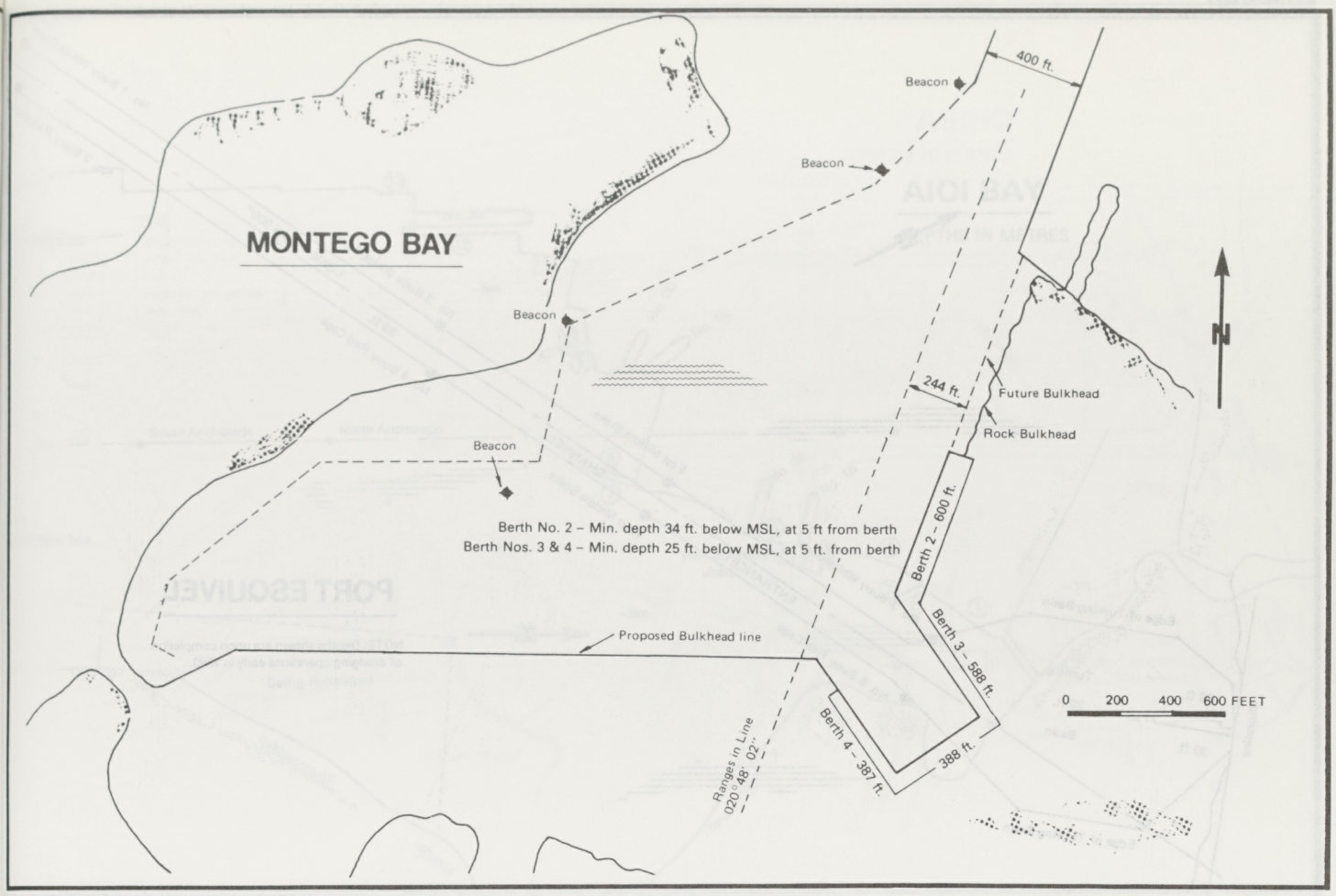
ESPOIR

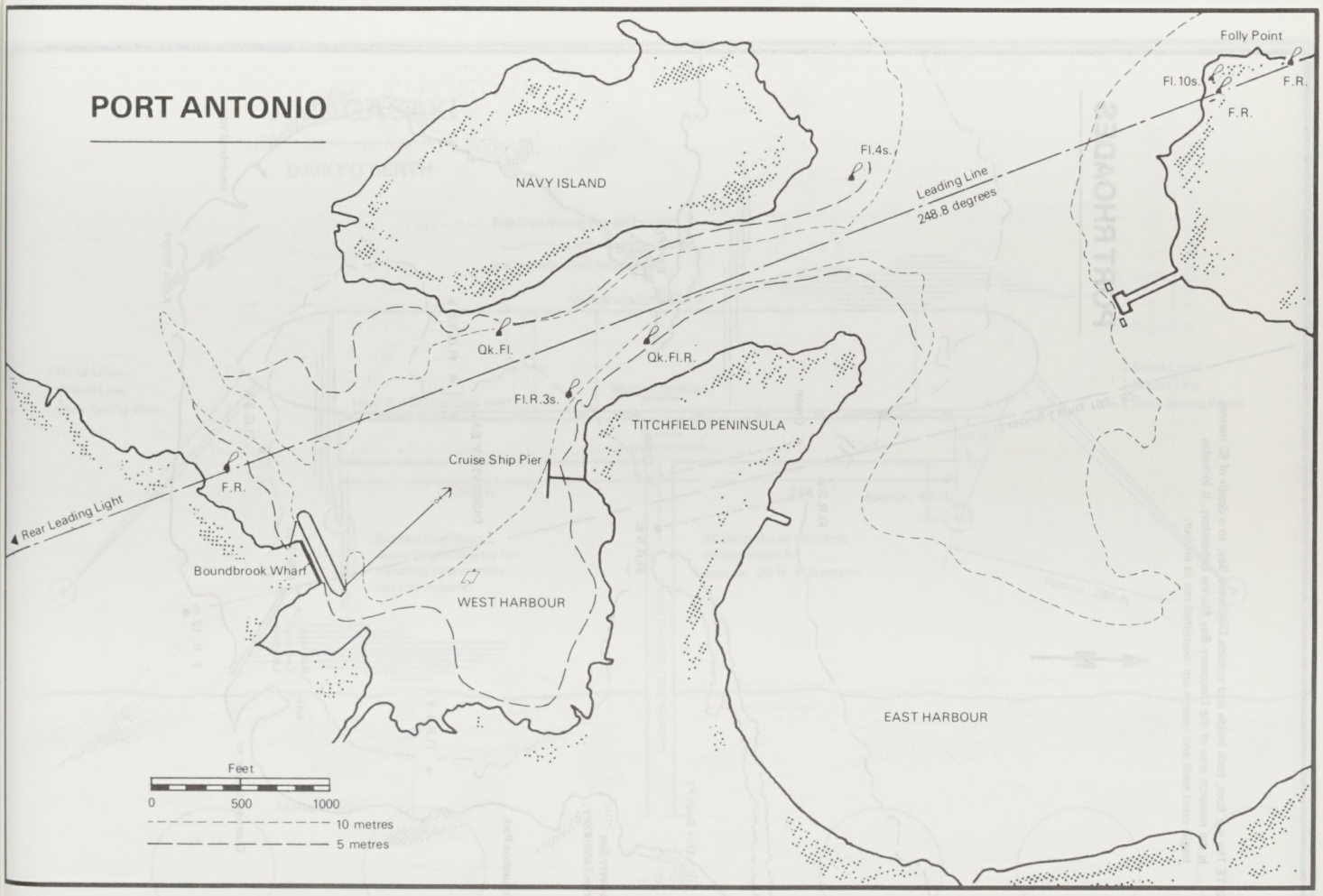
PHILLIPS ENTERPRISE STORAGE TANKER




SAN PEDRO
ATLANTIC OCEAN
N
Lighthouse
Oil Depot
San Pedro River
E. Dock
-2 m.
E. Jetty 150 m.
Access Channel -12 m.
Length 650 m.
W. Jetty 265 m.
Cemetery
Works
Timber Storage Area
N. Dock
-2 m.
Basin
-11 m.
S. Quay
W. Quay
Flour Mill
Fishermen's Zone
Timber Storage Area
Port Control
Post Office

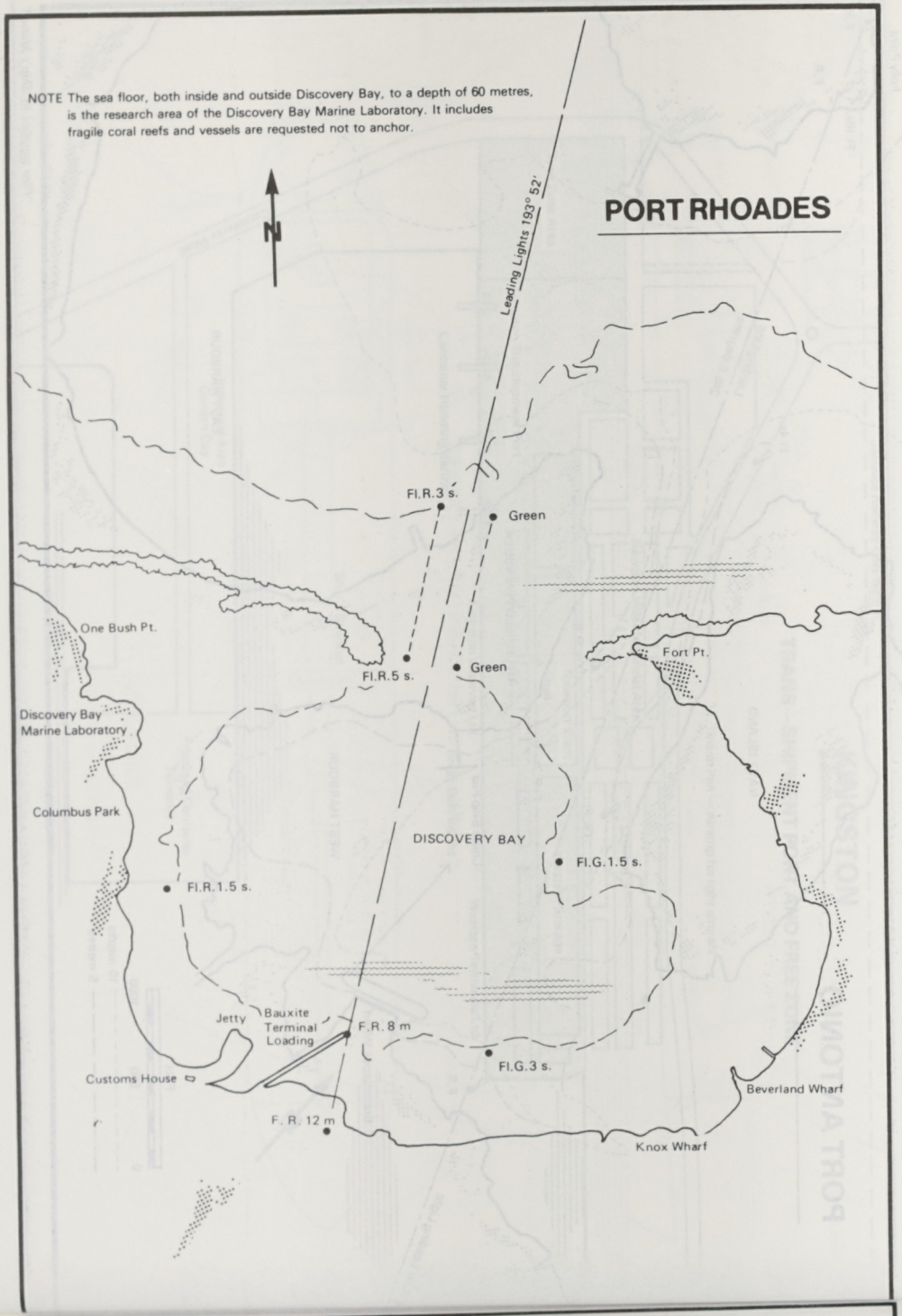

KINGSTON
TRANS—SHIPMENT PORT AND FREE ZONE
Jamaica Railway Corporation
Tinson Pen — Airstrip for light aircraft
Newport West Industrial Area
Free Zone Area
Newport West
Shell
Western Storage
Kingston Transhipment Port
Kingston Wharves Ltd.
Western Terminals Ltd.
Container Handling Berths
Break Bulk Berths
Ship's Channel
Causeway Road
Industrial Area
Gordon Cay
Proposed Container
Terminal
N

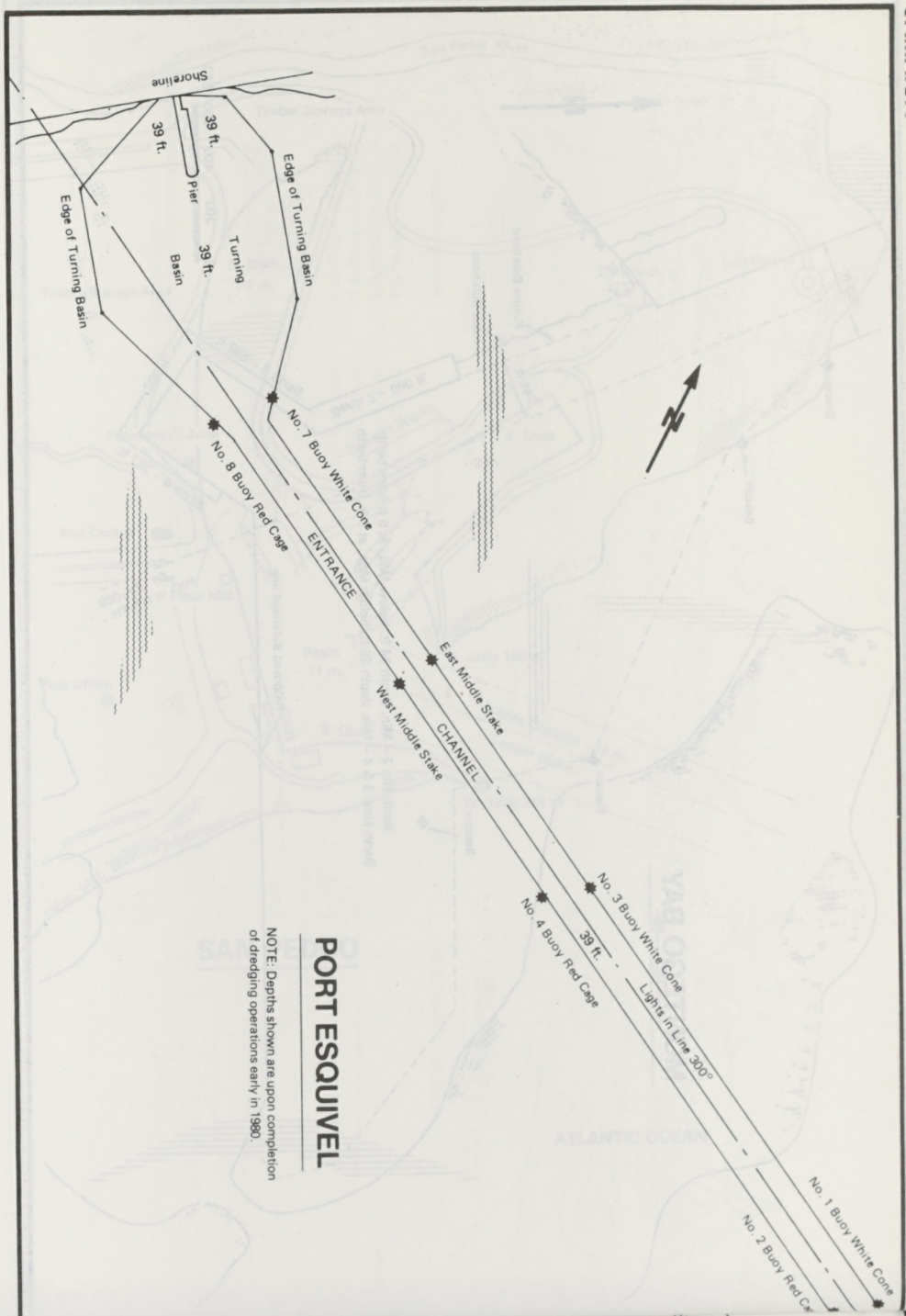


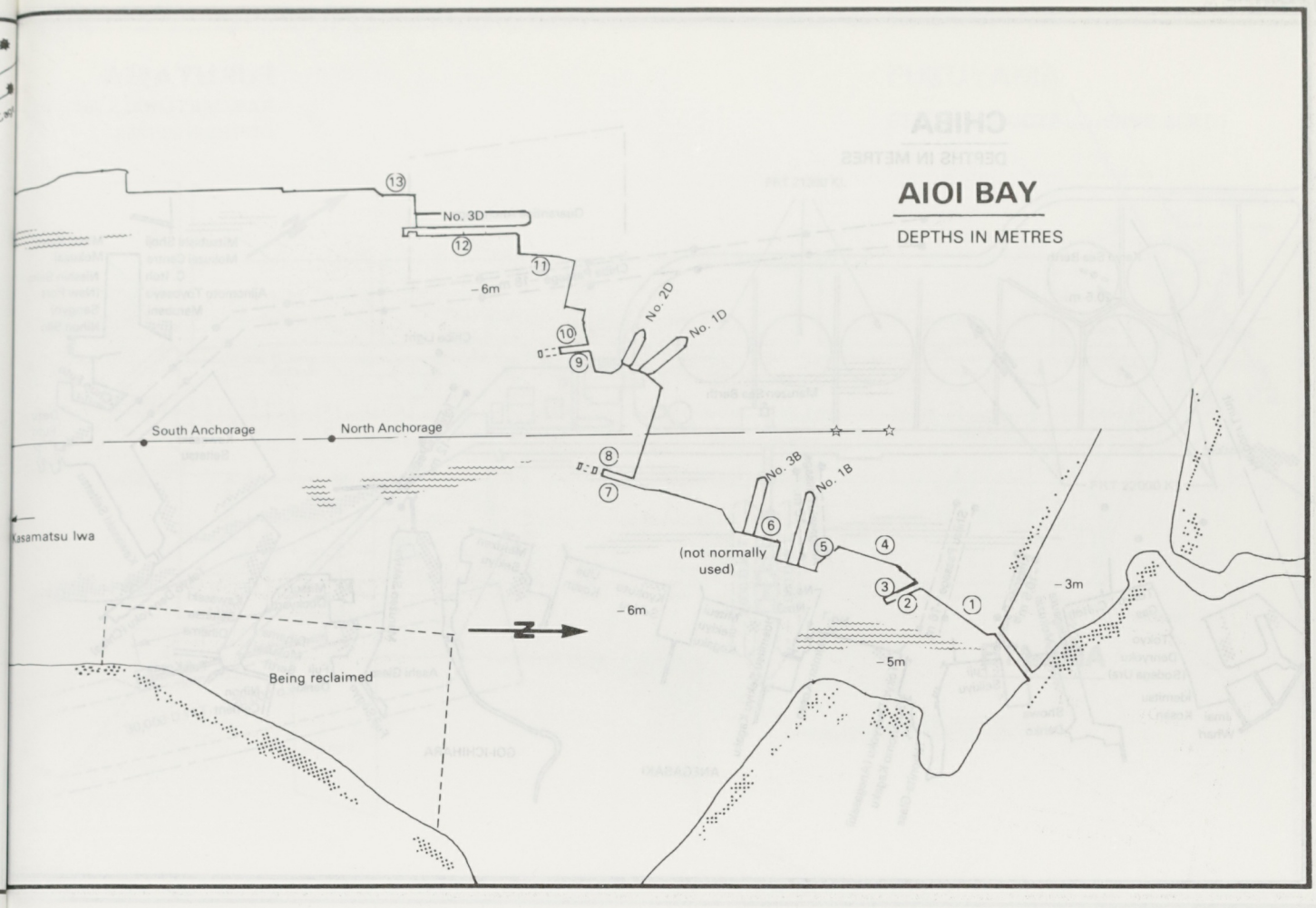


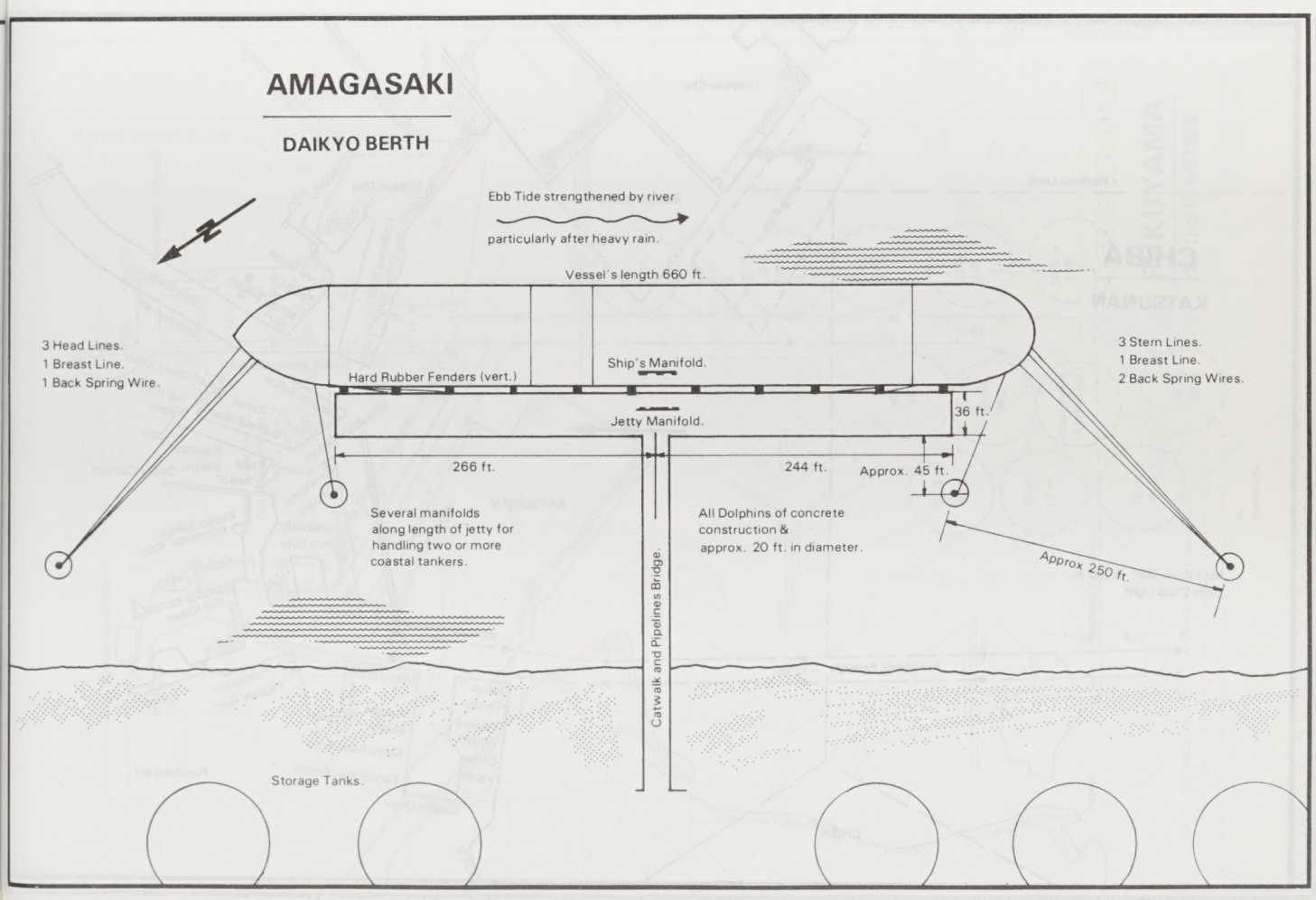
"Plan supplied by Ship's Master"

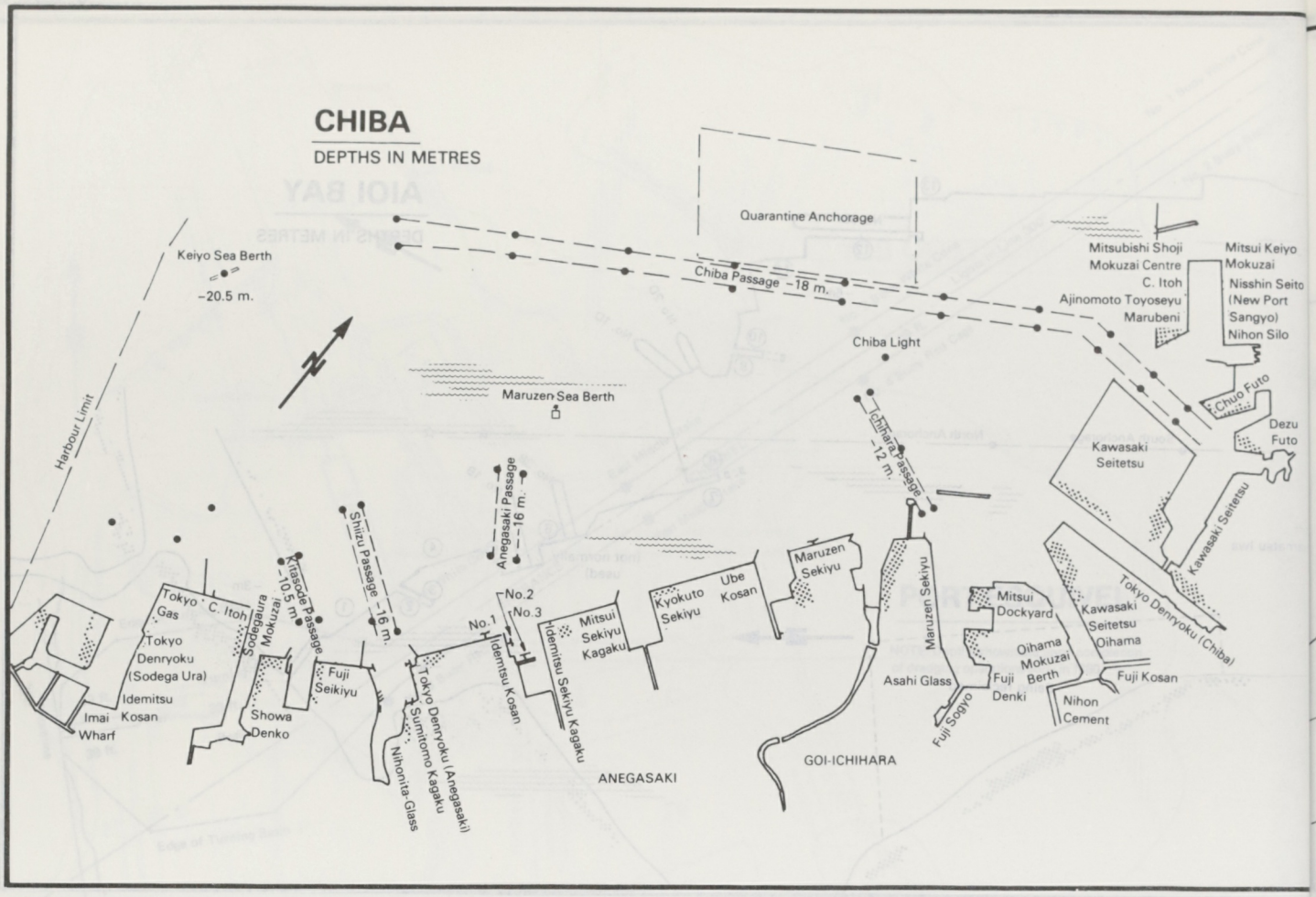
NOTE The sea floor, both inside and outside Discovery Bay, to a depth of 60 metres, is the research area of the Discovery Bay Marine Laboratory. It includes fragile coral reefs and vessels are requested not to anchor.

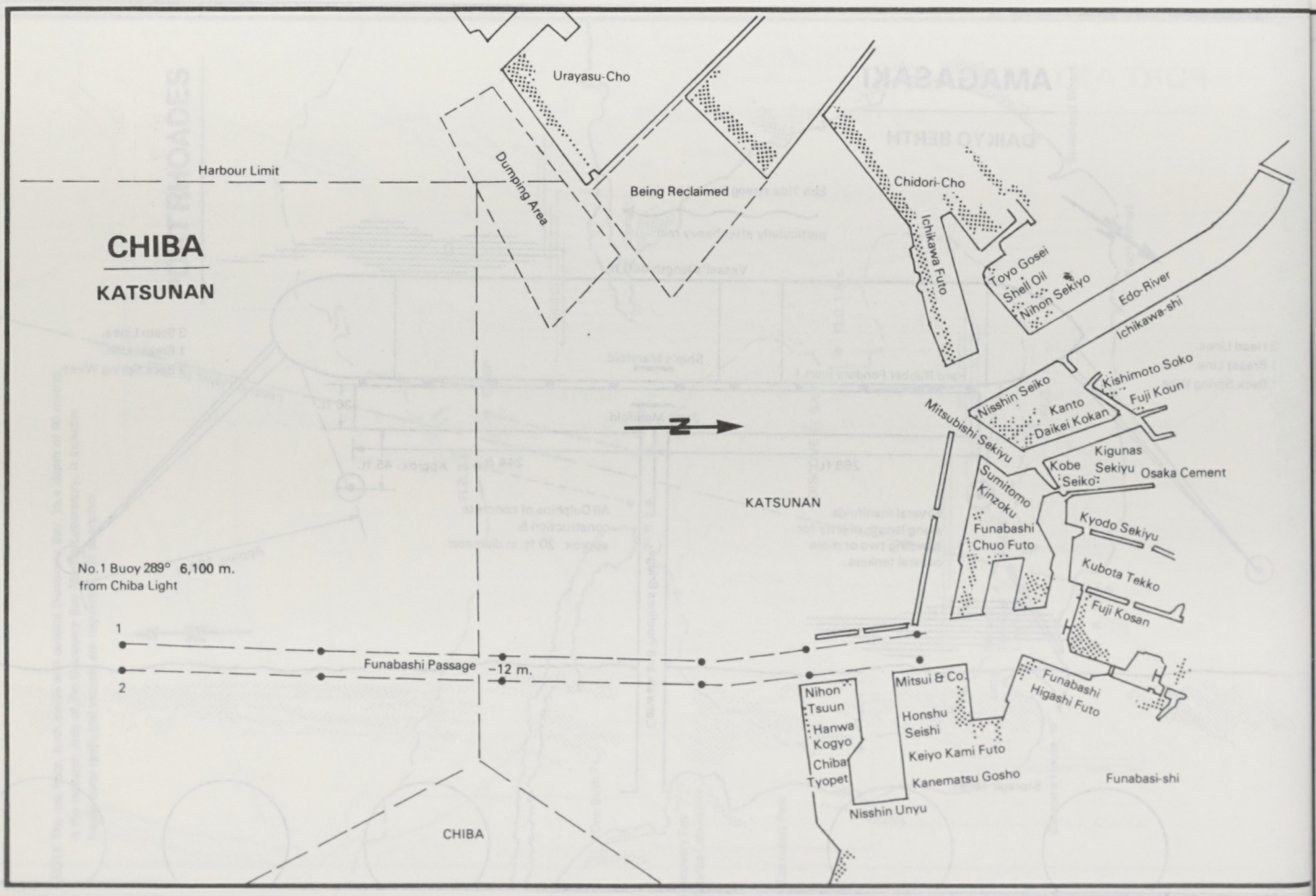


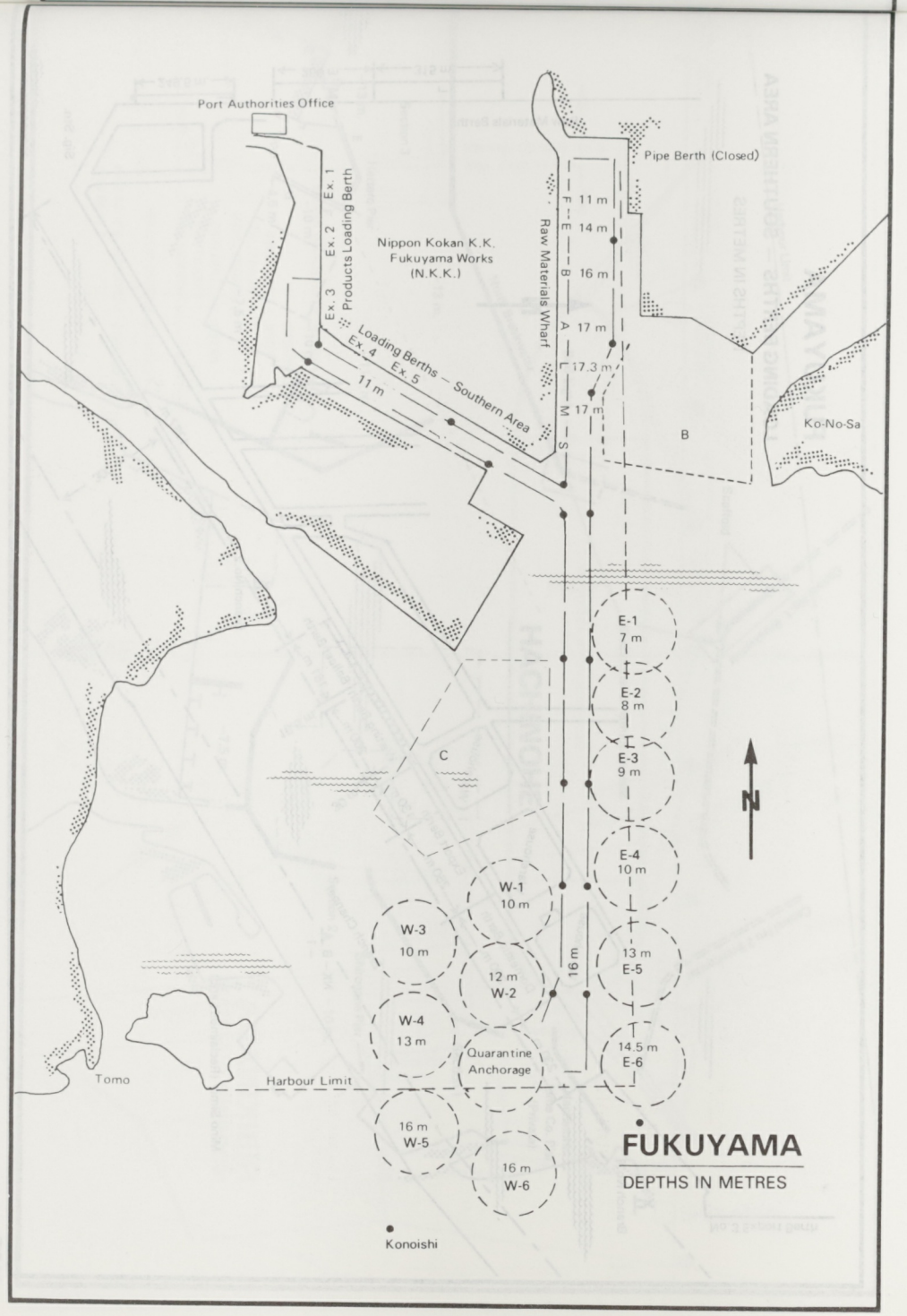


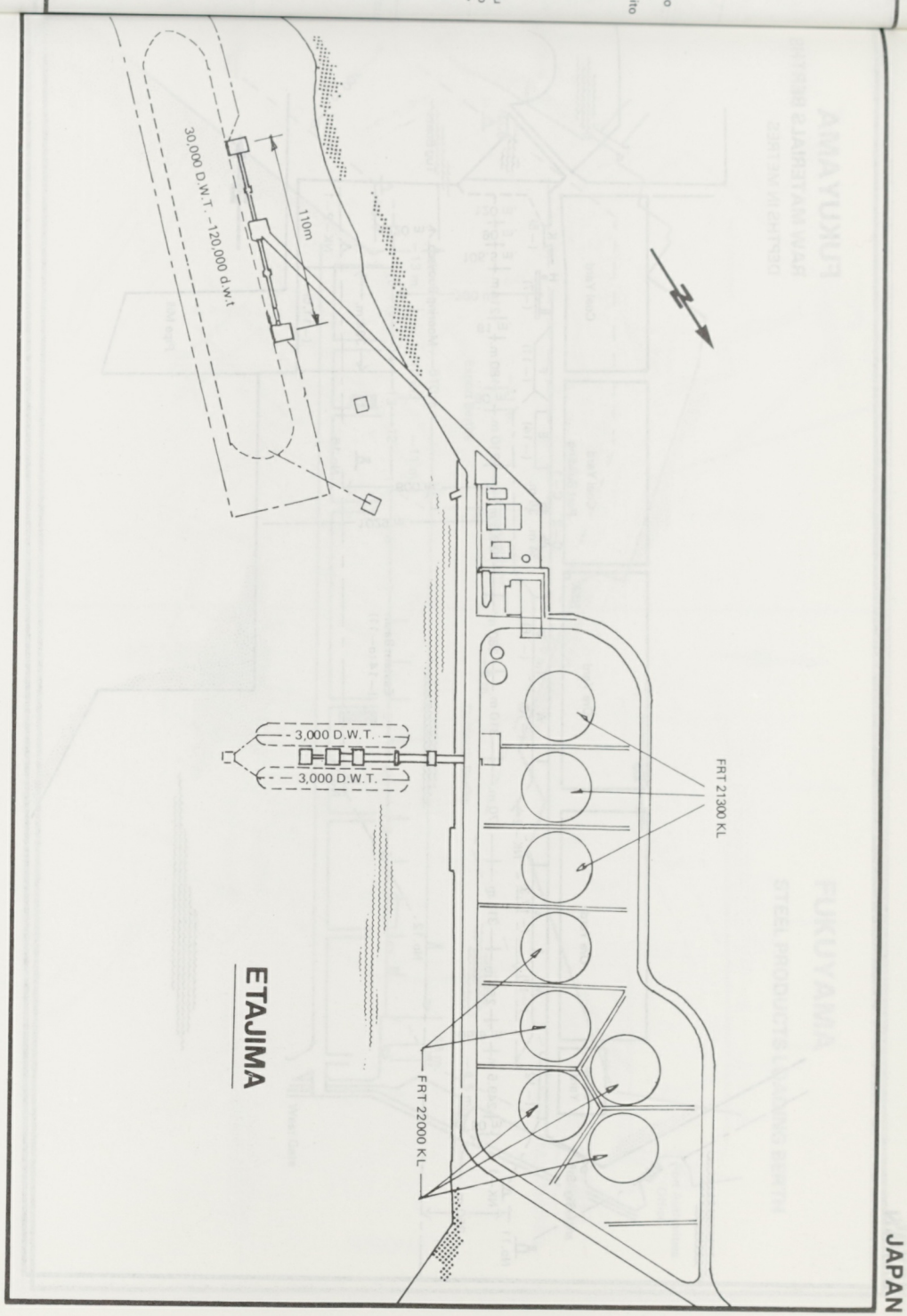

AIOI BAY
DEPTHS IN METRES
No. 3D
No. 2D
No. 1D
No. 3B
No. 1B
South Anchorage
North Anchorage
Kasamatsu Iwa
(not normally used)
Being reclaimed
-6m
-5m
-3m
N


AMAGASAKI
DAIKYO BERTH
Ebb Tide strengthened by river
particularly after heavy rain.
Vessel's length 660 ft.
3 Head Lines.
1 Breast Line.
1 Back Spring Wire.
Hard Rubber Fenders (vert.)
Ship's Manifold.
Jetty Manifold.
3 Stern Lines.
1 Breast Line.
2 Back Spring Wires.
36 ft.
266 ft.
244 ft.
Approx. 45 ft.
Several manifolds along length of jetty for handling two or more coastal tankers.
All Dolphins of concrete construction & approx. 20 ft. in diameter.
Approx 250 ft.
Catwalk and Pipelines Bridge.
Storage Tanks.
N

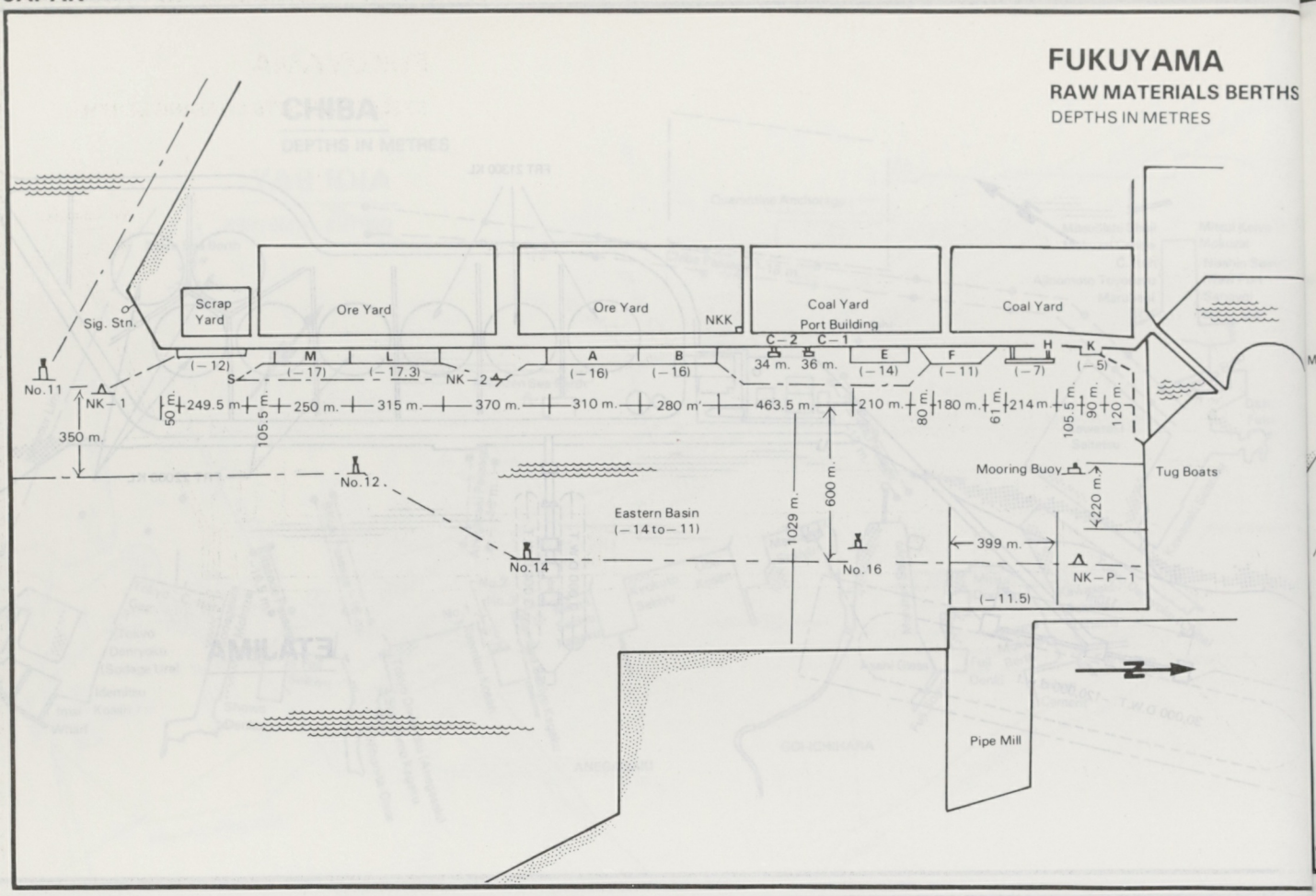

CHIBA
DEPTHS IN METRES
Quarantine Anchorage
Keiyo Sea Berth
-20.5 m.
Chiba Passage -18 m.
Mitsubishi Shoji
Mokuzai Centre
C. Itoh
Ajinomoto Toyoseyu
Marubeni
Mitsui Keiyo
Mokuzai
Nisshin Seito
(New Port
Sangyo)
Nihon Silo
Chiba Light
Maruzen Sea Berth
Harbour Limit
Chuo Futo
Dezu Futo
Kawasaki
Seitetsu
Ichihara Passage
-12 m.
Kawasaki Seitetsu
Anegasaki Passage
-16 m.
Shizu Passage -16 m.
Tokyo
Gas
Tokyo C. Itoh
Sodegaura
Mokuzai
Kisarazu Passage
-10.5 m.
Tokyo
Denryoku
(Sodega Ura)
Idemitsu
Kosan
Imai
Wharf
Showa
Denko
Fuji
Seikiyu
No.1
No.2
No.3
Idemitsu Kosan
Idemitsu Sekiyu Kagaku
Tokyo Denryoku (Anegasaki)
Sumitomo Kagaku
Nihonita Glass
Mitsui
Sekiyu
Kagaku
Kyokuto
Sekiyu
Ube
Kosan
ANEGASAKI
Maruzen
Sekiyu
Maruzen Sekiyu
GOI-ICHIHARA
Mitsui
Dockyard
Asahi Glass
Fuji
Denki
Fuji Sogyo
Oihama
Mokuzai
Berth
Kawasaki
Seitetsu
Oihama
Tokyo Denryoku (Chiba)
Fuji Kosan
Nihon
Cement

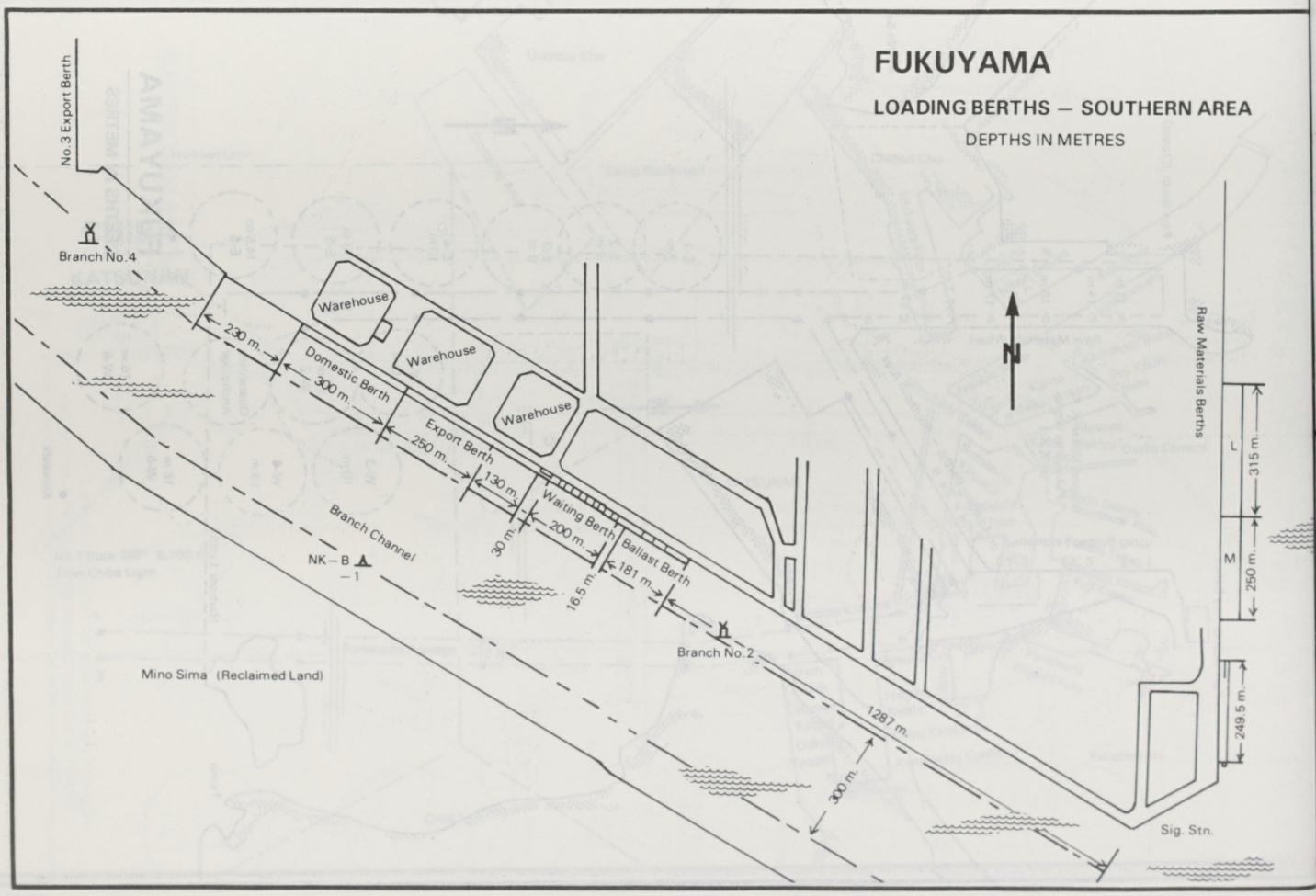

CHIBA
KATSUNAN
Urayasu-Cho
Harbour Limit
Dumping Area
Being Reclaimed
Chidori-Cho
Ichikawa Futo
Toyo Gosei
Shell Oil
Nihon Sekiyo
Edo-River
Ichikawa-shi
Nisshin Seiko
Kishimoto Soko
Fuji Koun
Kanto
Daikei Kokan
Mitsubishi Sekiyu
Kigunas
Kobe
Seiko
Sekiyu
Osaka Cement
KATSUNAN
Sumitomo
Kinzoku
Funabashi
Chuo Futo
Kyodo Sekiyu
Kubota Tekko
Fuji Kosan
No.1 Buoy 289° 6,100 m.
from Chiba Light
1
2
Funabashi Passage -12 m.
Nihon
Tsuun
Hanwa
Kogyo
Chiba
Tyopet
Mitsui & Co.
Honshu
Seishi
Keiyo Kami Futo
Kanematsu Gosho
Nisshin Unyu
Funabashi
Higashi Futo
Funabasi-shi
CHIBA


Port Authorities Office
Pipe Berth (Closed)
Nippon Kokan K.K.
Fukuyama Works
(N.K.K.)
Ex. 1
Ex. 2
Ex. 3
Products Loading Berth
Raw Materials Wharf
F E B A L M S
11 m
14 m
16 m
17 m
17.3 m
17 m
Loading Berths — Southern Area
Ex. 4
Ex. 5
11 m
B
Ko-No-Sa
C
E-1
7 m
E-2
8 m
E-3
9 m
E-4
10 m
W-1
10 m
W-3
10 m
12 m
W-2
13 m
E-5
W-4
13 m
Quarantine
Anchorage
14.5 m
E-6
16 m
W-5
16 m
W-6
16 m
Tomo
Harbour Limit
Konoishi
N
FUKUYAMA
DEPTHS IN METRES


30,000 D.W.T. -120,000 d.w.t
110m
3,000 D.W.T.
3,000 D.W.T.
FRT 21300 KL
FRT 22000 KL
N
ETAJIMA

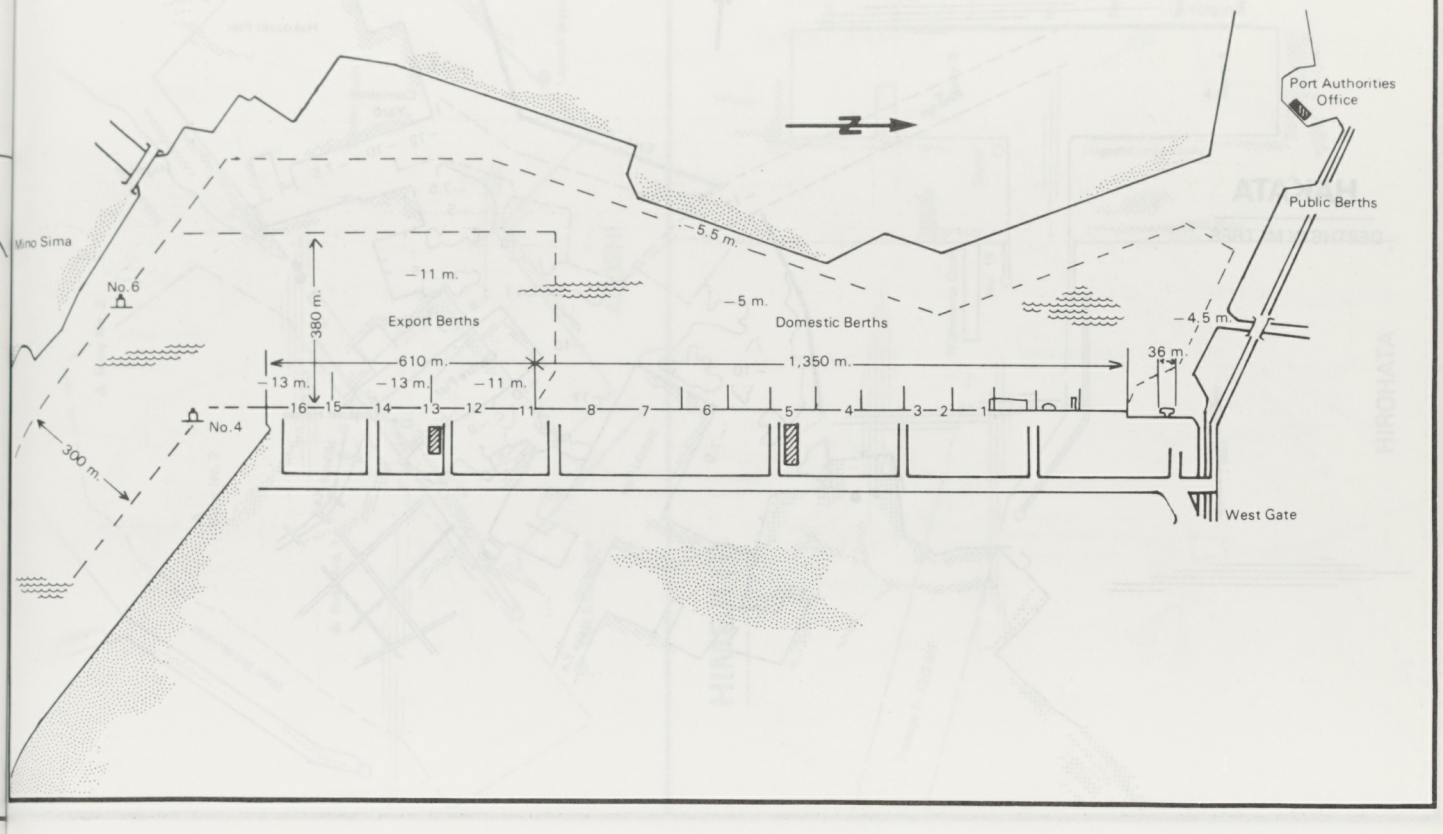
JAPAN


FUKUYAMA
RAW MATERIALS BERTHS
DEPTHS IN METRES
Scrap Yard
Ore Yard
Ore Yard
NKK
Coal Yard
Port Building
Coal Yard
Sig. Stn.
No.11
NK – 1
350 m.
(– 12)
S
M
(– 17)
L
(– 17.3)
NK – 2
A
(– 16)
B
(– 16)
C – 2
34 m.
C – 1
36 m.
E
(– 14)
F
(– 11)
H
(– 7)
K
(– 5)
50 m.
249.5 m.
105.5 m.
250 m.
315 m.
370 m.
310 m.
280 m.
463.5 m.
210 m.
80 m.
180 m.
61 m.
214 m.
105.5 m.
90 m.
120 m.
No.12
Eastern Basin
(– 14 to – 11)
No.14
1029 m.
600 m.
No.16
Mooring Buoy
Tug Boats
220 m.
399 m.
NK – P – 1
(– 11.5)
Pipe Mill
N
Mino Si

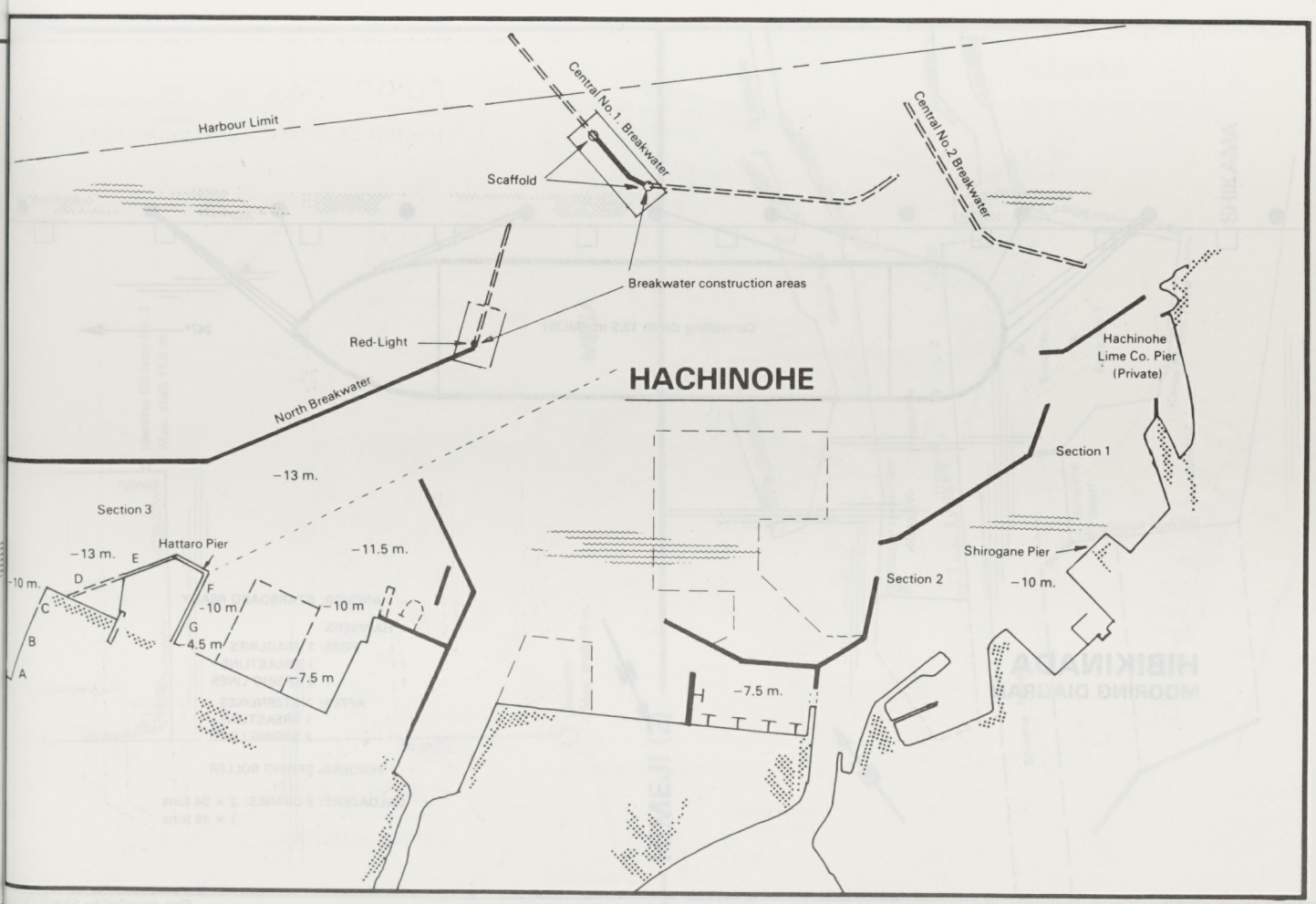

FUKUYAMA
LOADING BERTHS – SOUTHERN AREA
DEPTHS IN METRES
No.3 Export Berth
Branch No.4
Warehouse
Warehouse
Warehouse
230 m.
Domestic Berth
300 m.
Export Berth
250 m.
130 m.
Waiting Berth
200 m.
Ballast Berth
181 m.
30 m.
16.5 m.
Branch Channel
NK – B – 1
Branch No.2
Mino Sima (Reclaimed Land)
1287 m.
300 m.
Sig. Stn.
N
Raw Materials Berths
L
315 m.
M
250 m.
249.5 m.

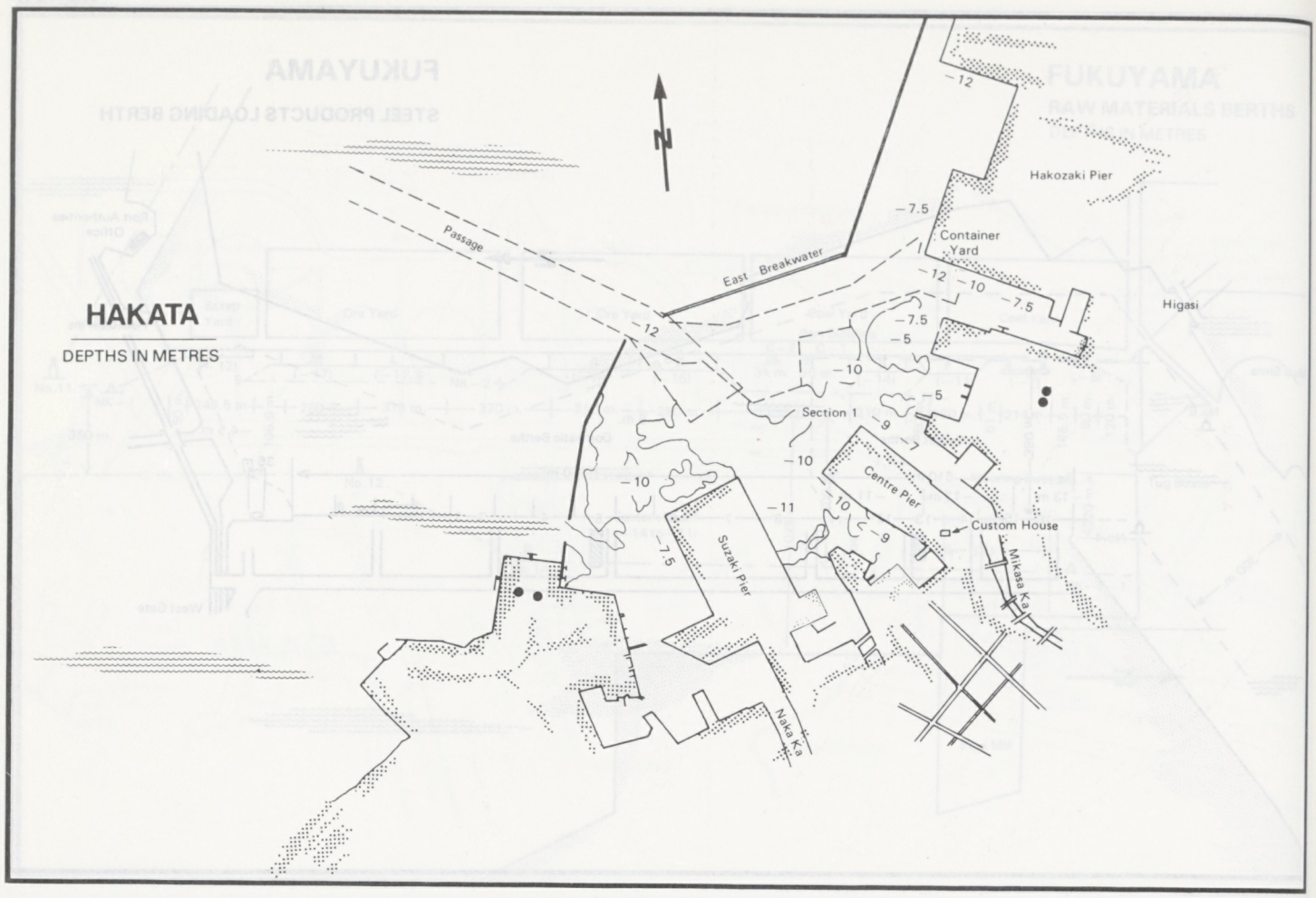
FUKUYAMA

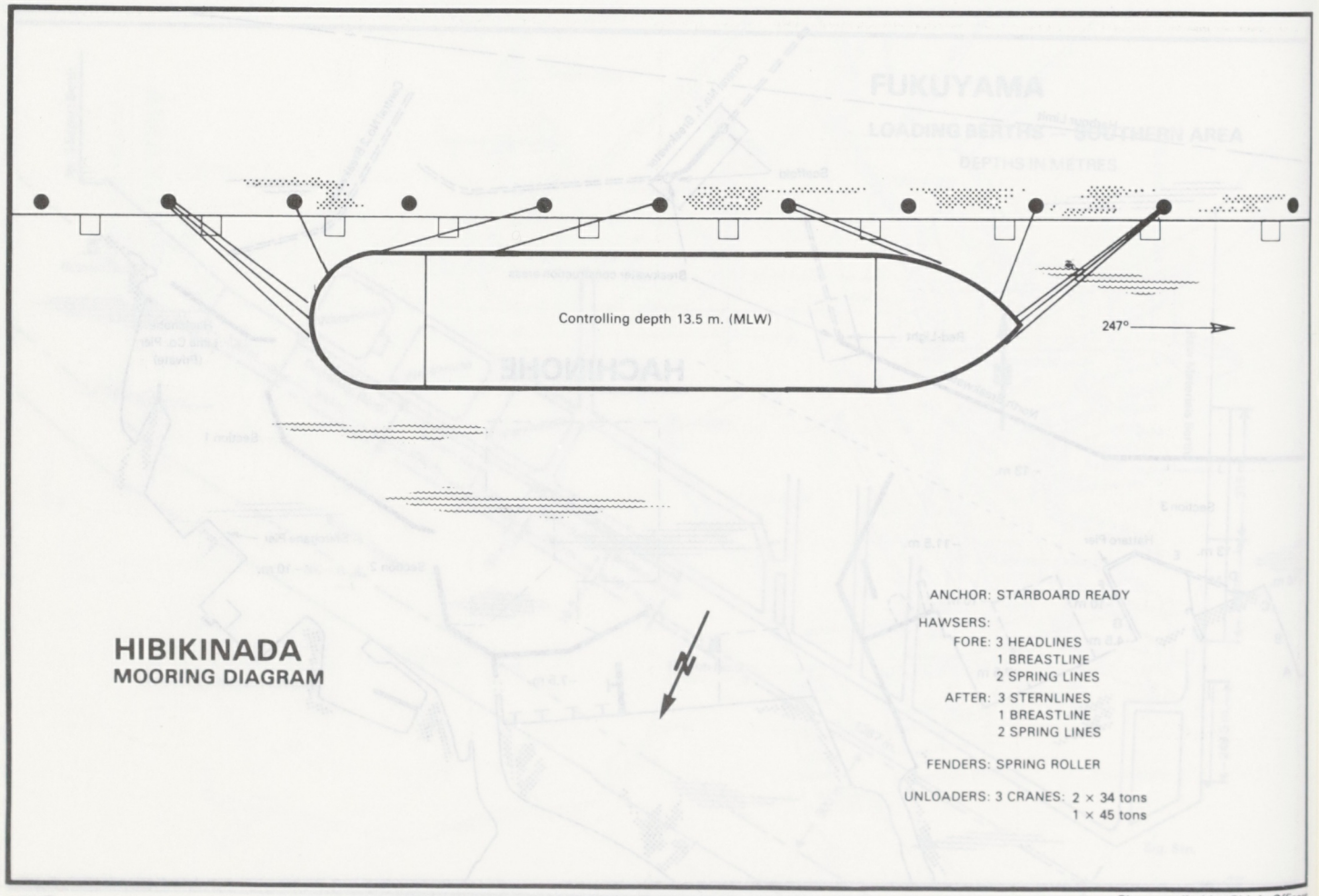
STEEL PRODUCTS LOADING BERTH



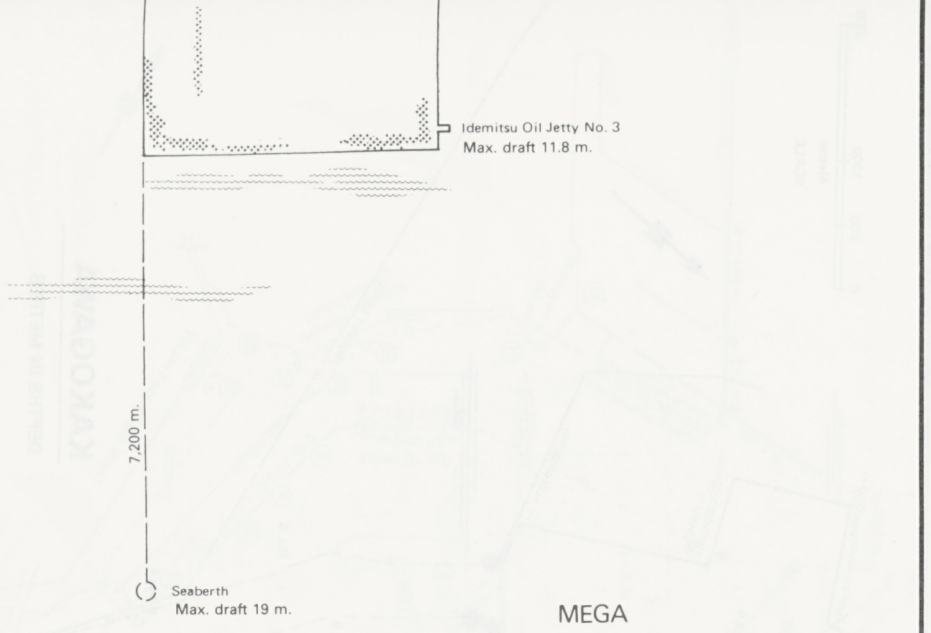
HACHINOHE

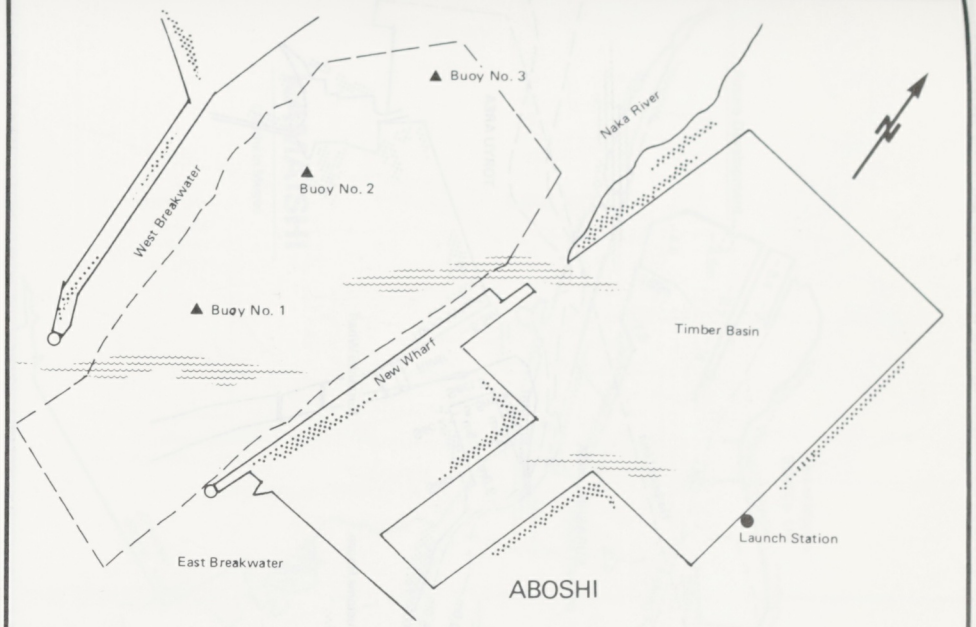




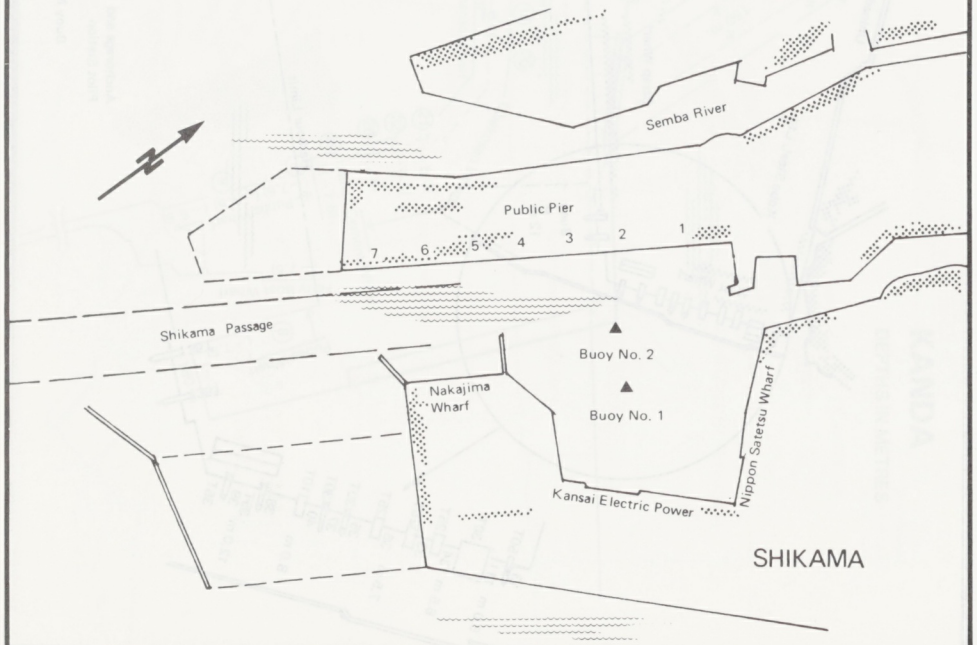


Plan supplied by Ship's Officer

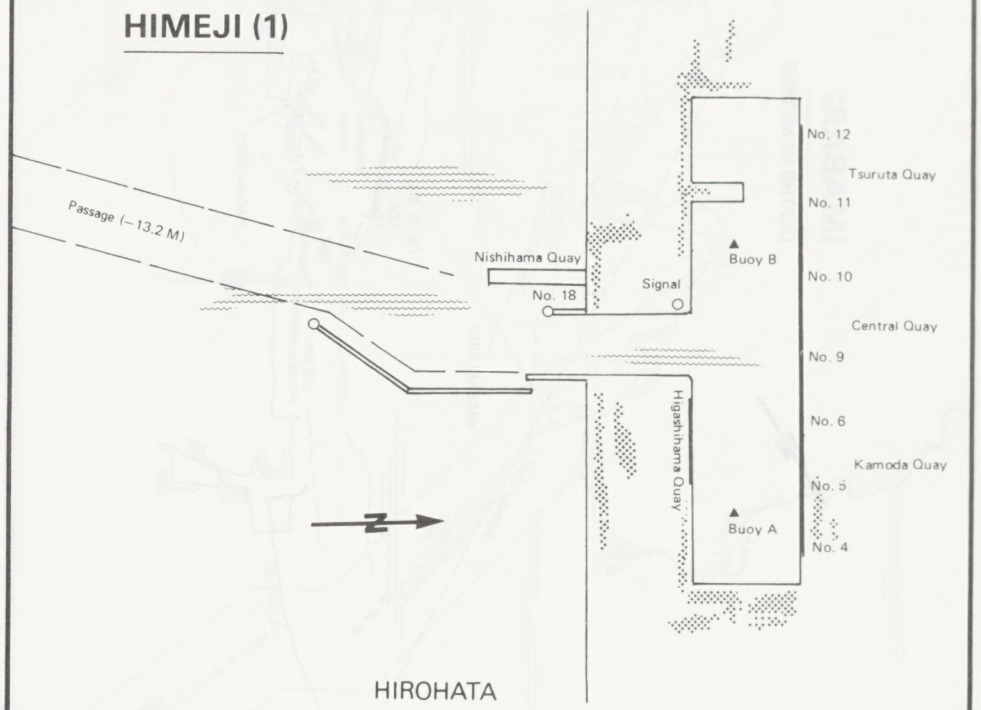


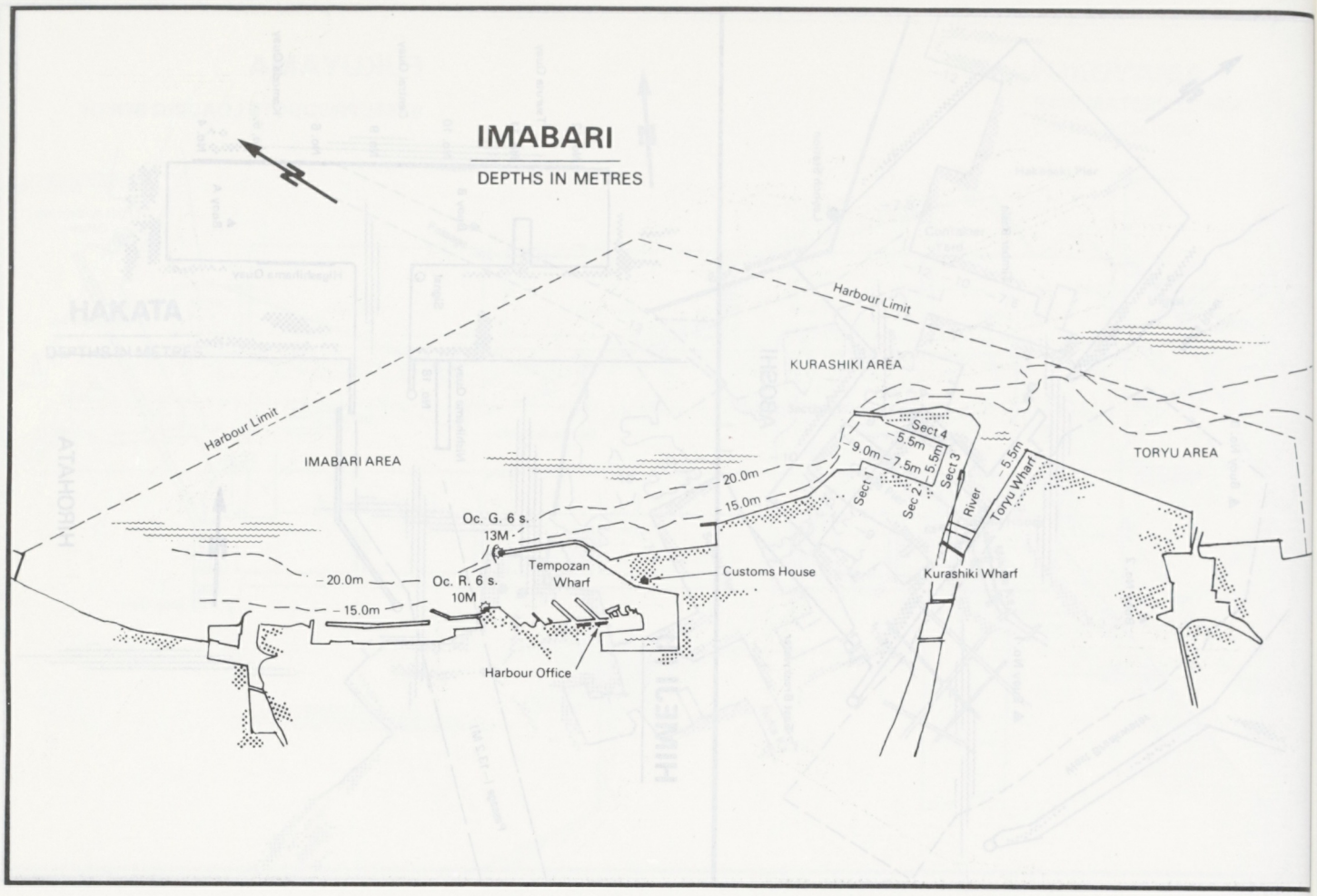


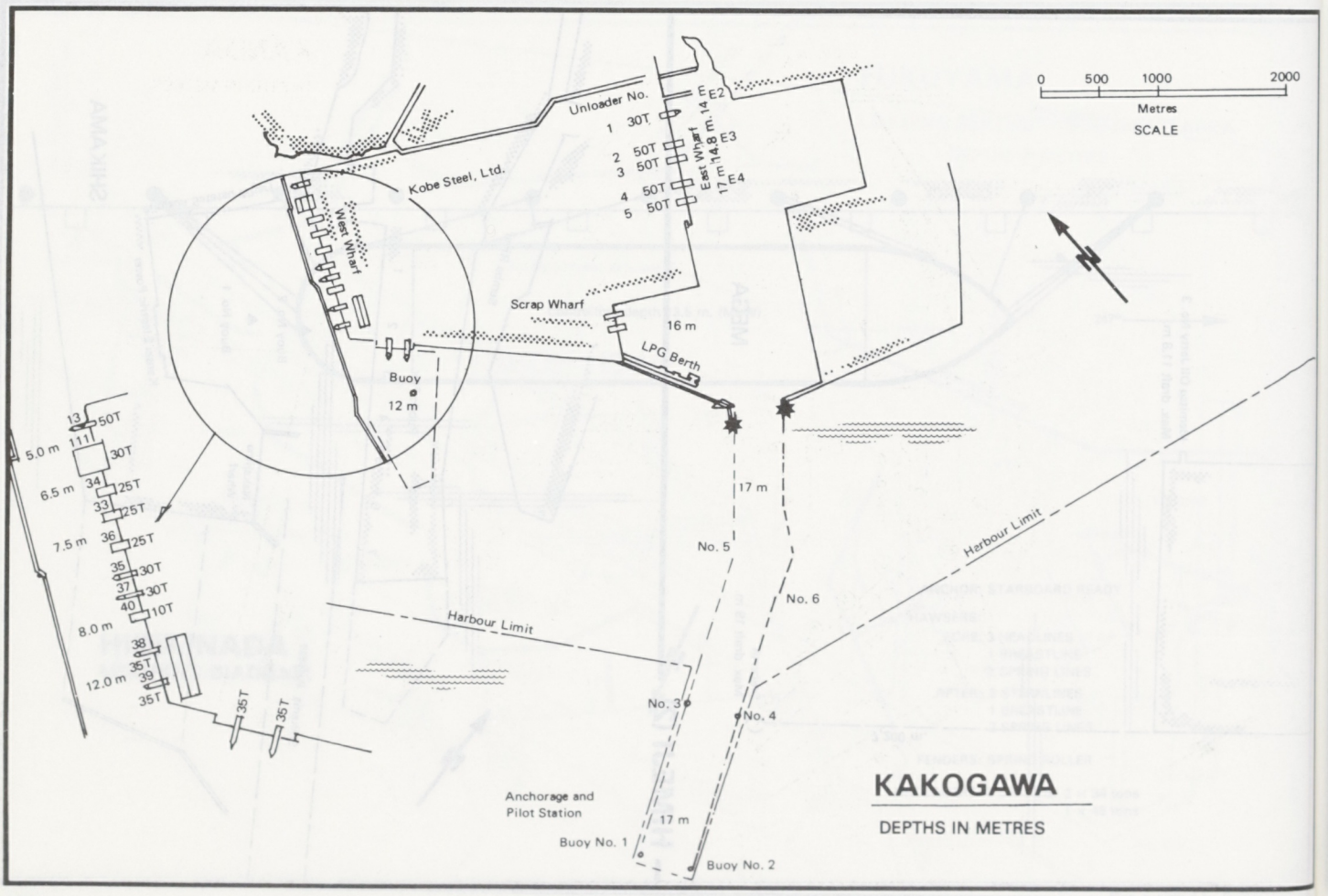
HIMEJI (2)

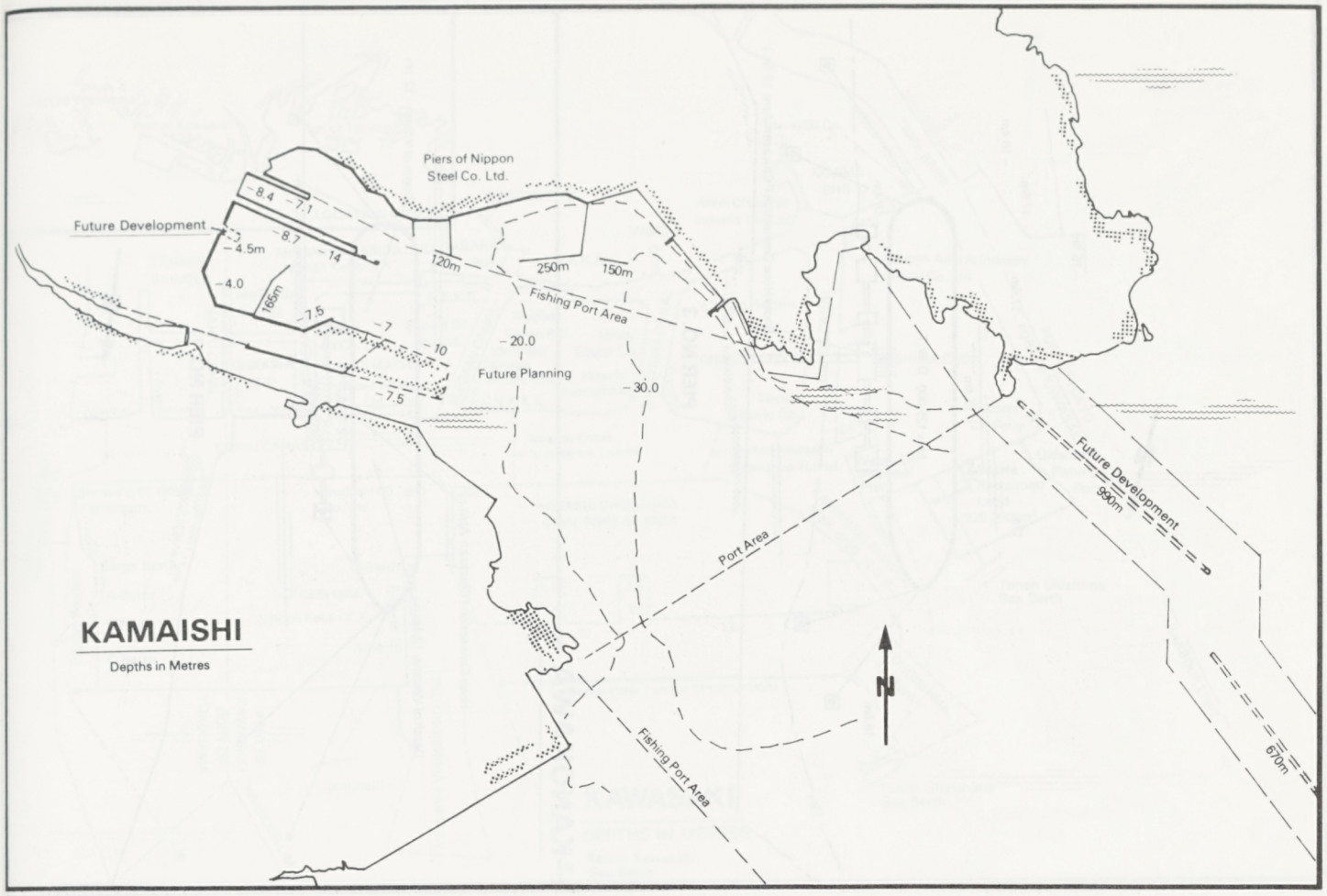


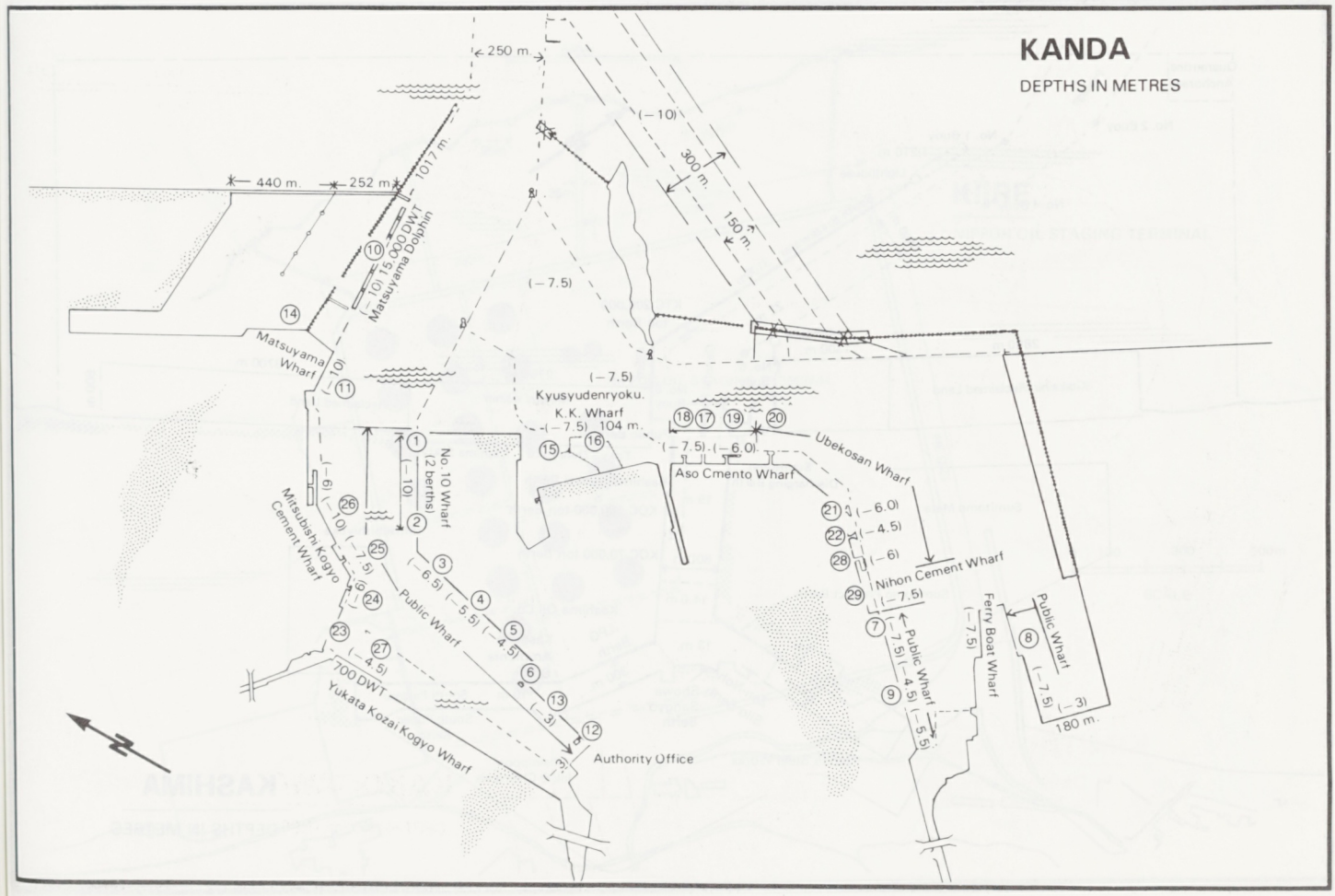
HIMEJI (1)

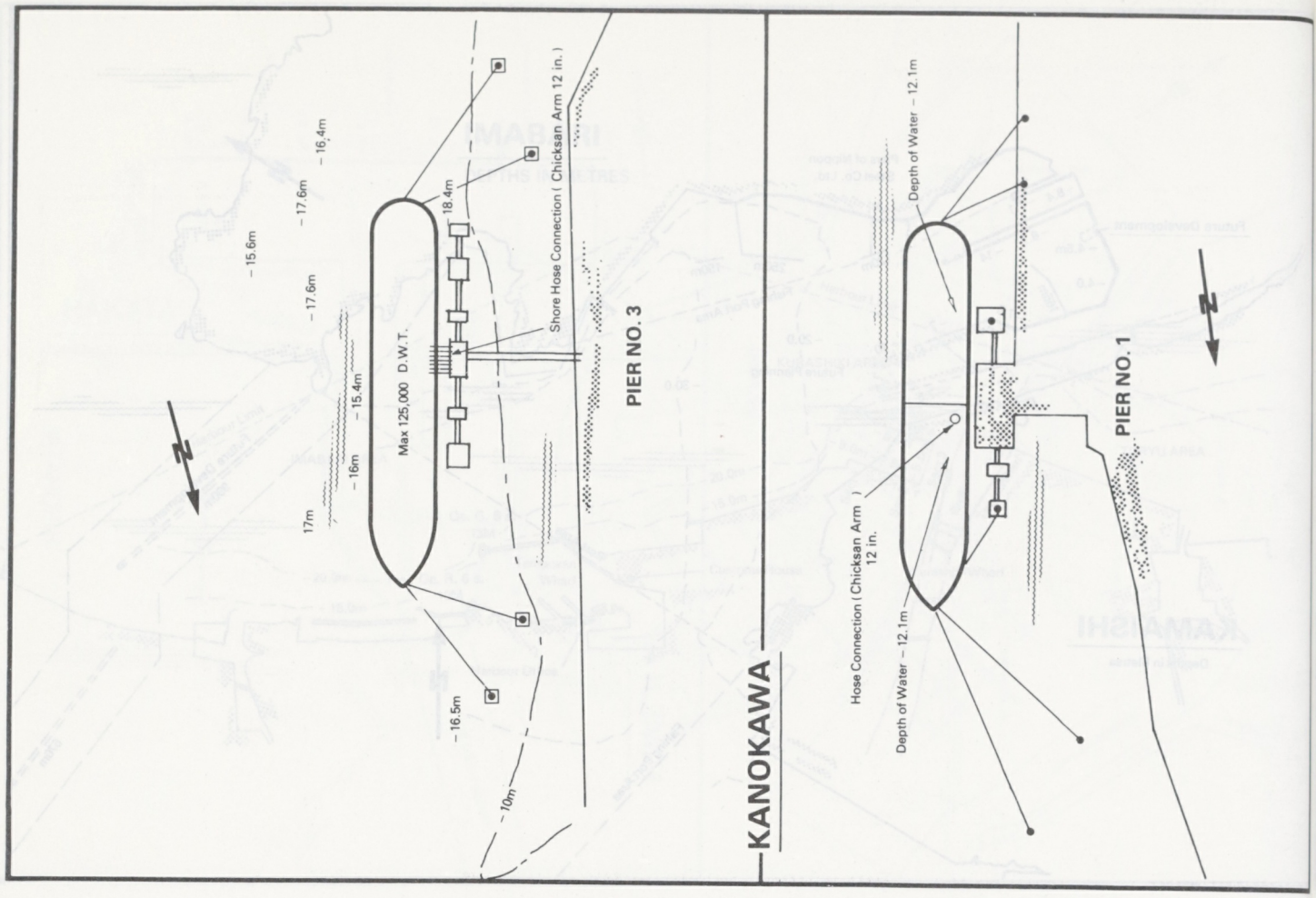


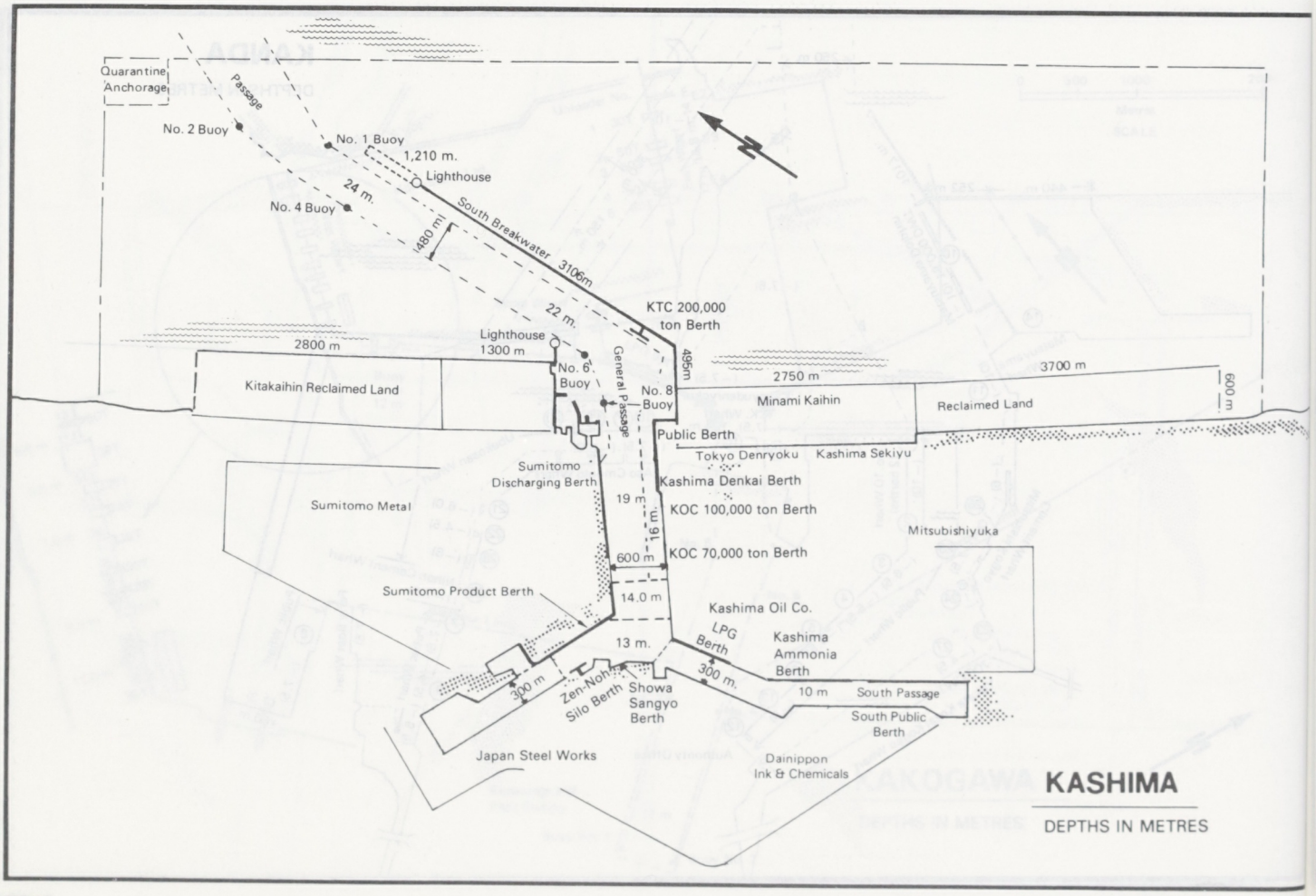

IMABARI
DEPTHS IN METRES
Harbour Limit
KURASHIKI AREA
Harbour Limit
IMABARI AREA
TORYU AREA
Sect 4
5.5m
9.0m
7.5m
5.5m
Sect 3
Sect 1
Sec 2
River
Toryu Wharf
5.5m
20.0m
15.0m
Oc. G. 6 s.
13M
Tempozan
Wharf
Customs House
Kurashiki Wharf
20.0m
Oc. R. 6 s.
10M
15.0m
Harbour Office

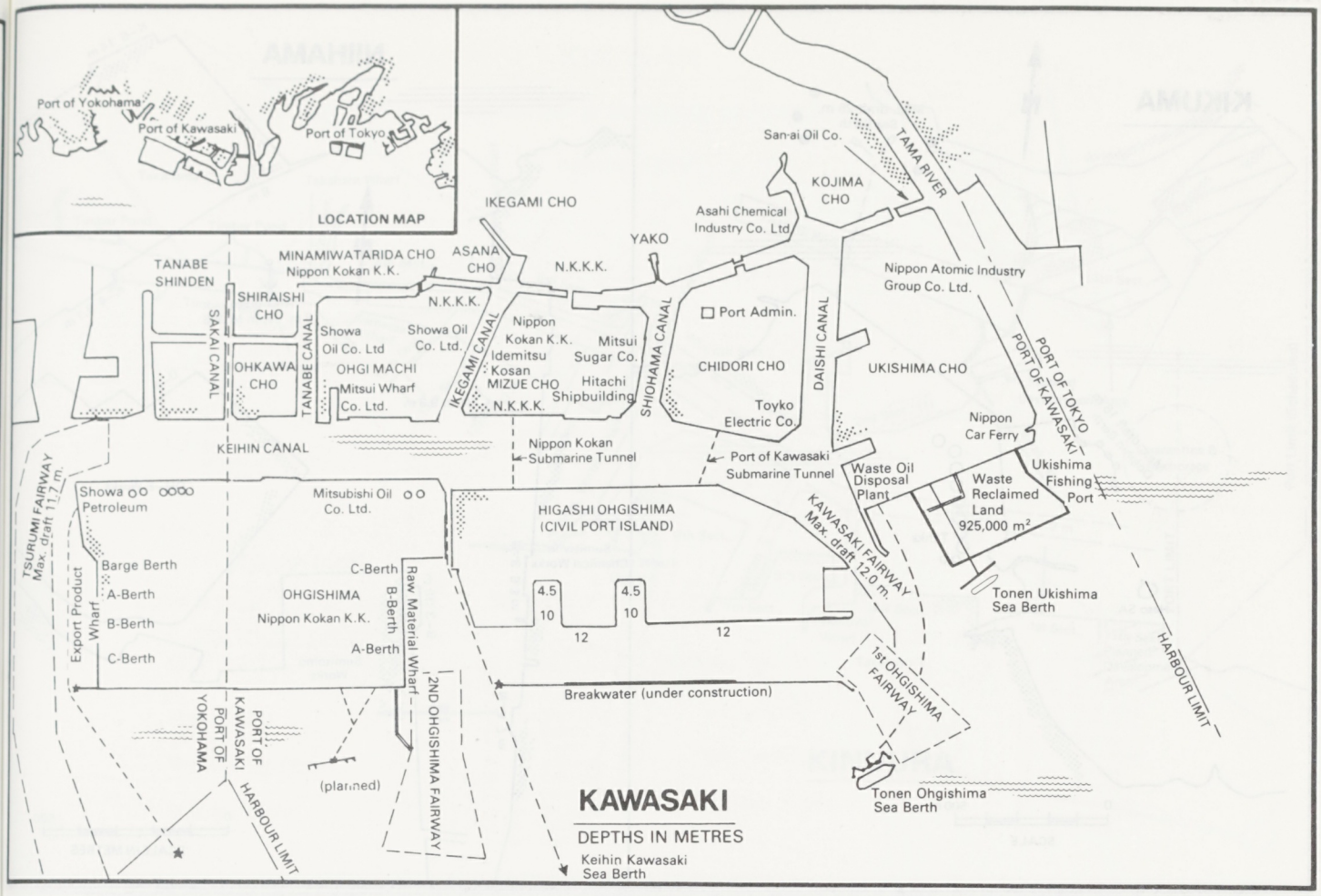

0 500 1000 2000
Metres
SCALE
Unloader No.
1 30T
2 50T
3 50T
4 50T
5 50T
East Wharf
14.8 m.
17 m
E2
E3
E4
Kobe Steel, Ltd.
West Wharf
Scrap Wharf
16 m
LPG Berth
Buoy
12 m
13 50T
111 30T
34 25T
33 25T
36 25T
35 30T
37 30T
40 10T
38
35T
39
35T
5.0 m
6.5 m
7.5 m
8.0 m
12.0 m
35T
35T
17 m
No. 5
No. 6
Harbour Limit
Harbour Limit
No. 3
No. 4
Anchorage and
Pilot Station
17 m
Buoy No. 1
Buoy No. 2
KAKOGAWA
DEPTHS IN METRES

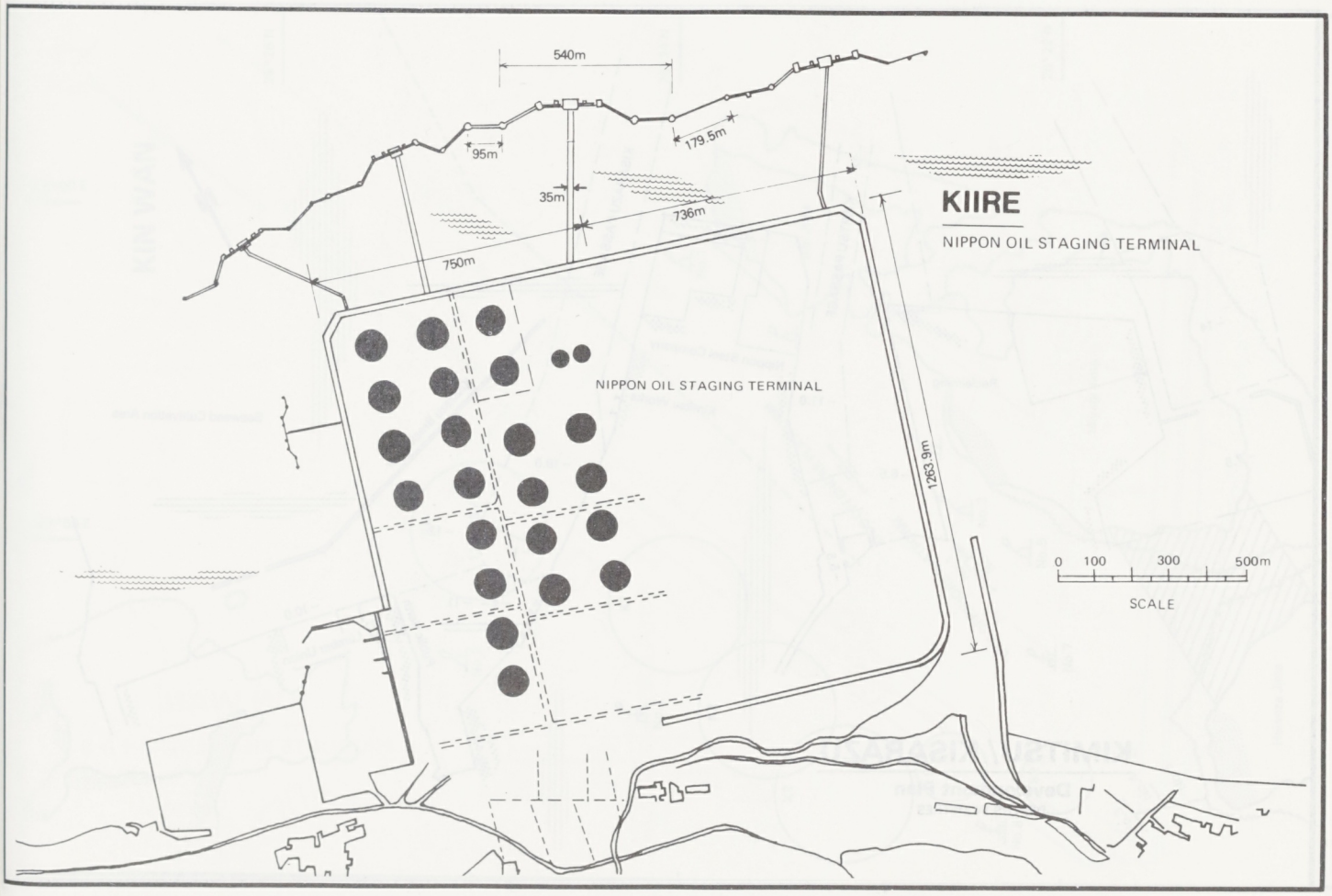

Piers of Nippon Steel Co. Ltd.
Future Development
-8.4
-7.1
-8.7
-14
-4.5m
-4.0
165m
120m
250m
150m
Fishing Port Area
-7.5
-7
-10
-20.0
Future Planning
-30.0
-7.5
Future Development
990m
Port Area
670m
Fishing Port Area
N
KAMAISHI
Depths in Metres

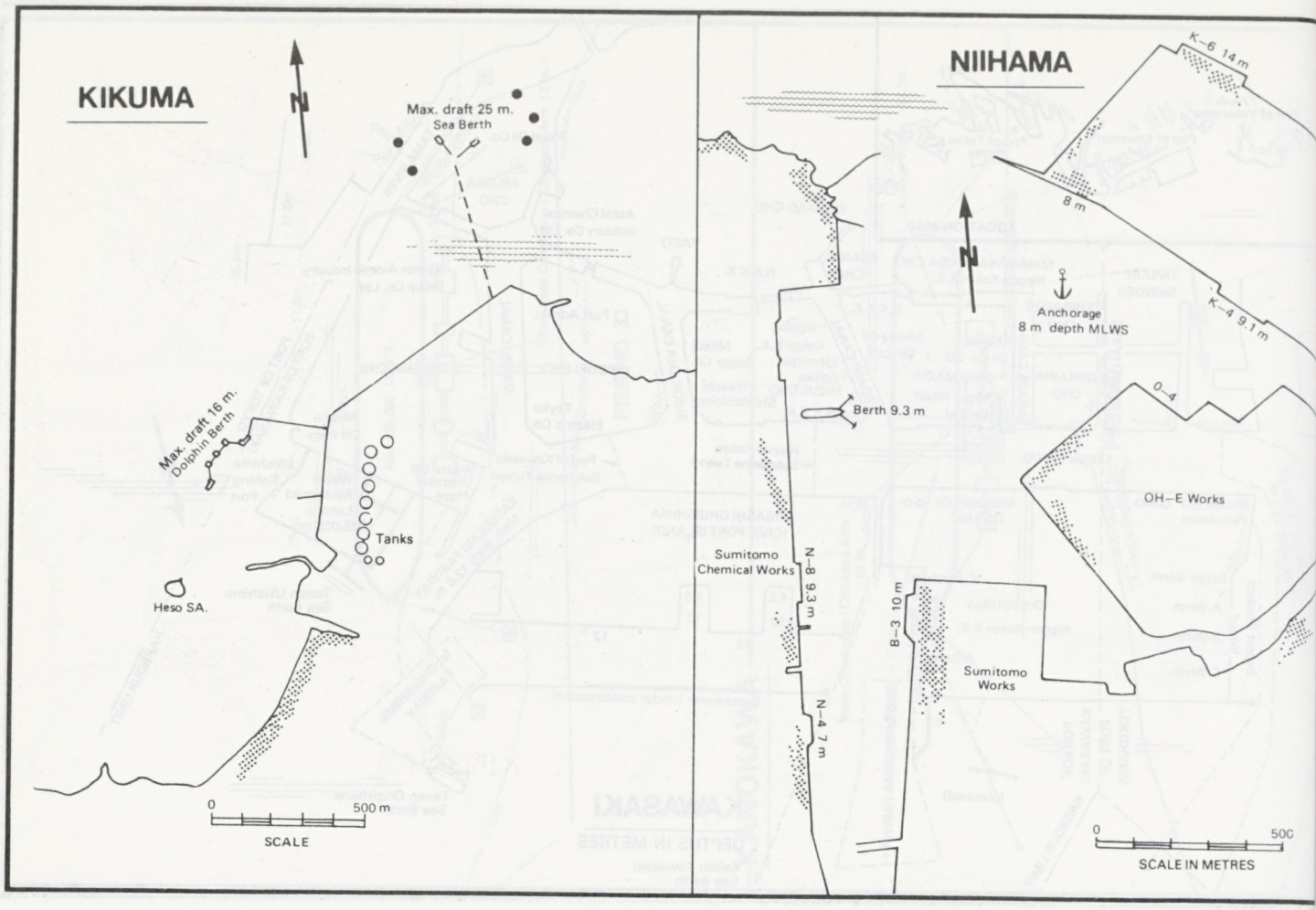

KANDA
DEPTHS IN METRES
250 m.
(-10)
300 m.
150 m.
440 m.
252 m.
1017 m.
10
15,000 DWT
(-10)
Matsuyama Dolphin
14
Matsuyama Wharf
11
(-7.5)
Kyusyudenryoku.
K.K. Wharf
104 m.
(-7.5)
18 17 19 20
15 16
(-7.5) (-6.0)
Aso Cmento Wharf
Ubekosan Wharf
21 (-6.0)
22 (-4.5)
28 (-6)
Nihon Cement Wharf
29 (-7.5)
1
(-10)
No. 10 Wharf
(2 berths)
2
3
(-6.5)
4
(-5.5)
5
(-4.5)
6
(-3)
13
12
Authority Office
26
(-6)
(-10)
Mitsubishi Kogyo
Cement Wharf
25
(-7.5)
24
Public Wharf
23
(-4.5)
27
700 DWT
Yukata Kozai Kogyo Wharf
7
(-7.5)
Public Wharf
9
(-4.5)
(-5.5)
Ferry Boat Wharf
(-7.5)
8
Public Wharf
(-7.5)
(-3)
180 m.

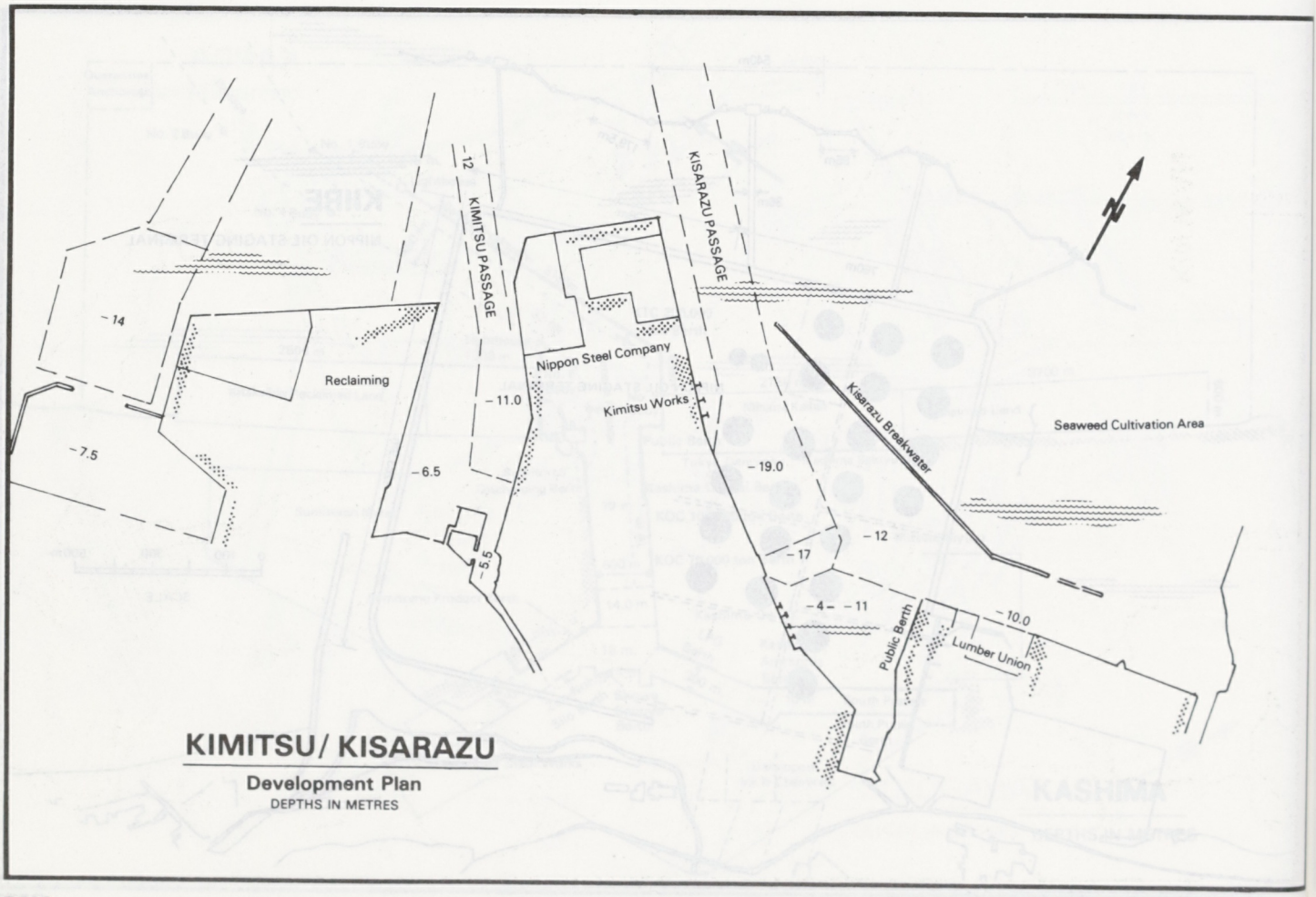

PIER NO. 3
Max 125,000 D.W.T.
Shore Hose Connection (Chicksan Arm 12 in.)
– 15.6m
– 16.4m
– 17.6m
– 17.6m
18.4m
– 15.4m
– 16m
17m
– 16.5m
10m
KANOKAWA
PIER NO. 1
Depth of Water – 12.1m
Hose Connection (Chicksan Arm 12 in.
Depth of Water – 12.1m

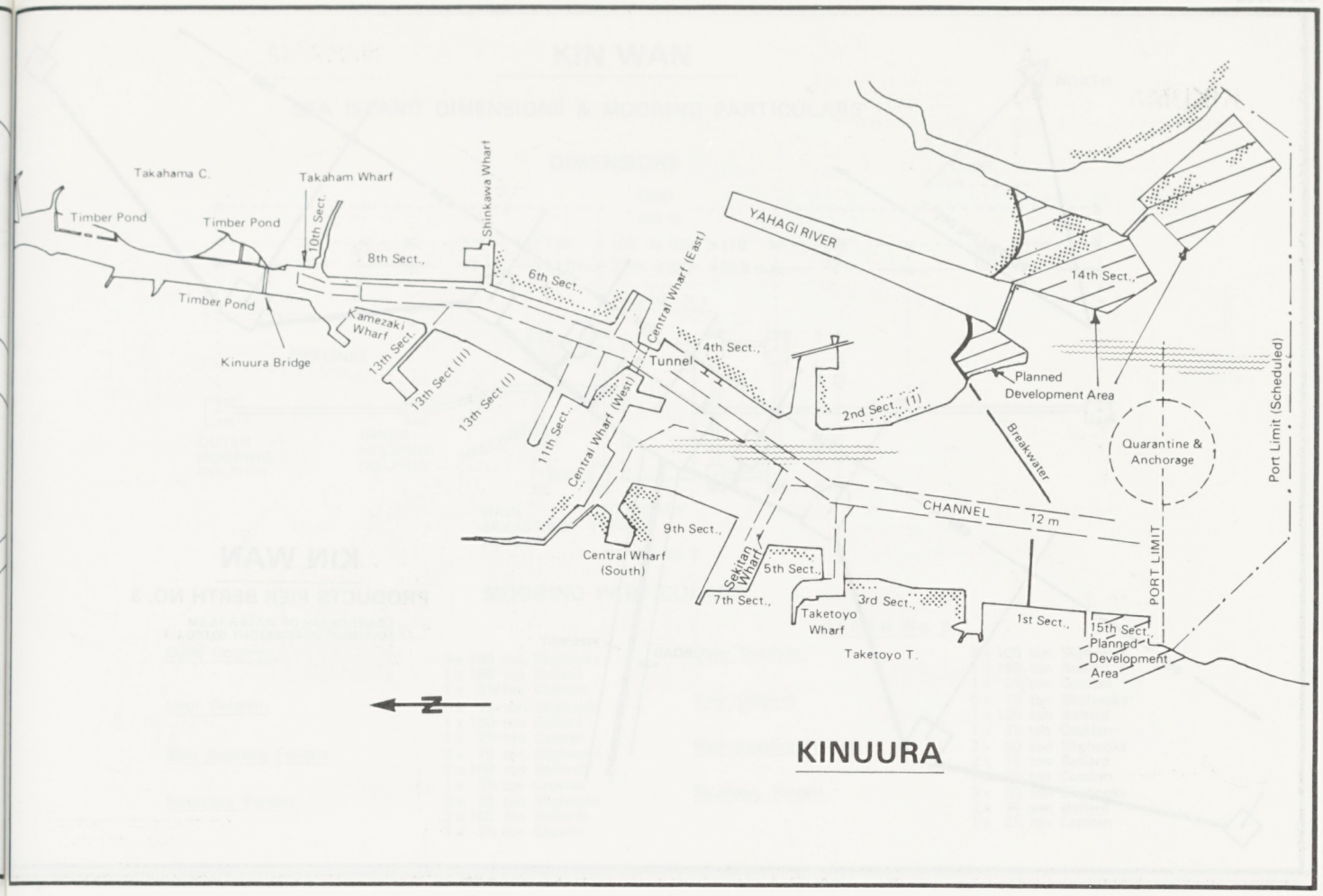

Quarantine Anchorage
Passage
No. 2 Buoy
No. 1 Buoy
1,210 m.
Lighthouse
24 m.
No. 4 Buoy
480 m
South Breakwater 3106m
22 m.
KTC 200,000 ton Berth
2800 m
Lighthouse 1300 m
No. 6 Buoy
General Passage
No. 8 Buoy
495m
2750 m
3700 m
600 m
Kitakaihin Reclaimed Land
Minami Kaihin
Reclaimed Land
Public Berth
Tokyo Denryoku
Kashima Sekiyu
Sumitomo Discharging Berth
Kashima Denkai Berth
Sumitomo Metal
19 m
KOC 100,000 ton Berth
191 m
Mitsubishiyuka
600 m
KOC 70,000 ton Berth
Sumitomo Product Berth
14.0 m
Kashima Oil Co.
LPG Berth
13 m.
Kashima Ammonia Berth
300 m
Zen-Noh Silo Berth
Showa Sangyo Berth
300 m.
10 m
South Passage
South Public Berth
Japan Steel Works
Dainippon Ink & Chemicals
KASHIMA
DEPTHS IN METRES


Port of Yokohama
Port of Kawasaki
Port of Tokyo
LOCATION MAP
IKEGAMI CHO
San-ai Oil Co.
TAMA RIVER
KOJIMA CHO
Asahi Chemical Industry Co. Ltd.
YAKO
MINAMIWATARIDA CHO
Nippon Kokan K.K.
ASANA CHO
N.K.K.K.
TANABE SHINDEN
SHIRAISHI CHO
SAKAI CANAL
OHKAWA CHO
TANABE CANAL
Showa Oil Co. Ltd
OHGI MACHI
Mitsui Wharf Co. Ltd.
Showa Oil Co. Ltd.
IKEGAMI CANAL
Nippon Kokan K.K.
Idemitsu Kosan
MIZUE CHO
Mitsui Sugar Co.
Hitachi Shipbuilding
SHIOHAMA CANAL
Port Admin.
CHIDORI CHO
Toyko Electric Co.
DAISHI CANAL
Nippon Atomic Industry Group Co. Ltd.
UKISHIMA CHO
PORT OF TOKYO
PORT OF KAWASAKI
Nippon Car Ferry
Ukishima Fishing Port
KEIHIN CANAL
Nippon Kokan Submarine Tunnel
Port of Kawasaki Submarine Tunnel
Waste Oil Disposal Plant
Waste Reclaimed Land 925,000 m²
TSURUMI FAIRWAY Max. draft 11.7 m.
Showa Petroleum
Mitsubishi Oil Co. Ltd.
HIGASHI OHGISHIMA (CIVIL PORT ISLAND)
KAWASAKI FAIRWAY Max. draft 12.0 m.
Tonen Ukishima Sea Berth
Export Product Wharf
Barge Berth
A-Berth
B-Berth
C-Berth
OHGISHIMA
Nippon Kokan K.K.
C-Berth
B-Berth
A-Berth
Raw Material Wharf
4.5
10
12
4.5
10
12
1st OHGISHIMA FAIRWAY
HARBOUR LIMIT
Breakwater (under construction)
2ND OHGISHIMA FAIRWAY
PORT OF YOKOHAMA
PORT OF KAWASAKI
HARBOUR LIMIT
(planned)
Tonen Ohgishima Sea Berth
KAWASAKI
DEPTHS IN METRES
Keihin Kawasaki Sea Berth

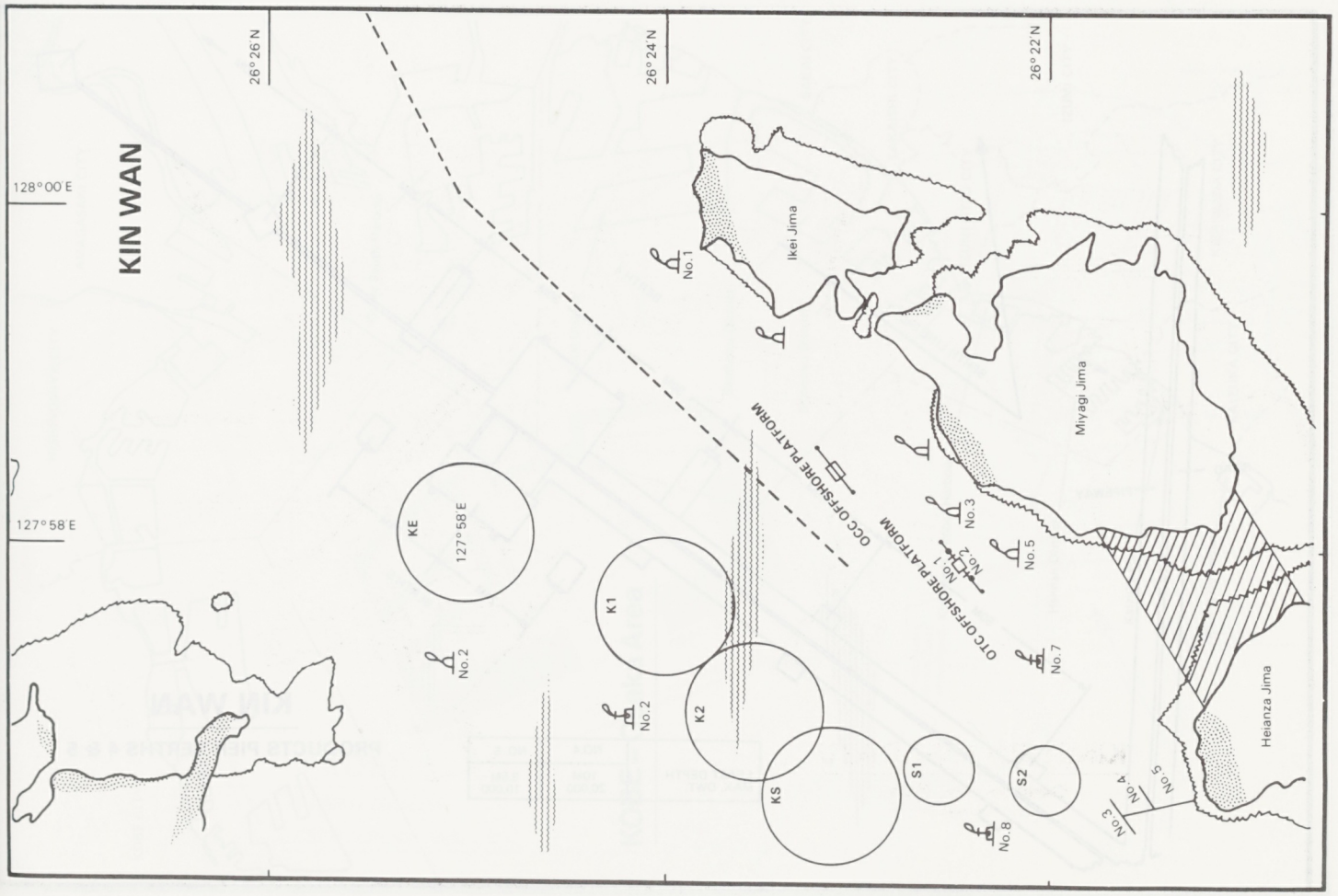

540m
95m
179.5m
35m
736m
750m
NIPPON OIL STAGING TERMINAL
1263m
KIIRE
NIPPON OIL STAGING TERMINAL
0 100 300 500m
SCALE

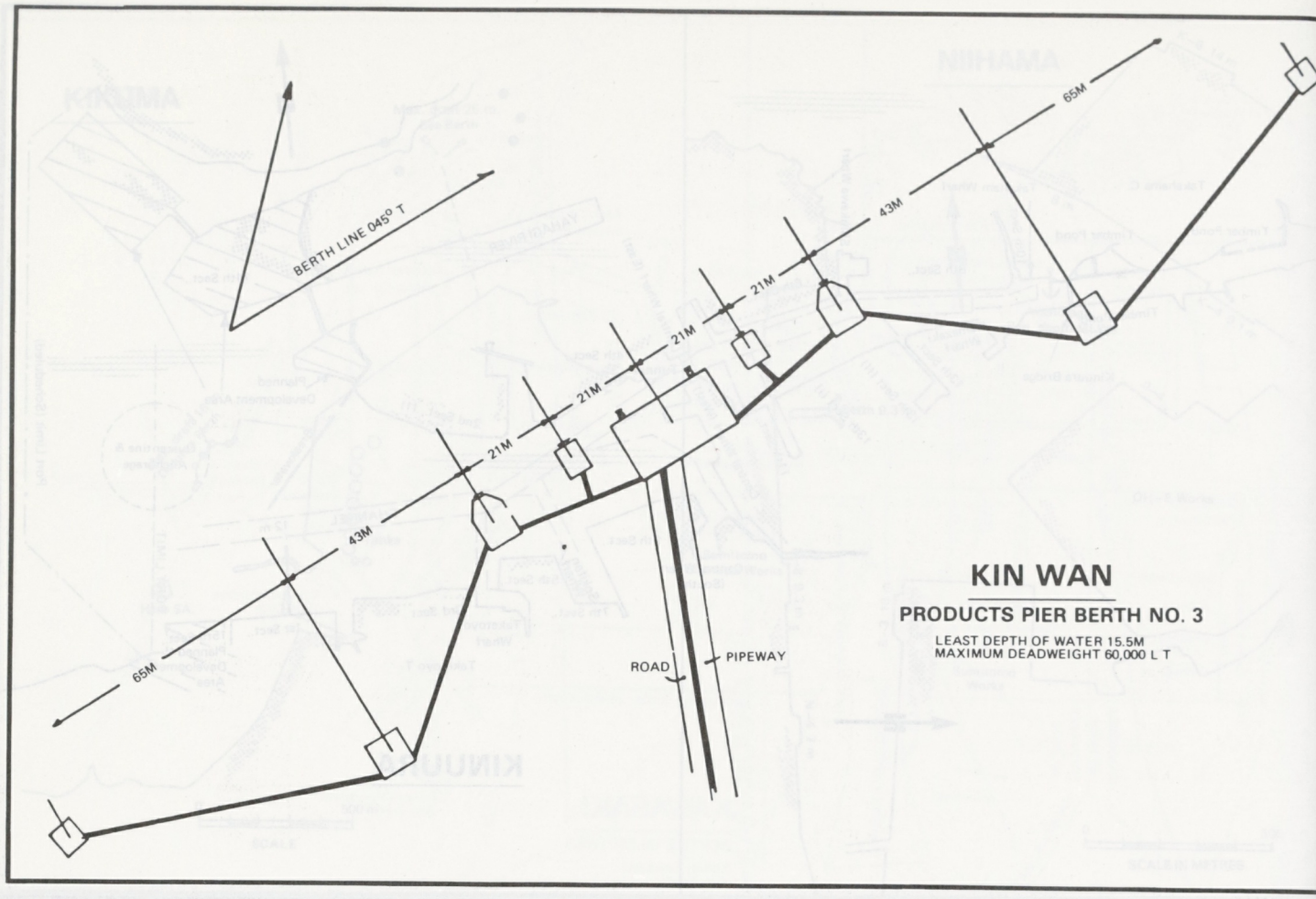

KIKUMA
N
Max. draft 25 m.
Sea Berth
Max. draft 16 m.
Dolphin Berth
Tanks
Heso SA.
0
500 m
SCALE
NIIHAMA
K–6 14 m
8 m
K–4 9.1 m
Anchorage
8 m depth MLWS
Berth 9.3 m
0–4
OH–E Works
Sumitomo
Chemical Works
N–8 9.3 m
B–3 10 m
Sumitomo
Works
N–4 7 m
0
500
SCALE IN METRES


–12
KIMITSU PASSAGE
KISARAZU PASSAGE
–14
Reclaiming
Nippon Steel Company
Kimitsu Works
–11.0
–7.5
–6.5
–5.5
–19.0
Kisarazu Breakwater
Seaweed Cultivation Area
–17
–12
–4– –11
–10.0
Public Berth
Lumber Union
KIMITSU/ KISARAZU
Development Plan
DEPTHS IN METRES


Takahama C.
Takaham Wharf
Timber Pond
Timber Pond
10th Sect.
8th Sect.,
Shinkawa Wharf
6th Sect.,
Timber Pond
Kamezaki Wharf
13th Sect.
13th Sect (III)
13th Sect (I)
Kinuura Bridge
11th Sect.,
Central Wharf (West)
Central Wharf (East)
Tunnel
4th Sect.,
YAHAGI RIVER
14th Sect.,
Planned Development Area
2nd Sect., (1)
Breakwater
Quarantine & Anchorage
Port Limit (Scheduled)
CHANNEL 12 m
PORT LIMIT
9th Sect.,
Central Wharf (South)
Sekian Wharf
5th Sect.,
7th Sect.,
Taketoyo Wharf
3rd Sect.,
1st Sect.,
15th Sect.,
Planned Development Area
Taketoyo T.
N

KINUURA

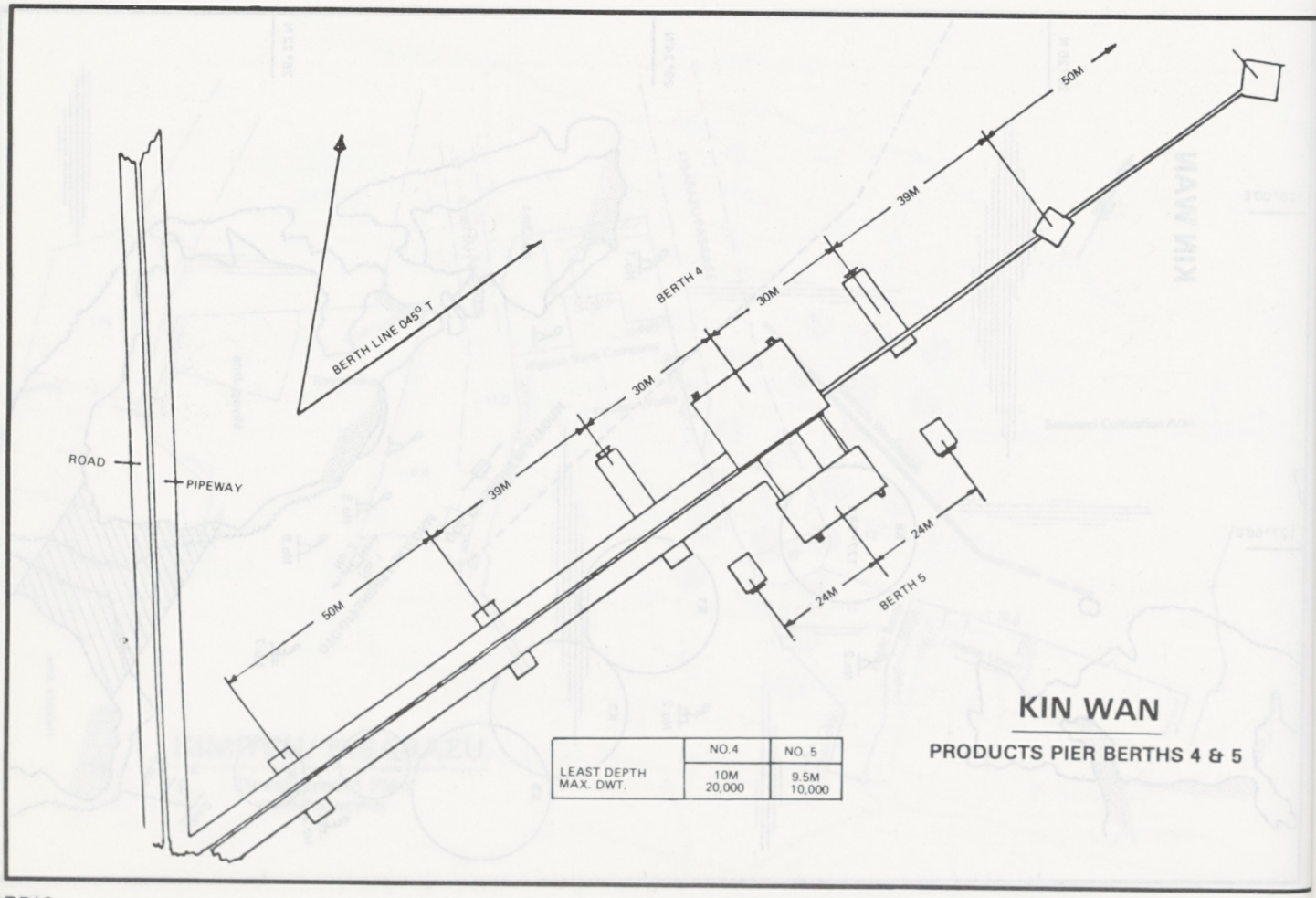

KIN WAN
26° 26' N
26° 24' N
26° 22' N
128° 00' E
127° 58' E
KE
127° 58' E
K1
K2
KS
S1
S2
No.1
No.2
No.2
No.8
Ikei Jima
Miyagi Jima
Heianza Jima
OCC OFFSHORE PLATFORM
OTC OFFSHORE PLATFORM
No.1
No.2
No.3
No.5
No.7
No.3
No.4
No.5



KIN WAN

PRODUCTS PIER BERTH NO. 3

LEAST DEPTH OF WATER 15.5M
MAXIMUM DEADWEIGHT 60,000 L T



	NO.4	NO. 5
LEAST DEPTH MAX. DWT.	10M 20,000	9.5M 10,000

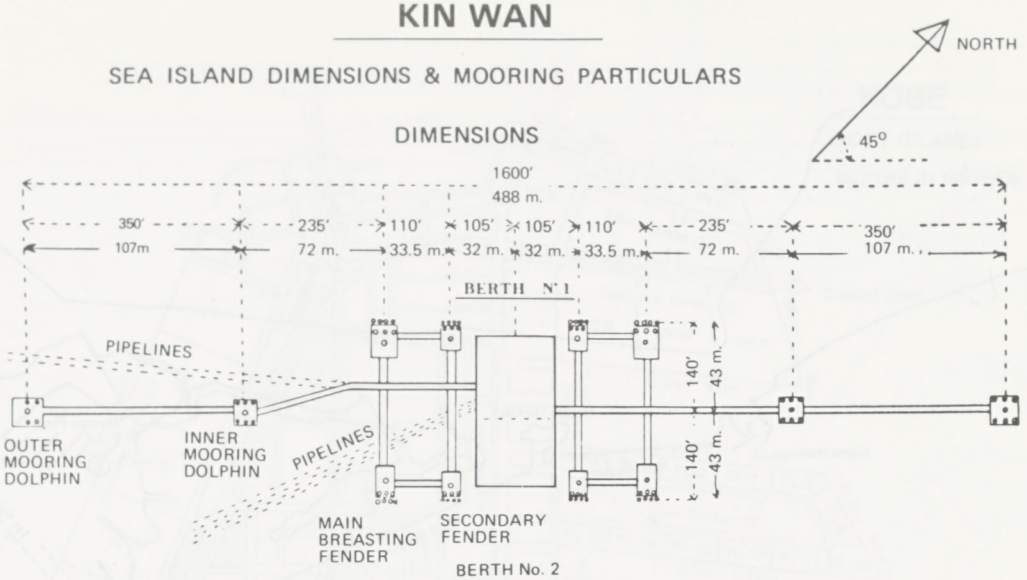
KIN WAN

PRODUCTS PIER BERTHS 4 & 5

KIN WAN

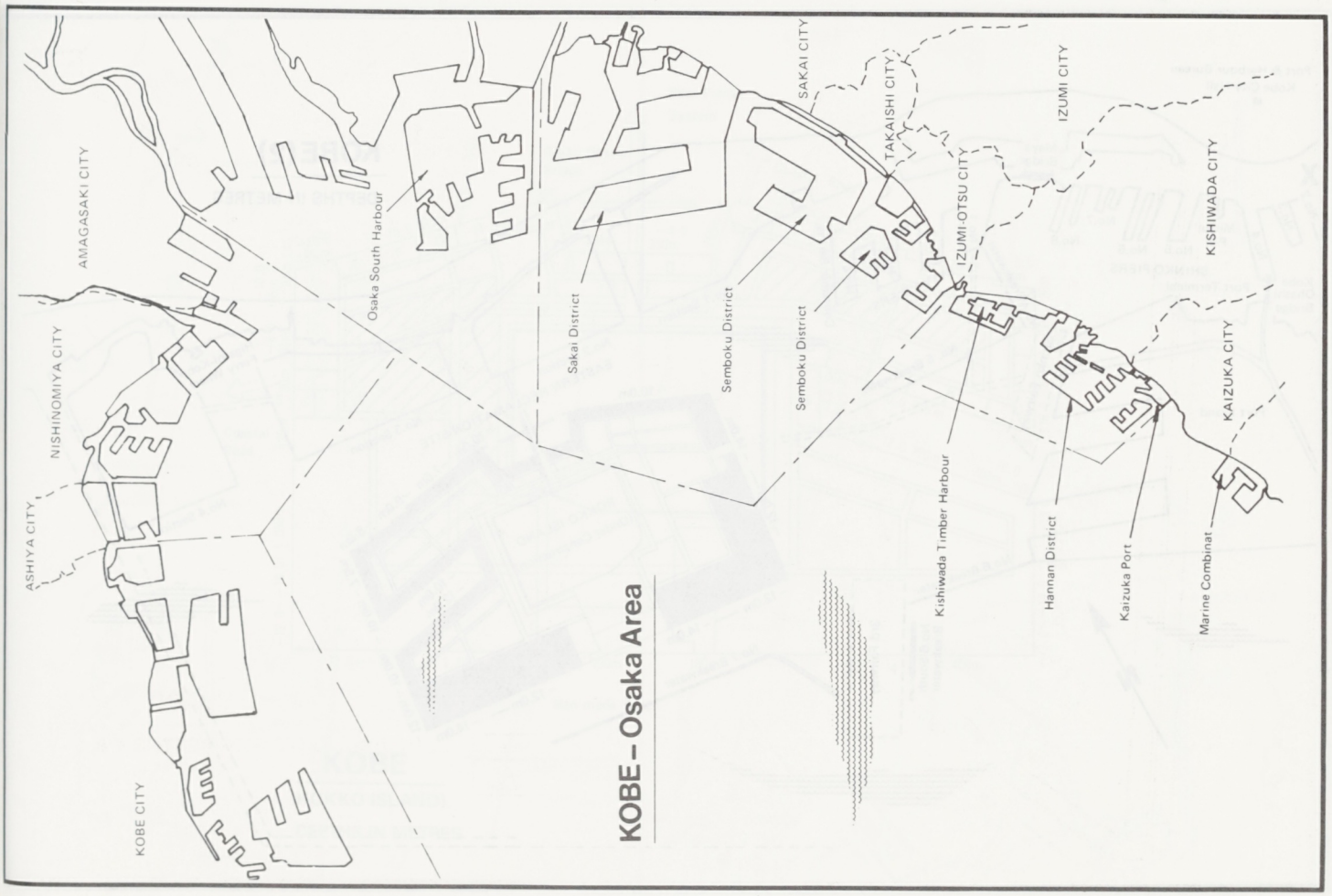
SEA ISLAND DIMENSIONS & MOORING PARTICULARS

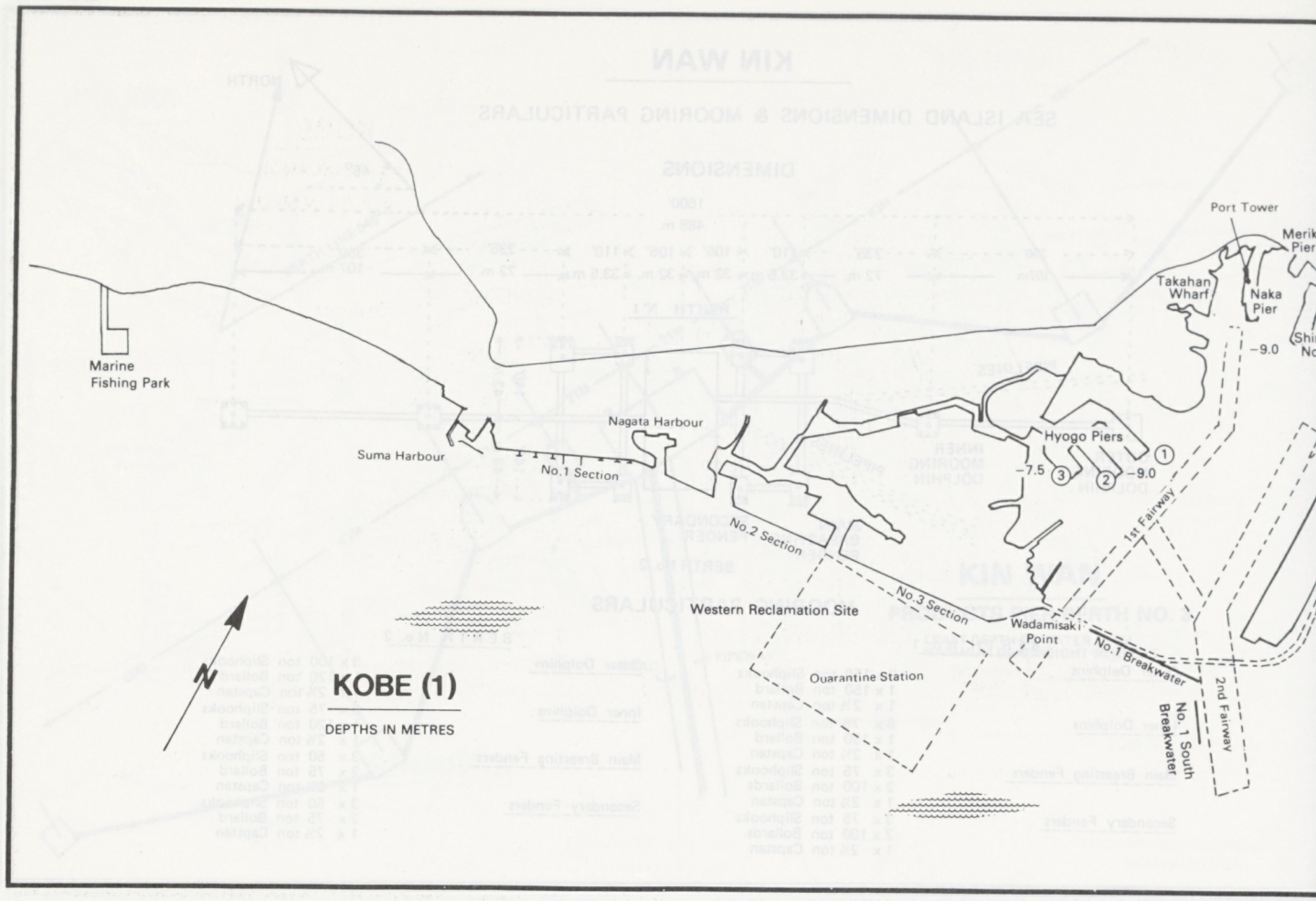
DIMENSIONS

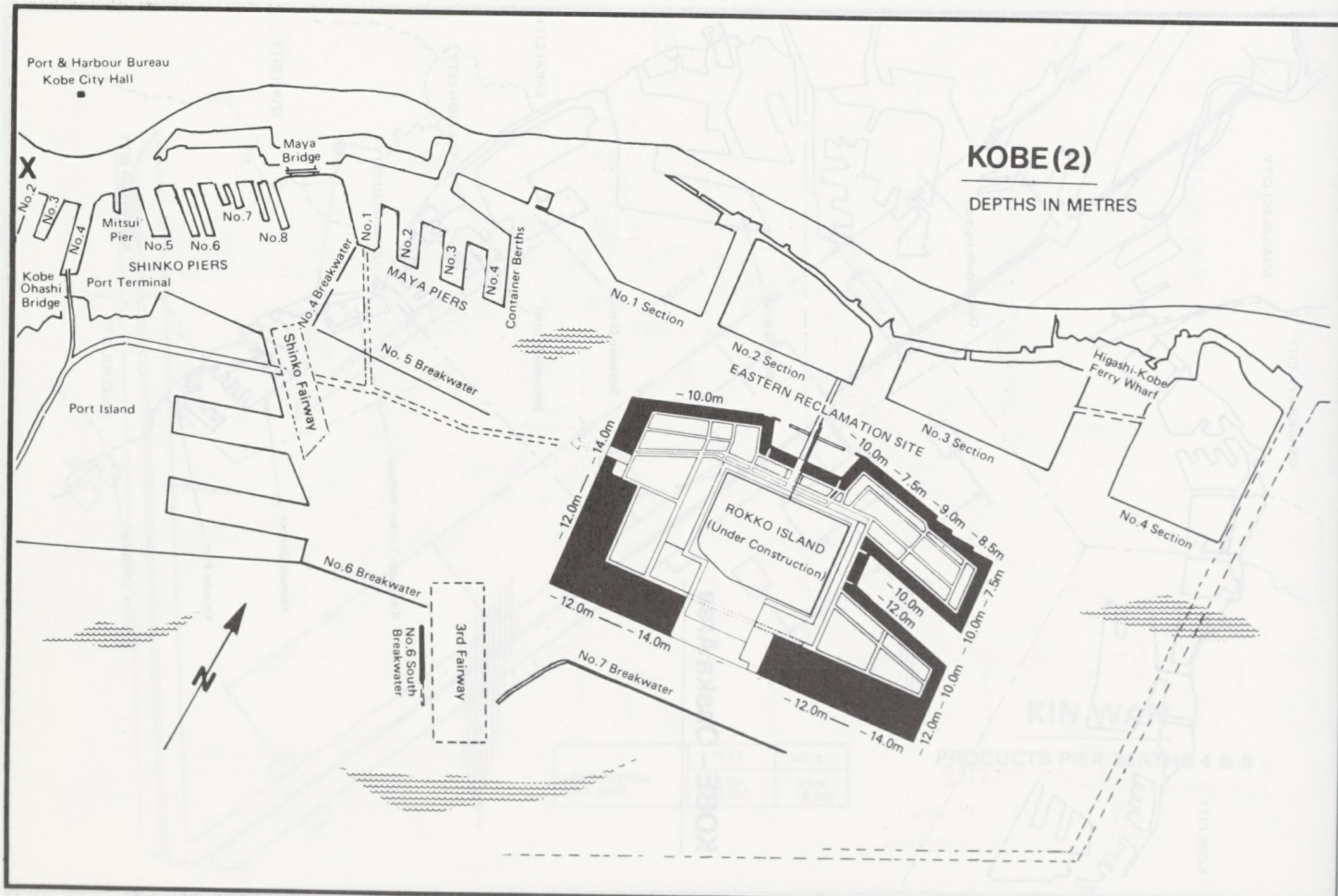


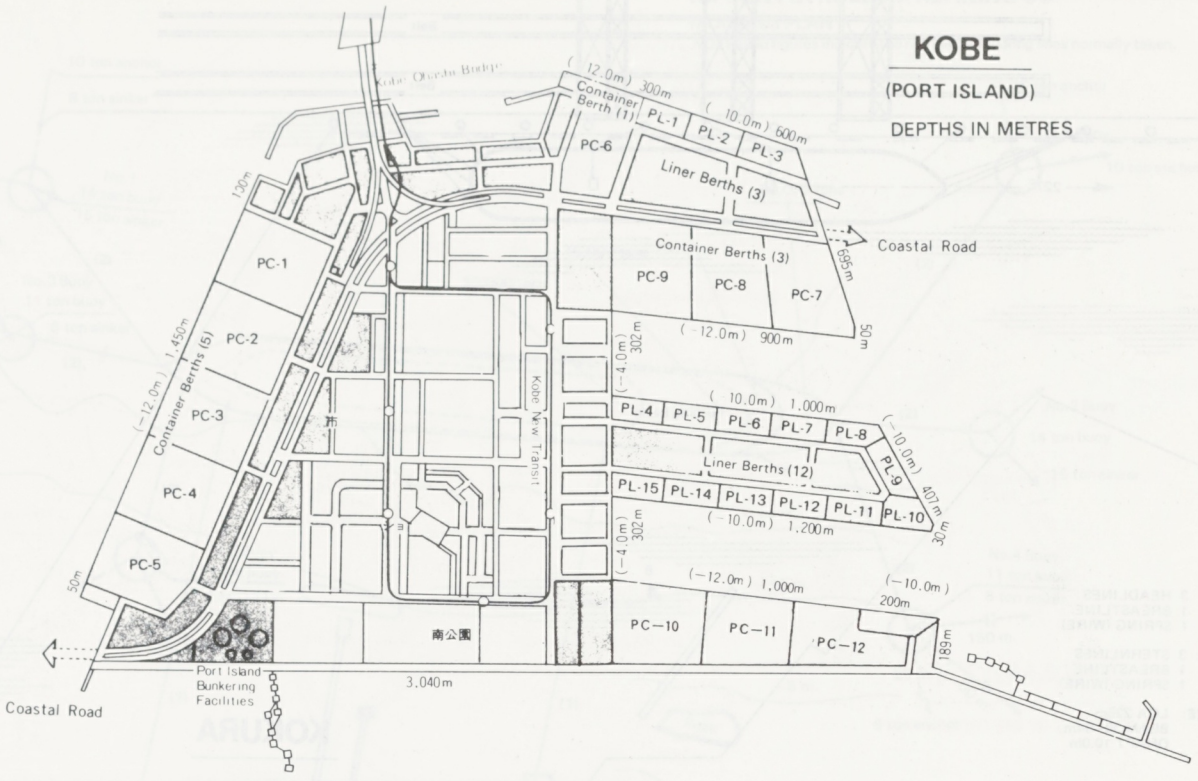
MOORING PARTICULARS

BERTH No. 1		BERTH No. 2	
Outer Dolphins	3 x 150 ton Sliphooks 1 x 150 ton Bollard 1 x 2½ ton Capstan	Outer Dolphins	3 x 100 ton Sliphooks 1 x 120 ton Bollard 1 x 2½ ton Capstan
Inner Dolphins	6 x 75 ton Sliphooks 1 x 150 ton Bollard 1 x 2½ ton Capstan	Inner Dolphins	6 x 75 ton Sliphooks 1 x 120 ton Bollard 1 x 2½ ton Capstan
Main Breasting Fenders	3 x 75 ton Sliphooks 2 x 100 ton Bollards 1 x 2½ ton Capstan	Main Breasting Fenders	3 x 50 ton Sliphooks 2 x 75 ton Bollard 1 x 2½ ton Capstan
Secondary Fenders	3 x 75 ton Sliphooks 2 x 100 ton Bollards 1 x 2½ ton Capstan	Secondary Fenders	3 x 50 ton Sliphooks 2 x 75 ton Bollard 1 x 2½ ton Capstan




Port Tower
Takahan Wharf
Naka Pier
Marine Fishing Park
Suma Harbour
Nagata Harbour
No.1 Section
Hyogo Piers
-7.5
-9.0
No.2 Section
No.3 Section
Western Reclamation Site
Wadamisaki Point
1st Fairway
No.1 Breakwater
2nd Fairway
No. 1 South Breakwater
Quarantine Station
N
KOBE (1)
DEPTHS IN METRES

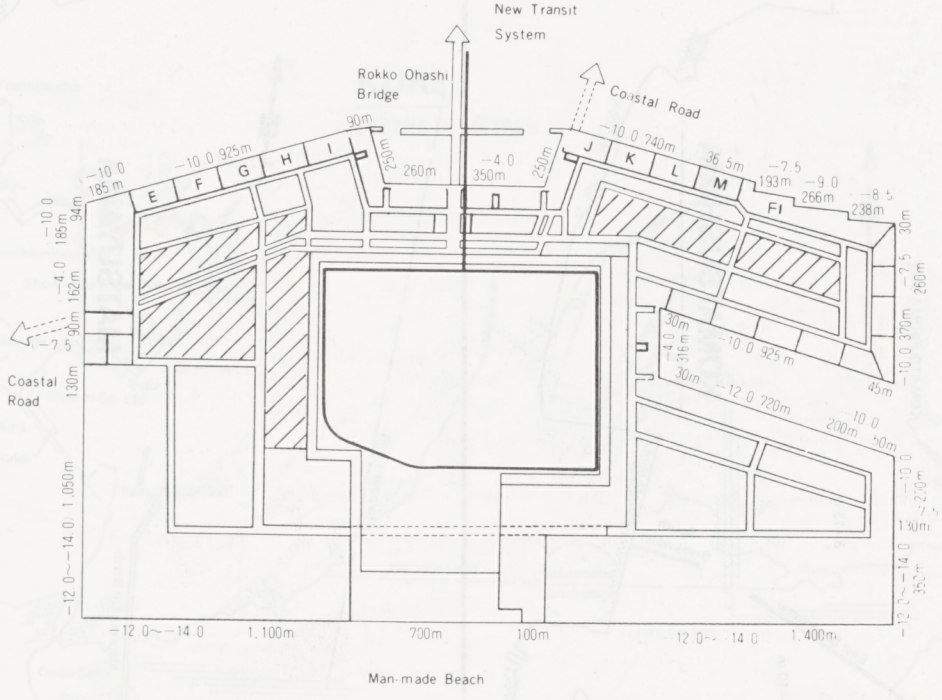

Port & Harbour Bureau
Kobe City Hall
X
Maya Bridge
No.2
No.3
No.4
Mitsui Pier
No.5
No.6
No.7
No.8
SHINKO PIERS
Kobe Ohashi Bridge
Port Terminal
No.4 Breakwater
No.1
No.2
No.3
No.4
MAYA PIERS
Container Berths
No.1 Section
No.2 Section
EASTERN RECLAMATION SITE
Higashi-Kobe Ferry Wharf
No.3 Section
No.4 Section
Shinko Fairway
No. 5 Breakwater
Port Island
ROKKO ISLAND (Under Construction)
-10.0m
-14.0m
-12.0m
-7.5m
-9.0m
-8.5m
No.6 Breakwater
No.6 South Breakwater
3rd Fairway
No.7 Breakwater
N
KOBE (2)
DEPTHS IN METRES



KOBE

(PORT ISLAND)

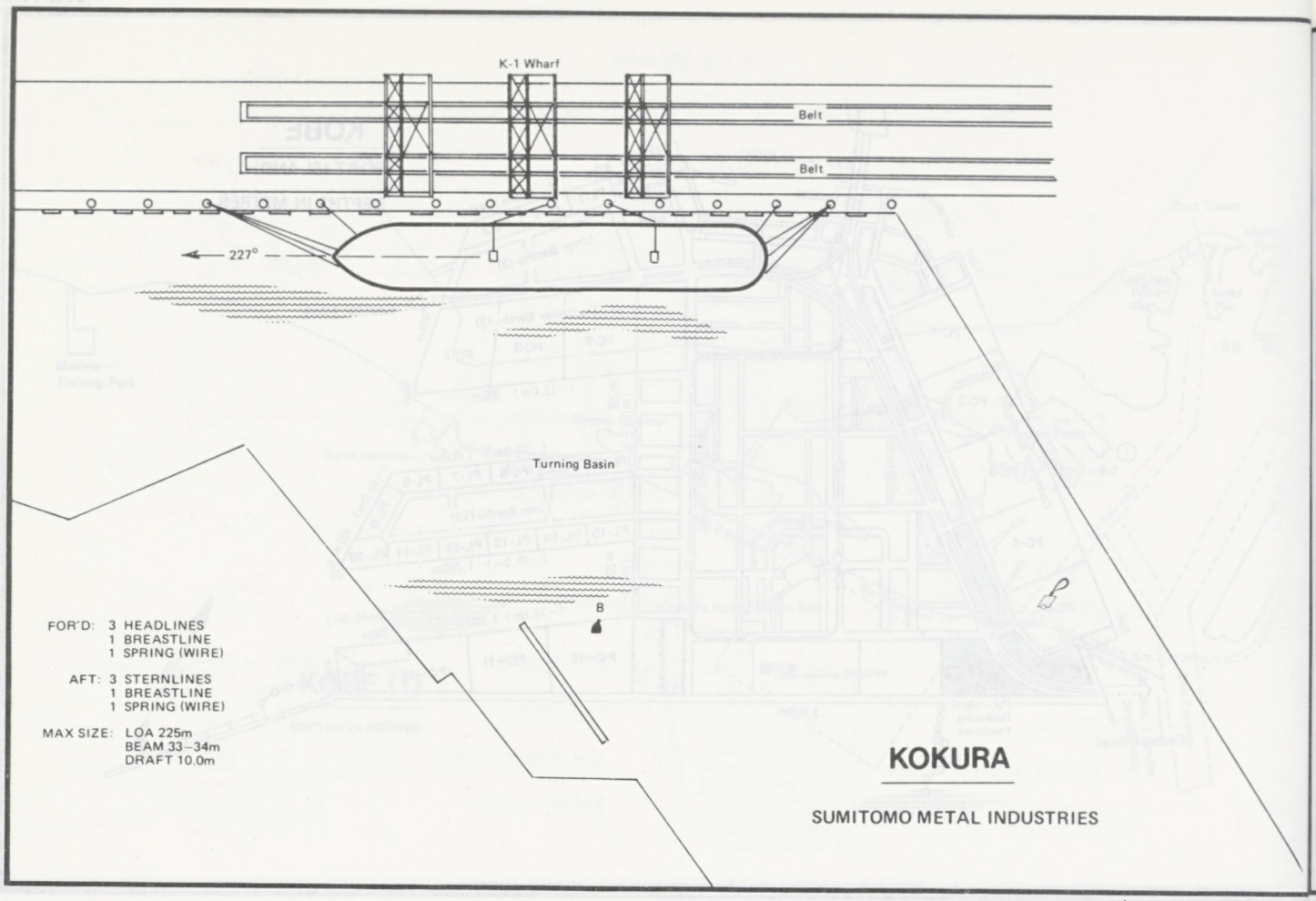
DEPTHS IN METRES



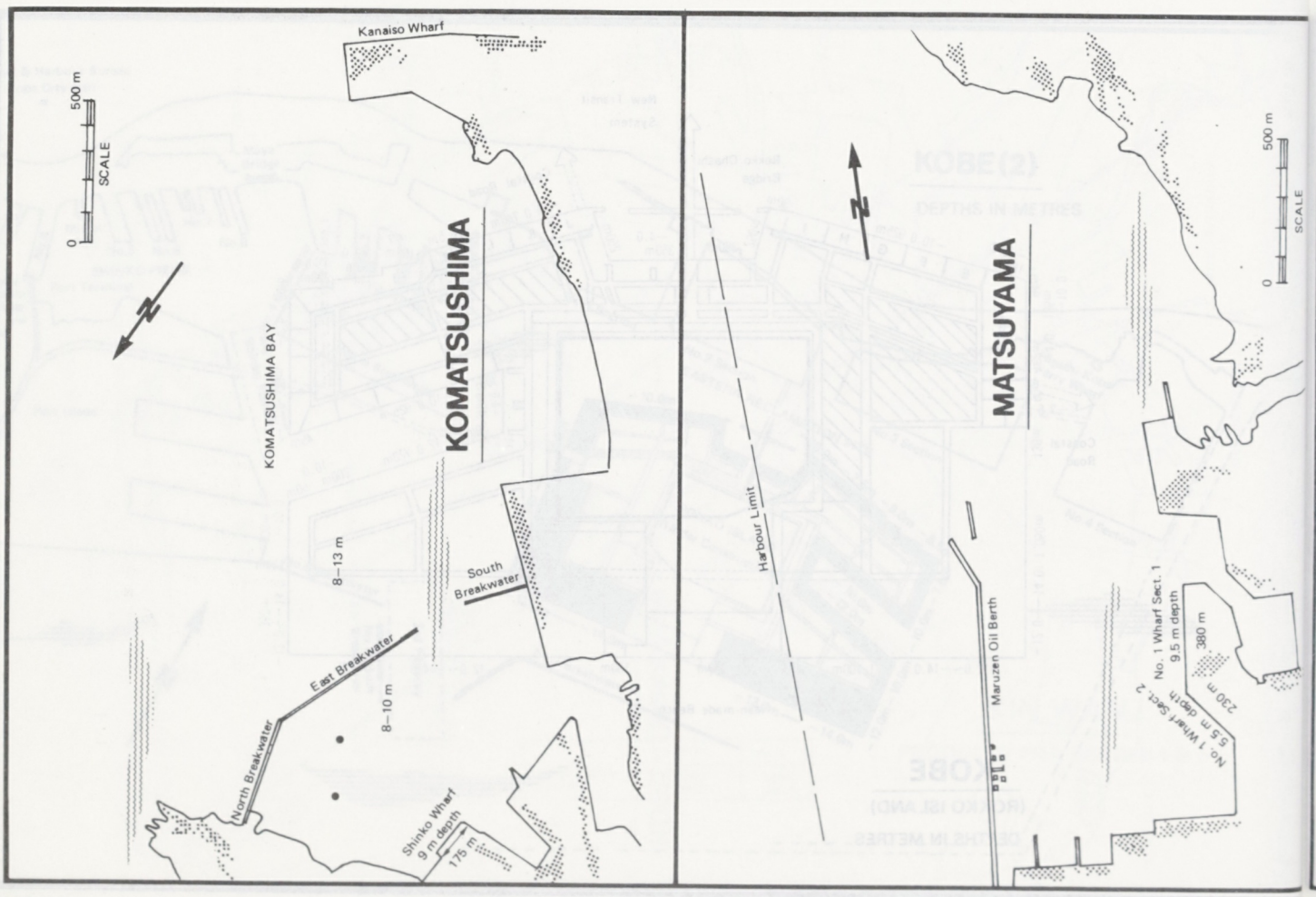
KOBE

(ROKKO ISLAND)

DEPTHS IN METRES



"Plan supplied by Ship's Master"

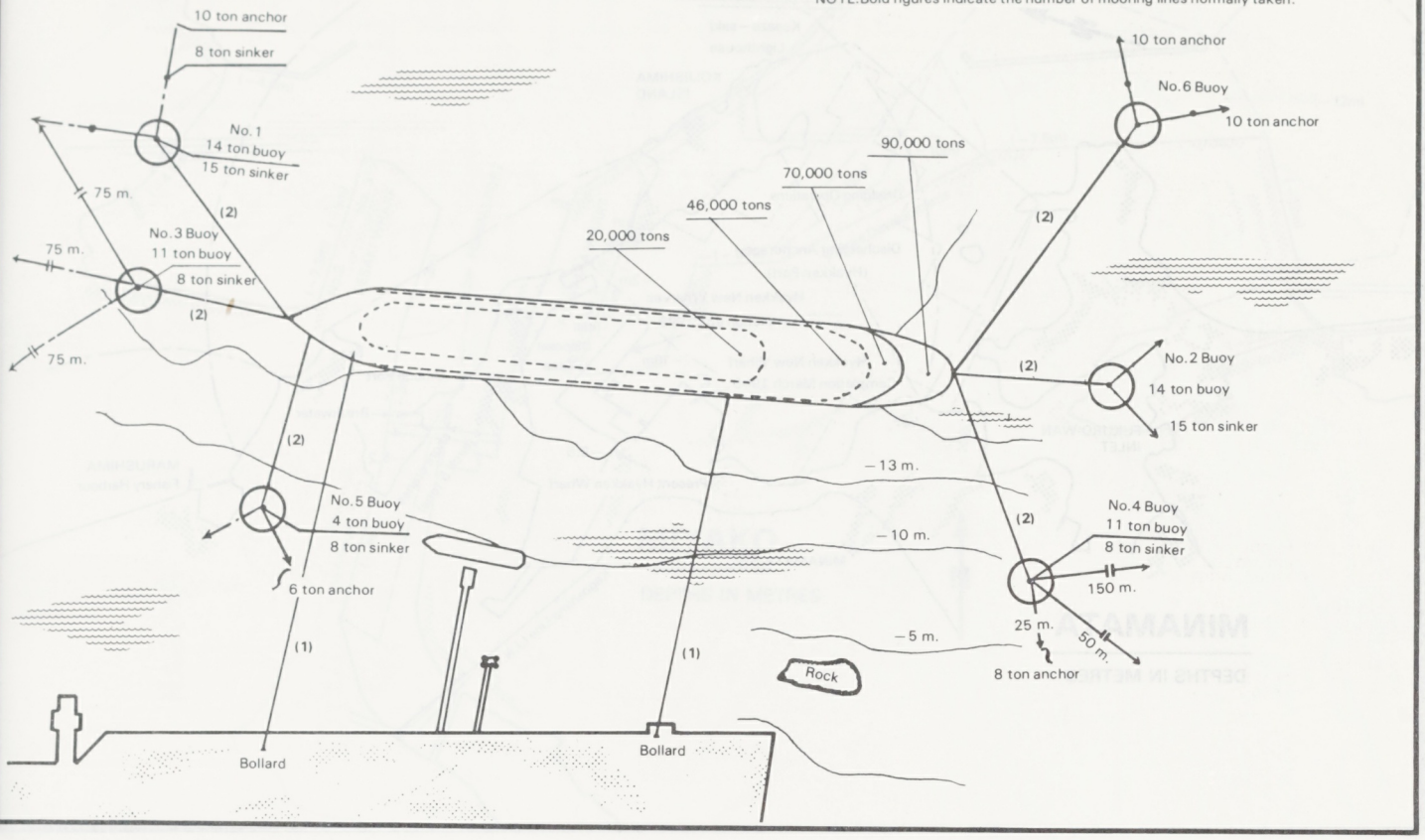


KUDAMATSU

NIPPON PETROLEUM REFINING CO

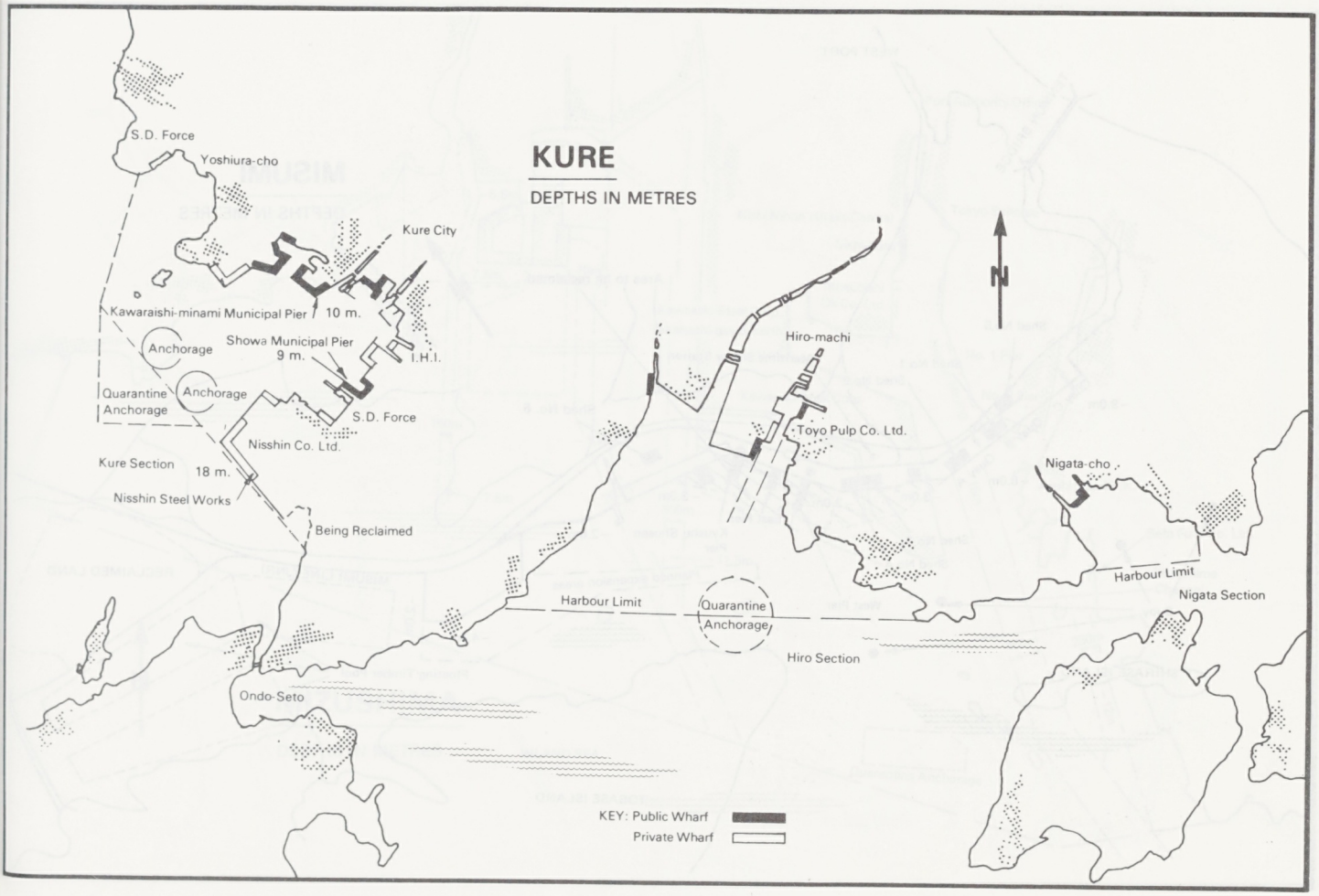
MOORING PLAN

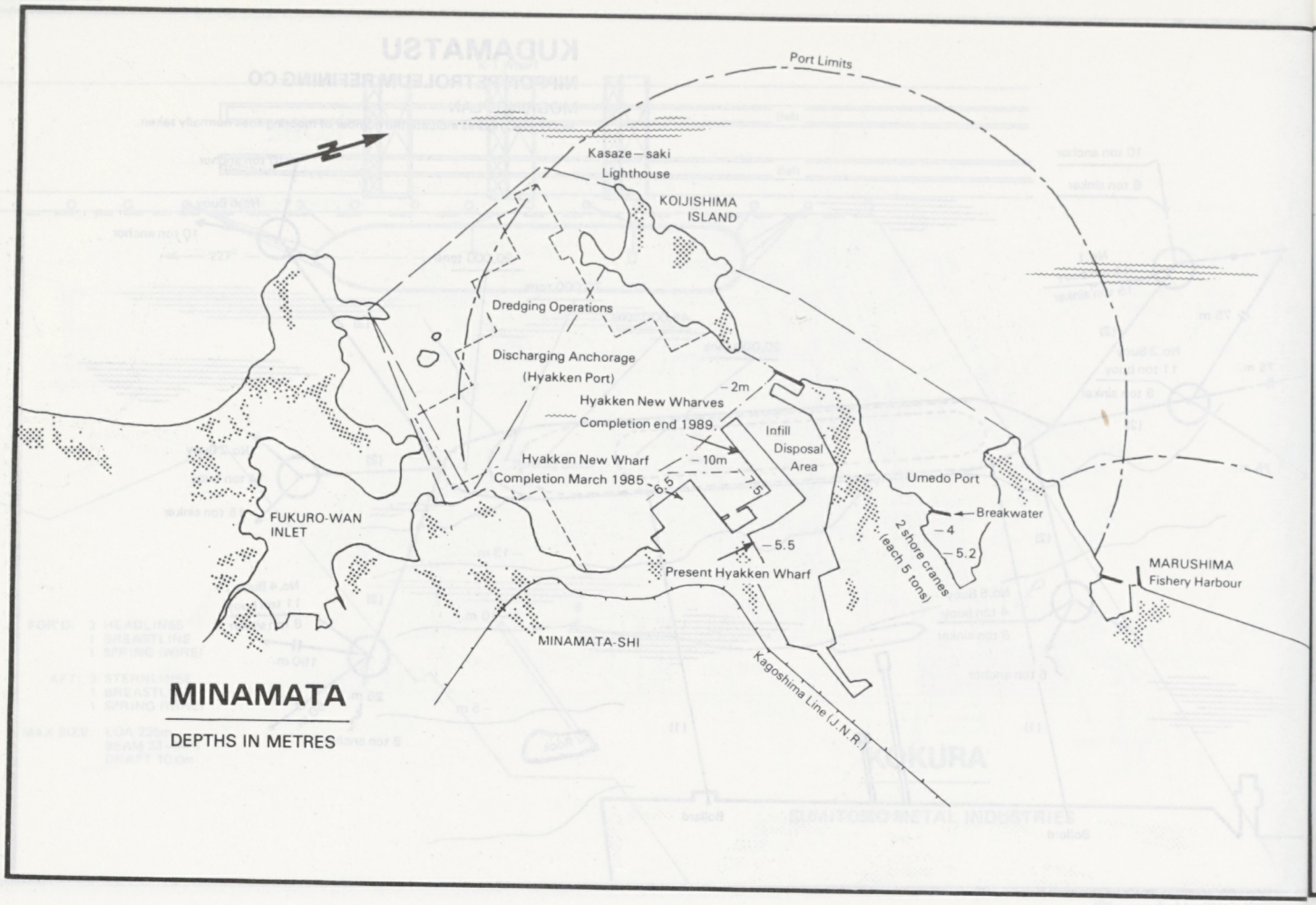
NOTE: Bold figures indicate the number of mooring lines normally taken.

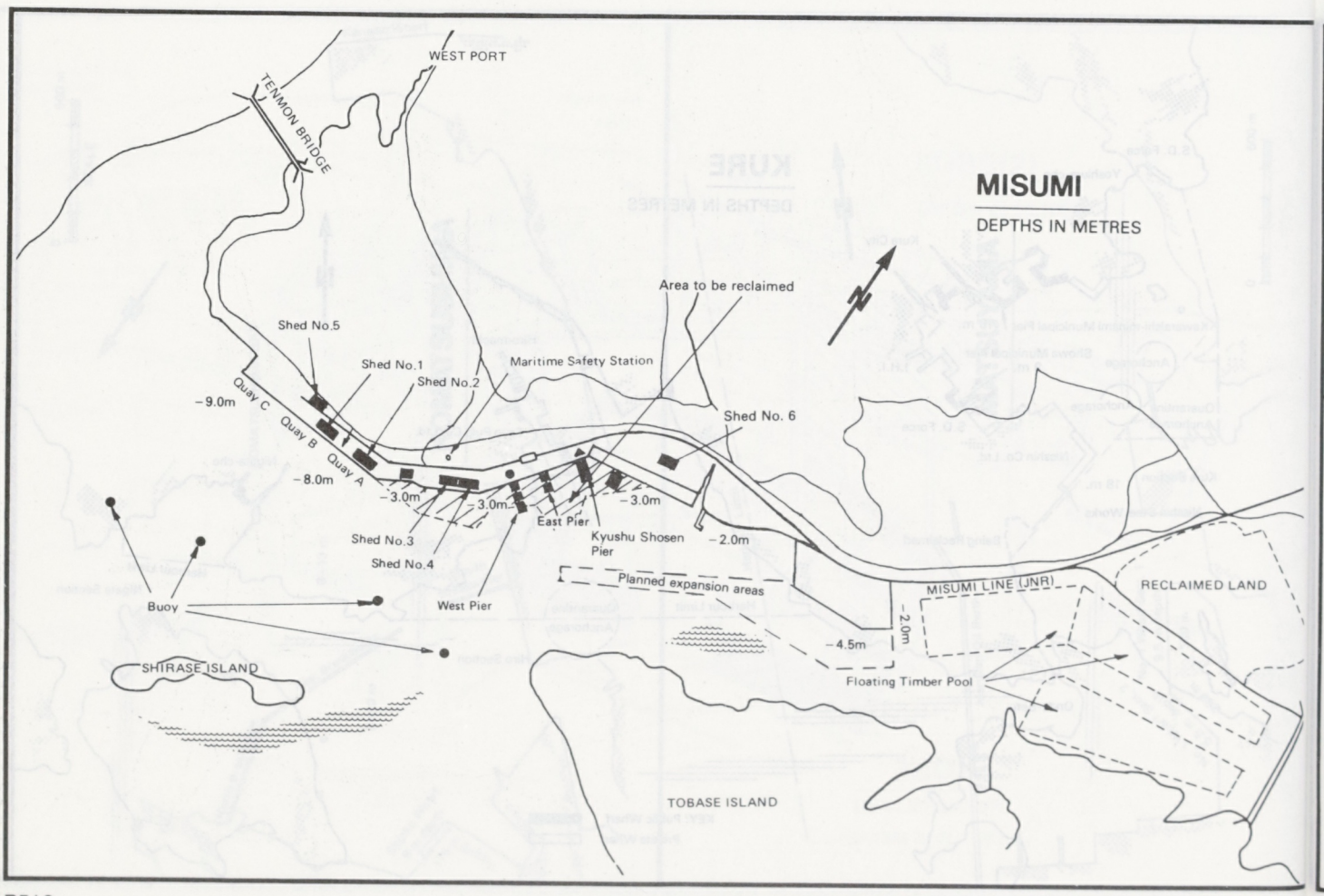


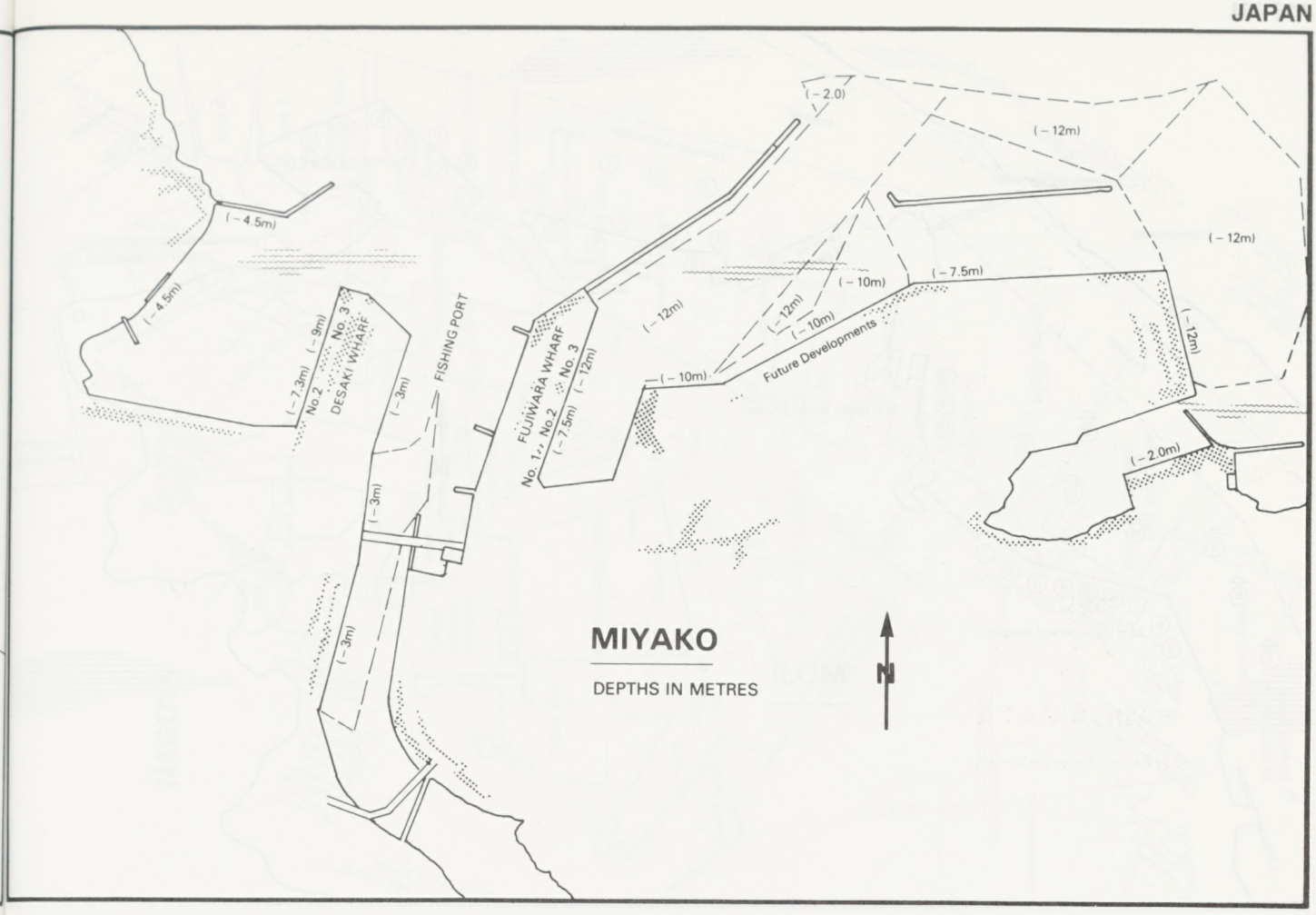
KURE

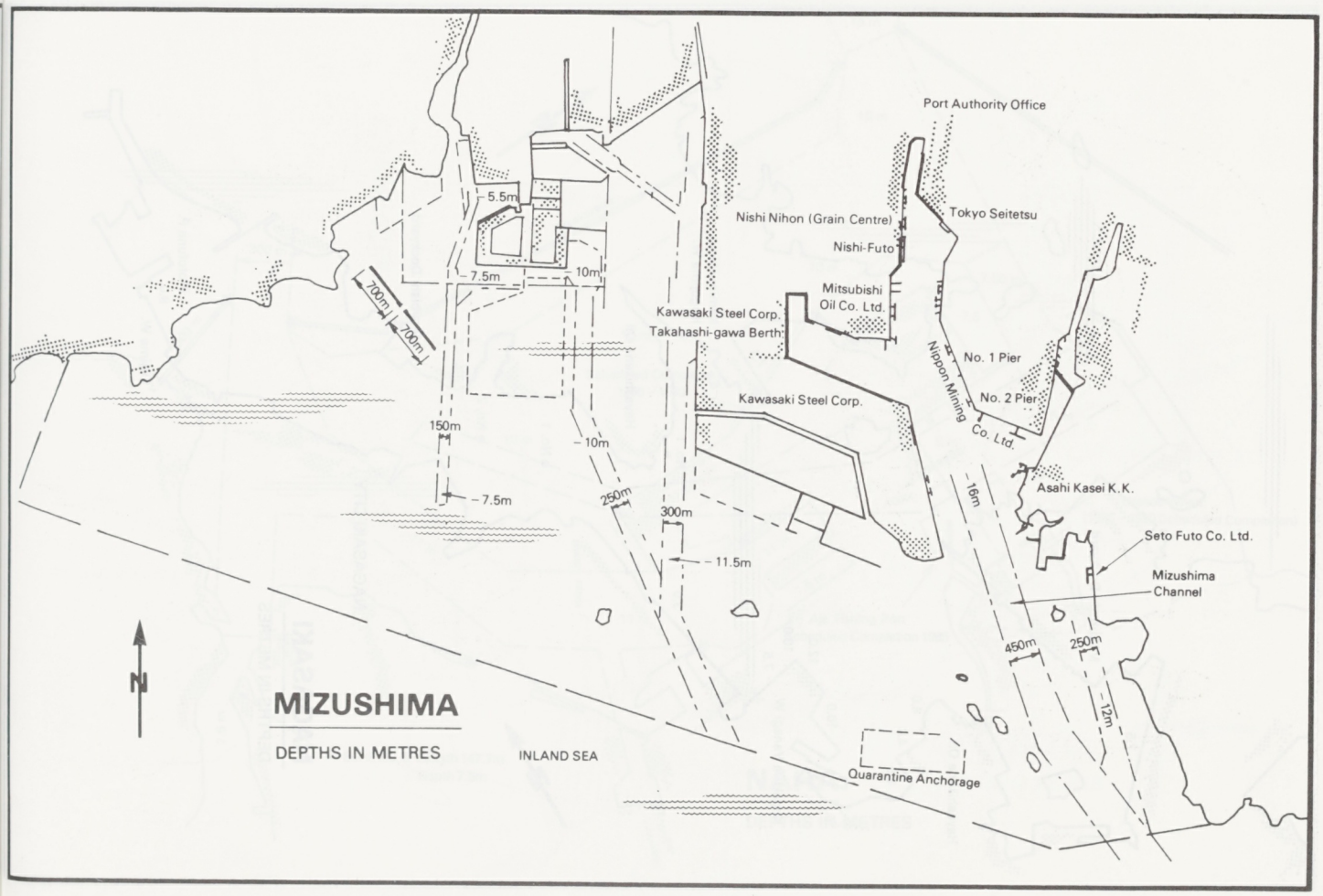
DEPTHS IN METRES

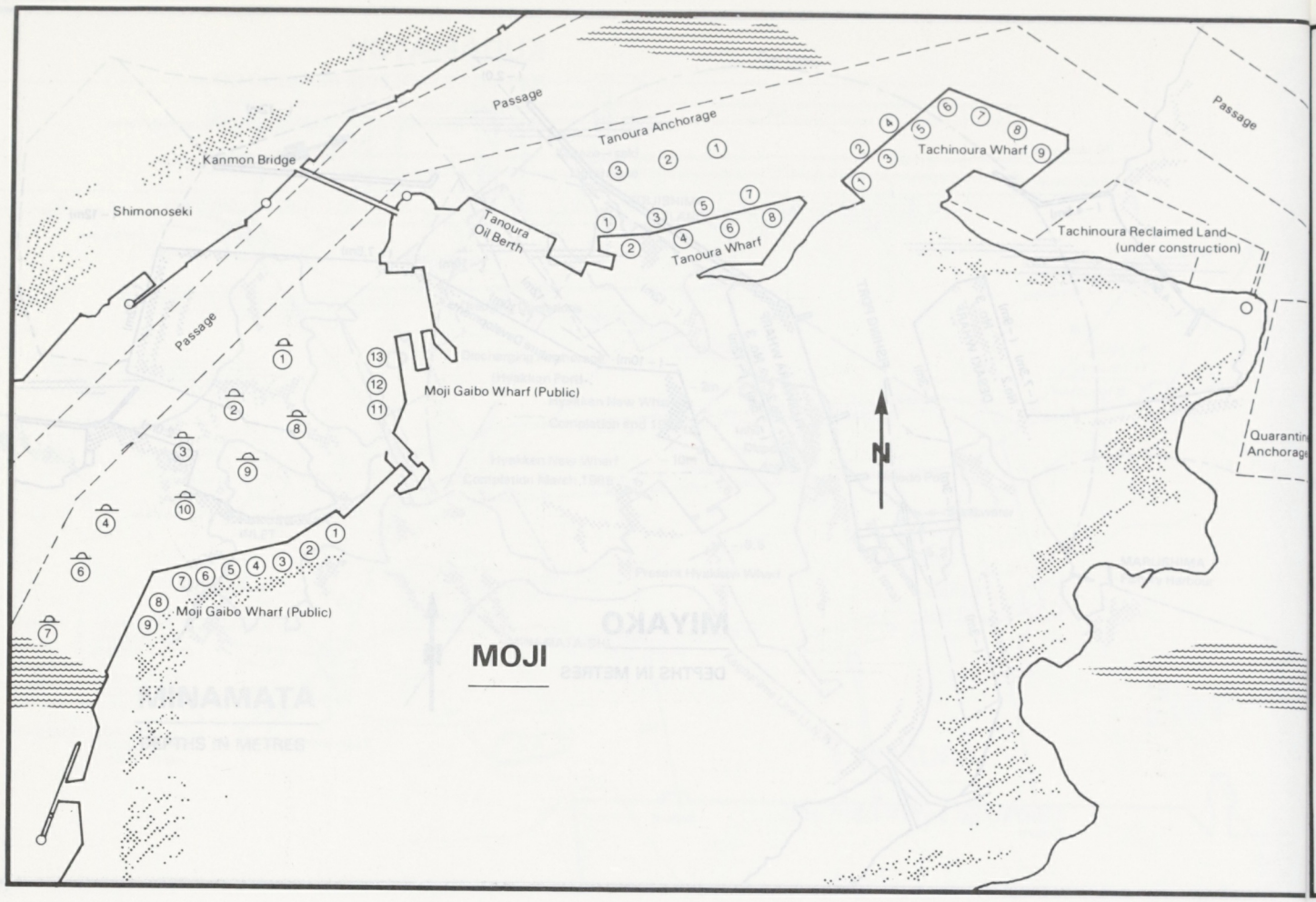


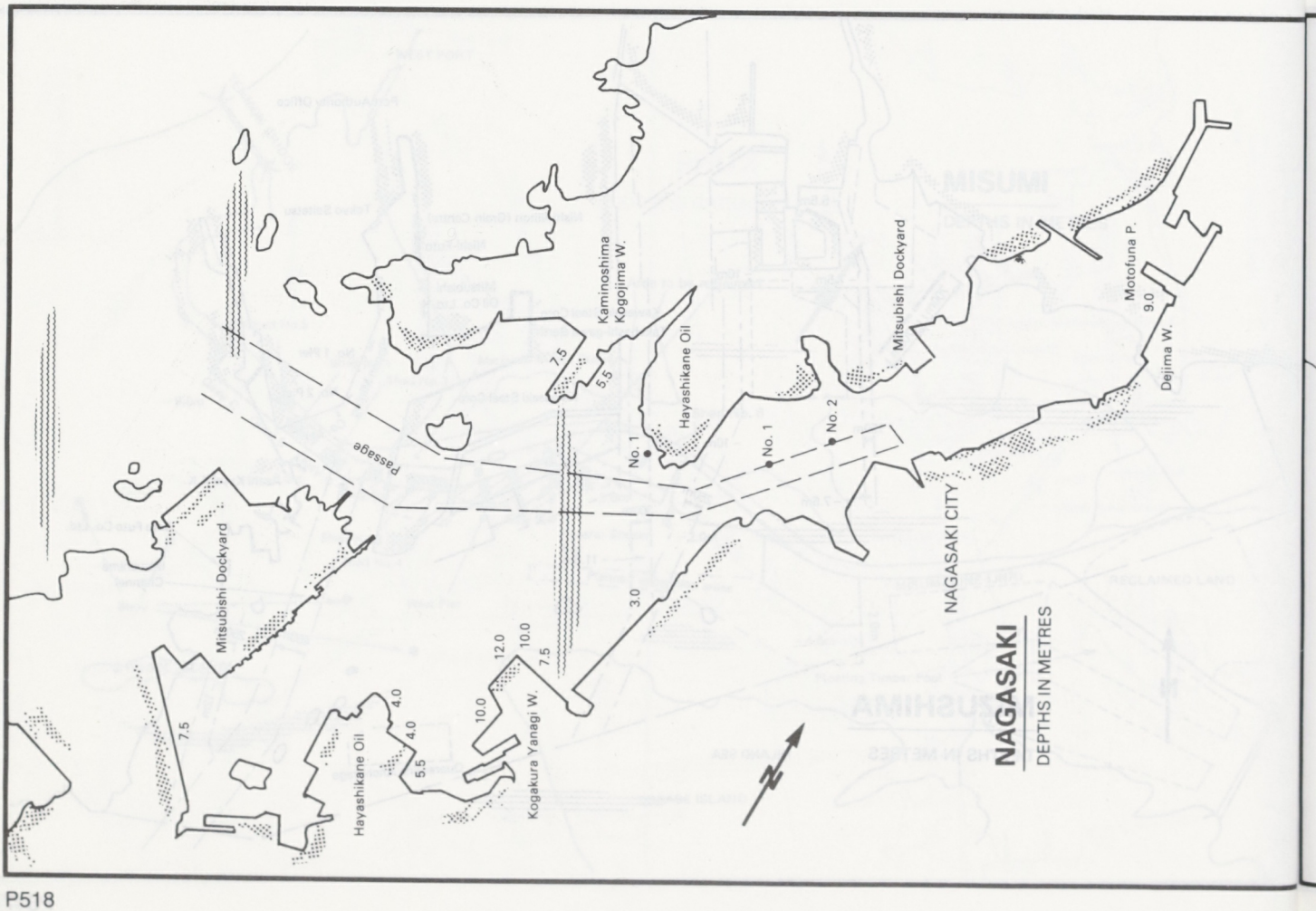

Port Limits
Kasaze—saki Lighthouse
KOIJISHIMA ISLAND
Dredging Operations
Discharging Anchorage (Hyakken Port)
Hyakken New Wharves Completion end 1989
Hyakken New Wharf Completion March 1985
Infill Disposal Area
Umedo Port
Breakwater
2 shore cranes (each 5 tons)
FUKURO-WAN INLET
Present Hyakken Wharf
MARUSHIMA Fishery Harbour
MINAMATA-SHI
Kagoshima Line (J.N.R.)
MINAMATA
DEPTHS IN METRES

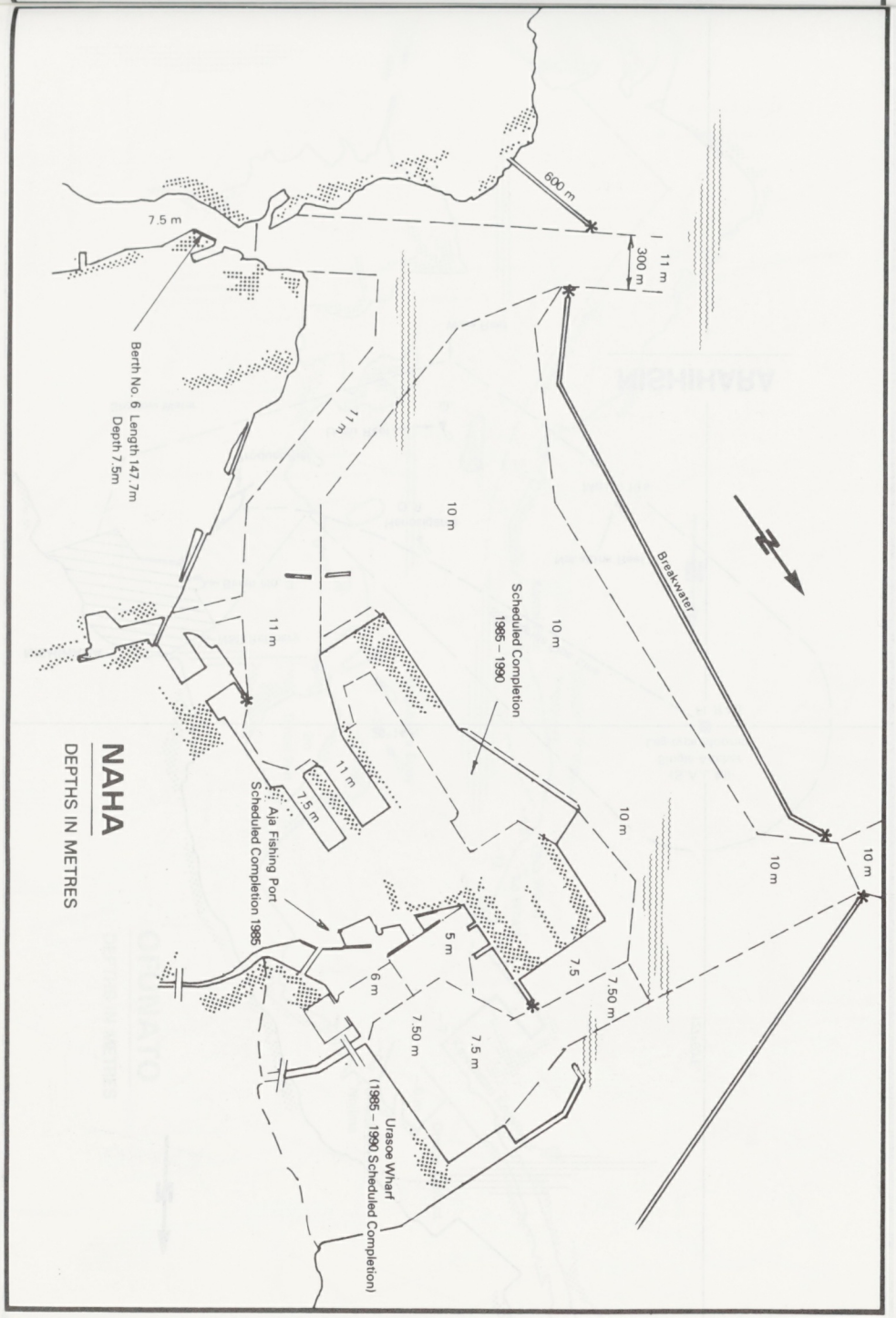

WEST PORT
TENMON BRIDGE
MISUMI
DEPTHS IN METRES
Area to be reclaimed
Shed No.5
Shed No.1
Shed No.2
Maritime Safety Station
Shed No. 6
Quay C
Quay B
Quay A
Shed No.3
Shed No.4
East Pier
Kyushu Shosen Pier
West Pier
Planned expansion areas
MISUMI LINE (JNR)
RECLAIMED LAND
Floating Timber Pool
Buoy
SHIRASE ISLAND
TOBASE ISLAND

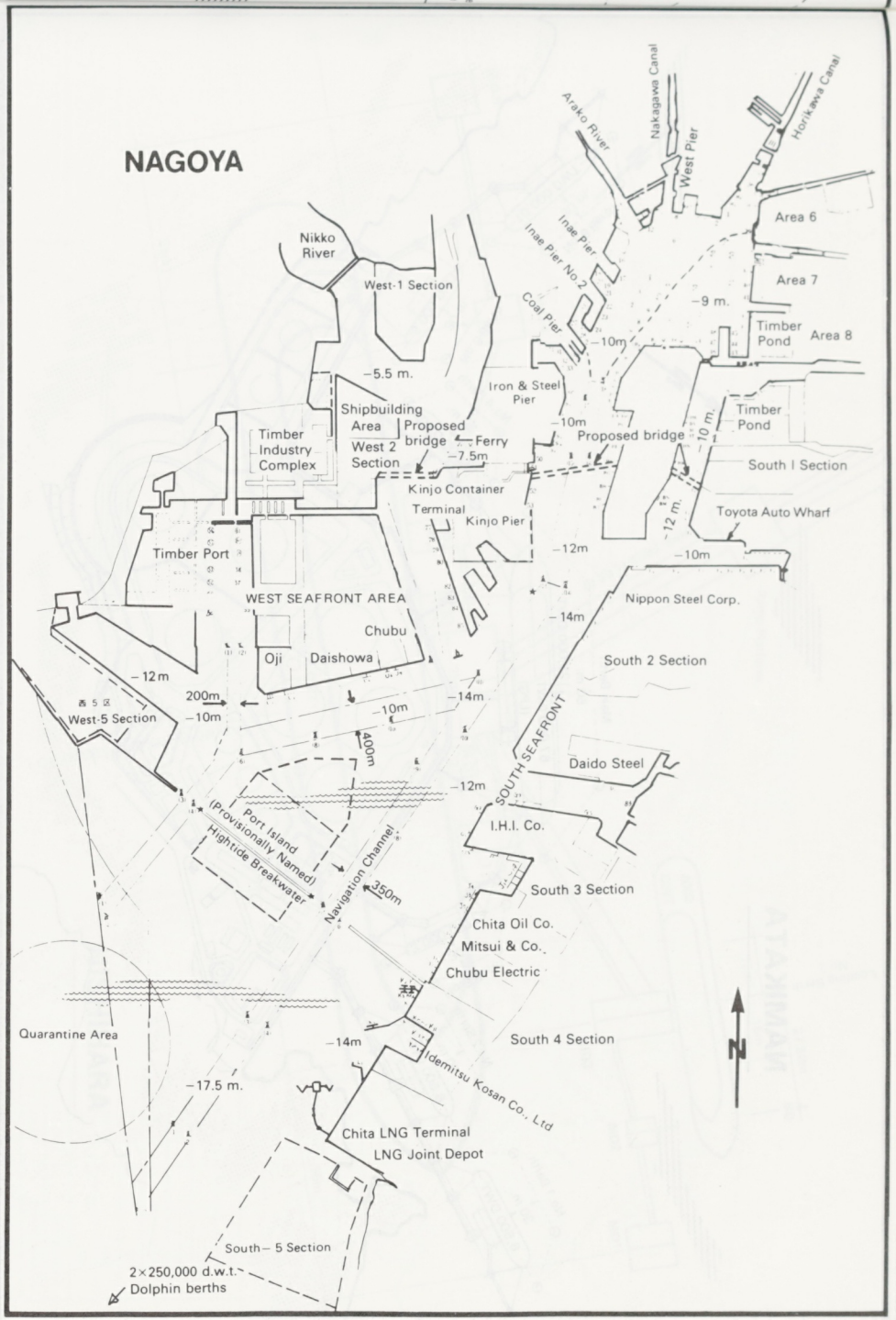

(−2.0)
(−12m)
(−12m)
(−4.5m)
(−4.5m)
(−7.3m)
(−9m)
No. 3
No. 2
DESAKI WHARF
(−3m)
FISHING PORT
(−3m)
(−3m)
FUJIWARA WHARF
No. 1
No. 2
No. 3
(−7.5m)
(−12m)
(−12m)
(−10m)
(−10m)
(−10m)
(−7.5m)
Future Developments
(−12m)
(−2.0m)
MIYAKO
DEPTHS IN METRES
N

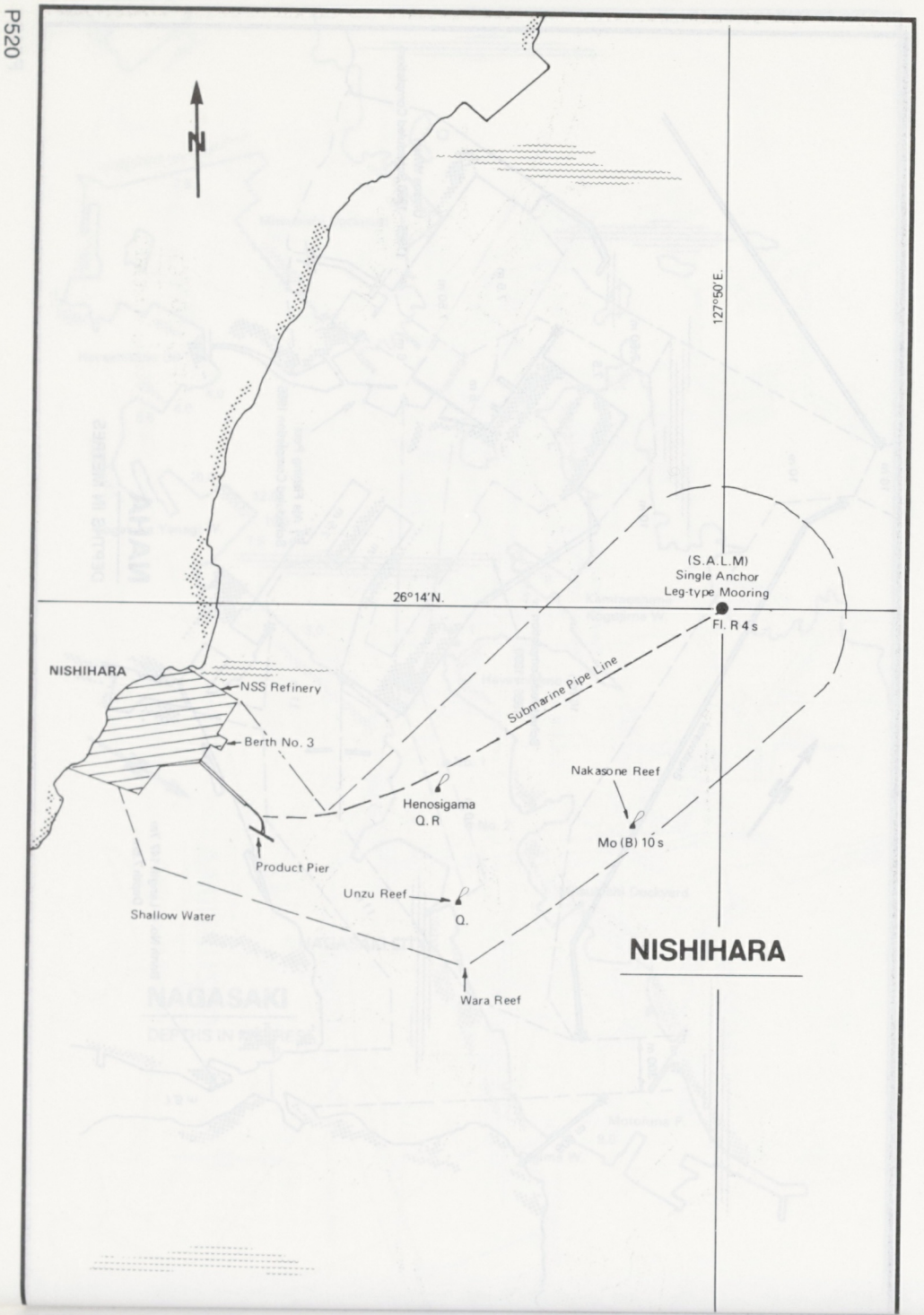

Port Authority Office
Tokyo Seitetsu
Nishi Nihon (Grain Centre)
Nishi-Futo
Mitsubishi
Oil Co. Ltd.
Kawasaki Steel Corp.
Takahashi-gawa Berth
Kawasaki Steel Corp.
Nippon Mining
Co. Ltd.
No. 1 Pier
No. 2 Pier
Asahi Kasei K.K.
Seto Futo Co. Ltd.
Mizushima
Channel
Quarantine Anchorage
INLAND SEA
5.5m
7.5m
10m
700m
700m
150m
7.5m
10m
250m
300m
11.5m
16m
450m
250m
12m
N
MIZUSHIMA
DEPTHS IN METRES


Passage
Tanoura Anchorage
Kanmon Bridge
Shimonoseki
Tanoura Oil Berth
Tanoura Wharf
Tachinoura Wharf
Tachinoura Reclaimed Land (under construction)
Passage
Passage
Moji Gaibo Wharf (Public)
Moji Gaibo Wharf (Public)
Quarantine Anchorage
N
MOJI

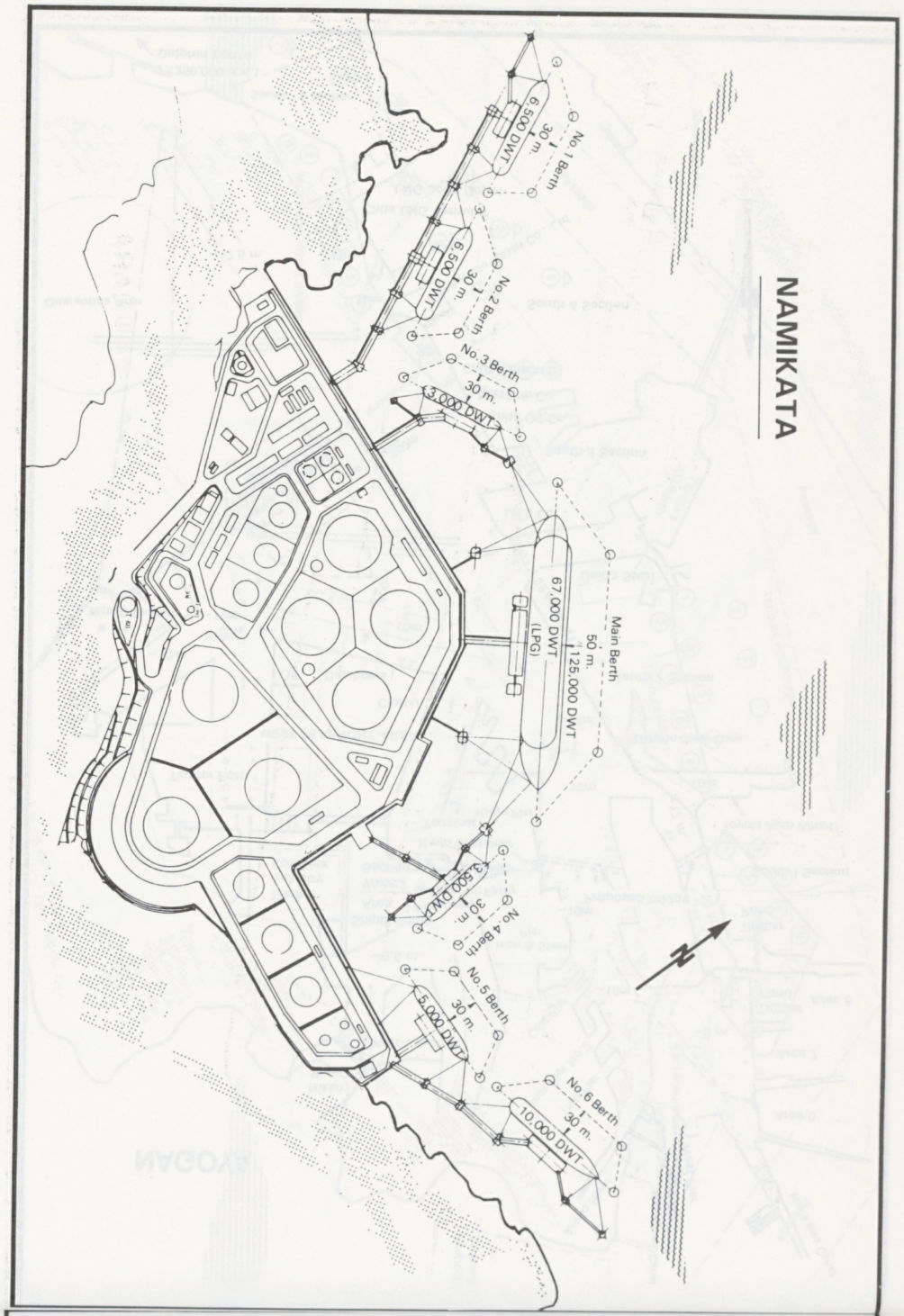

Kaminoshima
Kogojima W.
7.5
5.5
Hayashikane Oil
No. 1
No. 1
No. 2
Mitsubishi Dockyard
Motofuna P.
9.0
Dejima W.
Passage
Mitsubishi Dockyard
NAGASAKI CITY
3.0
12.0
10.0
10.0
7.5
Kogakura Yanagi W.
4.0
4.0
5.5
Hayashikane Oil
7.5
N
NAGASAKI
DEPTHS IN METRES


NAHA
DEPTHS IN METRES
600 m
7.5 m
300 m
11 m
Berth No. 6 Length 147.7m
Depth 7.5m
11m
10 m
Breakwater
Scheduled Completion
1985 – 1990
11 m
7.5 m
Aja Fishing Port
Scheduled Completion 1985
5 m
6 m
7.5
7.50 m
Urasoe Wharf
(1985 – 1990 Scheduled Completion)

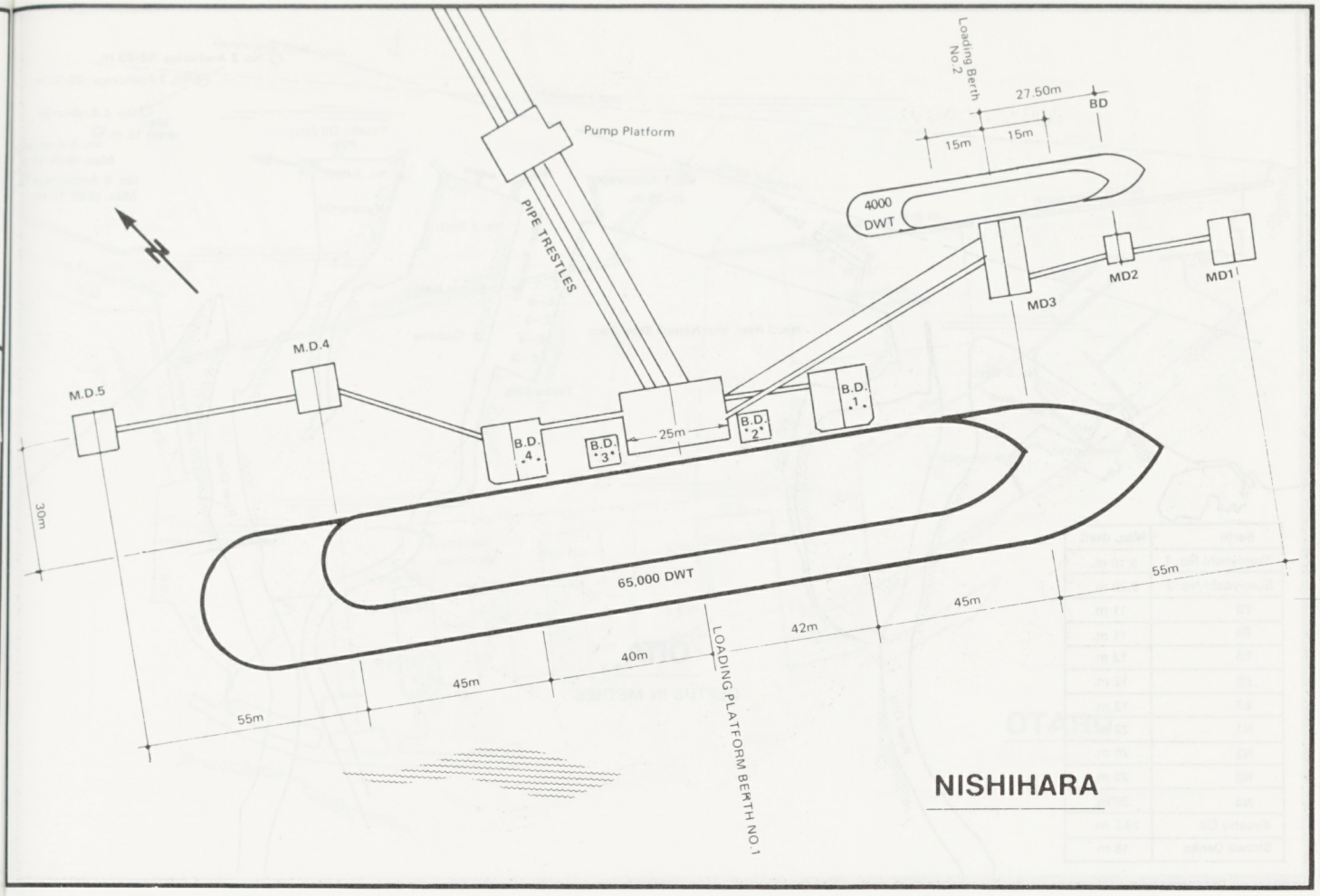

NAGOYA
Arako River
Nakagawa Canal
West Pier
Horikawa Canal
Nikko River
West-1 Section
Inae Pier
Inae Pier No.2
Coal Pier
Area 6
Area 7
Area 8
Timber Pond
–9 m.
–10m
–5.5 m.
Iron & Steel Pier
Shipbuilding Area
West 2 Section
Proposed bridge
Ferry
–7.5m
Timber Industry Complex
Kinjo Container Terminal
Kinjo Pier
South I Section
Toyota Auto Wharf
–12m
–14m
Timber Port
WEST SEAFRONT AREA
Chubu
Oji
Daishowa
Nippon Steel Corp.
South 2 Section
West-5 Section
200m
400m
SOUTH SEAFRONT
Daido Steel
Port Island
(Provisionally Named)
Hightide Breakwater
Navigation Channel
350m
I.H.I. Co.
South 3 Section
Chita Oil Co.
Mitsui & Co.
Chubu Electric
Quarantine Area
South 4 Section
–17.5 m.
Idemitsu Kosan Co., Ltd
Chita LNG Terminal
LNG Joint Depot
South – 5 Section
2×250,000 d.w.t.
Dolphin berths
N



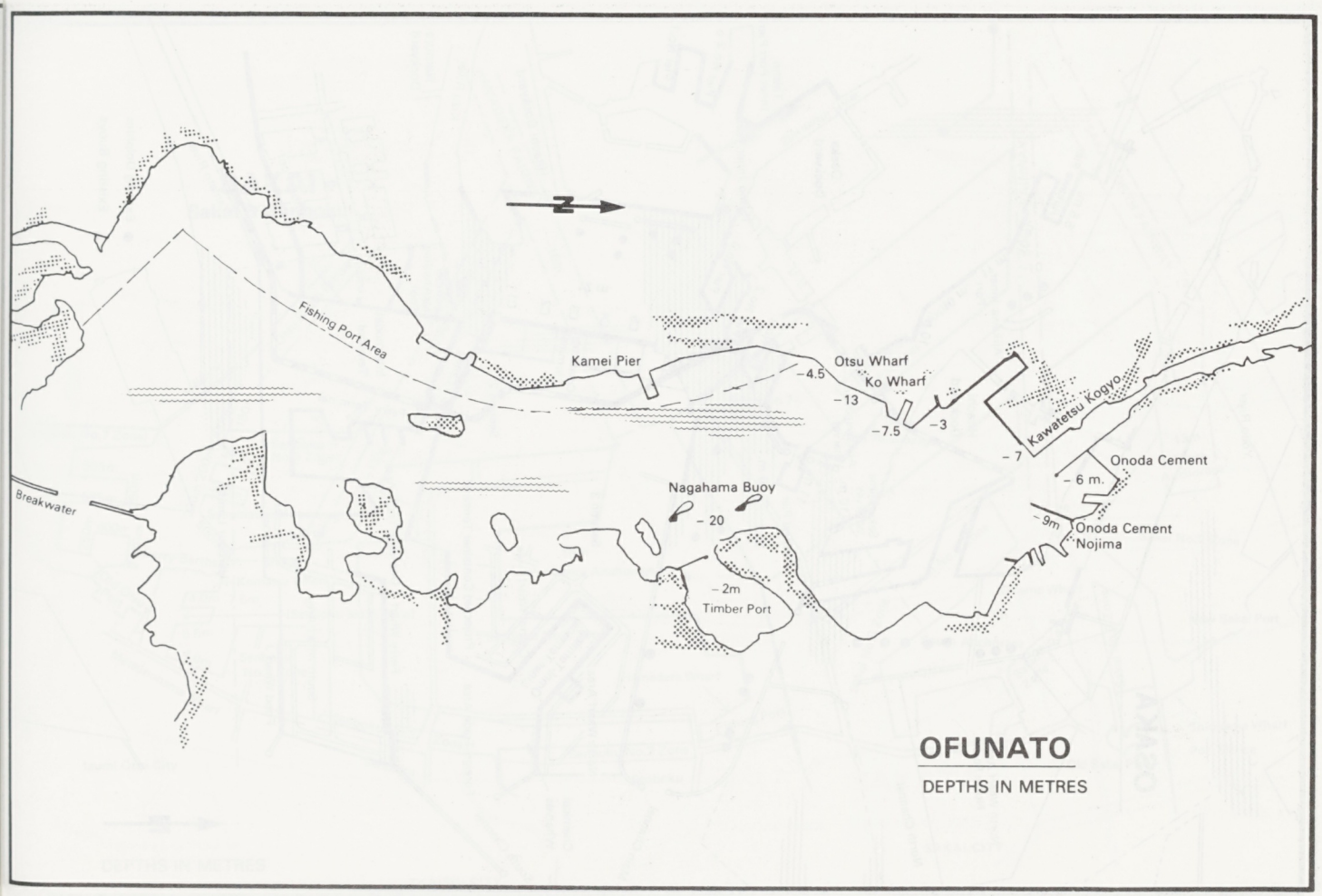
NISHIHARA



NAMIKATA

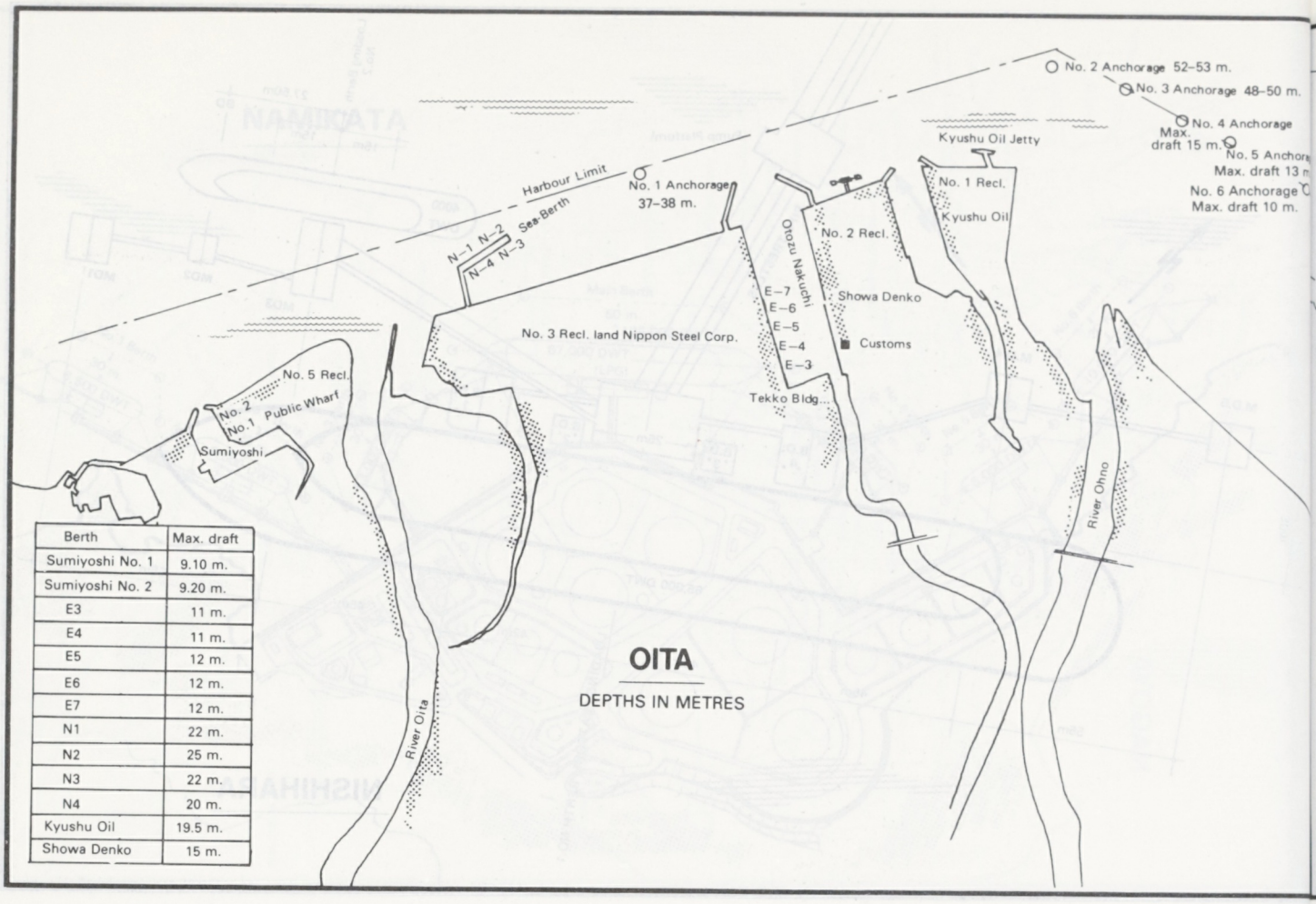


NISHIHARA

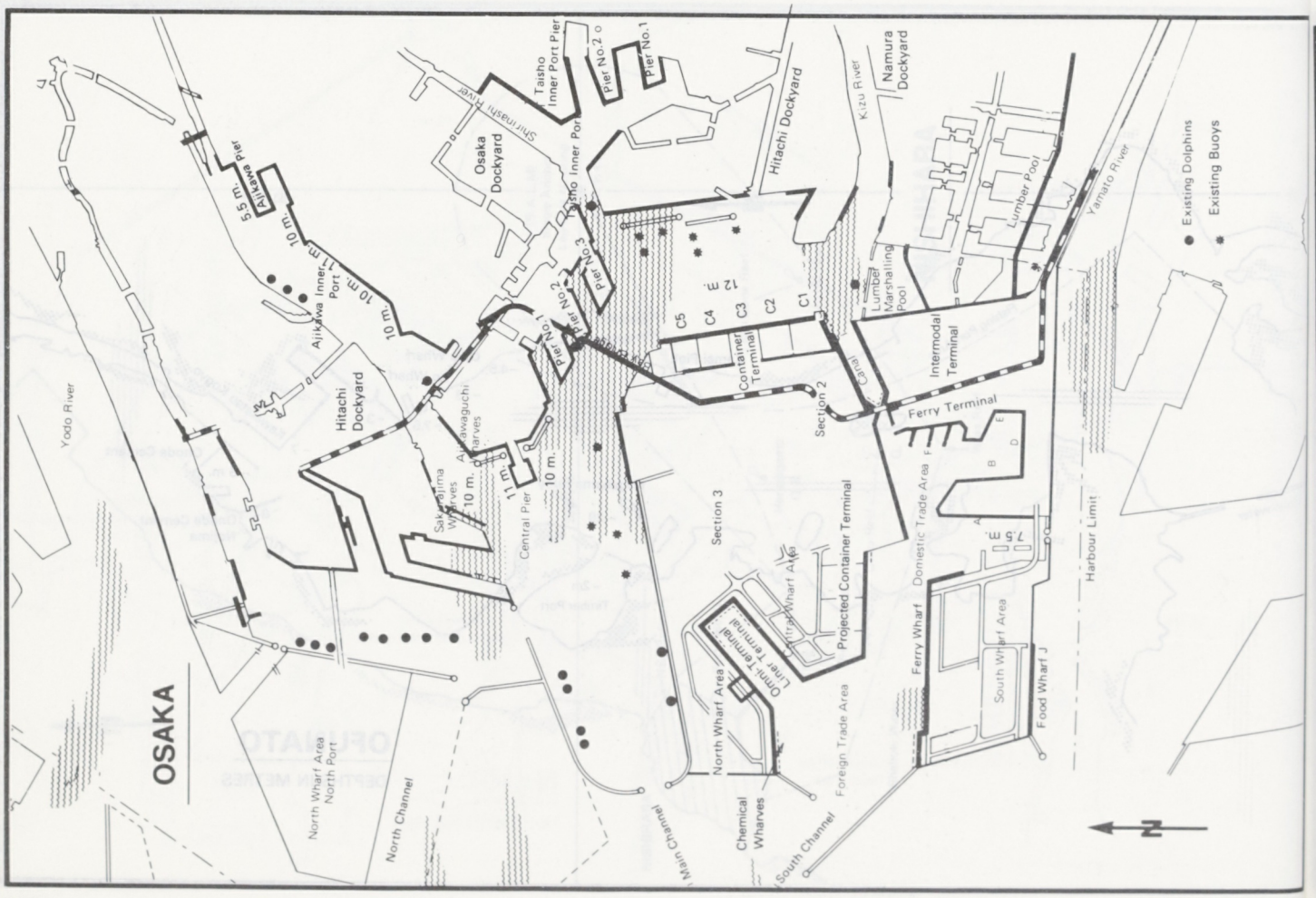


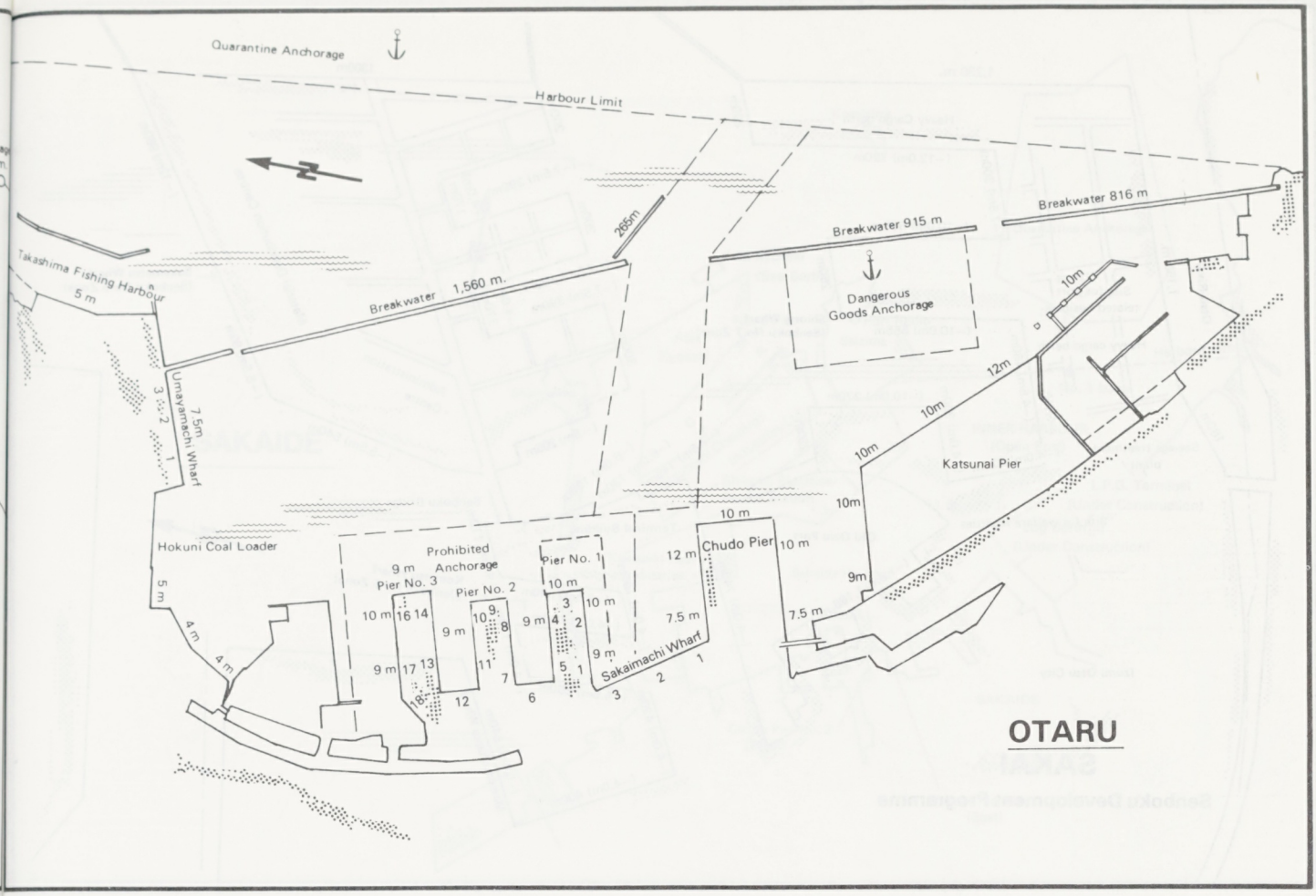
OFUNATO

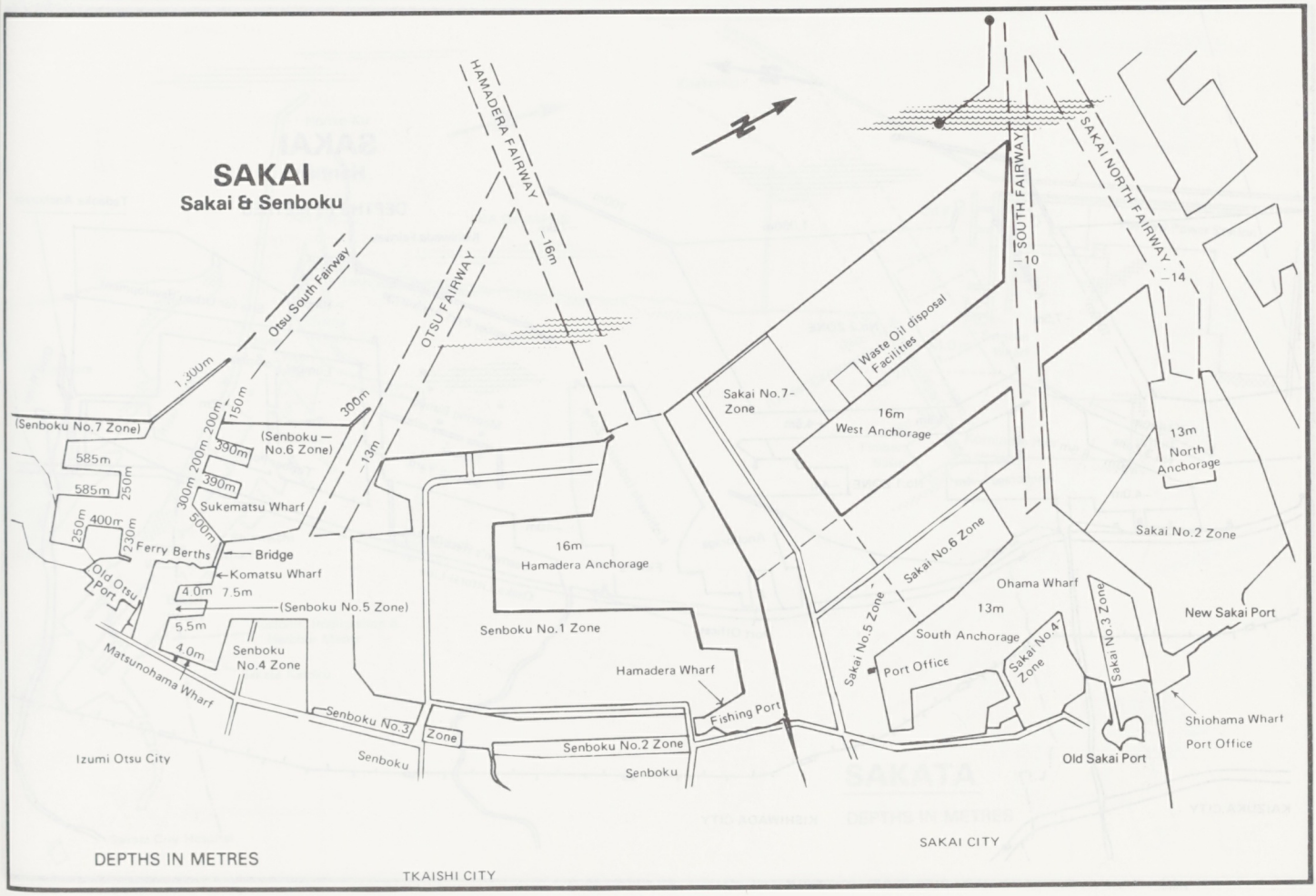
DEPTHS IN METRES

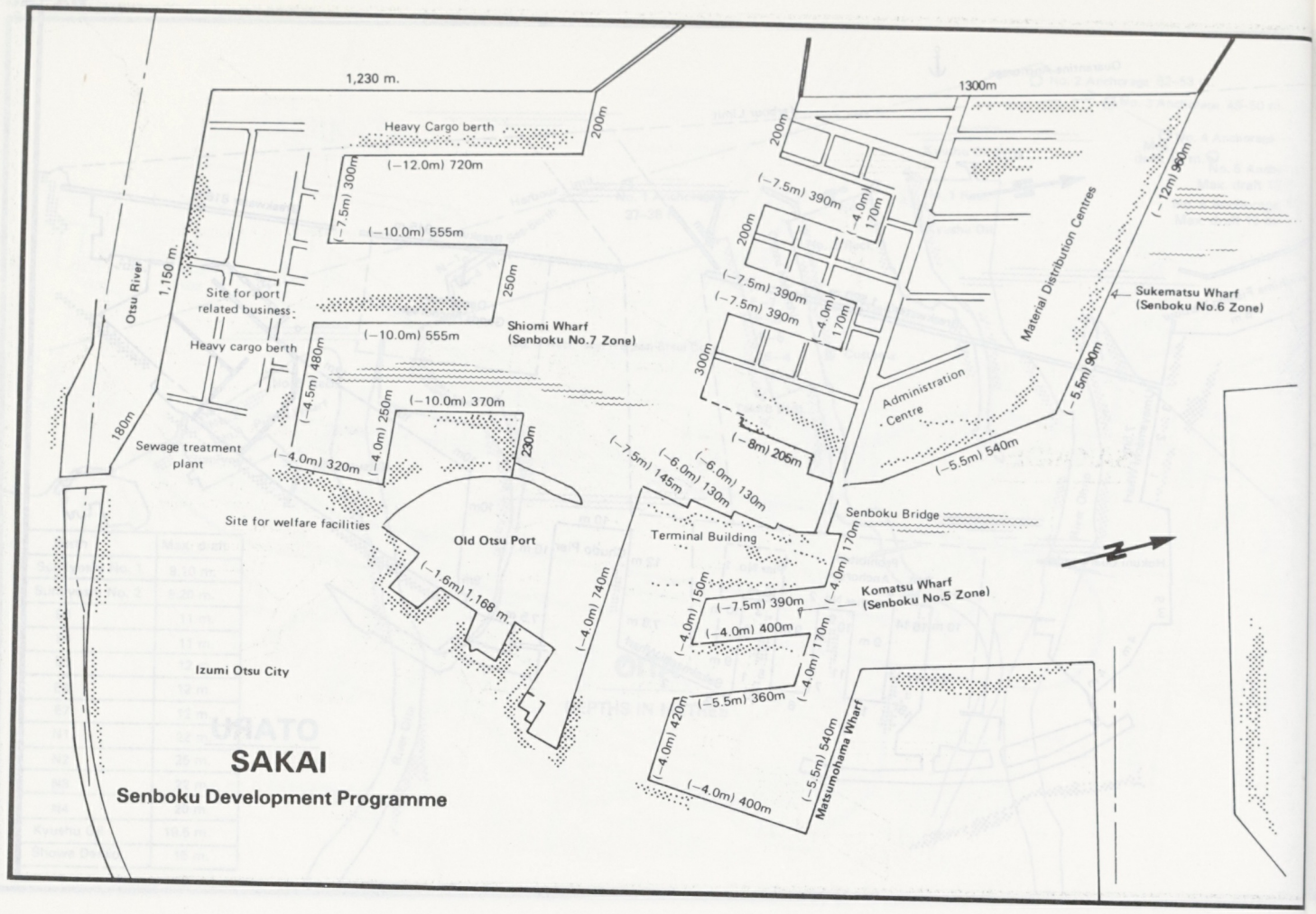


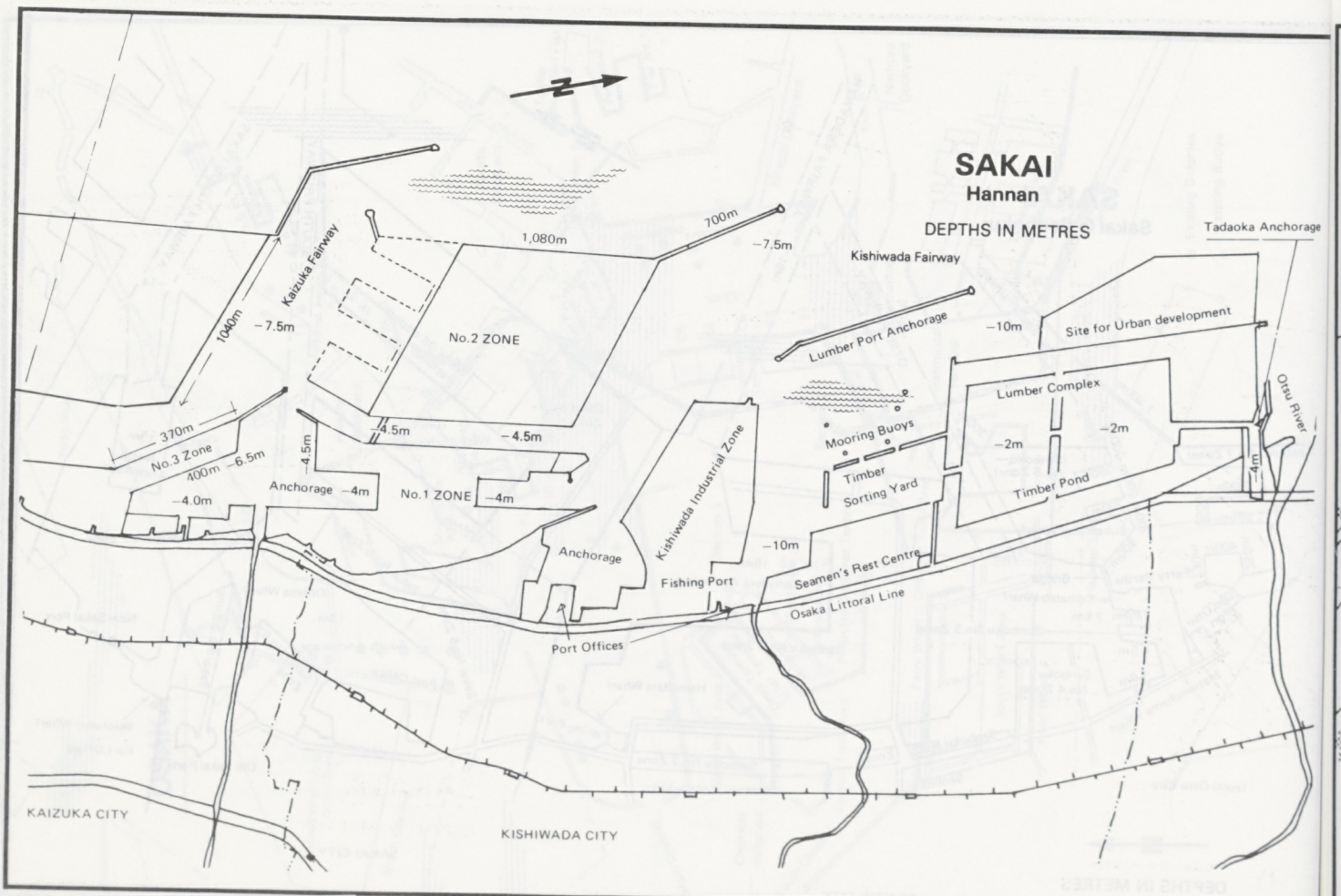
Berth	Max. draft
Sumiyoshi No. 1	9.10 m.
Sumiyoshi No. 2	9.20 m.
E3	11 m.
E4	11 m.
E5	12 m.
E6	12 m.
E7	12 m.
N1	22 m.
N2	25 m.
N3	22 m.
N4	20 m.
Kyushu Oil	19.5 m.
Showa Denko	15 m.

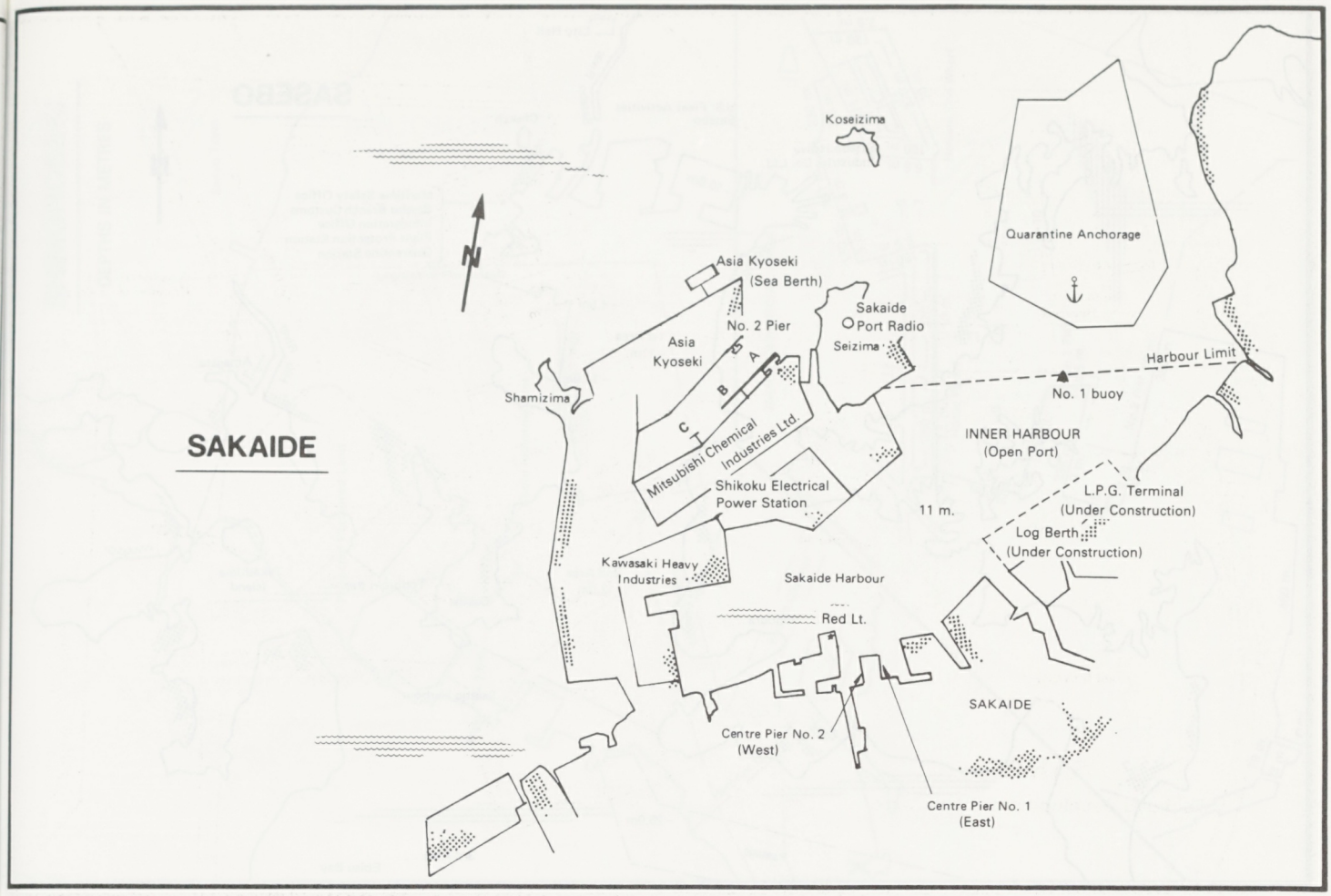


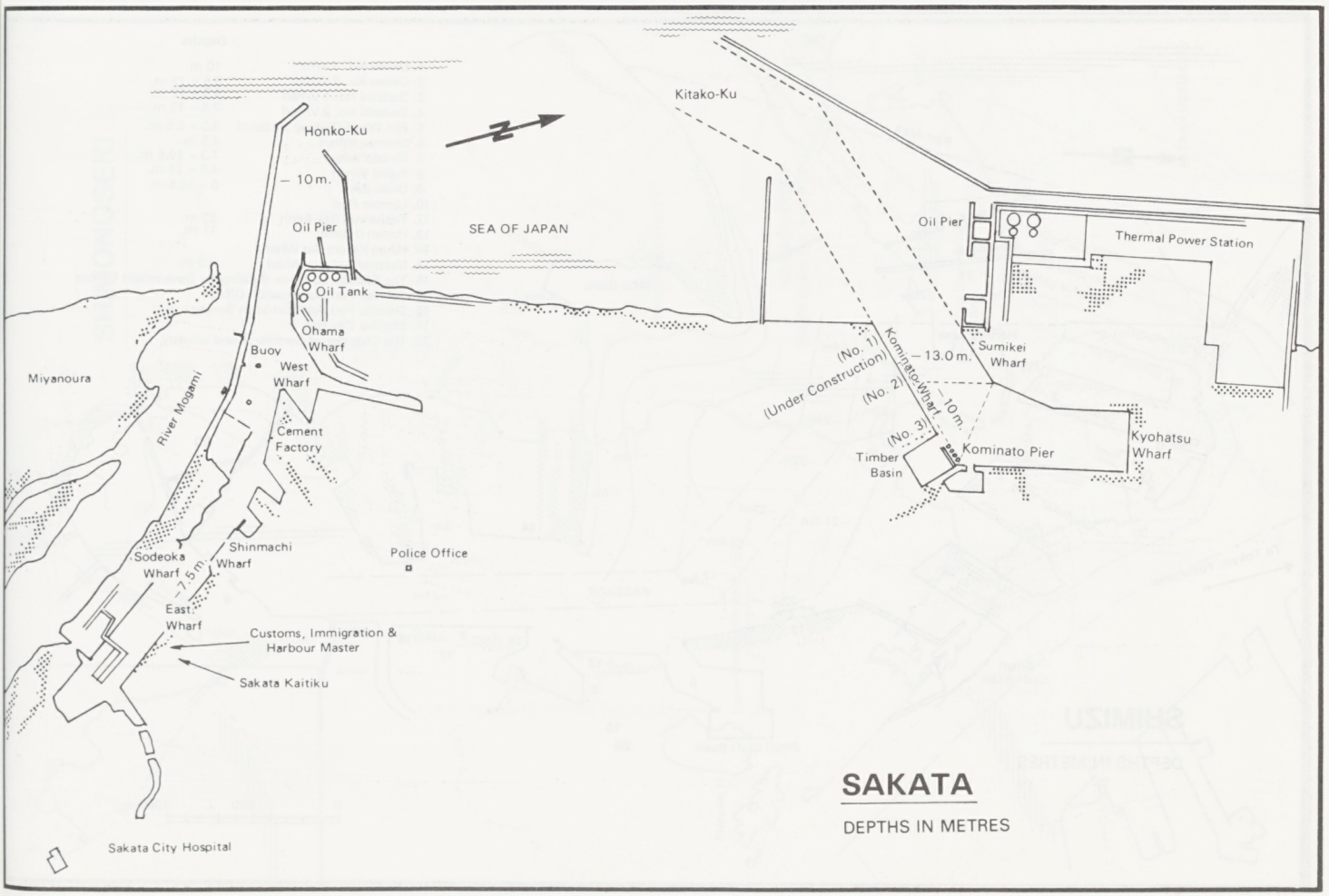

Quarantine Anchorage
Harbour Limit
Breakwater 1,560 m.
265m
Breakwater 915 m
Breakwater 816 m
Takashima Fishing Harbour
5 m
Dangerous Goods Anchorage
10m
12m
10m
10m
10m
Katsunai Pier
Urayamachi Wharf
7.5m
Hokuni Coal Loader
5 m
4 m
4 m
Prohibited Anchorage
9 m
Pier No. 3
Pier No. 2
Pier No. 1
10 m
9 m
9 m
9 m
10 m
10 m
10 m
12 m
Chudo Pier
10 m
7.5 m
7.5 m
9m
Sakaimachi Wharf
OTARU

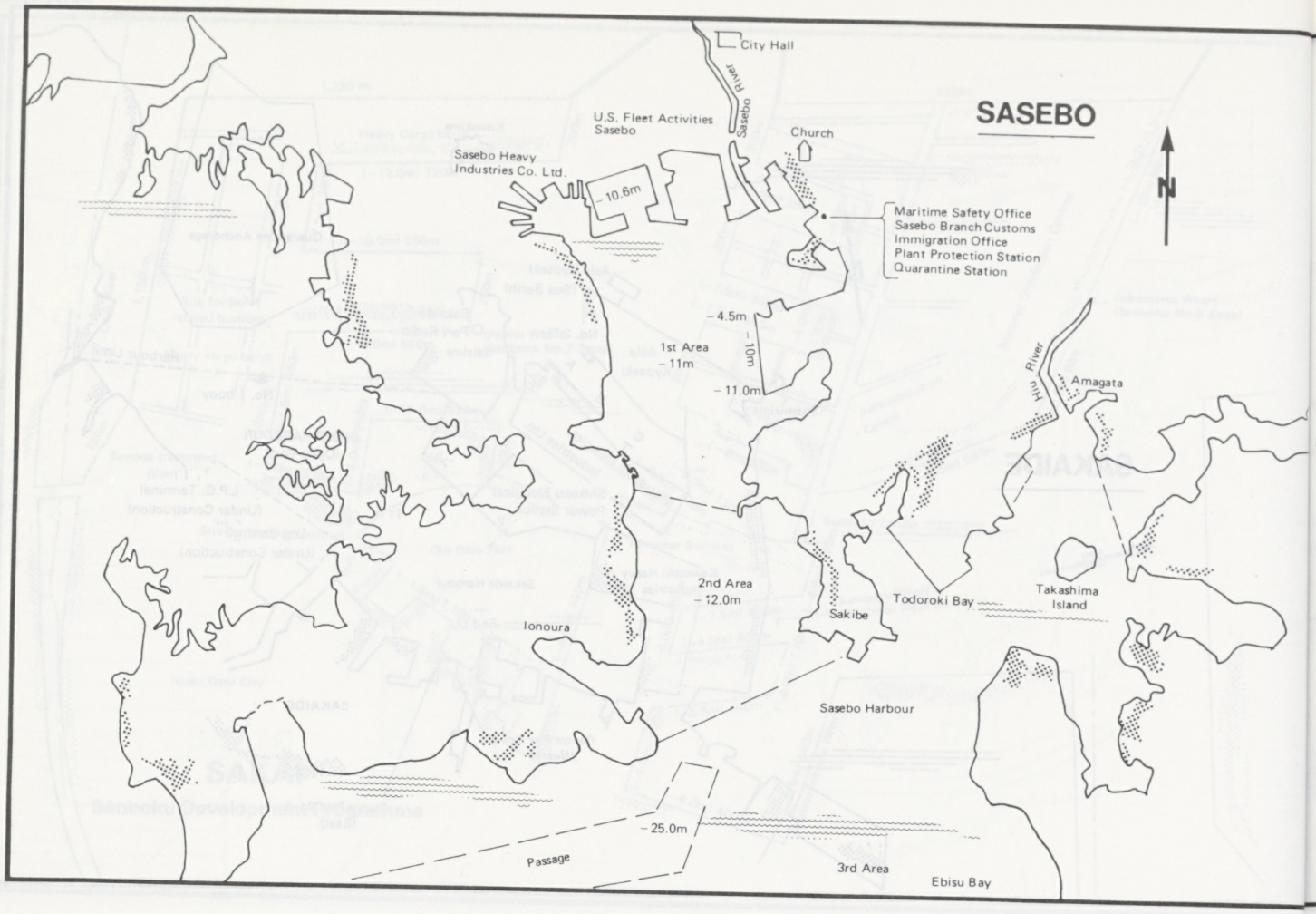

SAKAI
Sakai & Senboku
HAMADERA FAIRWAY
OTSU FAIRWAY
SOUTH FAIRWAY
SAKAI NORTH FAIRWAY
Otsu South Fairway
1,300m
150m
300m
200m
200m
300m
390m
390m
500m
585m
585m
250m
250m
400m
230m
(Senboku No.7 Zone)
(Senboku — No.6 Zone)
Sukematsu Wharf
Ferry Berths
Bridge
Komatsu Wharf
Old Otsu Port
4.0m
7.5m
(Senboku No.5 Zone)
5.5m
4.0m
Senboku No.4 Zone
Matsunohama Wharf
Senboku No.3 Zone
Izumi Otsu City
Senboku
16m
Hamadera Anchorage
Senboku No.1 Zone
Hamadera Wharf
Fishing Port
Senboku No.2 Zone
Senboku
Waste Oil disposal Facilities
Sakai No.7-Zone
16m
West Anchorage
Sakai No.6 Zone
Sakai No.5 Zone
Port Office
Ohama Wharf
13m
South Anchorage
Sakai No.4 Zone
Sakai No.3 Zone
13m
North Anchorage
Sakai No.2 Zone
New Sakai Port
Shiohama Wharf
Port Office
Old Sakai Port
SAKAI CITY
DEPTHS IN METRES
TKAISHI CITY

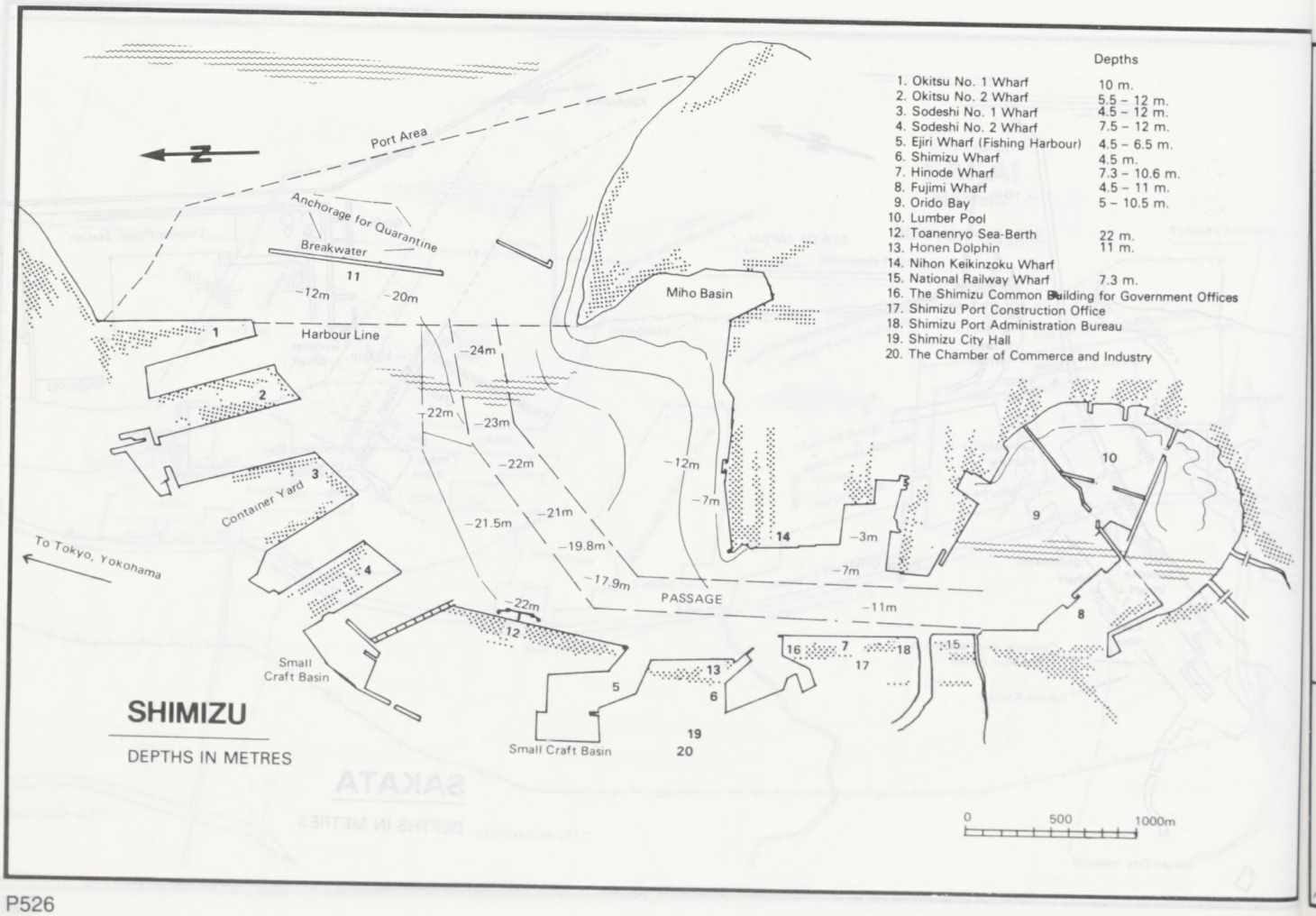

1,230 m.
Heavy Cargo berth
(−12.0m) 720m
200m
(−7.5m) 300m
(−10.0m) 555m
250m
Otsu River
1,150 m.
Site for port related business
Heavy cargo berth
(−10.0m) 555m
Shiomi Wharf (Senboku No.7 Zone)
(−4.5m) 480m
180m
(−10.0m) 370m
(−4.0m) 250m
230m
Sewage treatment plant
(−4.0m) 320m
Site for welfare facilities
Old Otsu Port
(−1.6m) 1,168 m.
Izumi Otsu City
(−4.0m) 740m
1300m
200m
(−7.5m) 390m
(−4.0m) 170m
200m
(−7.5m) 390m
(−7.5m) 390m
(−4.0m) 170m
300m
Material Distribution Centres
(−12m) 960m
Sukematsu Wharf (Senboku No.6 Zone)
(−5.5m) 900m
Administration Centre
(−8m) 205m
(−5.5m) 540m
(−7.5m) 145m
(−6.0m) 130m
(−6.0m) 130m
Senboku Bridge
Terminal Building
(−4.0m) 170m
Komatsu Wharf (Senboku No.5 Zone)
(−4.0m) 150m
(−7.5m) 390m
(−4.0m) 400m
(−4.0m) 170m
(−5.5m) 360m
(−4.0m) 420m
(−5.5m) 540m
Matsumohama Wharf
(−4.0m) 400m
SAKAI
Senboku Development Programme

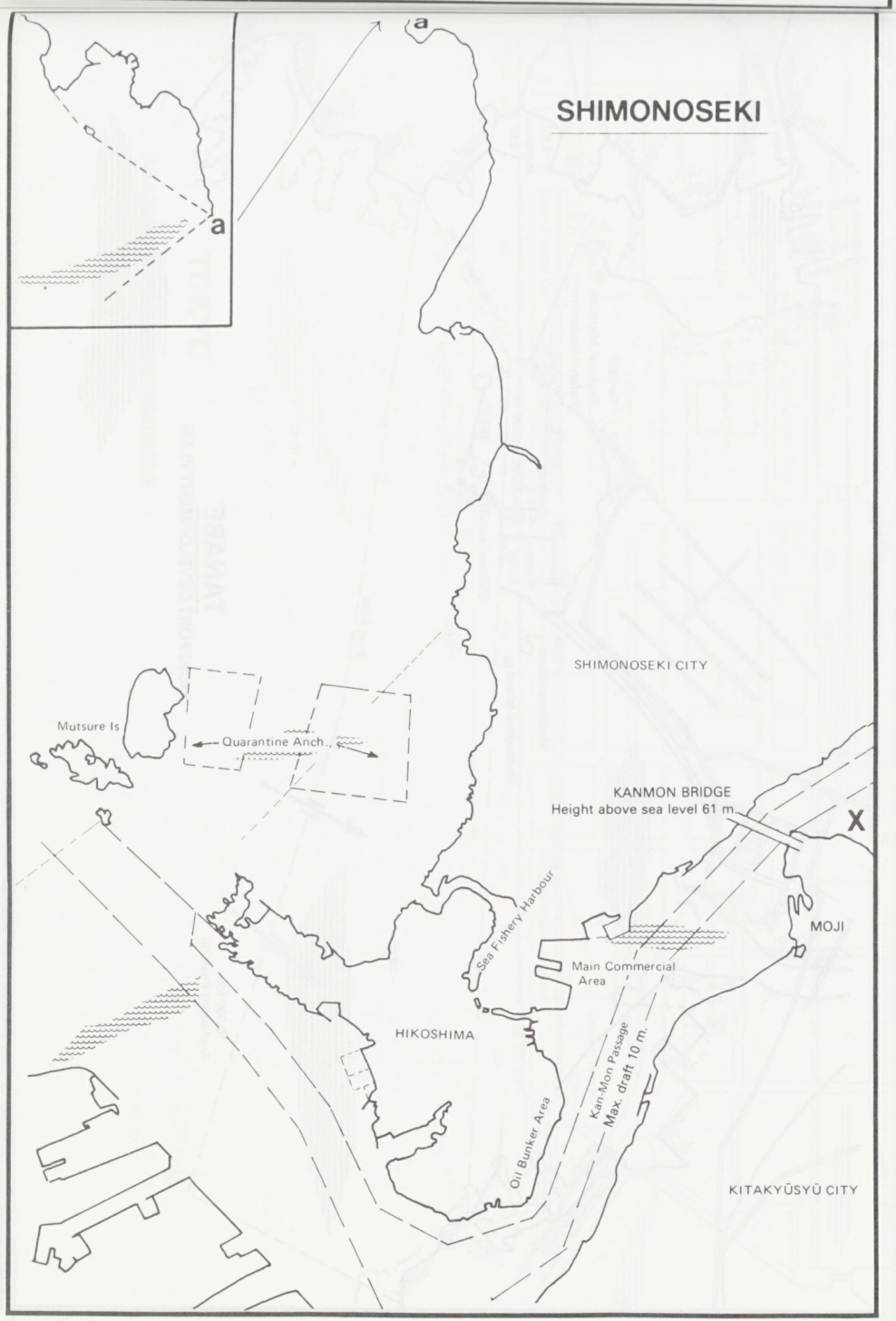

SAKAI
Hannan
DEPTHS IN METRES
Tadaoka Anchorage
Kishiwada Fairway
700m
−7.5m
1,080m
Kaizuka Fairway
1040m
−7.5m
No.2 ZONE
Lumber Port Anchorage
−10m
Site for Urban development
Lumber Complex
Otsu River
370m
No.3 Zone
400m
−6.5m
4.5m
−4.5m
Mooring Buoys
−2m
−2m
Timber Sorting Yard
Timber Pond
4m
−4.0m
Anchorage −4m
No.1 ZONE −4m
Kishiwada Industrial Zone
Anchorage
−10m
Fishing Port
Seamen's Rest Centre
Osaka Littoral Line
Port Offices
KAIZUKA CITY
KISHIWADA CITY

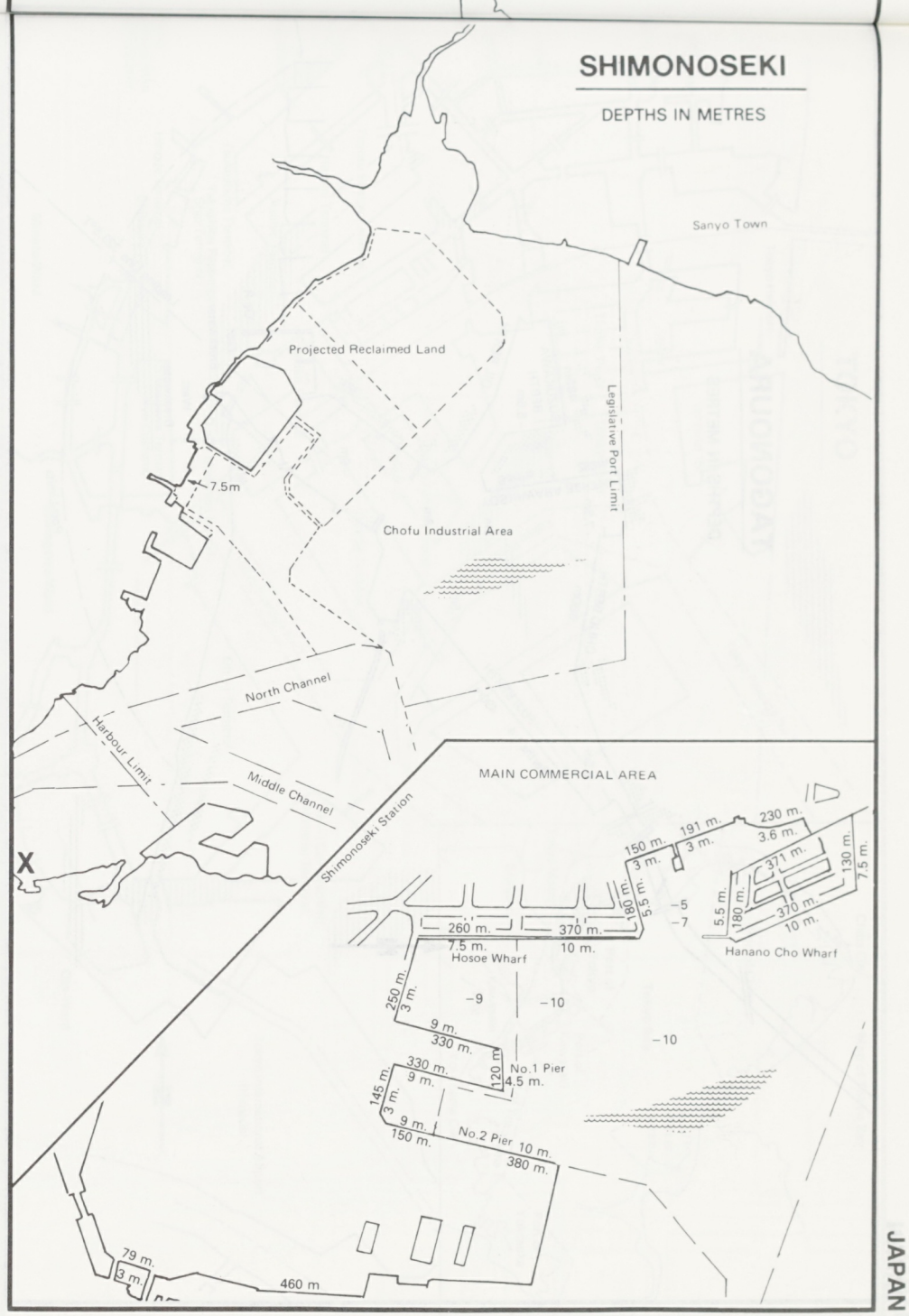

SAKAIDE
Koseizima
Quarantine Anchorage
Asia Kyoseki
(Sea Berth)
No. 2 Pier
Asia
Kyoseki
Sakaide
Port Radio
Seizima
Harbour Limit
No. 1 buoy
Shamizima
A
B
C
Mitsubishi Chemical
Industries Ltd.
Shikoku Electrical
Power Station
INNER HARBOUR
(Open Port)
11 m.
L.P.G. Terminal
(Under Construction)
Log Berth
(Under Construction)
Kawasaki Heavy
Industries
Sakaide Harbour
Red Lt.
SAKAIDE
Centre Pier No. 2
(West)
Centre Pier No. 1
(East)

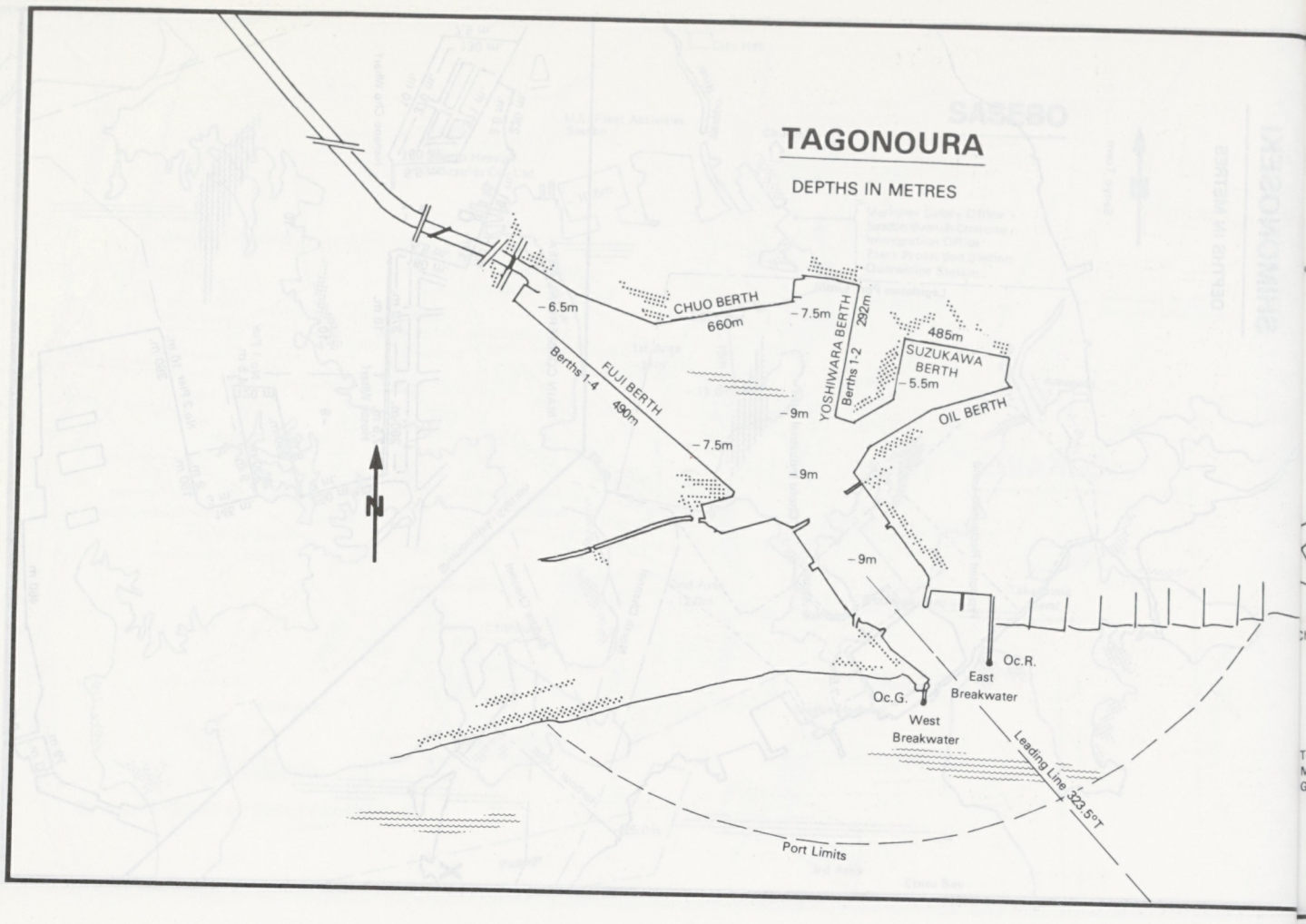

SAKATA
DEPTHS IN METRES
Kitako-Ku
Honko-Ku
– 10 m.
Oil Pier
SEA OF JAPAN
Oil Tank
Ohama
Wharf
Buoy
West
Wharf
Miyanoura
River Mogami
Cement
Factory
Sodeoka
Wharf
– 7.5 m.
Shinmachi
Wharf
Police Office
East
Wharf
Customs, Immigration &
Harbour Master
Sakata Kaitiku
Sakata City Hospital
Oil Pier
Thermal Power Station
(No. 1)
(Under Construction)
(No. 2)
(No. 3)
Kominato-Wharf
– 13.0 m.
– 10 m.
Sumikei
Wharf
Timber
Basin
Kominato Pier
Kyohatsu
Wharf

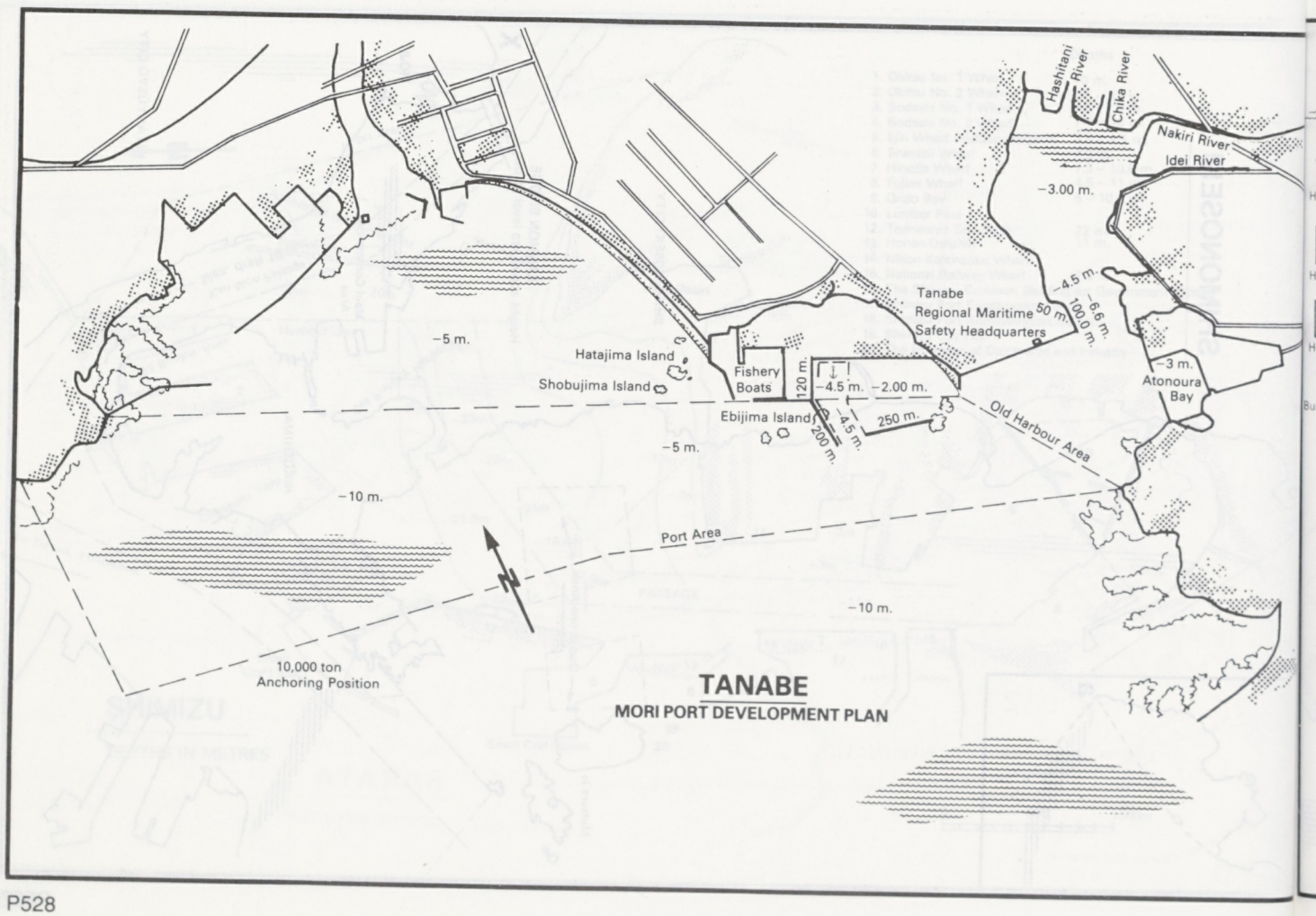

SASEBO
City Hall
Sasebo River
U.S. Fleet Activities Sasebo
Church
Sasebo Heavy Industries Co. Ltd.
-10.6m
Maritime Safety Office
Sasebo Branch Customs
Immigration Office
Plant Protection Station
Quarantine Station
N
-4.5m
-10m
1st Area
-11m
-11.0m
Hii River
Amagata
2nd Area
-12.0m
Ionoura
Sakibe
Todoroki Bay
Takashima Island
Sasebo Harbour
-25.0m
Passage
3rd Area
Ebisu Bay

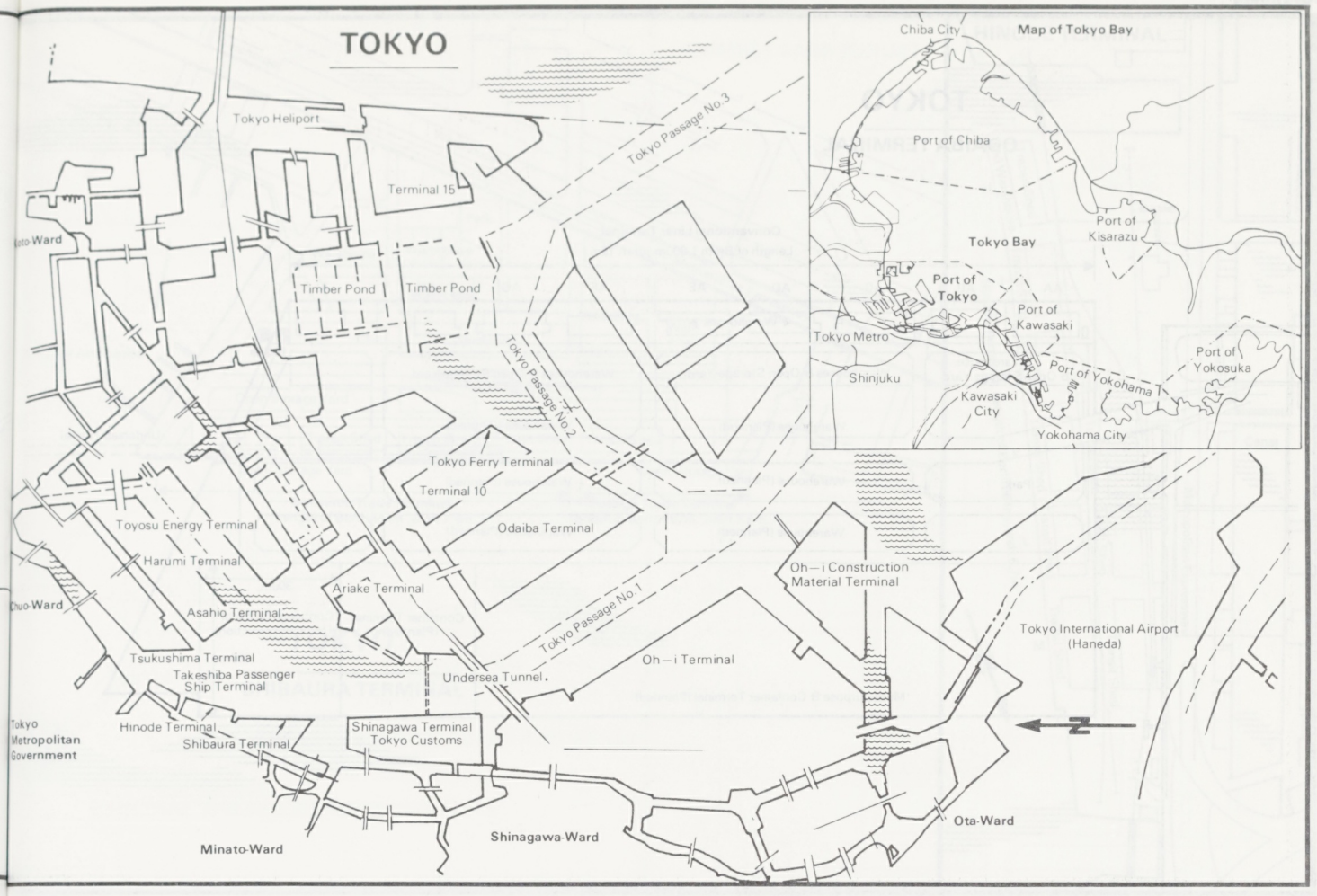

SHIMIZU
DEPTHS IN METRES
N
Port Area
Anchorage for Quarantine
Breakwater
11
-12m
-20m
Harbour Line
1
2
3
Container Yard
4
To Tokyo, Yokohama
-24m
-22m
-23m
-22m
-21.5m
-21m
-19.8m
-17.9m
-22m
12
Small Craft Basin
Miho Basin
-12m
-7m
14
-3m
-7m
PASSAGE
-11m
10
9
8
16
7
18
17
15
13
5
6
19
20
Small Craft Basin
0
500
1000m
Depths
1. Okitsu No. 1 Wharf 10 m.
2. Okitsu No. 2 Wharf 5.5 – 12 m.
3. Sodeshi No. 1 Wharf 4.5 – 12 m.
4. Sodeshi No. 2 Wharf 7.5 – 12 m.
5. Ejiri Wharf (Fishing Harbour) 4.5 – 6.5 m.
6. Shimizu Wharf 4.5 m.
7. Hinode Wharf 7.3 – 10.6 m.
8. Fujimi Wharf 4.5 – 11 m.
9. Orido Bay 5 – 10.5 m.
10. Lumber Pool
12. Toanenryo Sea-Berth 22 m.
13. Honen Dolphin 11 m.
14. Nihon Keikinzoku Wharf
15. National Railway Wharf 7.3 m.
16. The Shimizu Common Building for Government Offices
17. Shimizu Port Construction Office
18. Shimizu Port Administration Bureau
19. Shimizu City Hall
20. The Chamber of Commerce and Industry

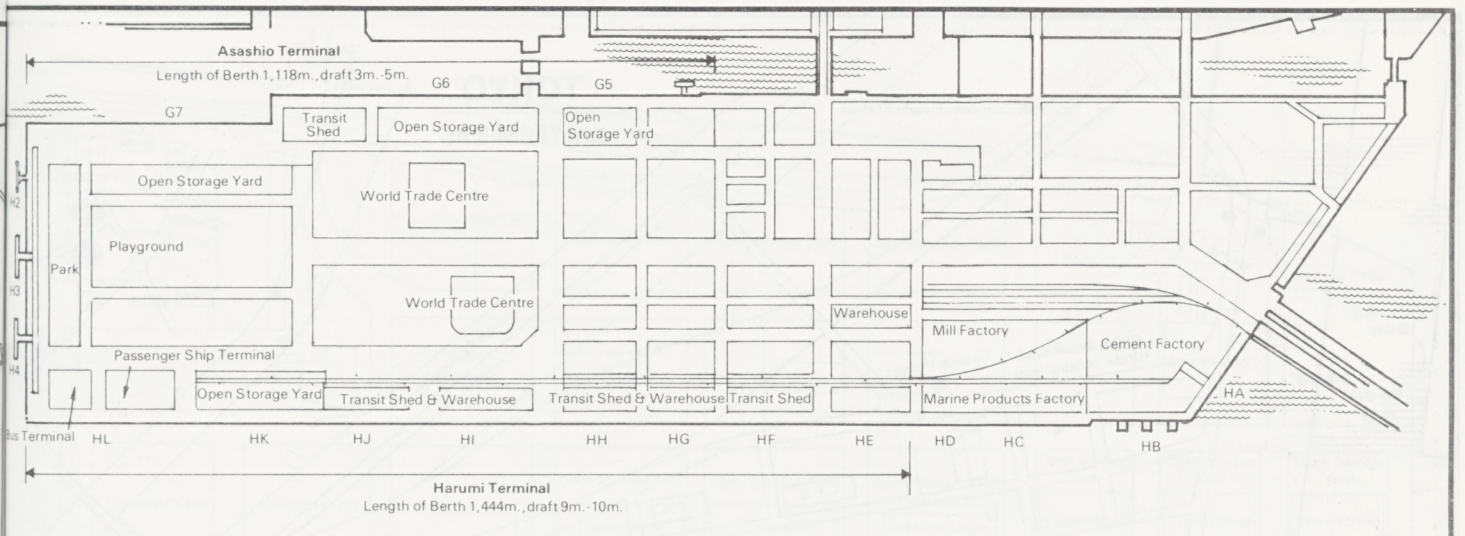

SHIMONOSEKI
a
a
SHIMONOSEKI CITY
Mutsure Is
Quarantine Anch.
KANMON BRIDGE
Height above sea level 61 m.
X
MOJI
Sea Fishery Harbour
Main Commercial Area
HIKOSHIMA
Kan-Mon Passage
Max. draft 10 m.
Oil Bunker Area
KITAKYŪSYŪ CITY


SHIMONOSEKI
DEPTHS IN METRES
Sanyo Town
Projected Reclaimed Land
Legislative Port Limit
7.5m
Chofu Industrial Area
North Channel
Harbour Limit
Middle Channel
X
MAIN COMMERCIAL AREA
Shimonoseki Station
150 m.
3 m.
191 m.
3 m.
230 m.
3.6 m.
180 m.
5.5 m.
-5
-7
260 m.
7.5 m.
370 m.
10 m.
Hosoe Wharf
371 m.
130 m.
7.5 m.
180 m.
5.5 m.
370 m.
10 m.
Hanano Cho Wharf
250 m.
3 m.
-9
-10
9 m.
330 m.
330 m.
9 m.
120 m.
No.1 Pier
4.5 m.
145 m.
3 m.
9 m.
150 m.
No.2 Pier
10 m.
380 m.
-10
79 m.
3 m.
460 m


TAGONOURA
DEPTHS IN METRES
CHUO BERTH
660m
– 6.5m
– 7.5m
YOSHIWARA BERTH
Berths 1,2
292m
485m
SUZUKAWA BERTH
– 5.5m
FUJI BERTH
Berths 1-4
490m
– 9m
– 7.5m
OIL BERTH
– 9m
– 9m
N
Oc.R.
East Breakwater
Oc.G.
West Breakwater
Leading Line 323.5°T
Port Limits

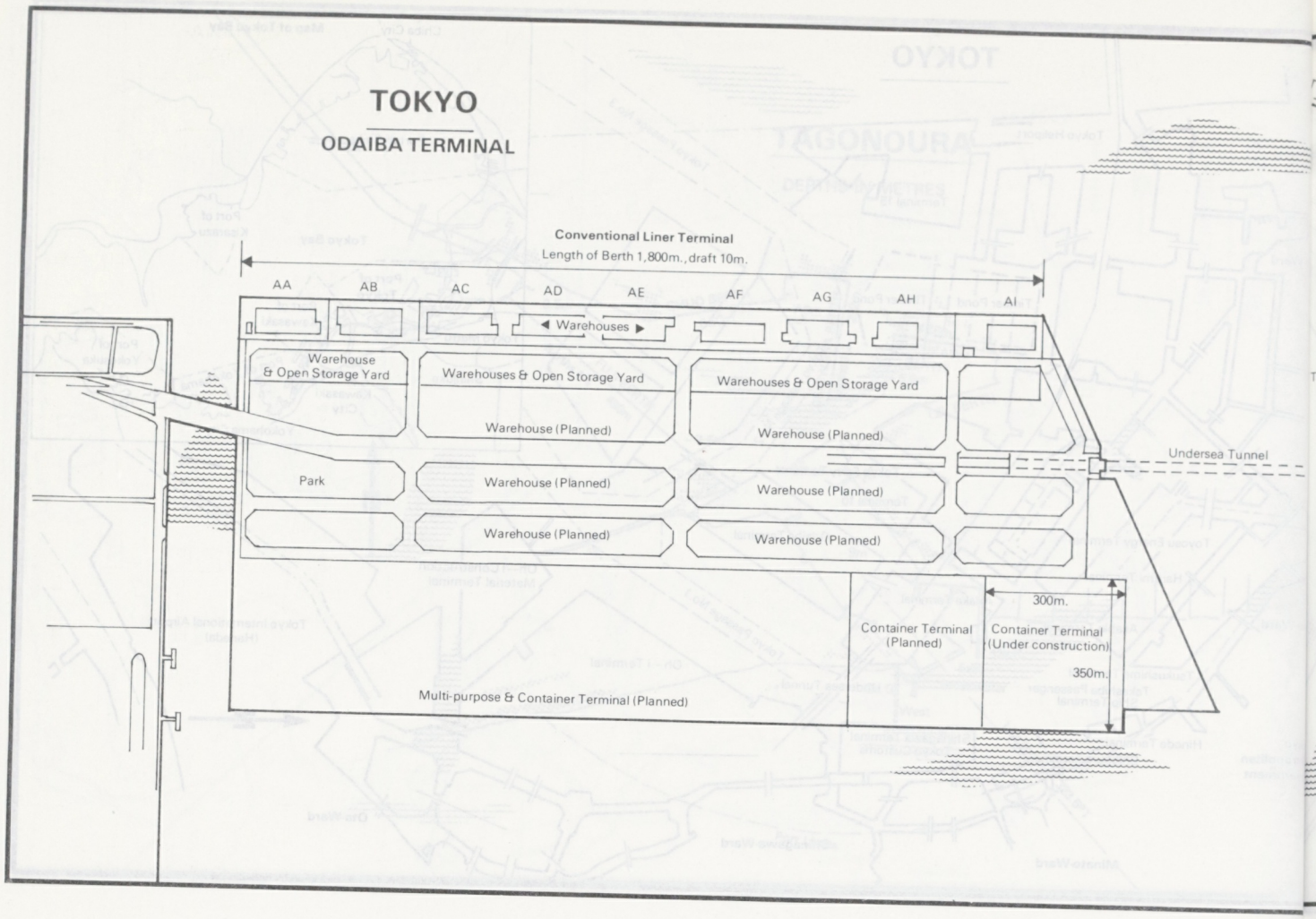

Hashitani River
Chika River
Nakiri River
Idei River
–3.00 m.
–4.5 m.
–6.6 m.
100.0 m.
50 m.
Tanabe Regional Maritime Safety Headquarters
–5 m.
Hatajima Island
Shobujima Island
Fishery Boats
120 m.
–4.5 m.
–2.00 m.
–3 m.
Atonoura Bay
Ebijima Island
200 m.
–4.5 m.
250 m.
Old Harbour Area
–5 m.
–10 m.
Port Area
N
–10 m.
10,000 ton Anchoring Position
TANABE
MORI PORT DEVELOPMENT PLAN

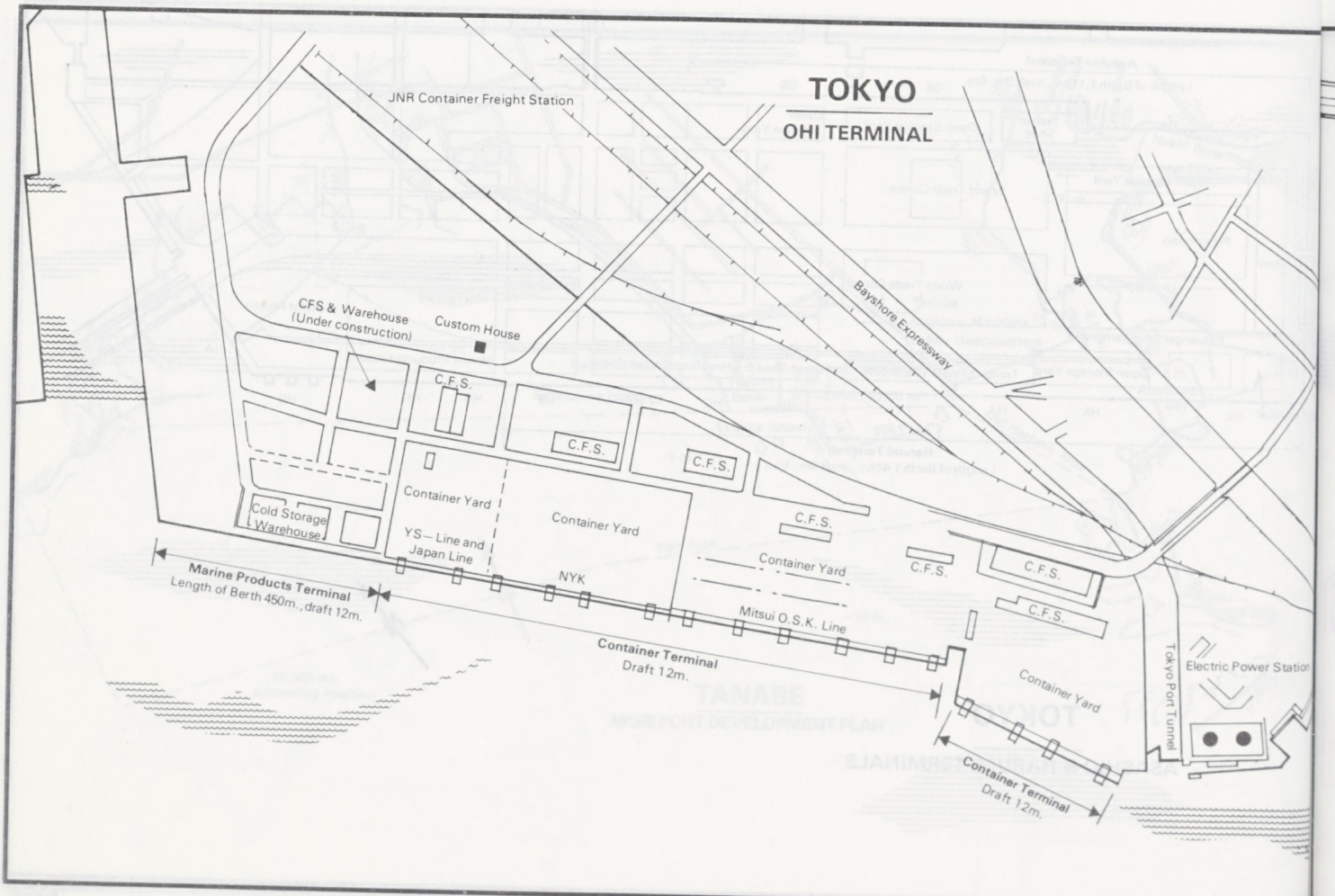


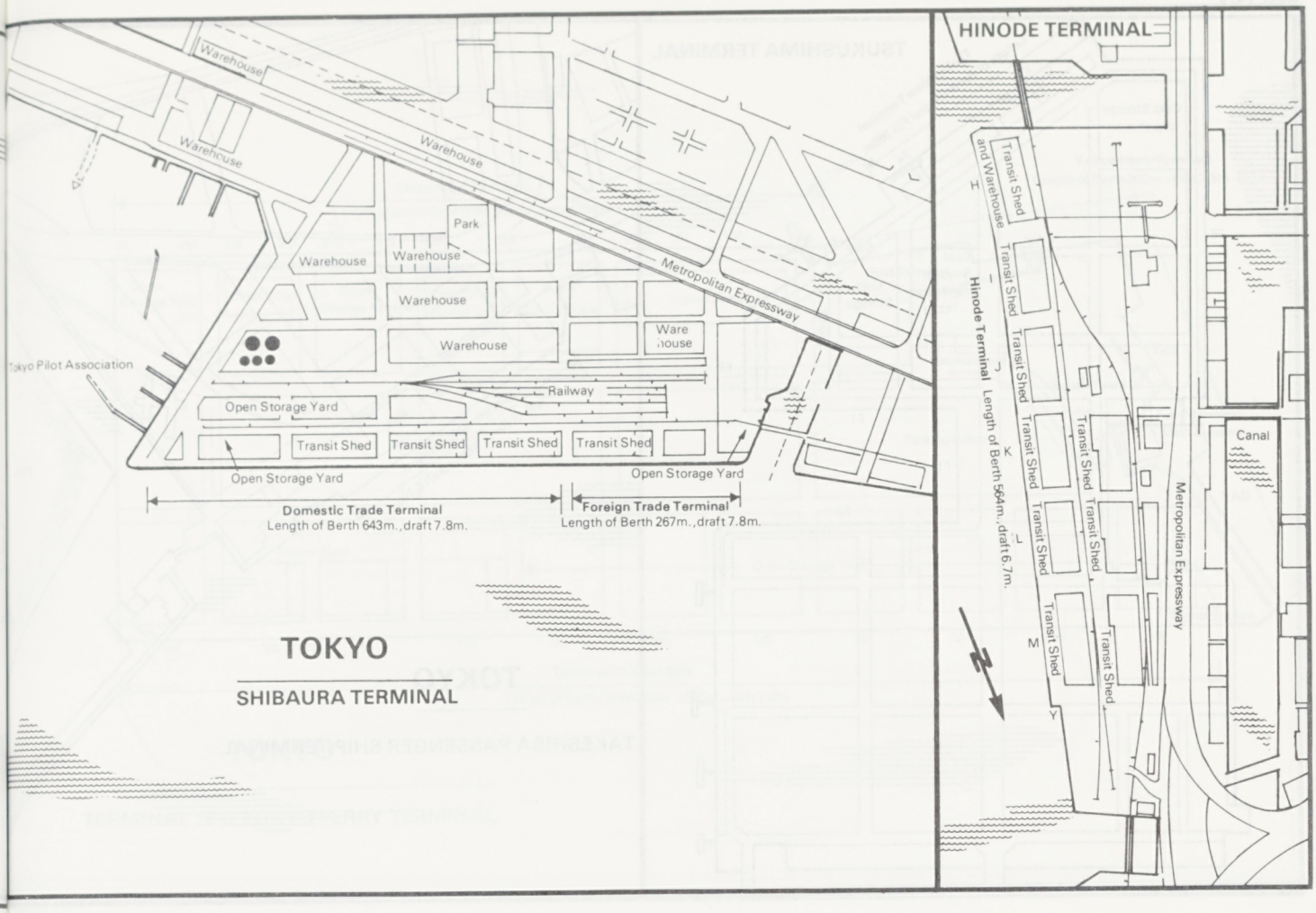


TOKYO

ASASHIO & HARUMI TERMINALS

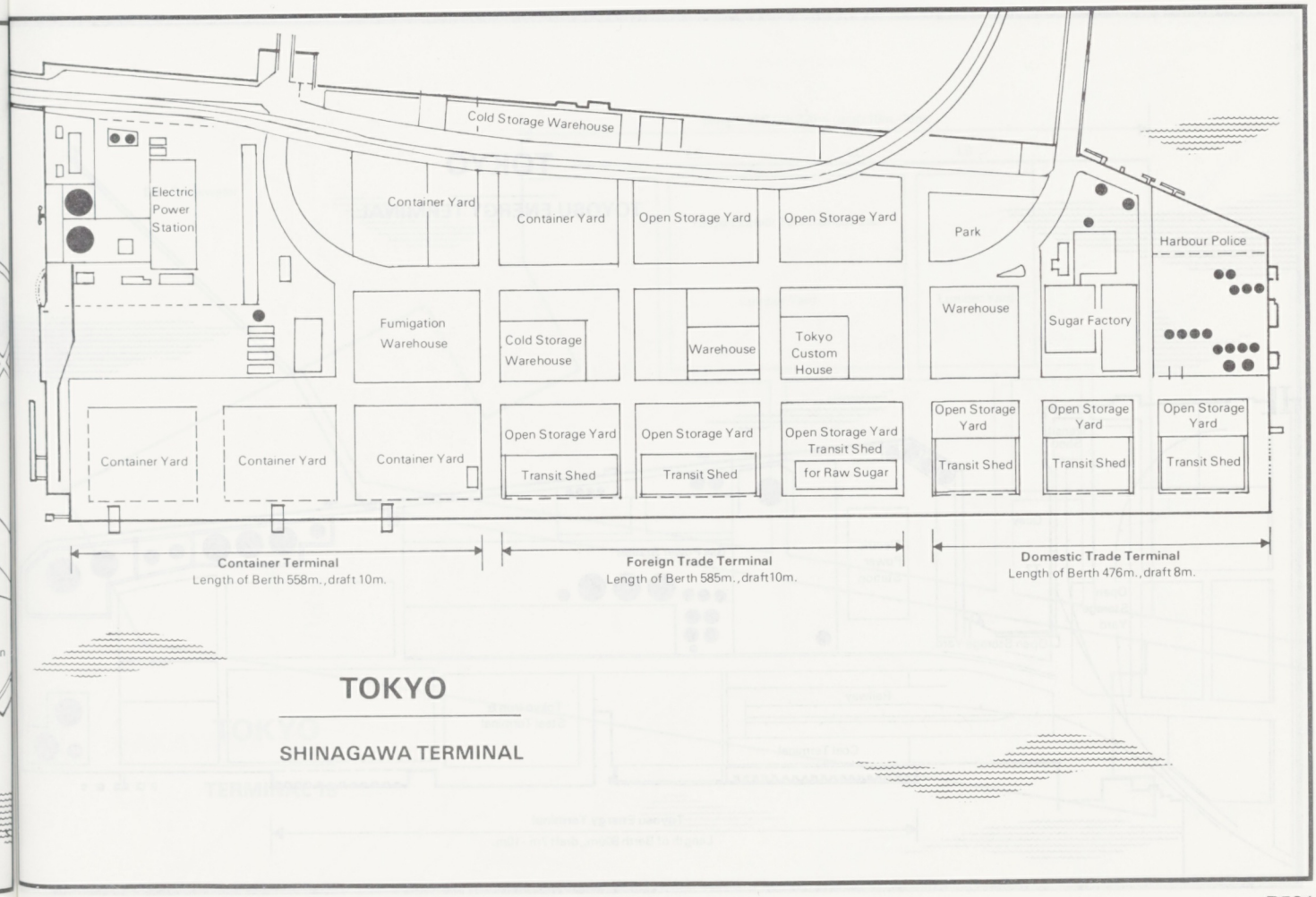

TOKYO
ODAIBA TERMINAL
Conventional Liner Terminal
Length of Berth 1,800m., draft 10m.
AA
AB
AC
AD
AE
AF
AG
AH
AI
◄ Warehouses ►
Warehouse & Open Storage Yard
Warehouses & Open Storage Yard
Warehouses & Open Storage Yard
Warehouse (Planned)
Warehouse (Planned)
Park
Warehouse (Planned)
Warehouse (Planned)
Warehouse (Planned)
Warehouse (Planned)
Undersea Tunnel
300m.
Container Terminal (Planned)
Container Terminal (Under construction)
350m.
Multi-purpose & Container Terminal (Planned)


TOKYO
OHI TERMINAL
JNR Container Freight Station
CFS & Warehouse (Under construction)
Custom House
Bayshore Expressway
C.F.S.
C.F.S.
C.F.S.
C.F.S.
C.F.S.
C.F.S.
C.F.S.
C.F.S.
Container Yard
Container Yard
Container Yard
Container Yard
Cold Storage Warehouse
YS—Line and Japan Line
NYK
Mitsui O.S.K. Line
Marine Products Terminal
Length of Berth 450m., draft 12m.
Container Terminal
Draft 12m.
Container Terminal
Draft 12m.
Tokyo Port Tunnel
Electric Power Station



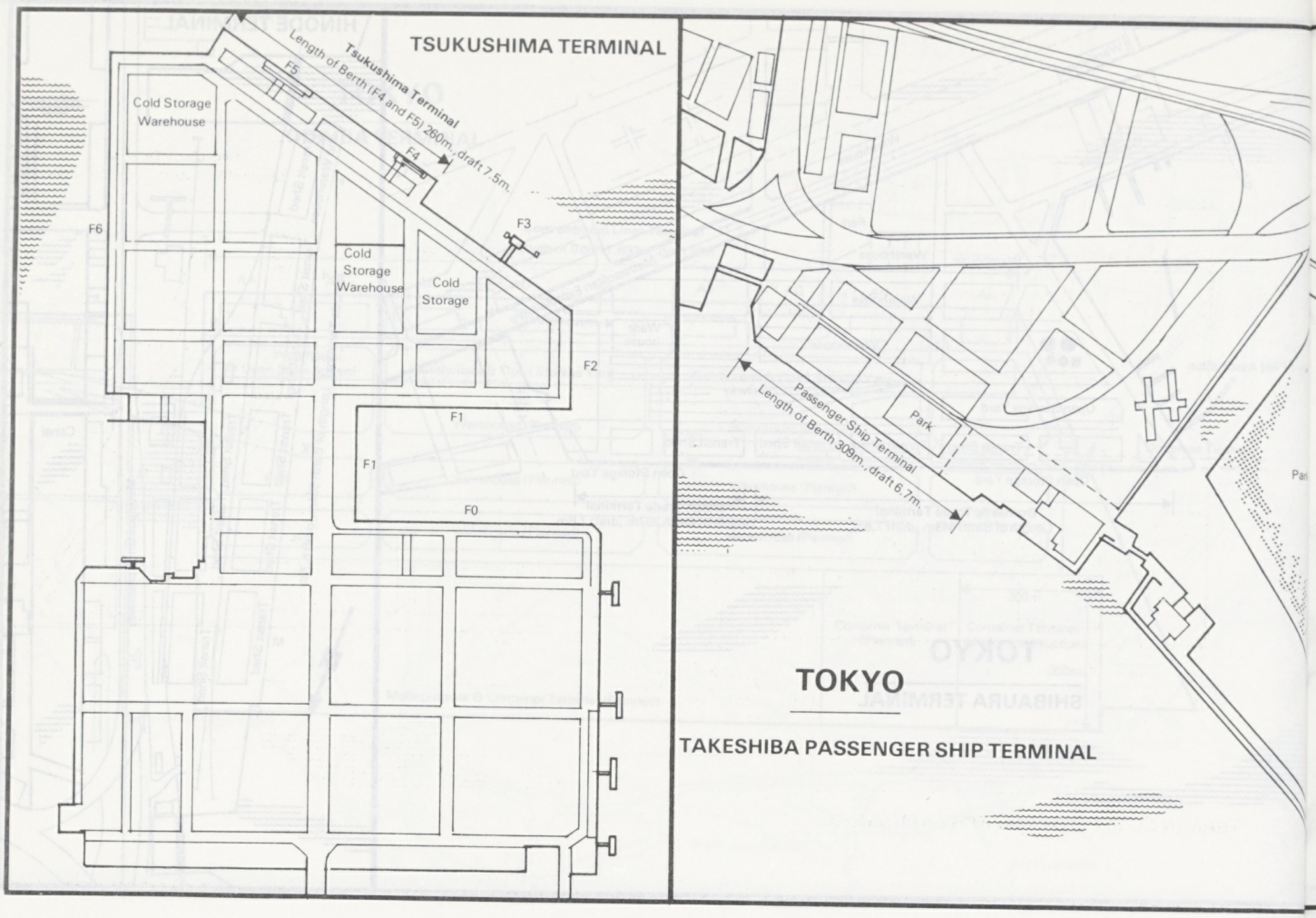
TOKYO

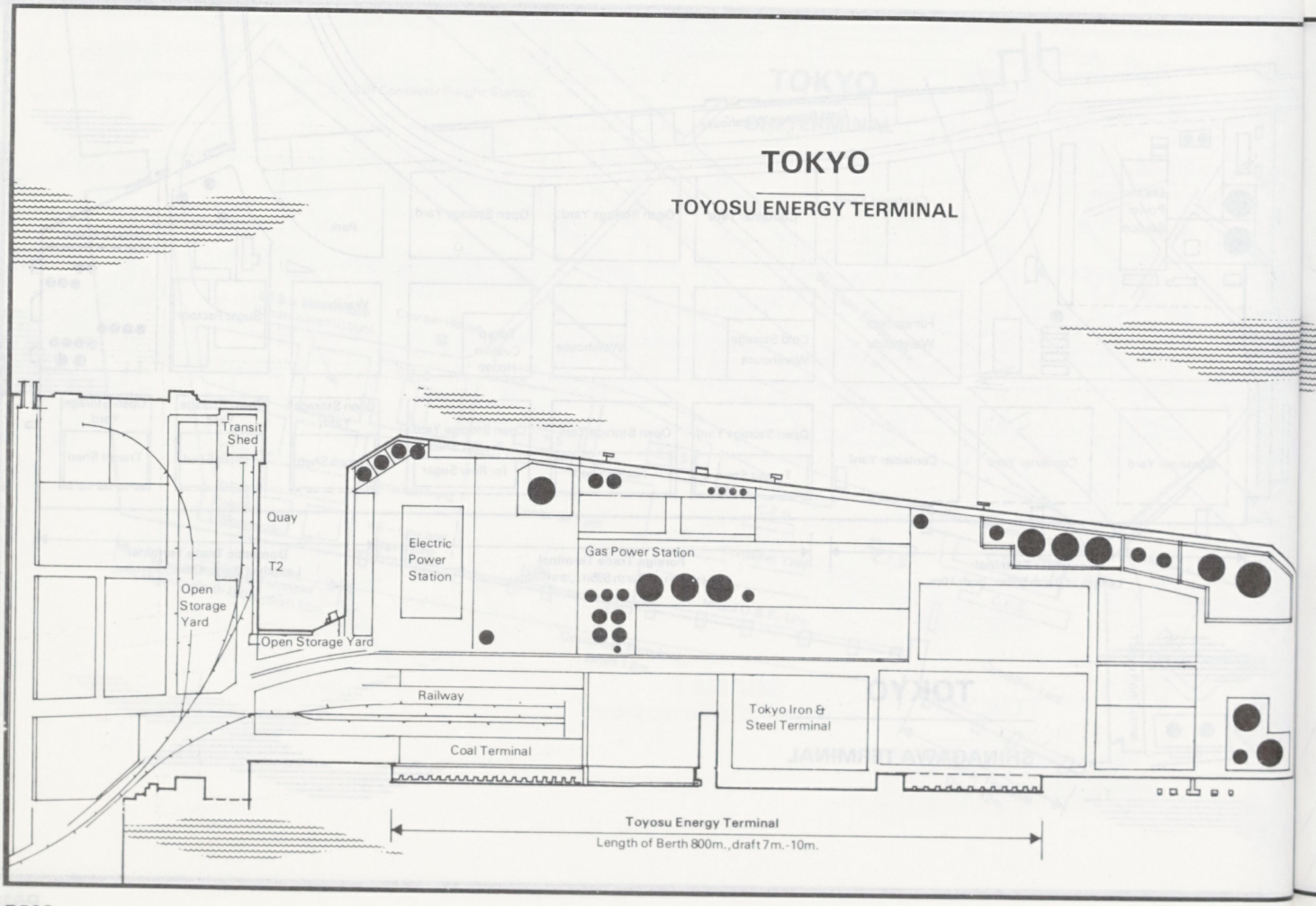
SHIBAURA TERMINAL

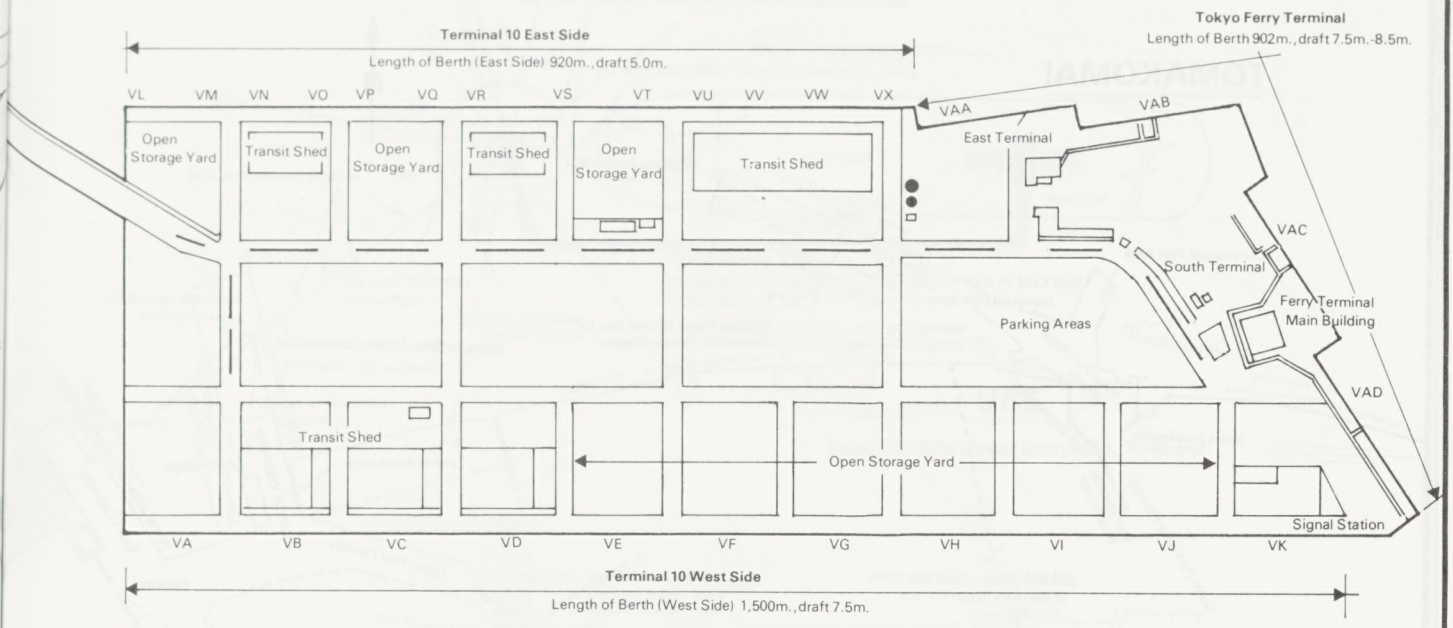


TOKYO

SHINAGAWA TERMINAL

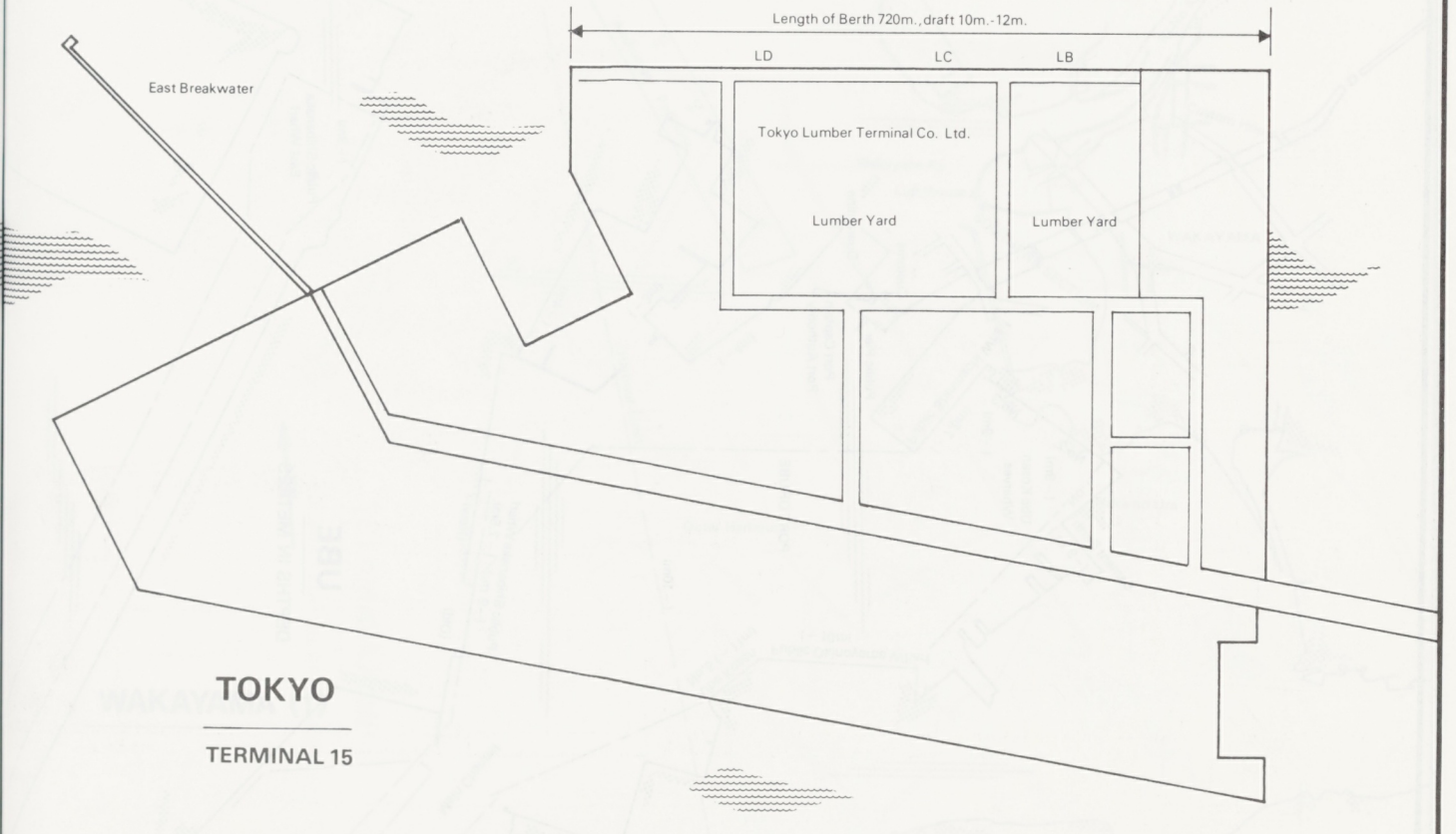

TSUKUSHIMA TERMINAL
Tsukushima Terminal
Length of Berth (F4 and F5) 260m., draft 7.5m.
F5
F4
F3
F2
F1
F1
F0
F6
Cold Storage Warehouse
Cold Storage Warehouse
Cold Storage
TOKYO
TAKESHIBA PASSENGER SHIP TERMINAL
Passenger Ship Terminal
Length of Berth 309m., draft 6.7m.
Park


TOKYO
TOYOSU ENERGY TERMINAL
Transit Shed
Quay
T2
Open Storage Yard
Open Storage Yard
Electric Power Station
Gas Power Station
Railway
Coal Terminal
Tokyo Iron & Steel Terminal
Toyosu Energy Terminal
Length of Berth 800m., draft 7m.-10m.



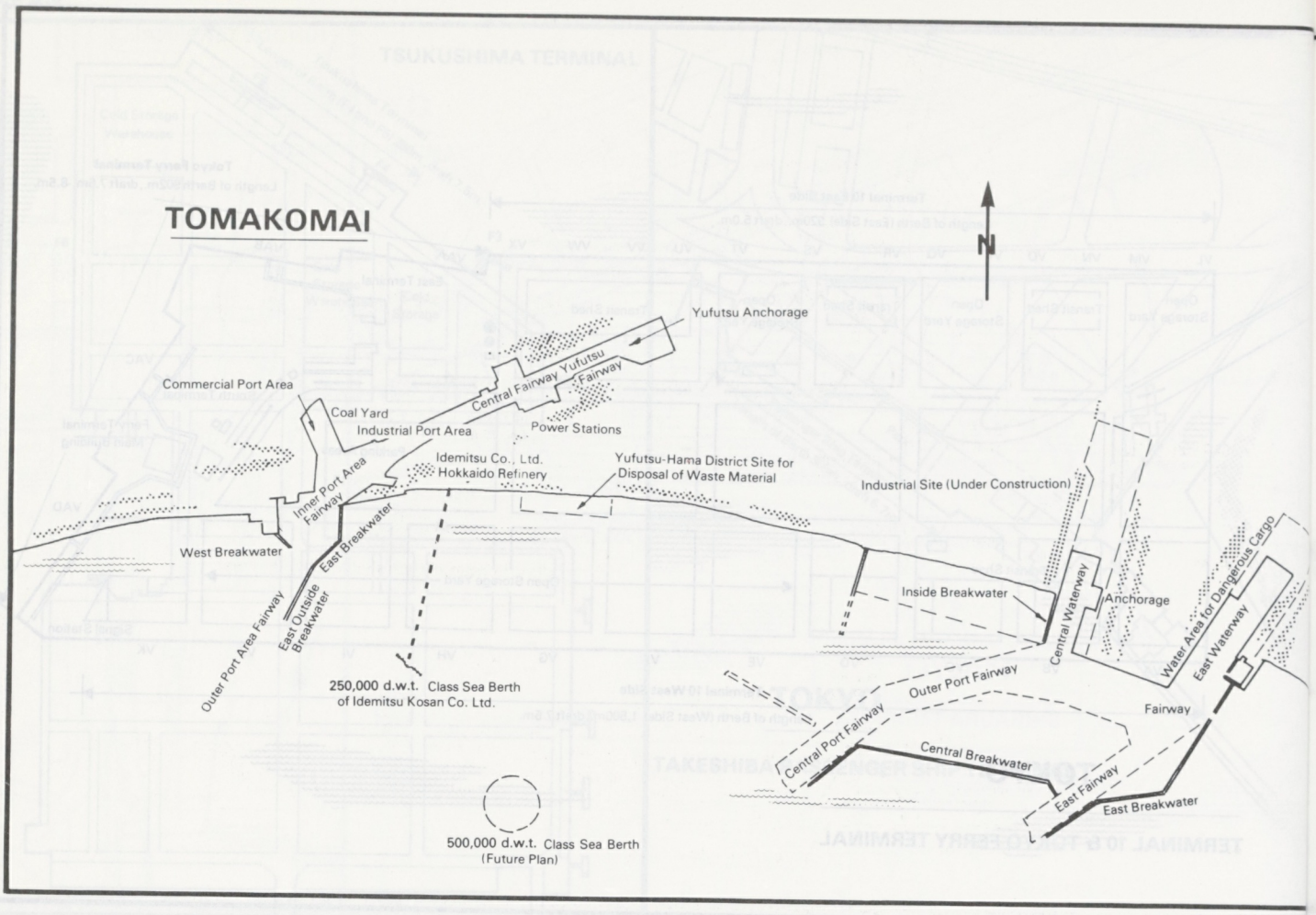
TOKYO

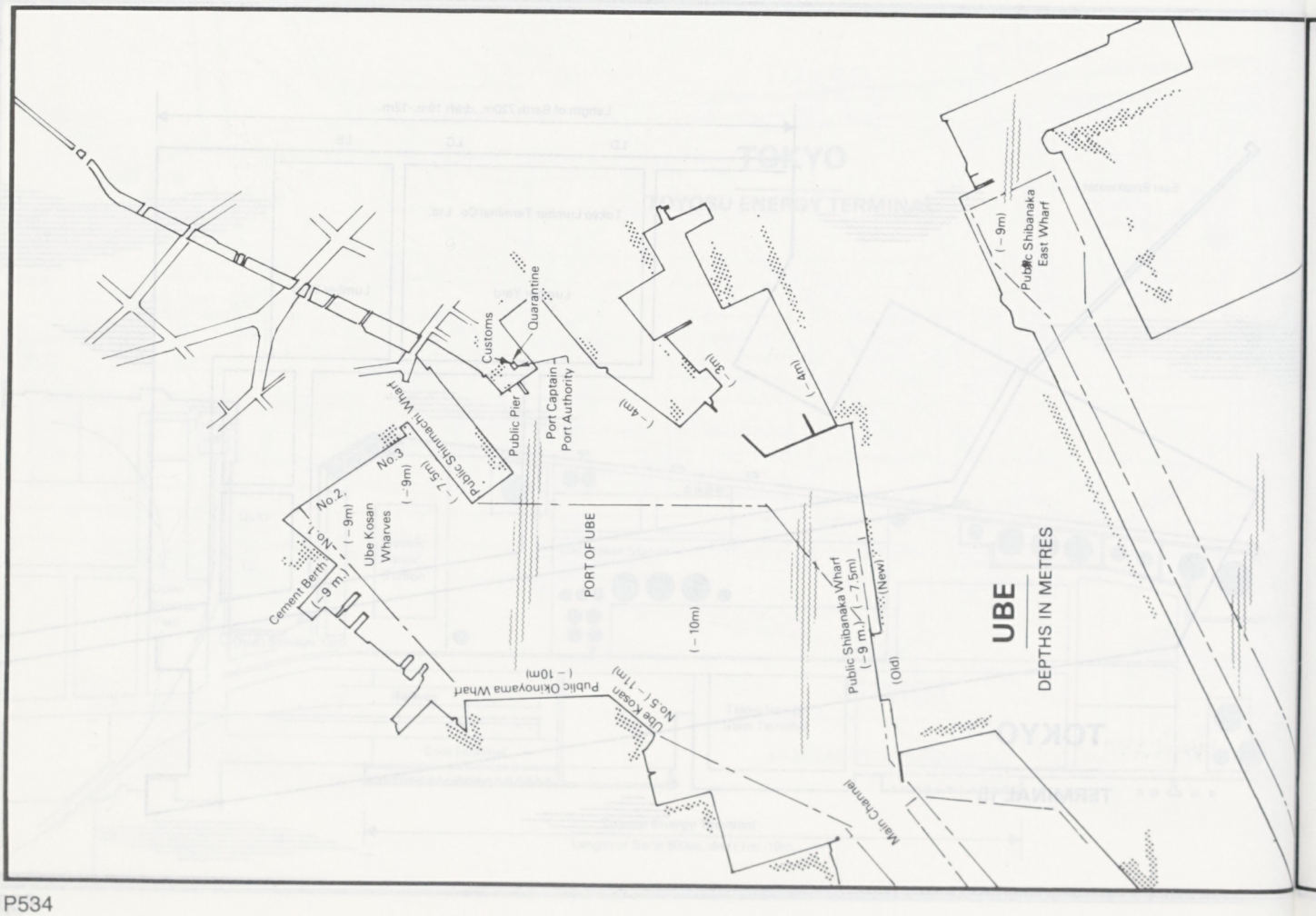
TERMINAL 10 & TOKYO FERRY TERMINAL

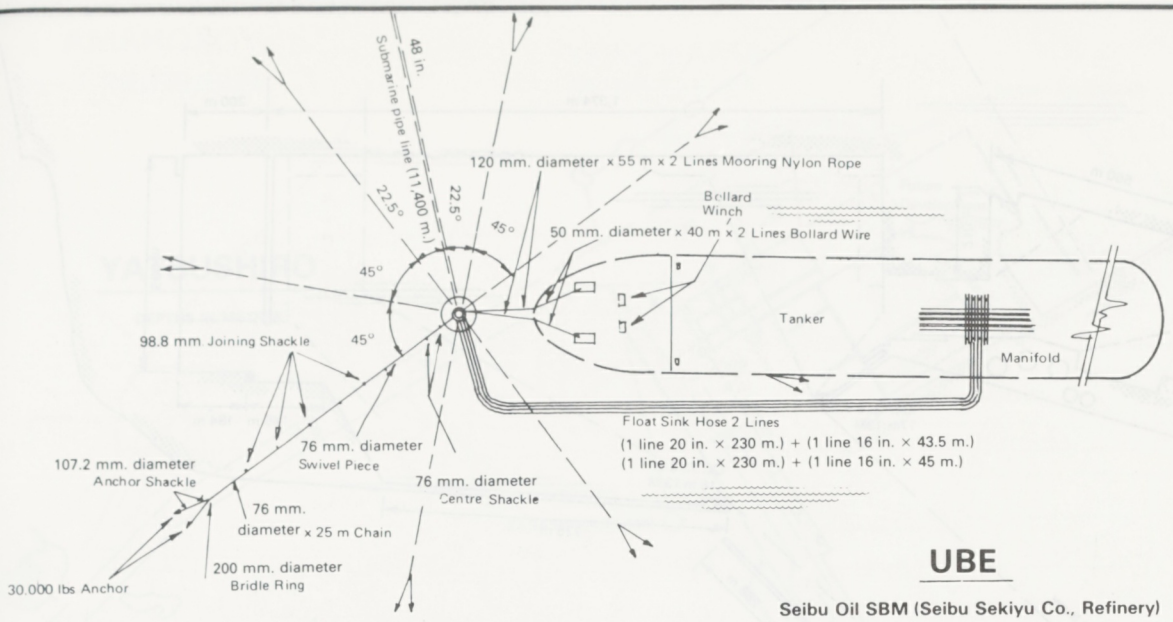


TOKYO

TERMINAL 15

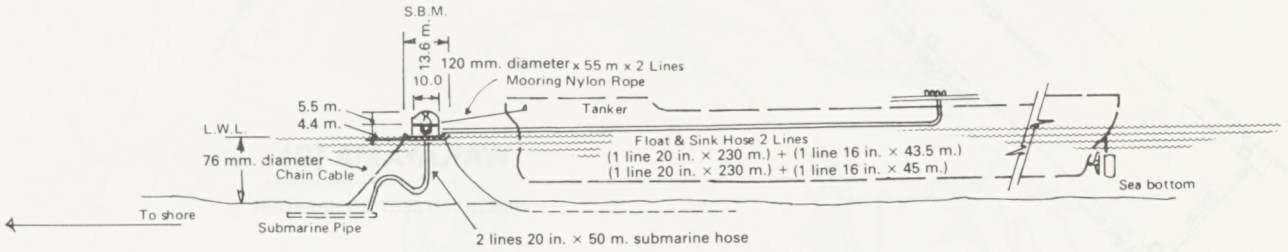

TOMAKOMAI
N
Yufutsu Anchorage
Central Fairway Yufutsu
Fairway
Commercial Port Area
Coal Yard
Industrial Port Area
Power Stations
Idemitsu Co., Ltd.
Hokkaido Refinery
Yufutsu-Hama District Site for
Disposal of Waste Material
Industrial Site (Under Construction)
Inner Port Area
Fairway
West Breakwater
East Breakwater
Outer Port Area Fairway
East Outside
Breakwater
250,000 d.w.t. Class Sea Berth
of Idemitsu Kosan Co. Ltd.
Inside Breakwater
Central Waterway
Anchorage
Water Area for Dangerous Cargo
East Waterway
Outer Port Fairway
Central Port Fairway
Fairway
Central Breakwater
East Fairway
East Breakwater
500,000 d.w.t. Class Sea Berth
(Future Plan)

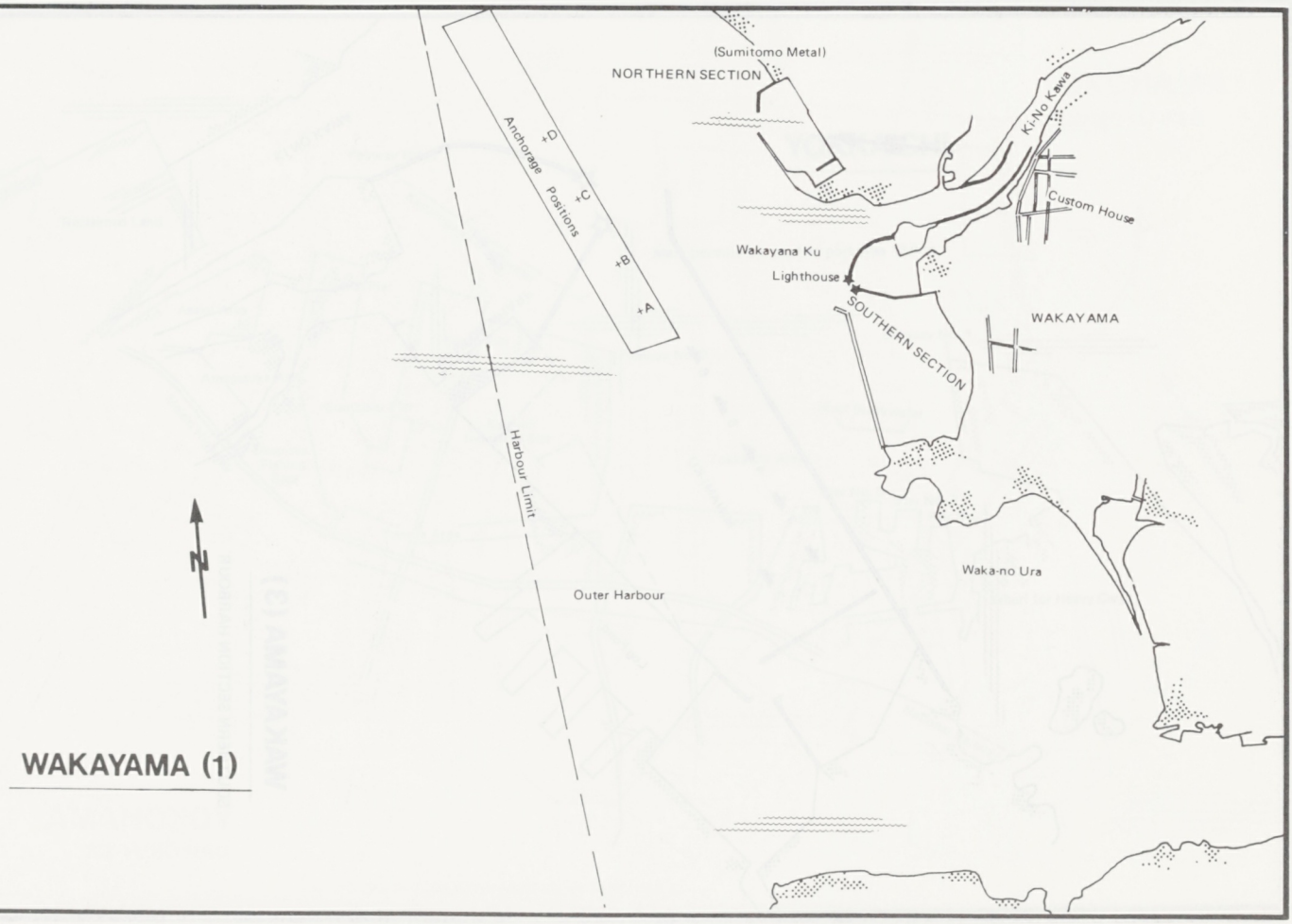

UBE
DEPTHS IN METRES
PORT OF UBE
Customs
Quarantine
Port Captain
Port Authority
Public Pier
Public Shinnanaoh Wharf
No.3
No.2
No.1
Ube Kosan Wharves
Cement Berth
Public Okinoyama Wharf
Ube Kosan No.5
Public Shibanaka Wharf
(New)
(Old)
Public Shibanaka East Wharf
Main Channel
(-4m)
(-3m)
(-7.5m)
(-9m)
(-10m)
(-11m)
(-7.5m)



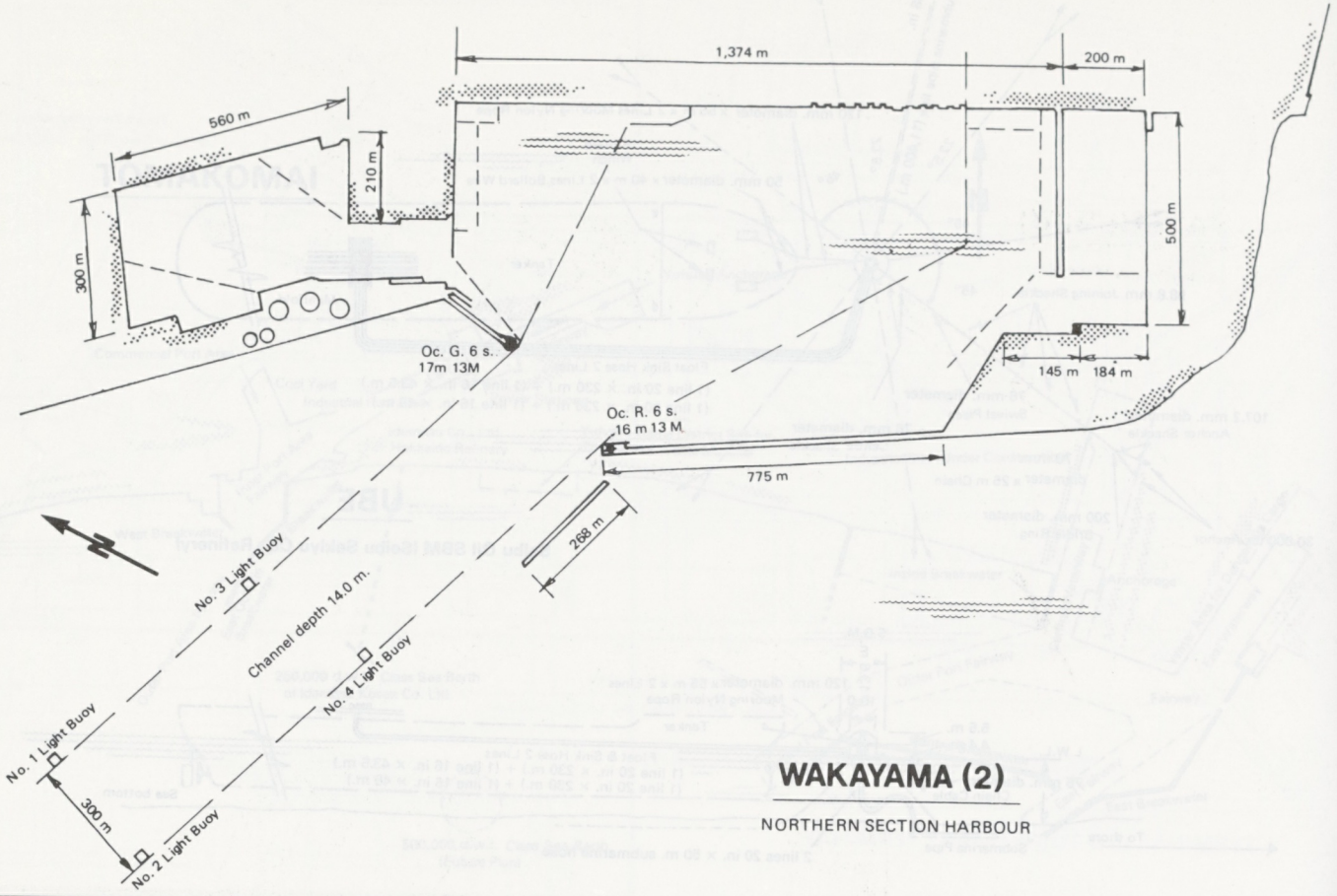
UBE

Seibu Oil SBM (Seibu Sekiyu Co., Refinery)



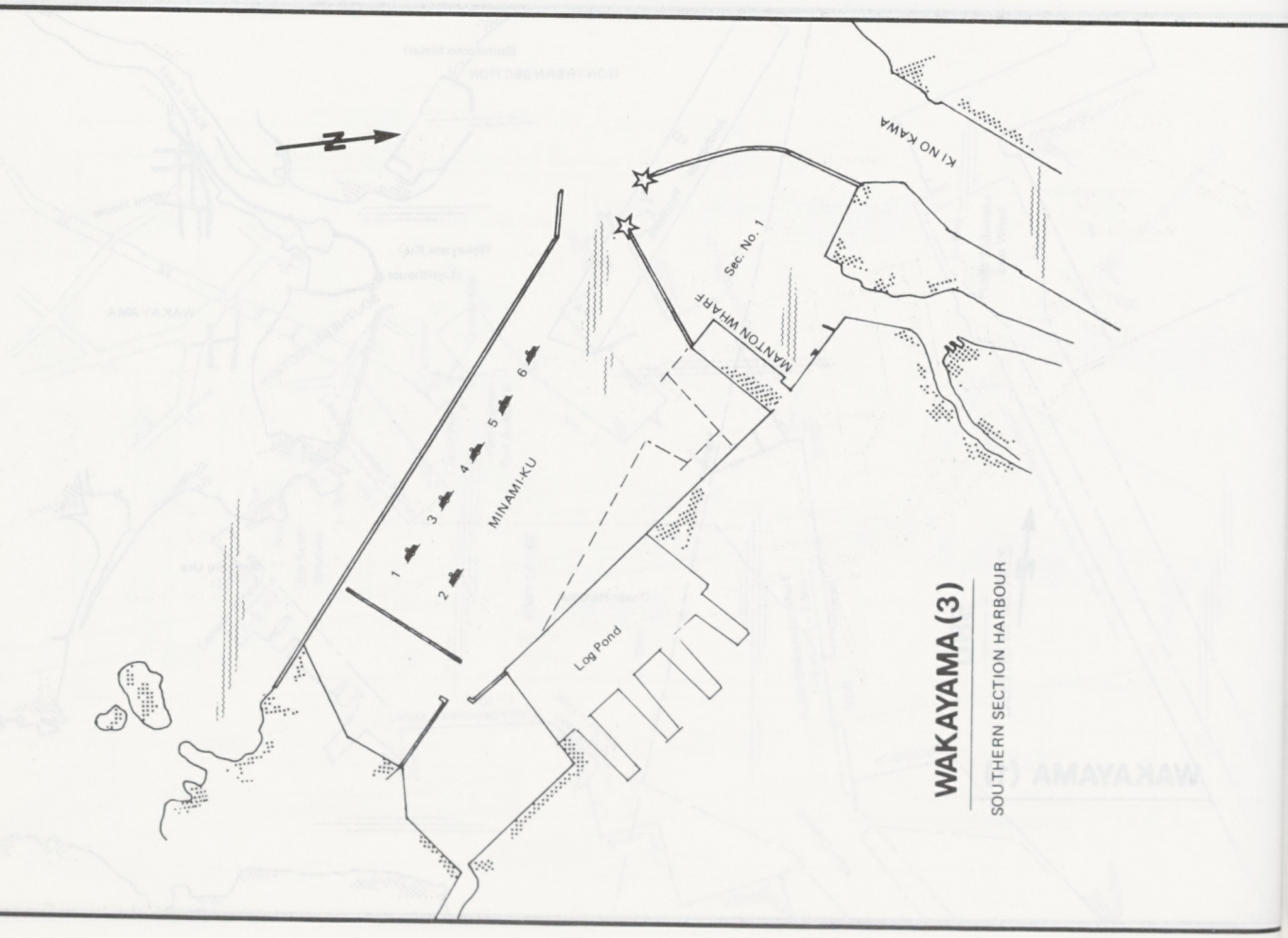


WAKAYAMA (1)



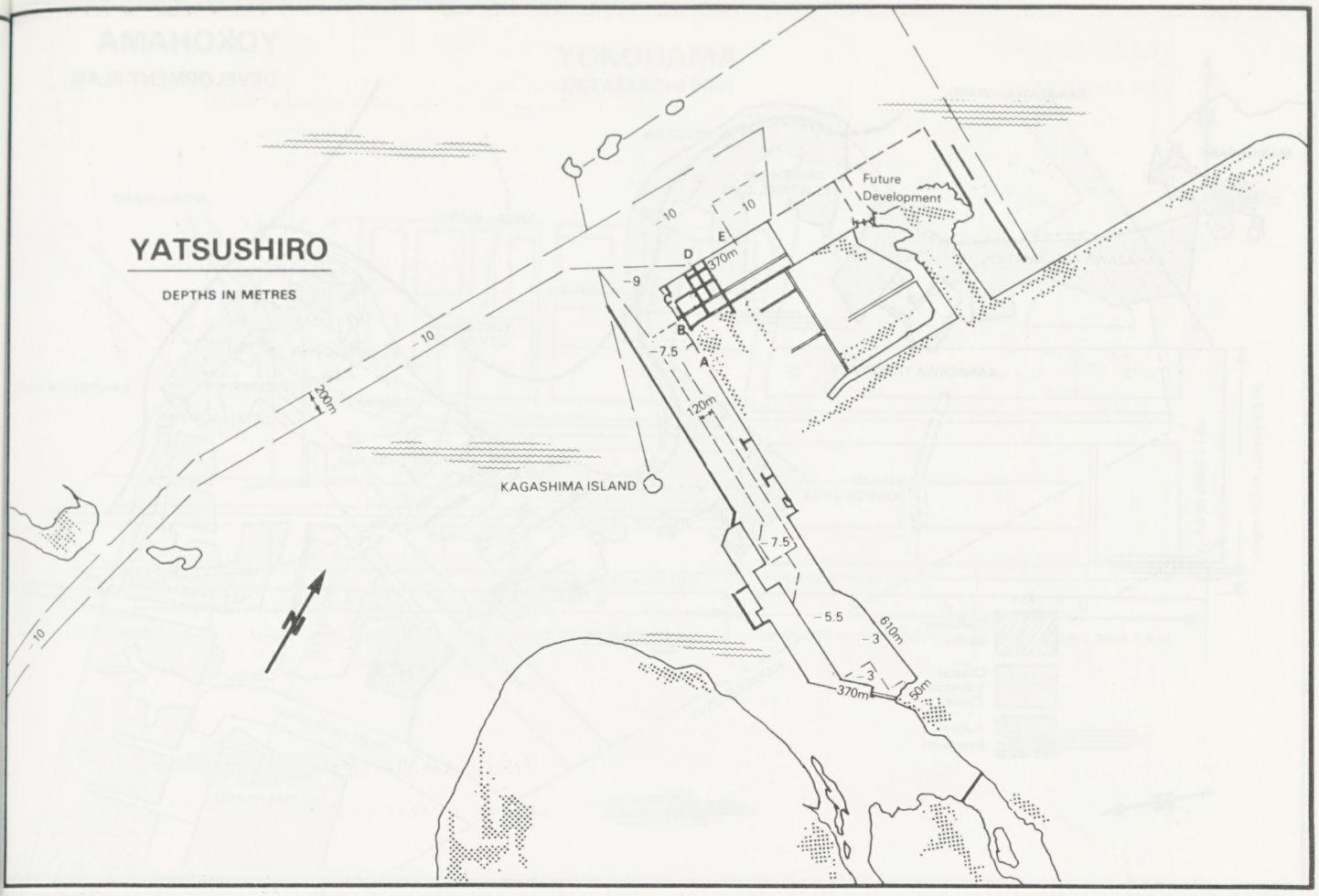
WAKAYAMA (2)

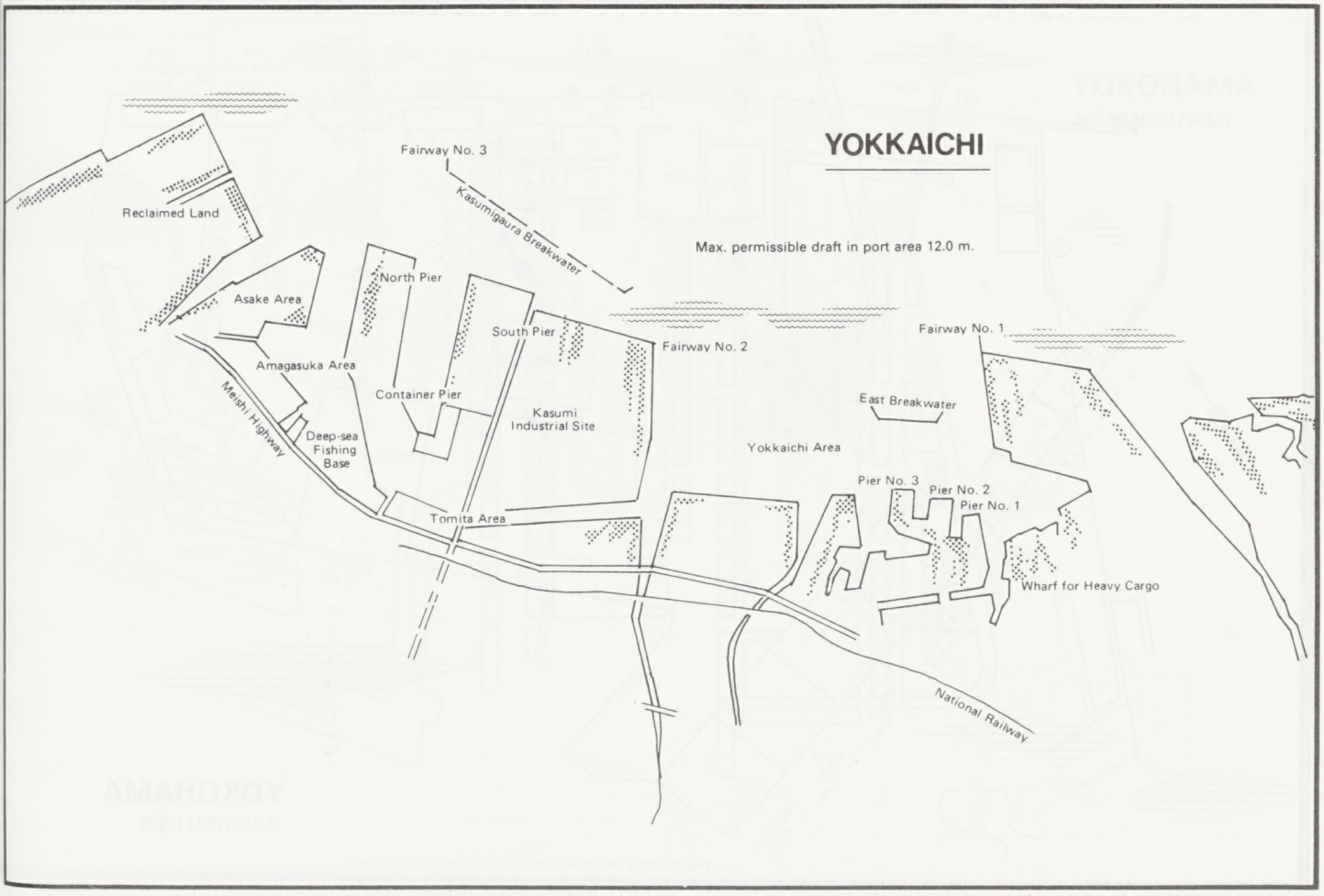
NORTHERN SECTION HARBOUR

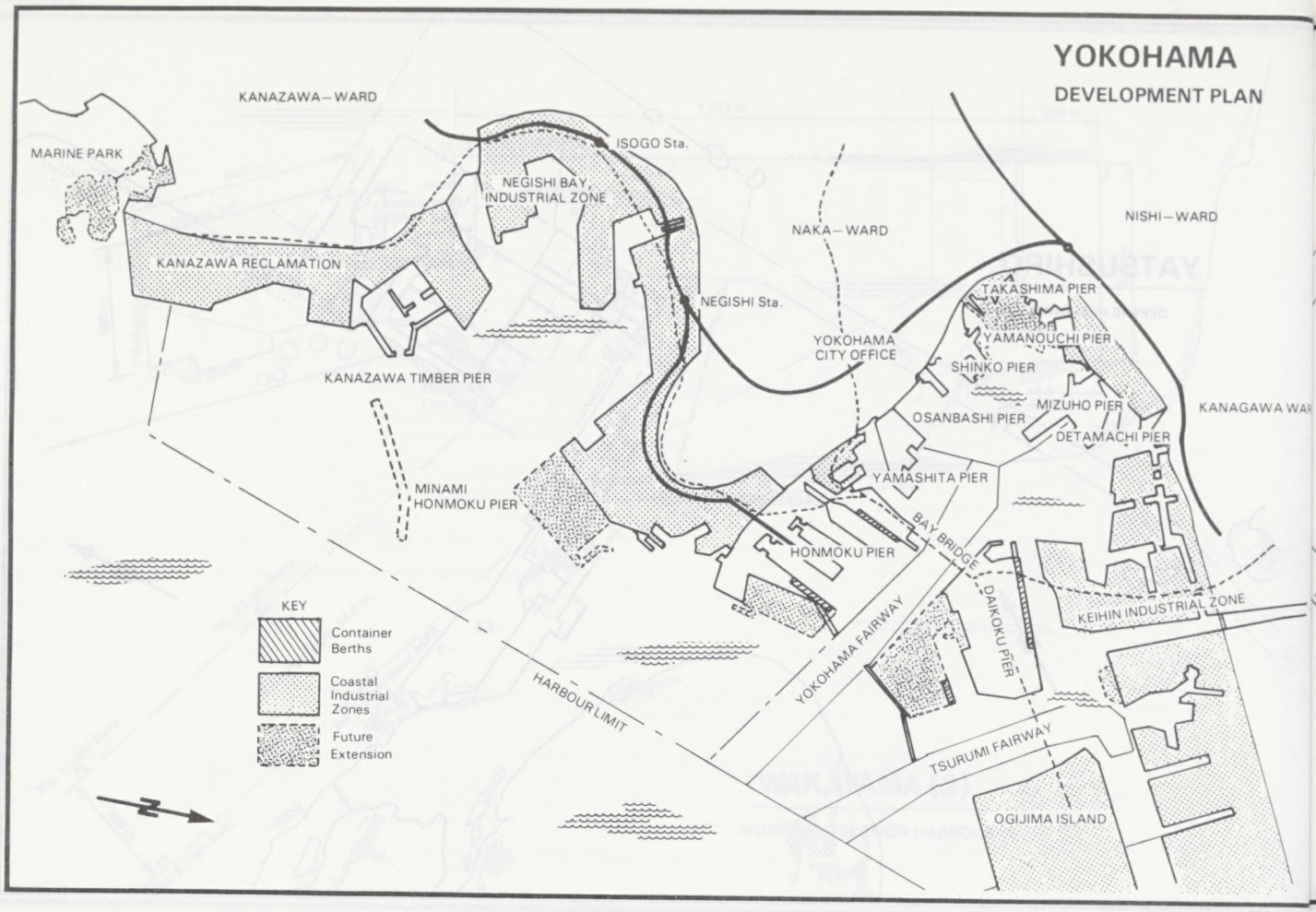


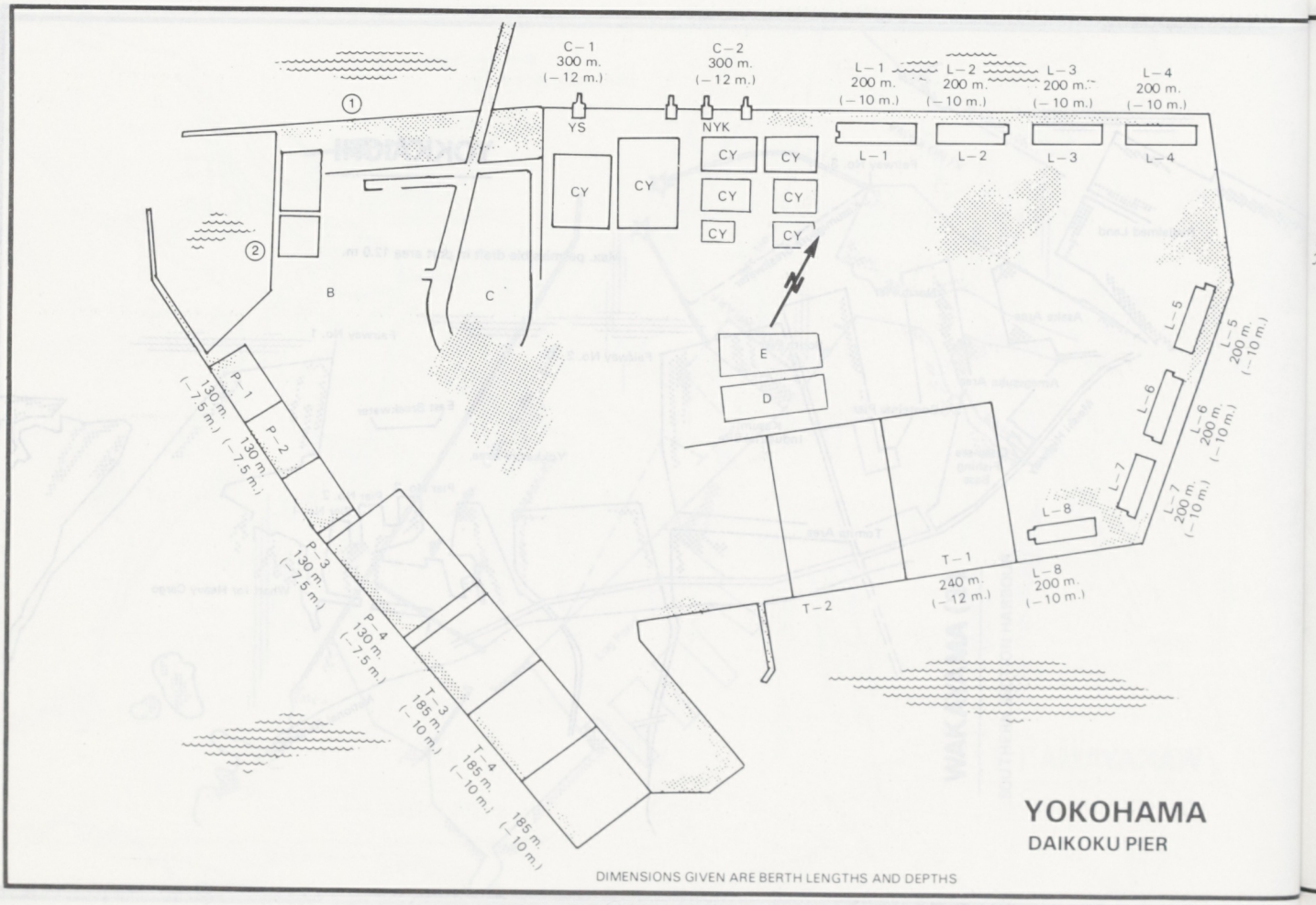
WAKAYAMA (3)

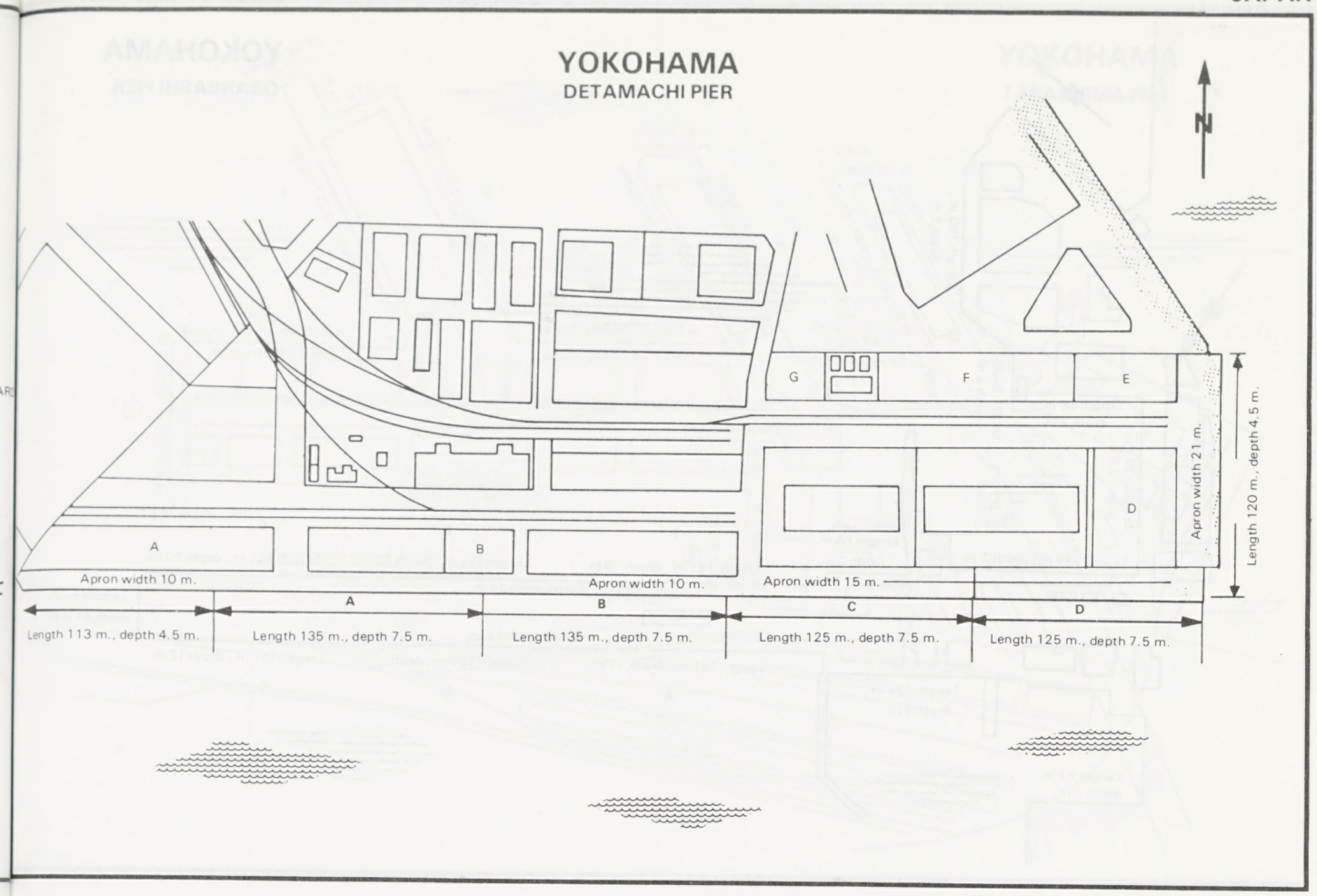
SOUTHERN SECTION HARBOUR

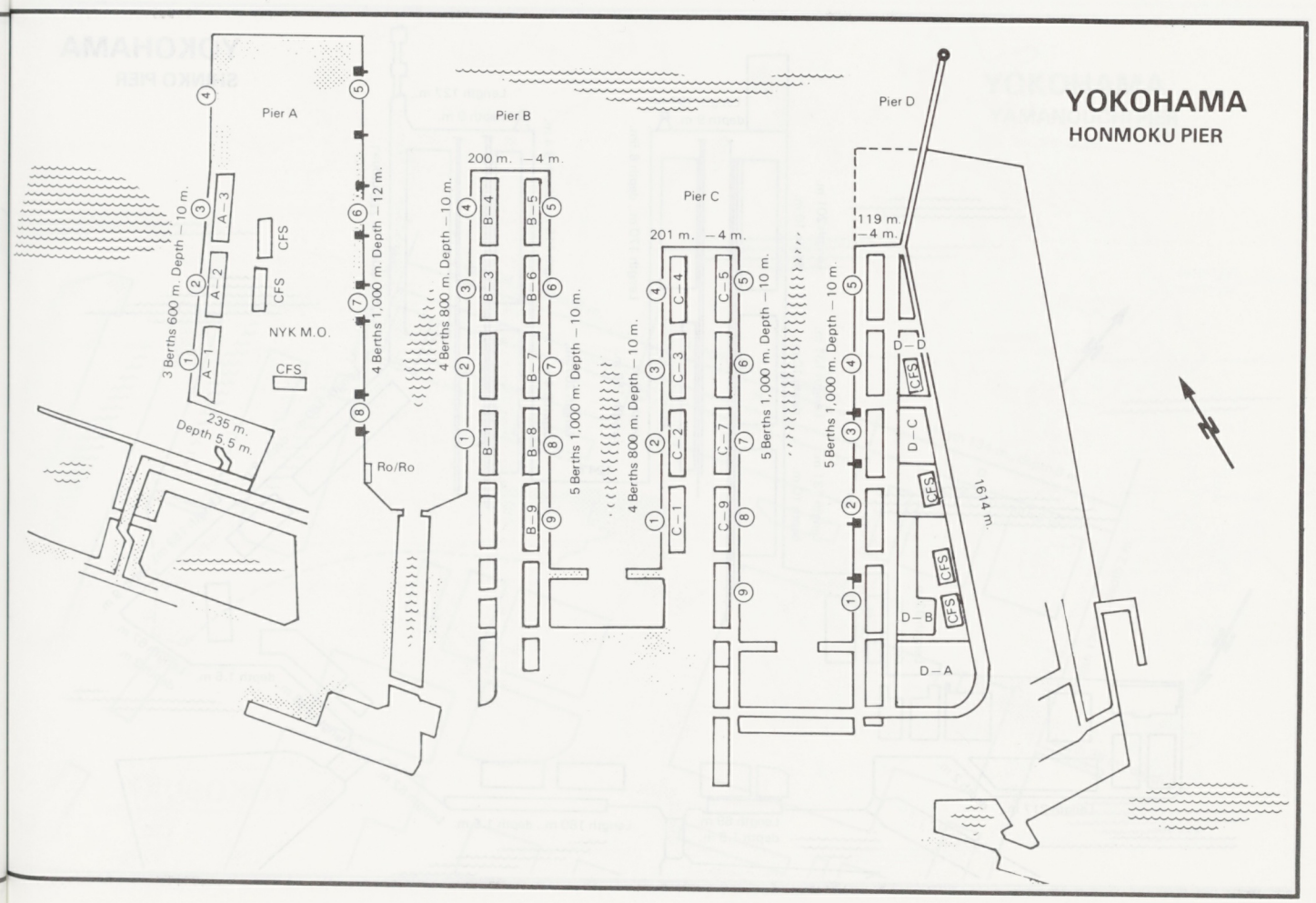

YATSUSHIRO
DEPTHS IN METRES
Future Development
E
D
C
B
A
370m
-10
-9
-7.5
200m
120m
KAGASHIMA ISLAND
610m
-5.5
-3
50m

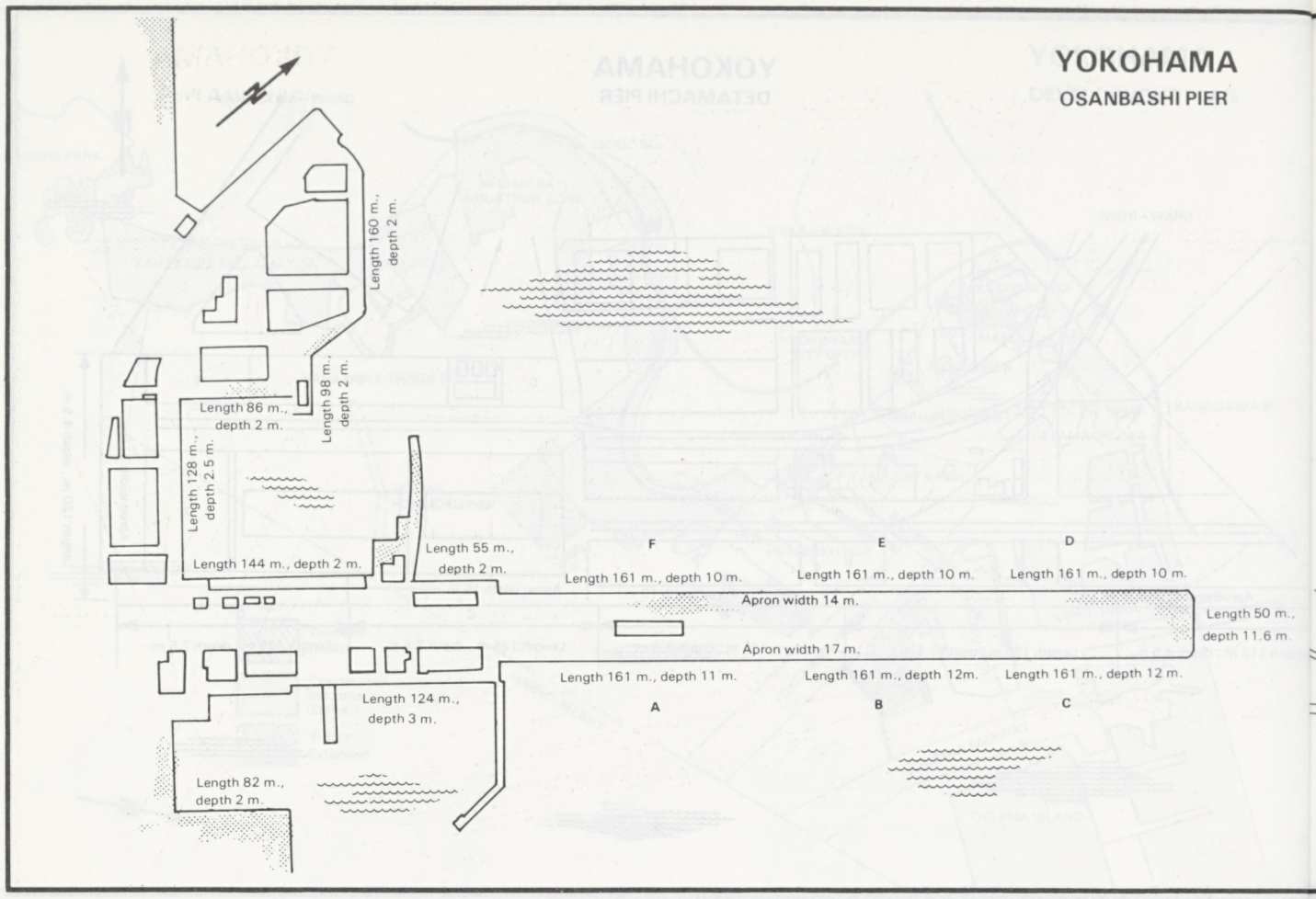

YOKKAICHI
Max. permissible draft in port area 12.0 m.
Fairway No. 3
Kasumigaura Breakwater
Reclaimed Land
Asake Area
North Pier
South Pier
Fairway No. 2
Fairway No. 1
Amagasuka Area
Container Pier
Kasumi Industrial Site
East Breakwater
Meishi Highway
Deep-sea Fishing Base
Yokkaichi Area
Pier No. 3
Pier No. 2
Pier No. 1
Tomita Area
Wharf for Heavy Cargo
National Railway

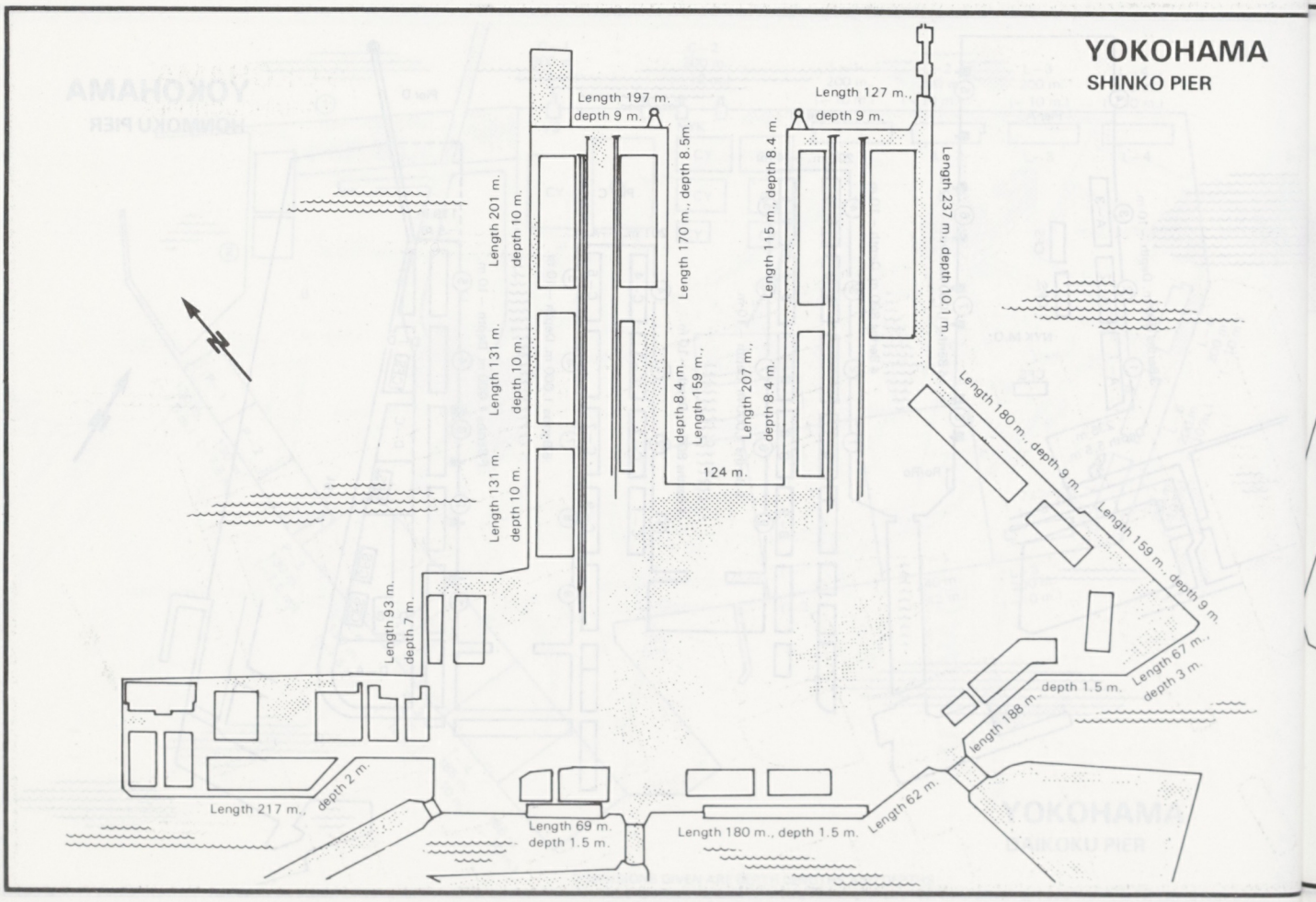

YOKOHAMA
DEVELOPMENT PLAN
KANAZAWA–WARD
MARINE PARK
ISOGO Sta.
NEGISHI BAY INDUSTRIAL ZONE
KANAZAWA RECLAMATION
NAKA–WARD
NISHI–WARD
NEGISHI Sta.
TAKASHIMA PIER
YAMANOUCHI PIER
YOKOHAMA CITY OFFICE
SHINKO PIER
KANAZAWA TIMBER PIER
MIZUHO PIER
KANAGAWA WAR
OSANBASHI PIER
DETAMACHI PIER
YAMASHITA PIER
MINAMI HONMOKU PIER
BAY BRIDGE
HONMOKU PIER
KEIHIN INDUSTRIAL ZONE
DAIKOKU PIER
YOKOHAMA FAIRWAY
HARBOUR LIMIT
TSURUMI FAIRWAY
OGIJIMA ISLAND
KEY
Container Berths
Coastal Industrial Zones
Future Extension
N

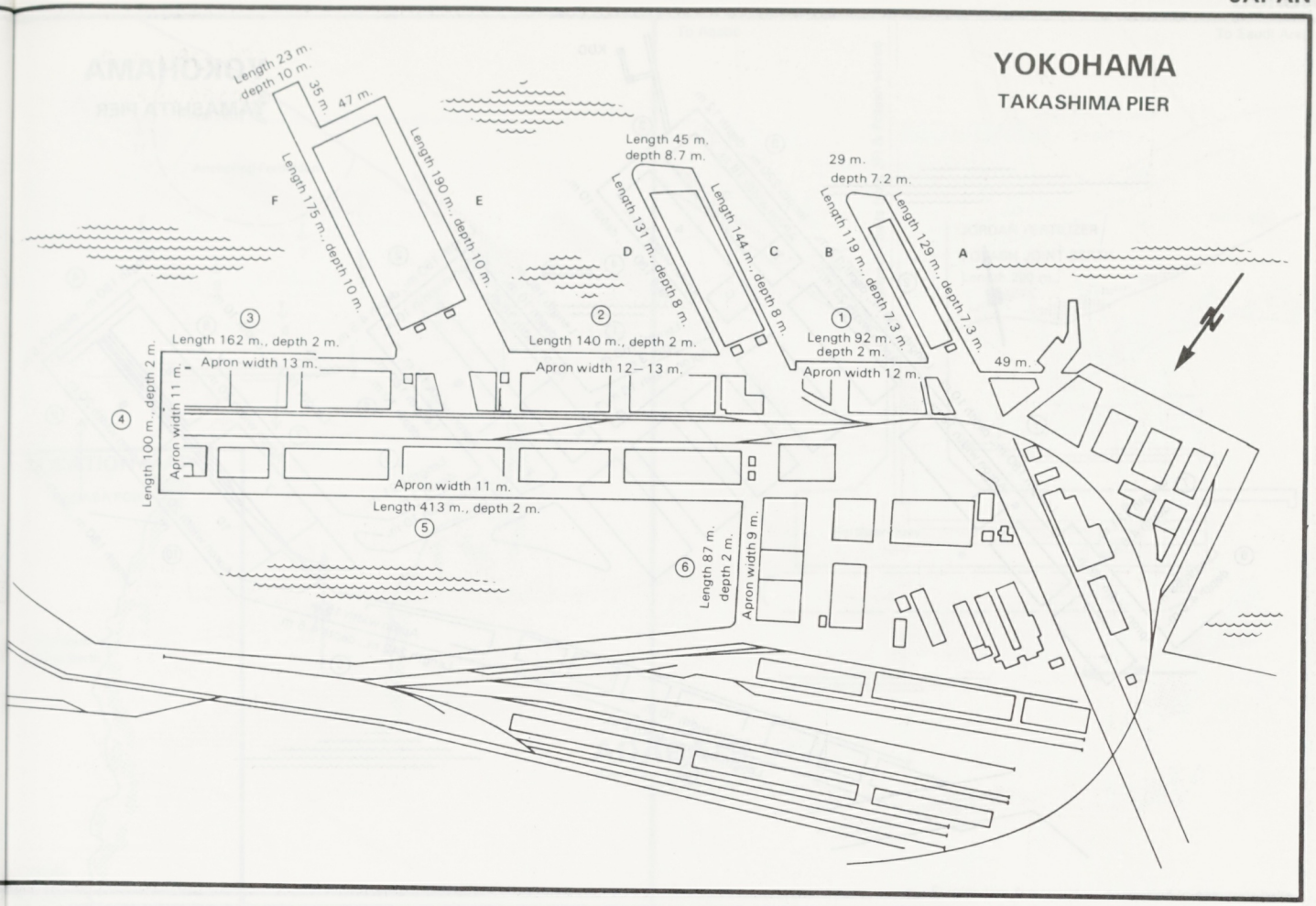

C–1 300 m. (–12 m.)
C–2 300 m. (–12 m.)
L–1 200 m. (–10 m.)
L–2 200 m. (–10 m.)
L–3 200 m. (–10 m.)
L–4 200 m. (–10 m.)
YS
NYK
CY
B
C
E
D
P–1 130 m. (–7.5 m.)
P–2 130 m. (–7.5 m.)
P–3 130 m. (–7.5 m.)
P–4 130 m. (–7.5 m.)
T–3 185 m. (–10 m.)
T–4 185 m. (–10 m.)
185 m. (–10 m.)
L–5 200 m. (–10 m.)
L–6 200 m. (–10 m.)
L–7 200 m. (–10 m.)
L–8 200 m. (–10 m.)
T–1 240 m. (–12 m.)
T–2
N
YOKOHAMA
DAIKOKU PIER
DIMENSIONS GIVEN ARE BERTH LENGTHS AND DEPTHS

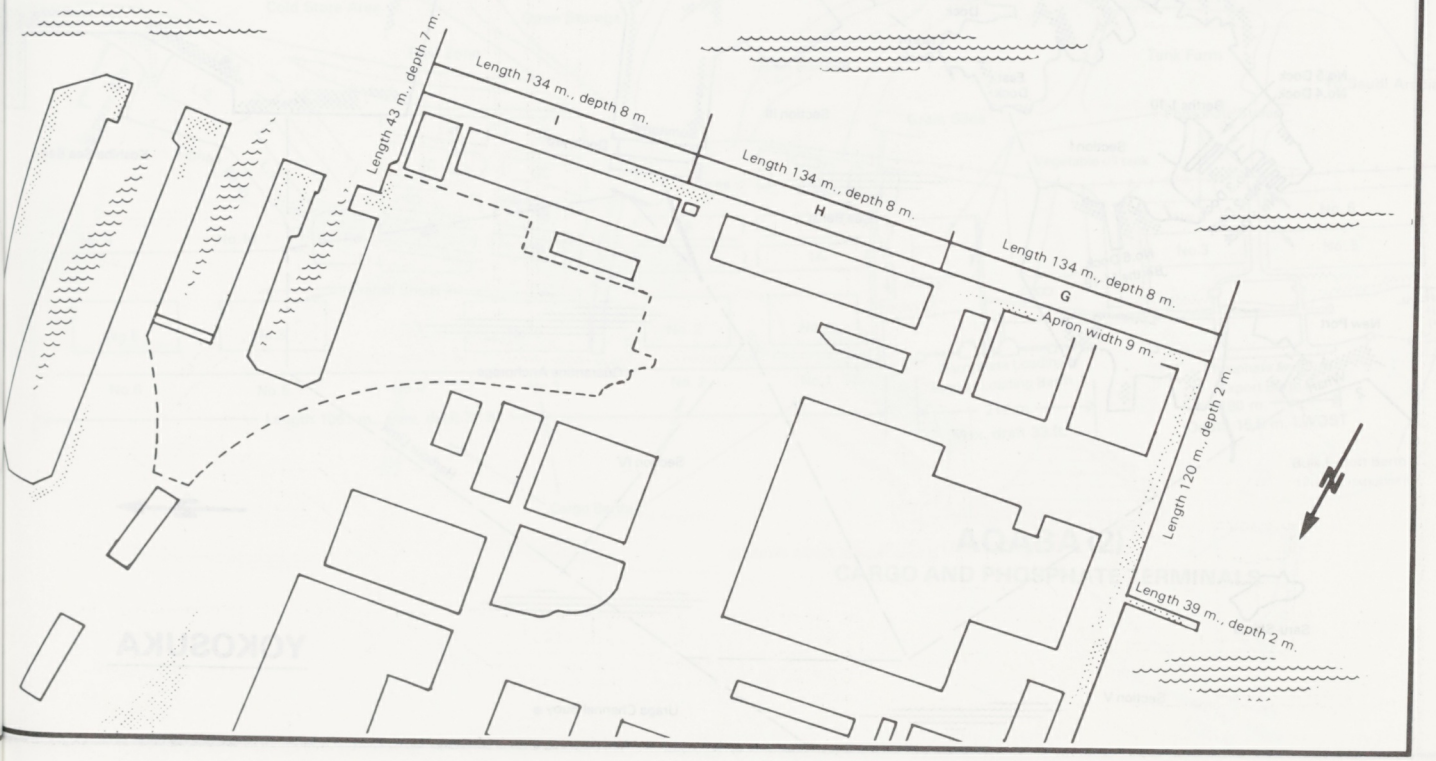

YOKOHAMA
DETAMACHI PIER
N
G
F
E
D
A
B
Apron width 21 m.
Length 120 m., depth 4.5 m.
Apron width 10 m.
Apron width 10 m.
Apron width 15 m.
A
B
C
D
Length 113 m., depth 4.5 m.
Length 135 m., depth 7.5 m.
Length 135 m., depth 7.5 m.
Length 125 m., depth 7.5 m.
Length 125 m., depth 7.5 m.

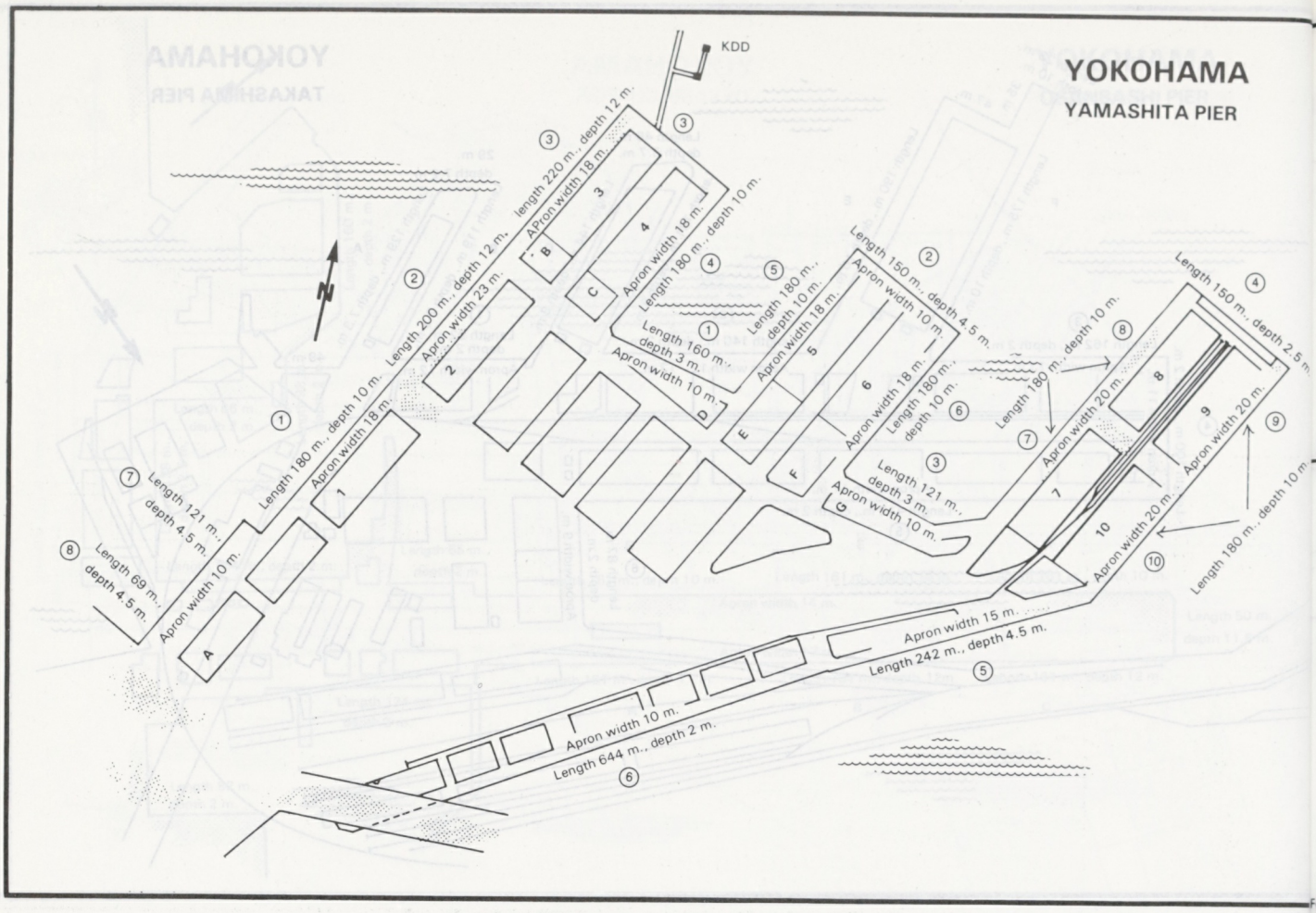

YOKOHAMA
HONMOKU PIER
Pier A
Pier B
Pier C
Pier D
3 Berths 600 m. Depth – 10 m.
4 Berths 1,000 m. Depth – 12 m.
4 Berths 800 m. Depth – 10 m.
200 m. –4 m.
5 Berths 1,000 m. Depth – 10 m.
4 Berths 800 m. Depth – 10 m.
201 m. –4 m.
5 Berths 1,000 m. Depth – 10 m.
5 Berths 1,000 m. Depth – 10 m.
119 m.
–4 m.
1614 m.
A–1
A–2
A–3
B–1
B–2
B–3
B–4
B–5
B–6
B–7
B–8
B–9
C–1
C–2
C–3
C–4
C–5
C–7
C–9
D–A
D–B
D–C
D–D
CFS
NYK M.O.
Ro/Ro
235 m.
Depth 5.5 m.

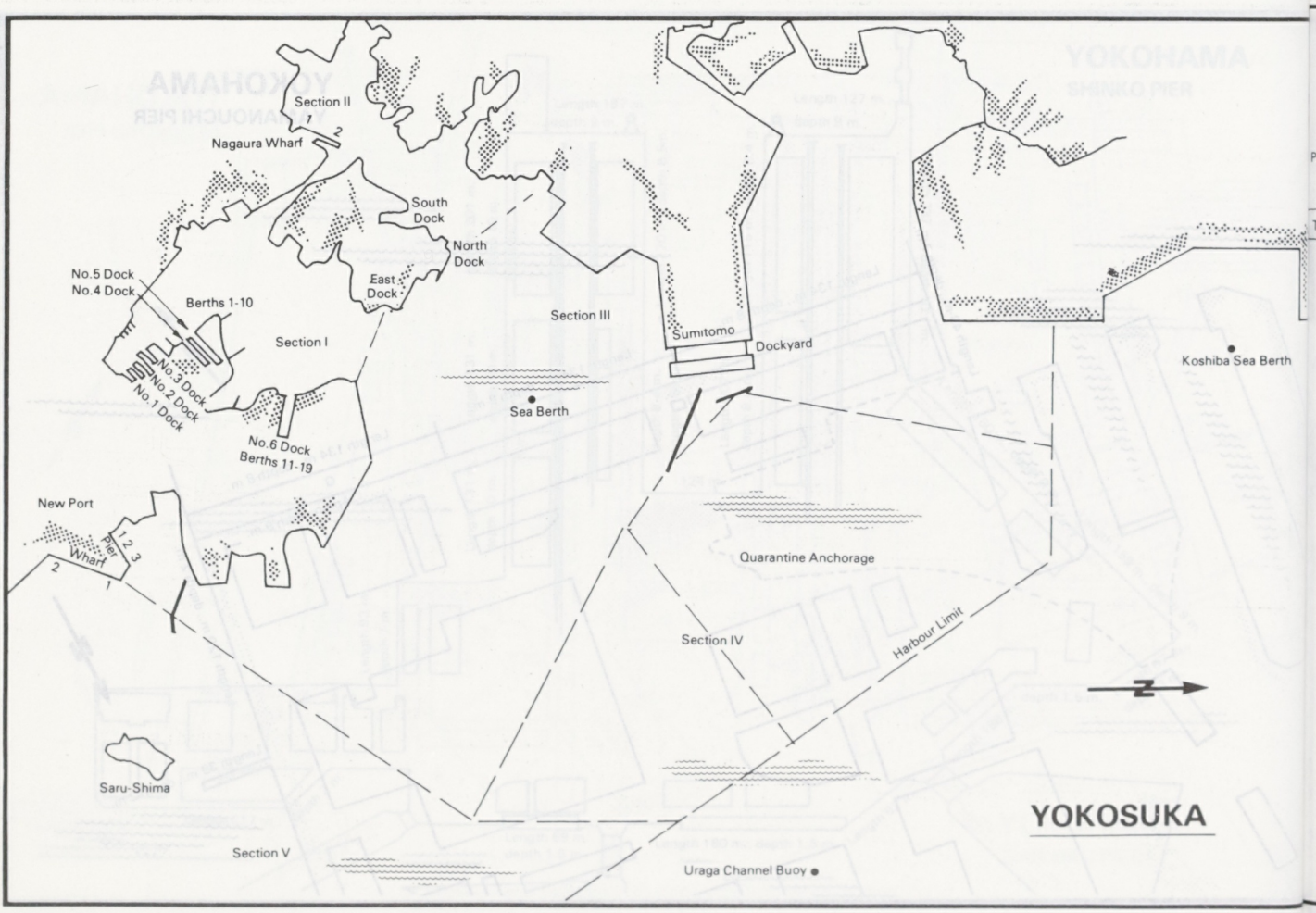

YOKOHAMA
OSANBASHI PIER
Length 160 m., depth 2 m.
Length 98 m., depth 2 m.
Length 86 m., depth 2 m.
Length 128 m., depth 2.5 m.
Length 144 m., depth 2 m.
Length 55 m., depth 2 m.
F
E
D
Length 161 m., depth 10 m.
Length 161 m., depth 10 m.
Length 161 m., depth 10 m.
Apron width 14 m.
Length 50 m., depth 11.6 m.
Apron width 17 m.
Length 161 m., depth 11 m.
Length 161 m., depth 12m.
Length 161 m., depth 12 m.
A
B
C
Length 124 m., depth 3 m.
Length 82 m., depth 2 m.

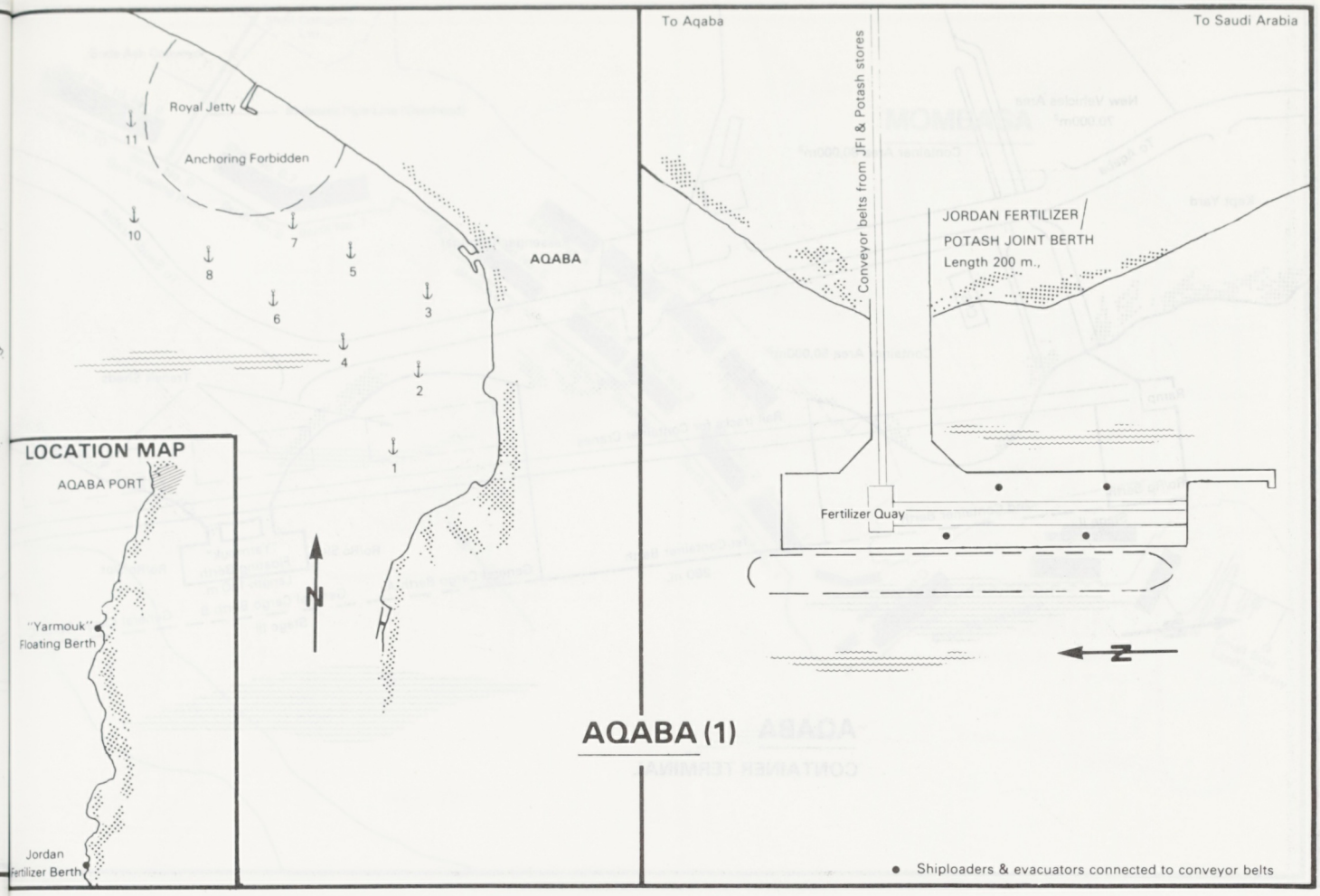

YOKOHAMA
SHINKO PIER
Length 197 m. depth 9 m.
Length 127 m., depth 9 m.
Length 201 m. depth 10 m.
Length 170 m., depth 8.5m.
Length 115 m., depth 8.4 m.
Length 237 m., depth 10.1 m.
Length 131 m. depth 10 m.
depth 8.4 m. Length 159 m.,
Length 207 m., depth 8.4 m.
Length 180 m., depth 9 m.
Length 131 m. depth 10 m.
124 m.
Length 159 m., depth 9 m.
Length 93 m. depth 7 m.
Length 67 m., depth 3 m.
depth 1.5 m.
length 188 m.
Length 217 m., depth 2 m.
Length 69 m. depth 1.5 m.
Length 180 m., depth 1.5 m.
Length 62 m.


YOKOHAMA
TAKASHIMA PIER
Length 23 m., depth 10 m.
35 m.
47 m.
Length 175 m., depth 10 m.
Length 190 m., depth 10 m.
F
E
Length 45 m. depth 8.7 m.
Length 131 m., depth 8 m.
Length 144 m., depth 8 m.
D
C
29 m. depth 7.2 m.
Length 119 m., depth 7.3 m.
Length 129 m., depth 7.3 m.
B
A
49 m.
3
Length 162 m., depth 2 m.
Apron width 13 m.
2
Length 140 m., depth 2 m.
Apron width 12– 13 m.
1
Length 92 m. depth 2 m.
Apron width 12 m.
4
Length 100 m., depth 2 m.
Apron width 11 m.
Apron width 11 m.
Length 413 m., depth 2 m.
5
6
Length 87 m. depth 2 m.
Apron width 9 m.

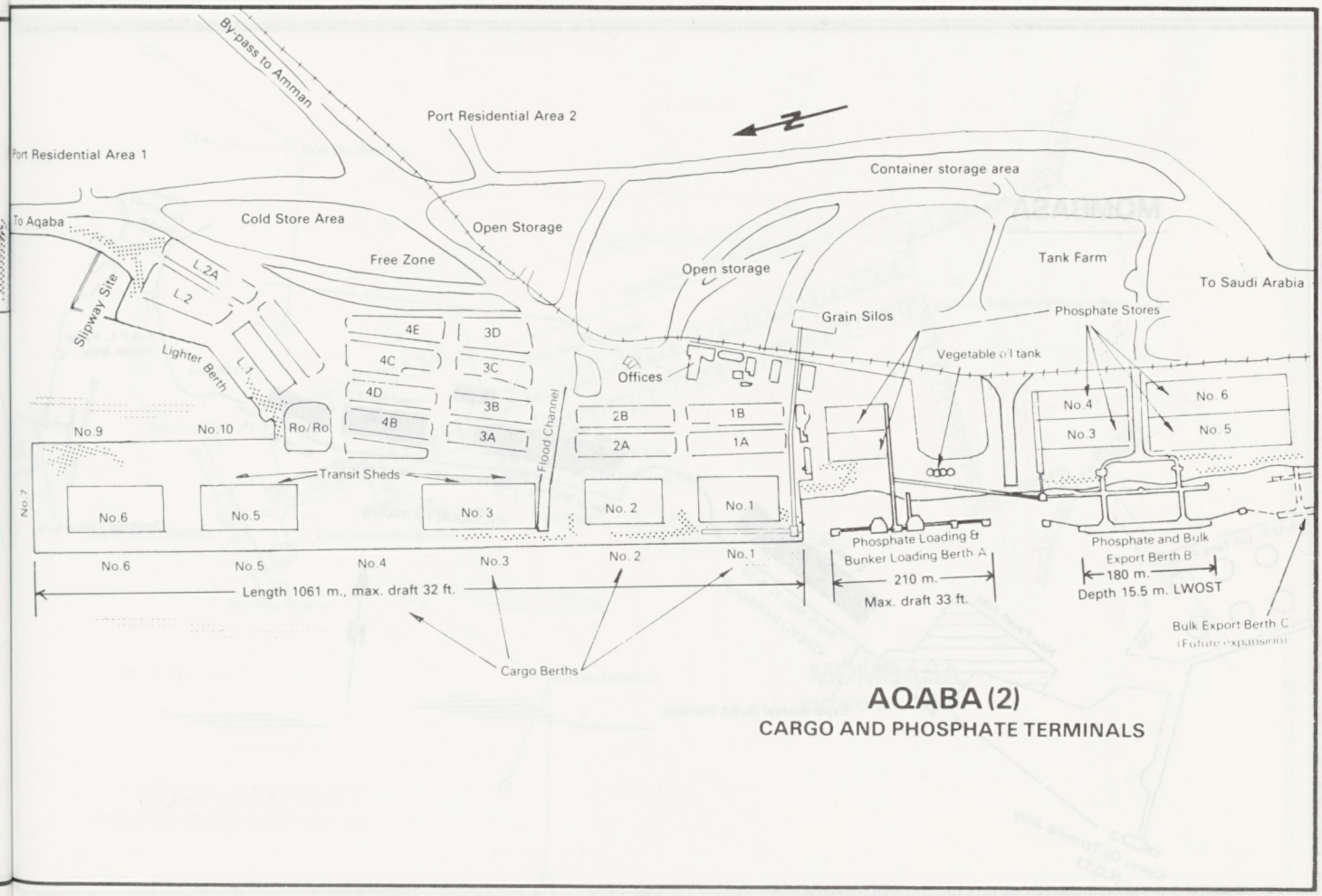

YOKOHAMA
YAMANOUCHI PIER
Length 43 m., depth 7 m.
Length 134 m., depth 8 m.
I
Length 134 m., depth 8 m.
H
Length 134 m., depth 8 m.
G
Apron width 9 m.
Length 120 m., depth 2 m.
Length 39 m., depth 2 m.


YOKOHAMA
YAMASHITA PIER
KDD
N
Length 220 m., depth 12 m.
Apron width 18 m.
Length 200 m., depth 12 m.
Apron width 23 m.
Length 180 m., depth 10 m.
Apron width 18 m.
Length 160 m., depth 3 m.
Apron width 10 m.
Length 180 m., depth 10 m.
Length 150 m., depth 4.5 m.
Apron width 10 m.
Length 180 m., depth 10 m.
Apron width 18 m.
Length 121 m., depth 3 m.
Length 150 m., depth 2.5 m.
Length 180 m., depth 10 m.
Apron width 20 m.
Length 121 m., depth 4.5 m.
Length 69 m., depth 4.5 m.
Apron width 15 m.
Length 242 m., depth 4.5 m.
Apron width 10 m.
Length 644 m., depth 2 m.

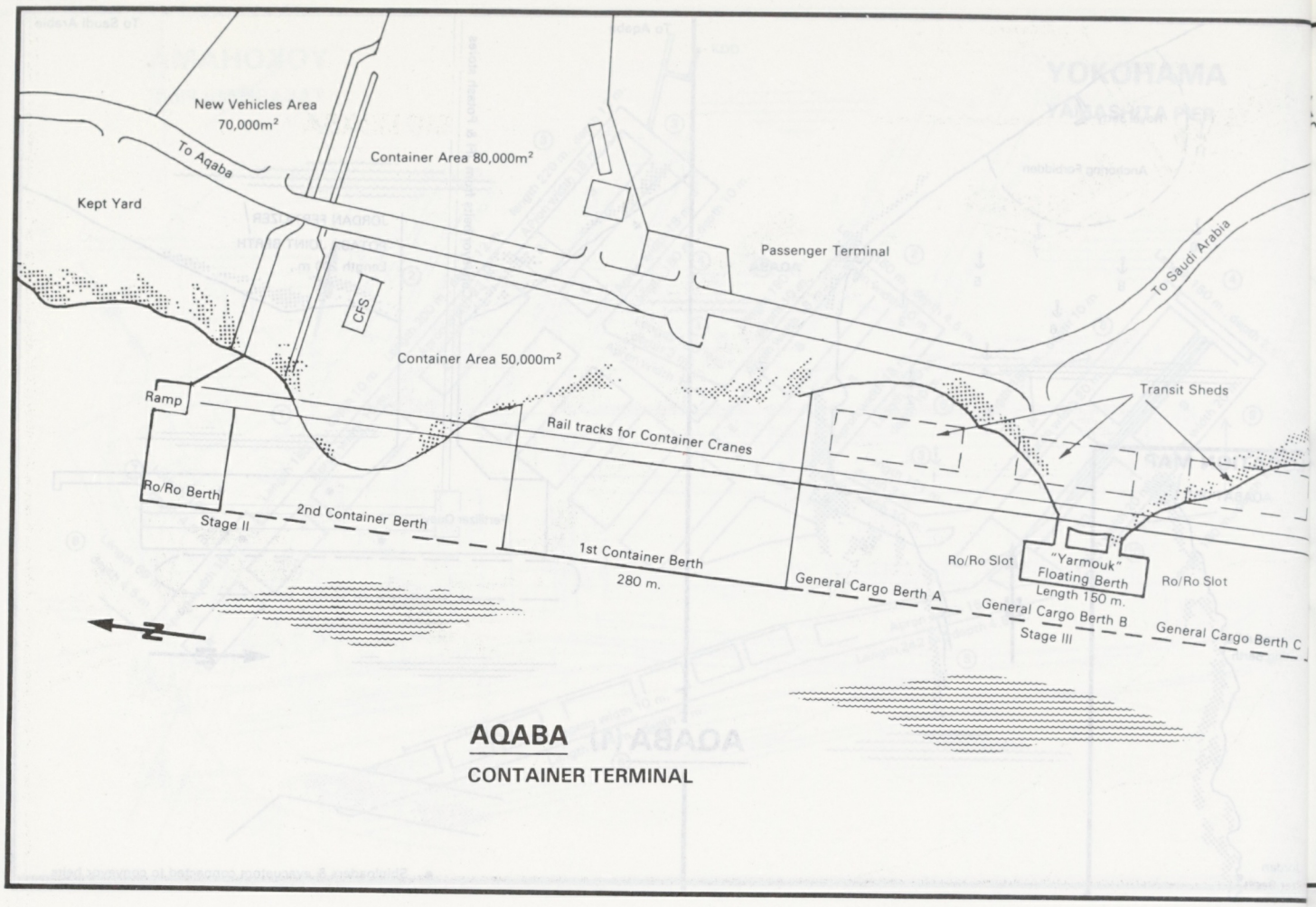

Section II
Nagaura Wharf
South Dock
North Dock
East Dock
No.5 Dock
No.4 Dock
Berths 1-10
Section I
No.3 Dock
No.2 Dock
No.1 Dock
No.6 Dock
Berths 11-19
Section III
Sumitomo Dockyard
Sea Berth
Koshiba Sea Berth
New Port
Pier
Wharf
Quarantine Anchorage
Section IV
Harbour Limit
N
Saru-Shima
Section V
Uraga Channel Buoy
YOKOSUKA

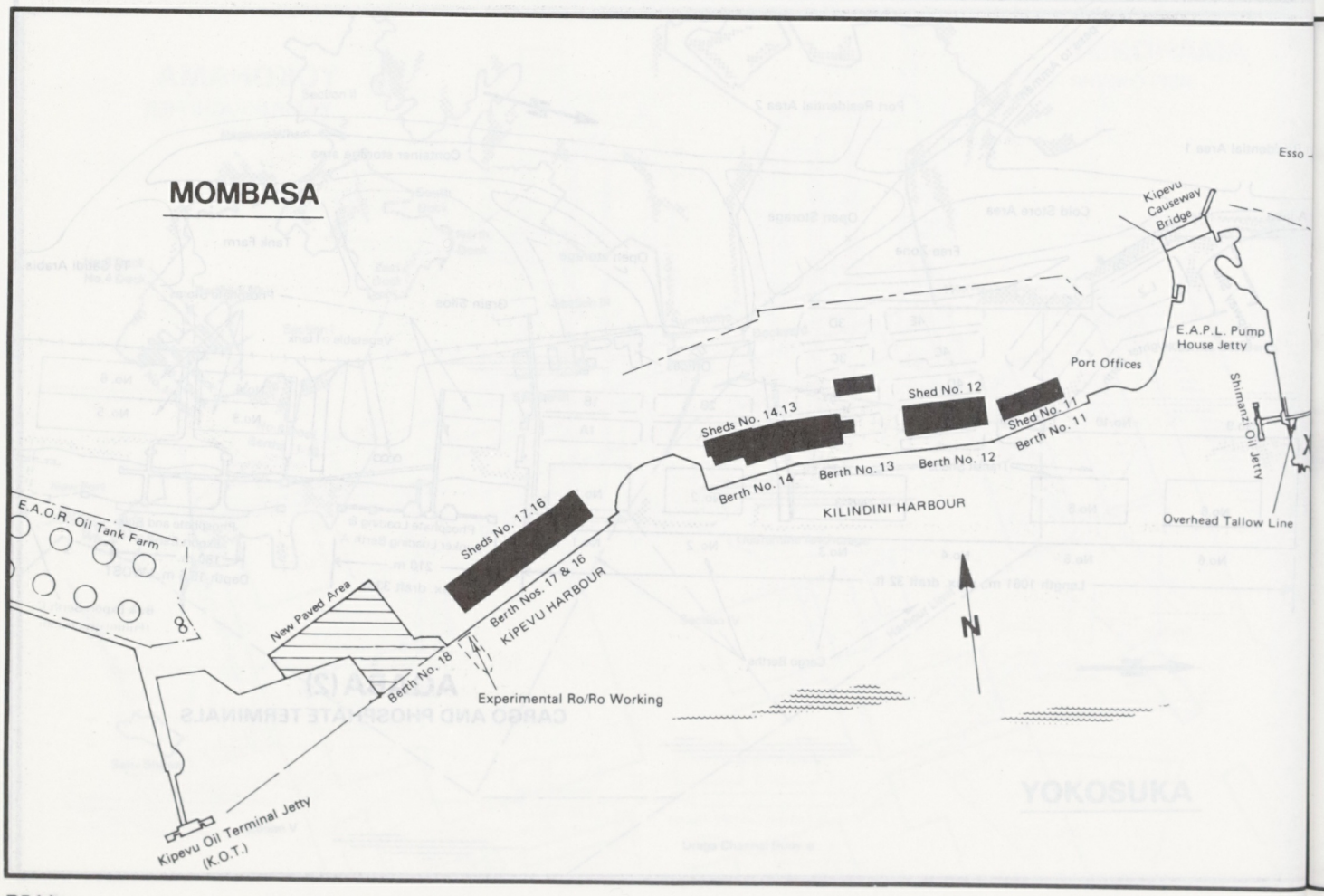


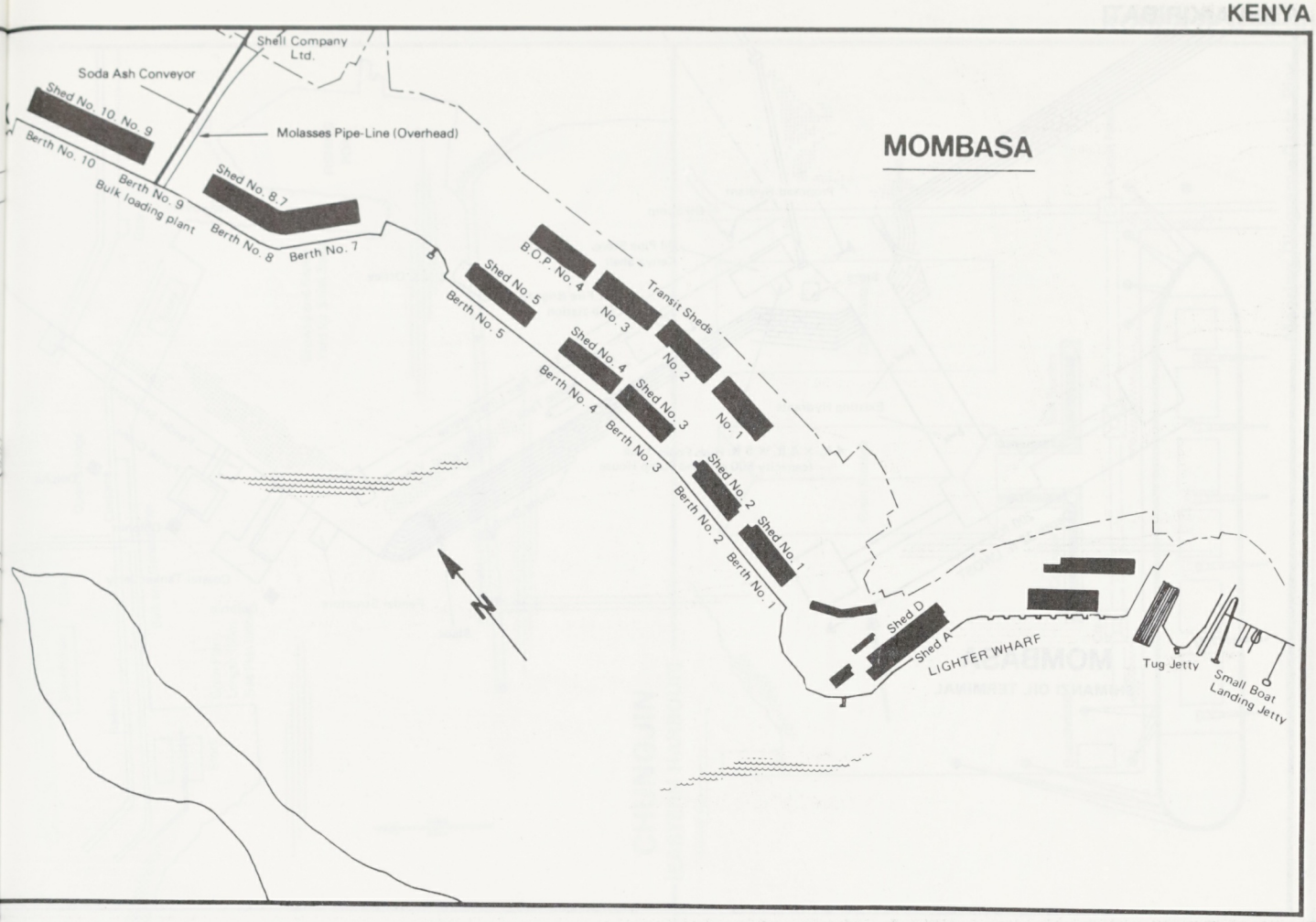
AQABA (1)

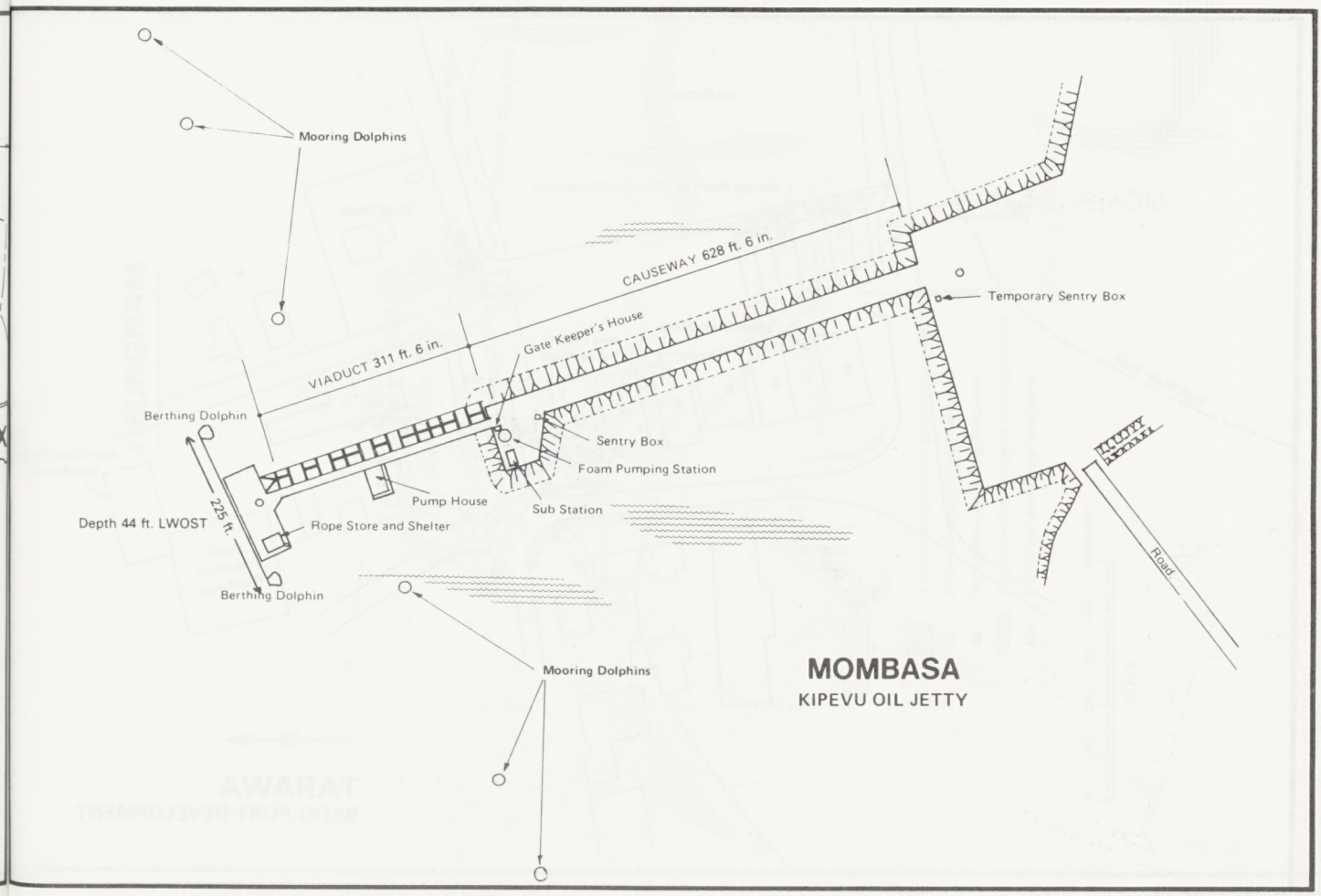


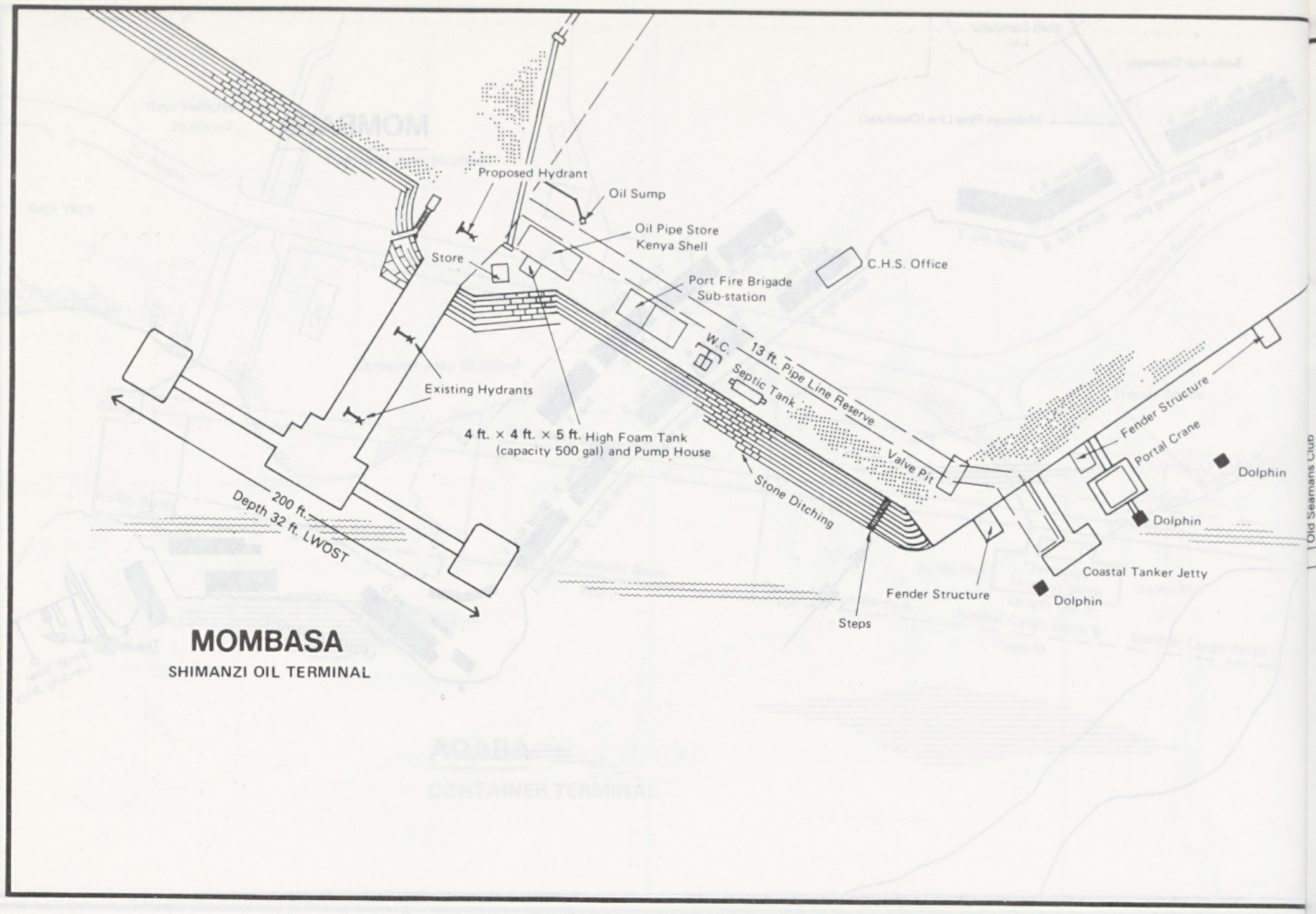
AQABA (2)
CARGO AND PHOSPHATE TERMINALS

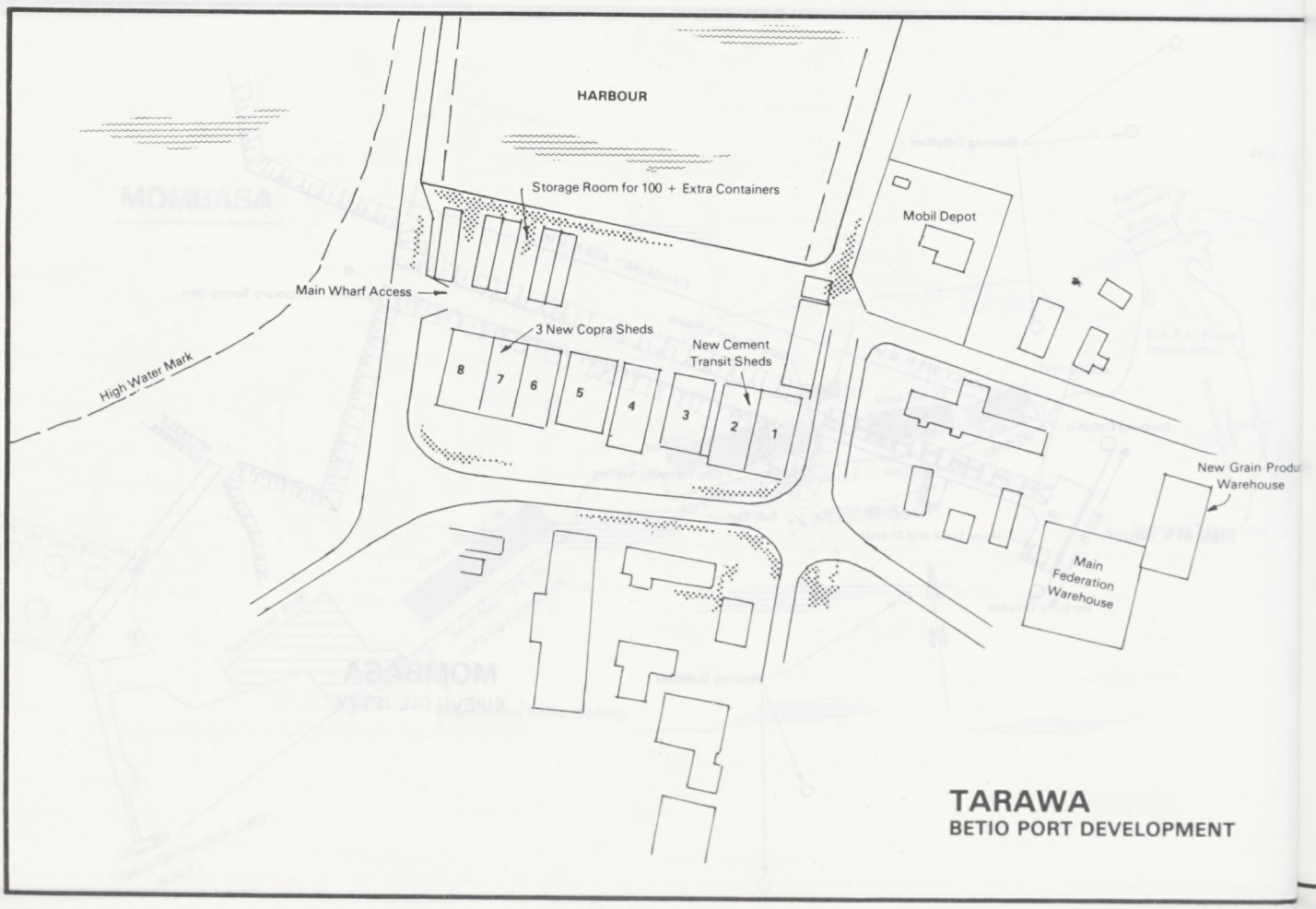

New Vehicles Area
70,000m²
To Aqaba
Container Area 80,000m²
Kept Yard
Passenger Terminal
To Saudi Arabia
CFS
Container Area 50,000m²
Ramp
Transit Sheds
Rail tracks for Container Cranes
Ro/Ro Berth
Stage II
2nd Container Berth
1st Container Berth
280 m.
Ro/Ro Slot
"Yarmouk"
Floating Berth
Length 150 m.
Ro/Ro Slot
General Cargo Berth A
General Cargo Berth B
Stage III
General Cargo Berth C
N
AQABA
CONTAINER TERMINAL


MOMBASA
Kipevu
Causeway
Bridge
E.A.P.L. Pump
House Jetty
Port Offices
Shed No. 12
Shed No. 11
Sheds No. 14.13
Berth No. 11
Berth No. 14
Berth No. 13
Berth No. 12
Shimanzi Oil Jetty
KILINDINI HARBOUR
Overhead Tallow Line
E.A.O.R. Oil Tank Farm
Sheds No. 17.16
New Paved Area
Berth Nos. 17 & 16
KIPEVU HARBOUR
Berth No. 18
N
Experimental Ro/Ro Working
Kipevu Oil Terminal Jetty
(K.O.T.)

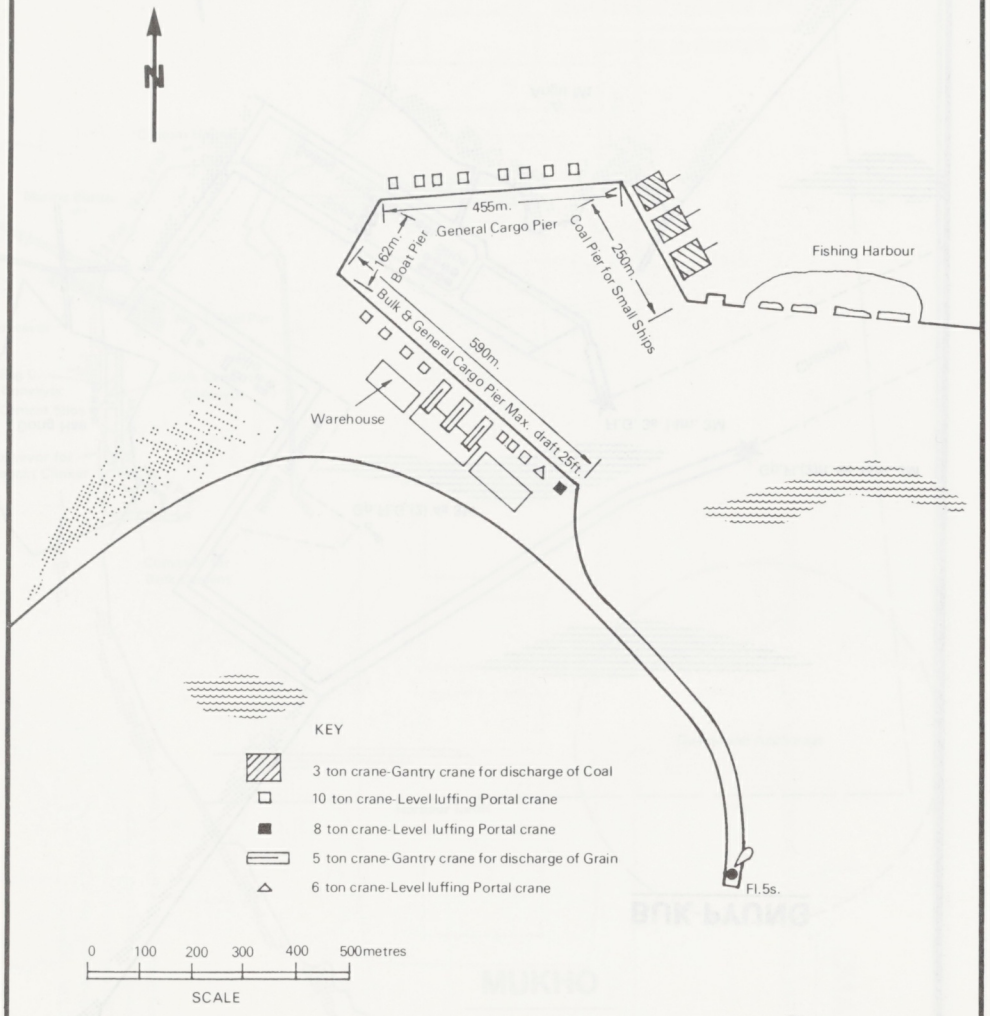

MOMBASA
Shell Company Ltd.
Soda Ash Conveyor
Shed No. 10
No. 9
Berth No. 10
Berth No. 9
Bulk loading plant
Molasses Pipe-Line (Overhead)
Shed No. 8.7
Berth No. 8
Berth No. 7
B.O.P. No. 4
No. 3
No. 2
No. 1
Transit Sheds
Shed No. 5
Berth No. 5
Shed No. 4
Shed No. 3
Berth No. 4
Berth No. 3
Shed No. 2
Shed No. 1
Berth No. 2
Berth No. 1
N
Shed D
Shed A
LIGHTER WHARF
Tug Jetty
Small Boat Landing Jetty


Mooring Dolphins
CAUSEWAY 628 ft. 6 in.
Temporary Sentry Box
VIADUCT 311 ft. 6 in.
Gate Keeper's House
Berthing Dolphin
Sentry Box
Foam Pumping Station
Pump House
Sub Station
Depth 44 ft. LWOST
225 ft.
Rope Store and Shelter
Road
Berthing Dolphin
Mooring Dolphins
MOMBASA
KIPEVU OIL JETTY

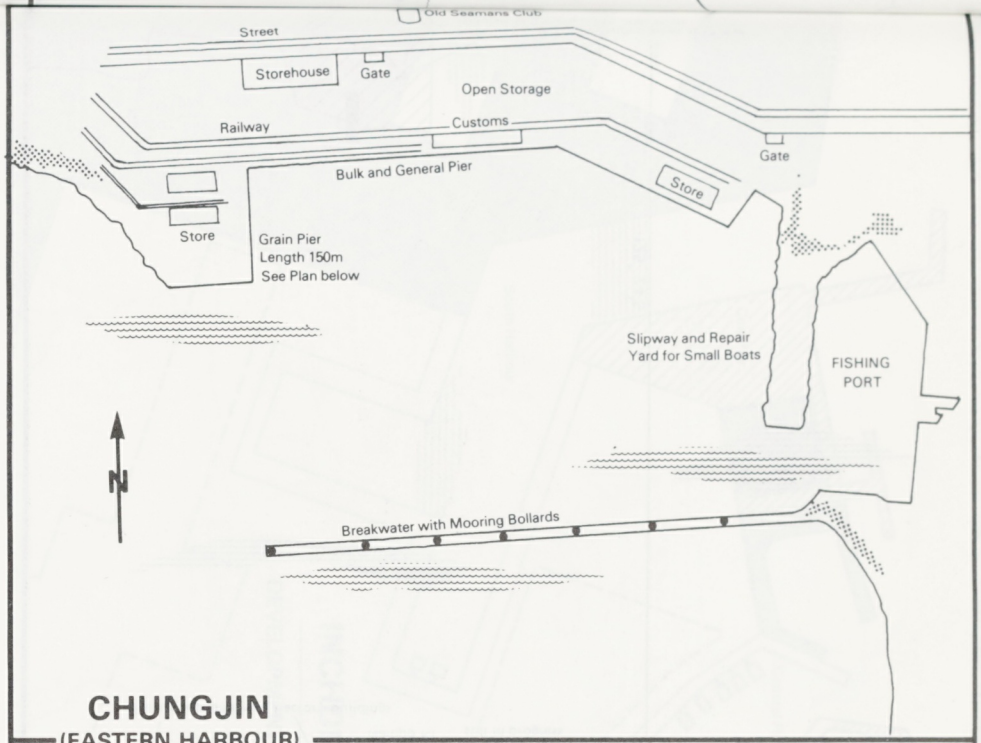

Proposed Hydrant
Oil Sump
Oil Pipe Store
Kenya Shell
Store
C.H.S. Office
Port Fire Brigade
Sub-station
W.C.
13 ft. Pipe Line Reserve
Septic Tank
Existing Hydrants
4 ft. × 4 ft. × 5 ft. High Foam Tank
(capacity 500 gal) and Pump House
Valve Pit
Fender Structure
Portal Crane
Dolphin
Dolphin
Stone Ditching
200 ft.
Depth 32 ft. LWOST
Coastal Tanker Jetty
Fender Structure
Dolphin
Steps
MOMBASA
SHIMANZI OIL TERMINAL


HARBOUR
Storage Room for 100 + Extra Containers
Mobil Depot
Main Wharf Access
3 New Copra Sheds
New Cement
Transit Sheds
High Water Mark
8
7
6
5
4
3
2
1
New Grain Produ
Warehouse
Main
Federation
Warehouse
TARAWA
BETIO PORT DEVELOPMENT

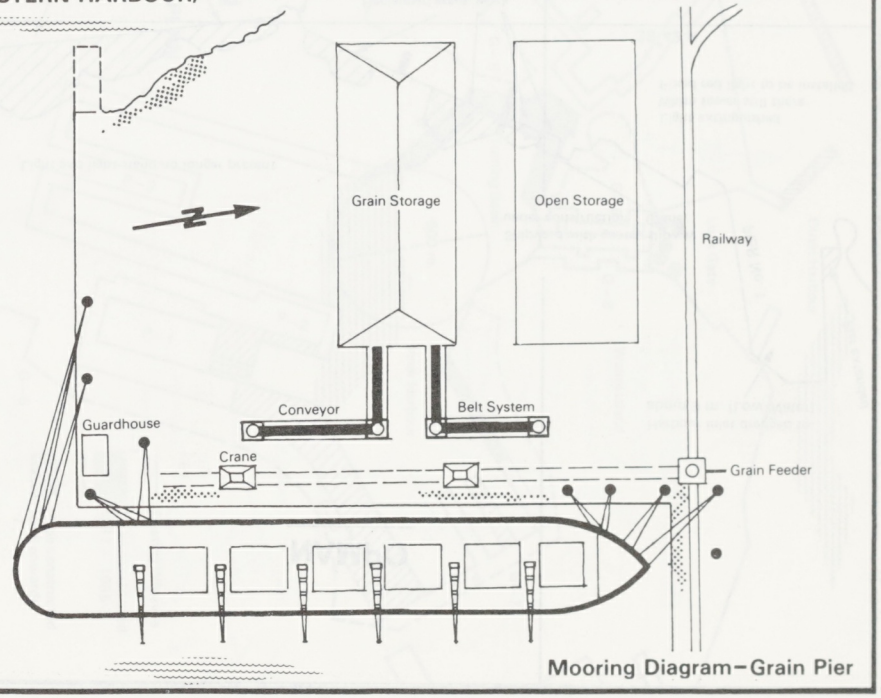
HEUNGNAM



"Plan supplied by Ship's Master"



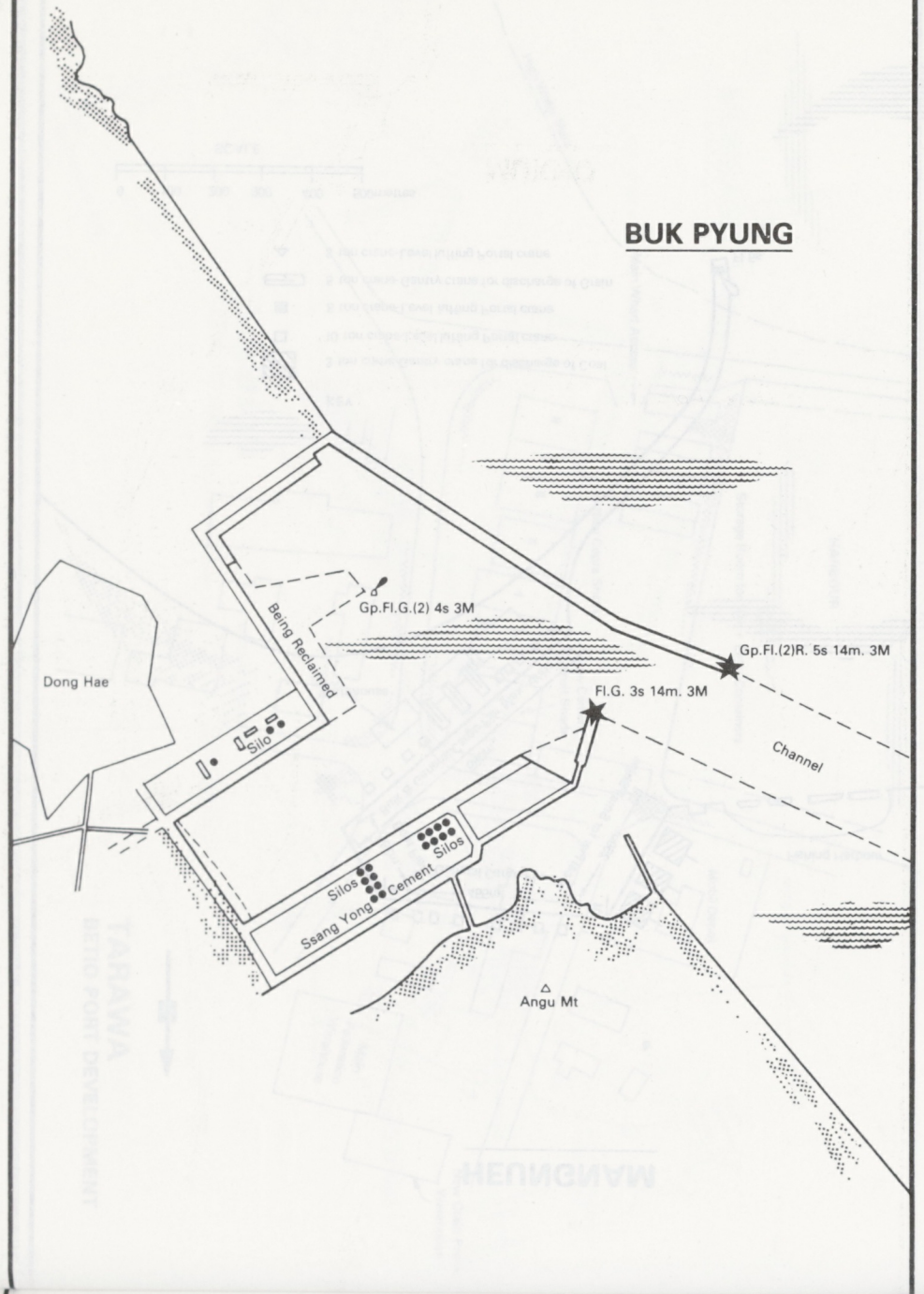
CHUNGJIN
(EASTERN HARBOUR)



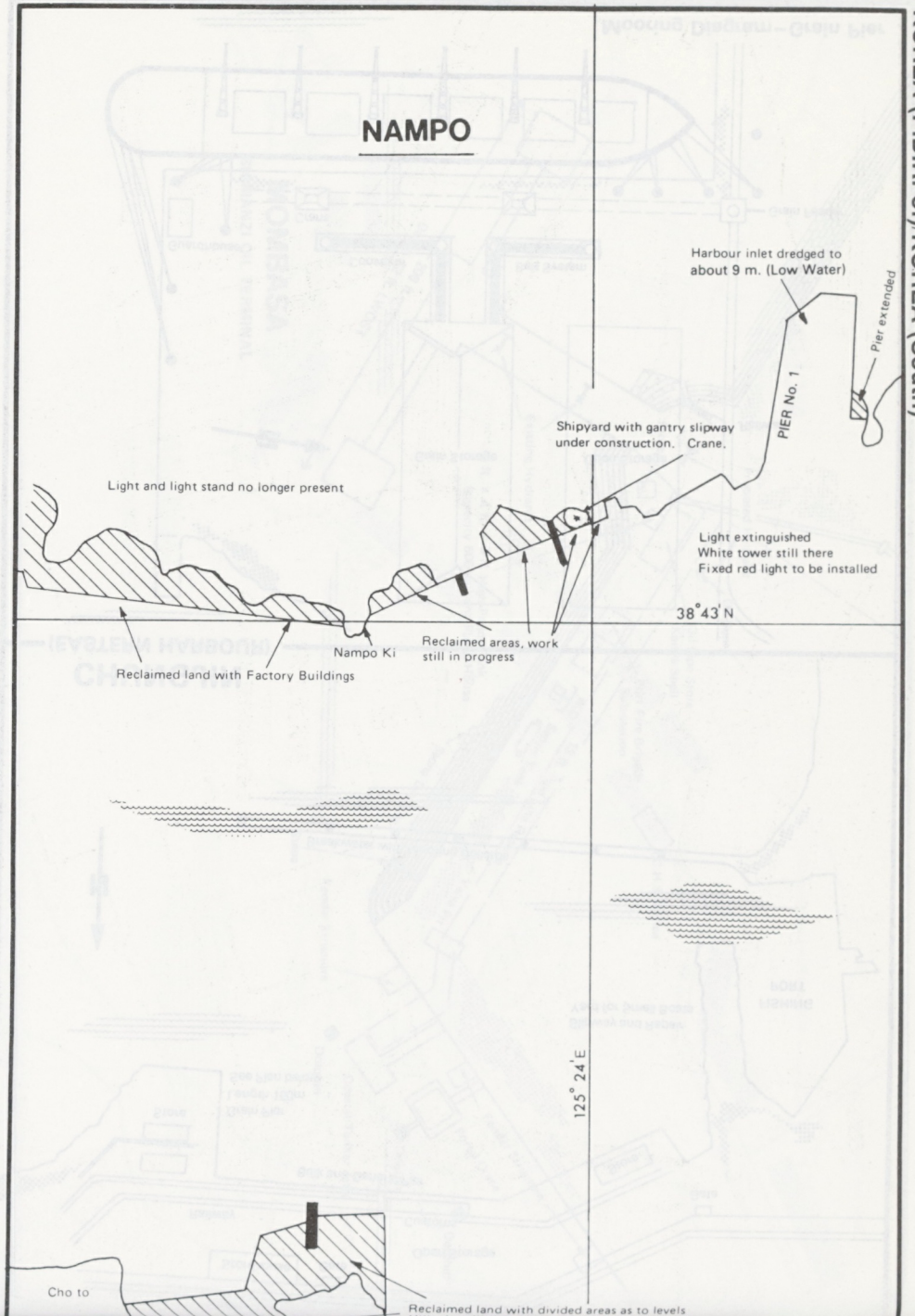
Mooring Diagram–Grain Pier

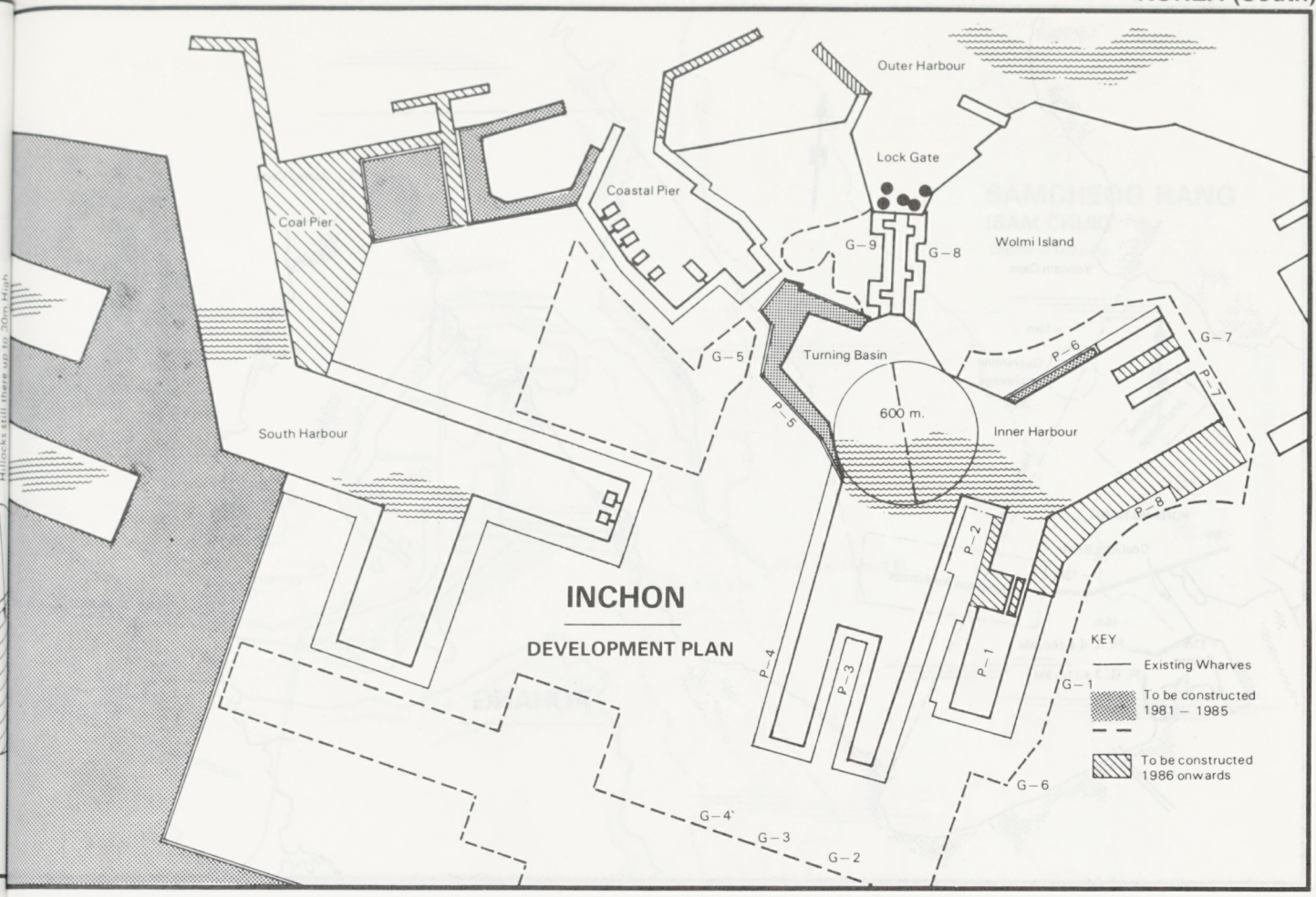
"Plan supplied by Ship's Master"

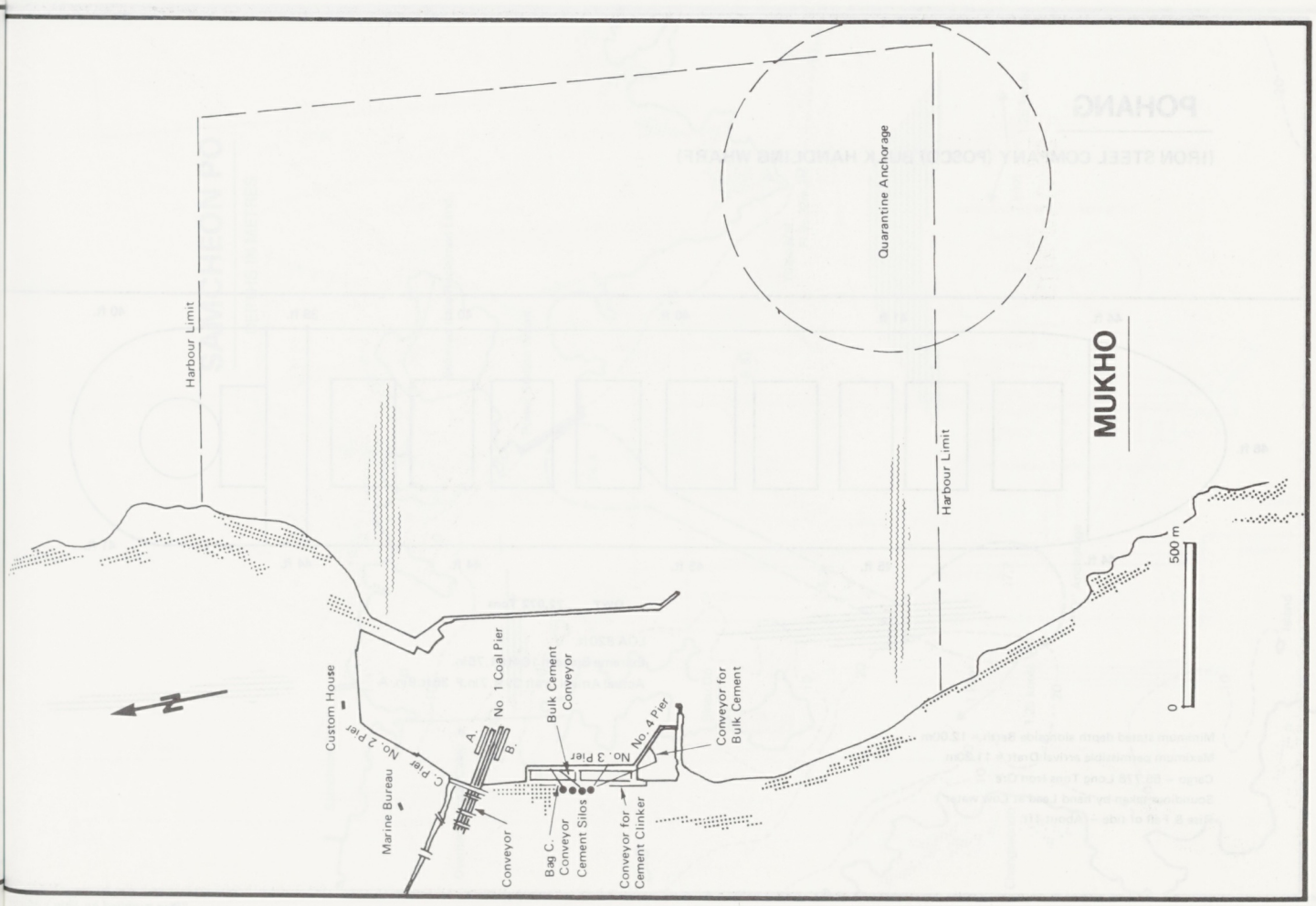
BUK PYUNG

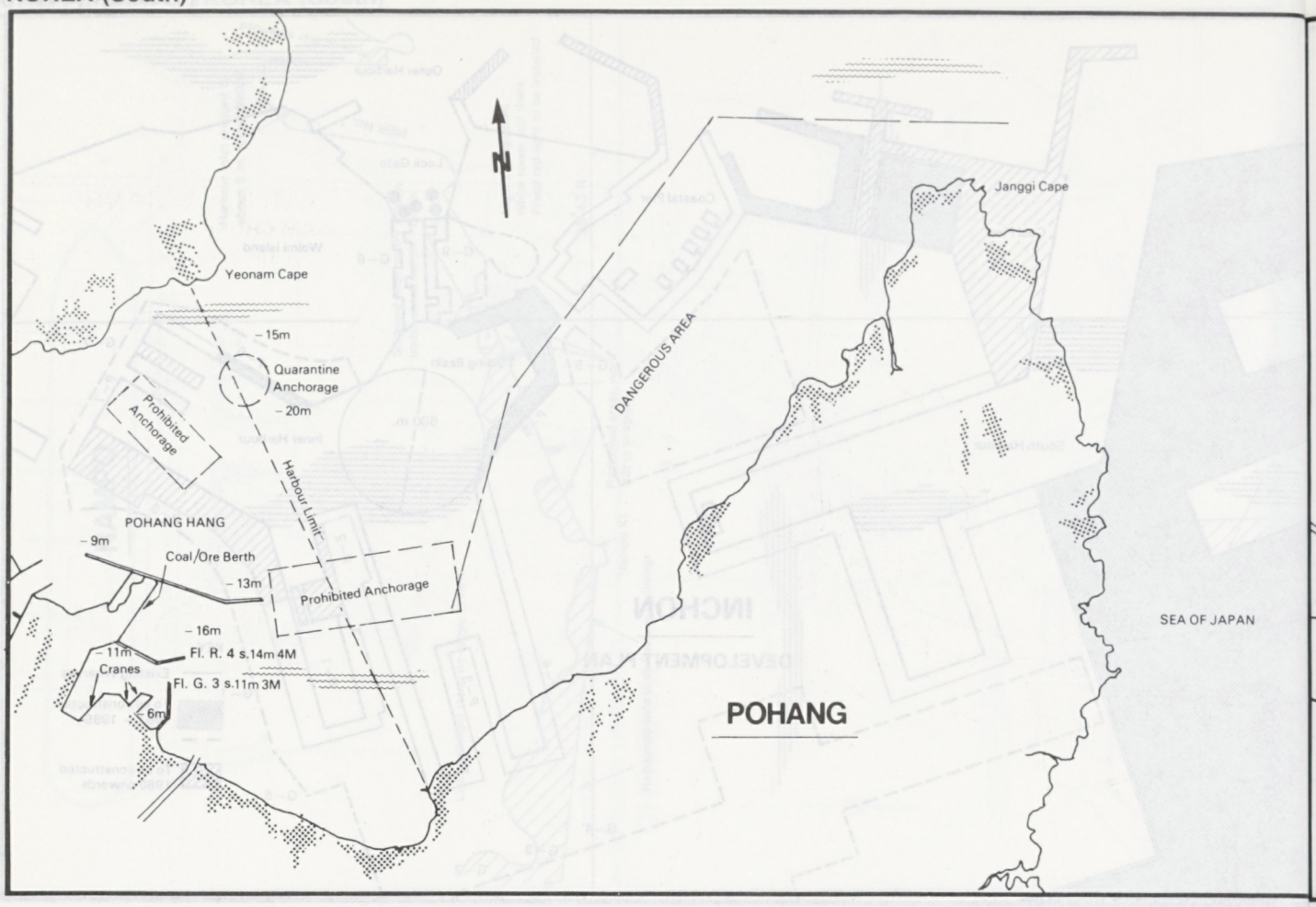


NAMPO



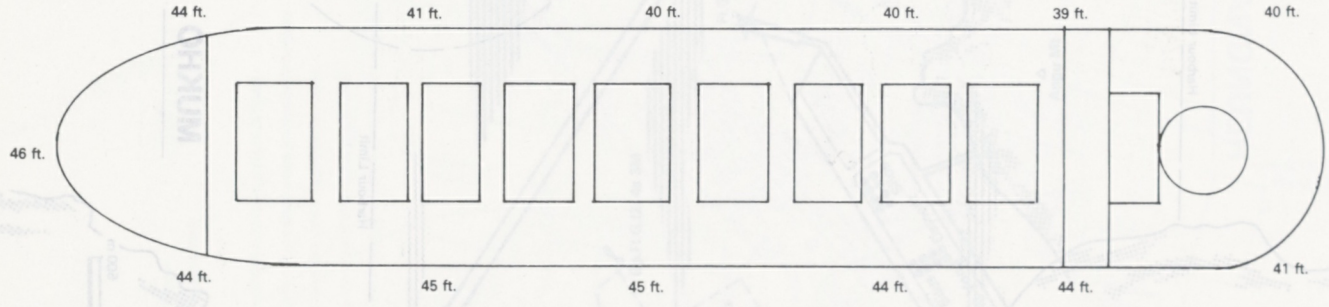

Outer Harbour
Lock Gate
Coastal Pier
Coal Pier
Wolmi Island
G – 9
G – 8
G – 7
G – 5
Turning Basin
P – 6
P – 7
P – 5
600 m.
Inner Harbour
South Harbour
P – 8
P – 2
P – 4
P – 3
P – 1
G – 1
G – 6
G – 4
G – 3
G – 2
INCHON
DEVELOPMENT PLAN
KEY
Existing Wharves
To be constructed 1981 – 1985
To be constructed 1986 onwards


Quarantine Anchorage
Harbour Limit
Harbour Limit
MUKHO
500 m
0
Custom House
No. 1 Coal Pier
A
B
Bulk Cement Conveyor
No. 4 Pier
No. 3 Pier
Conveyor for Bulk Cement
C. Pier
No. 2 Pier
Marine Bureau
Conveyor
Bag C. Conveyor
Cement Silos
Conveyor for Cement Clinker



POHANG

(IRON STEEL COMPANY (POSCO) BULK HANDLING WHARF)



DWT 72,072 Tons

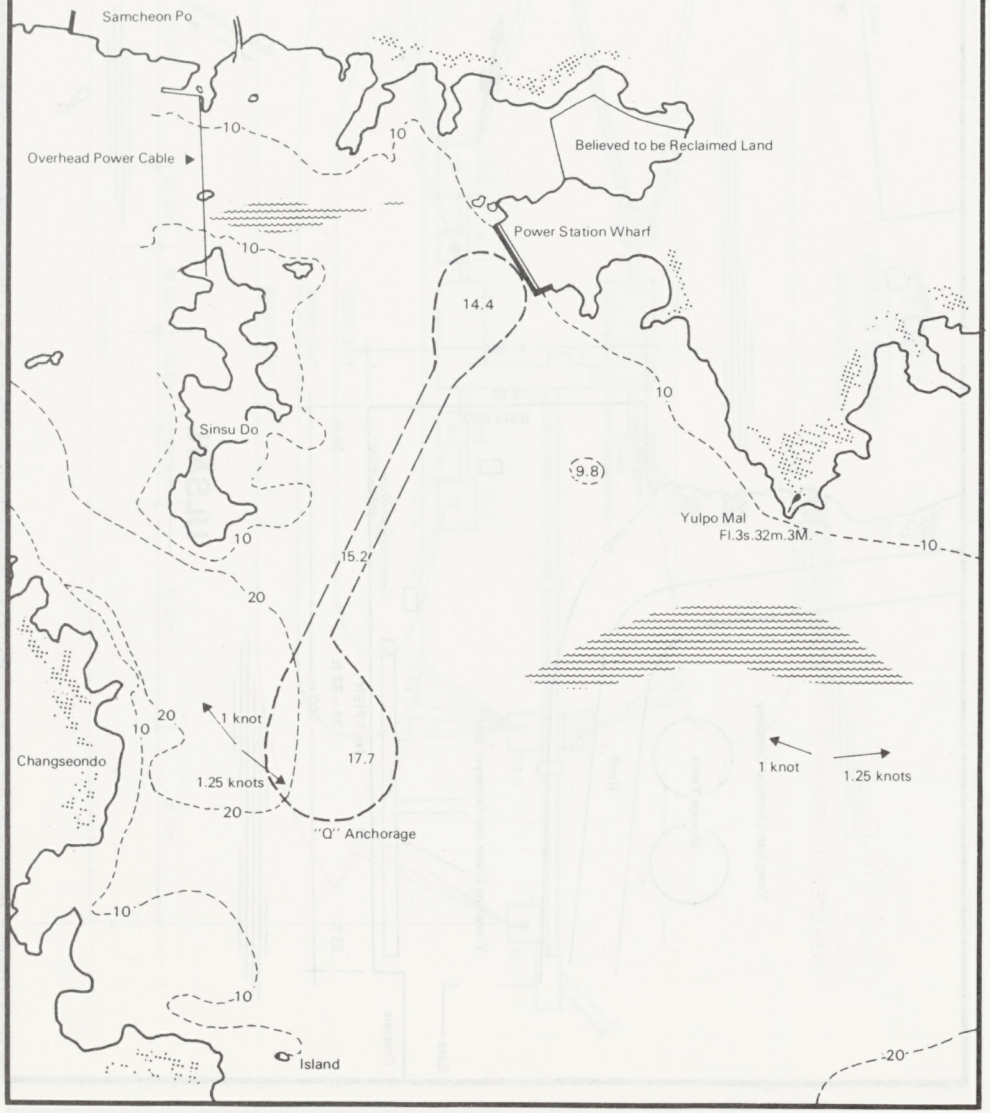
LOA 820ft.
Extreme Breadth 104ft.1.75in.
Actual Arrival Draft 37ft.7in.F 36ft.8in. A

Minimum stated depth alongside Berth = 12.00m
Maximum permissible arrival Draft = 11.20m
Cargo – 55.776 Long Tons Iron Ore
Soundings taken by hand Lead at Low water
Rise & Fall of tide – About 1ft.

"Plan supplied by Ship's Maste

SAMCHEON PO

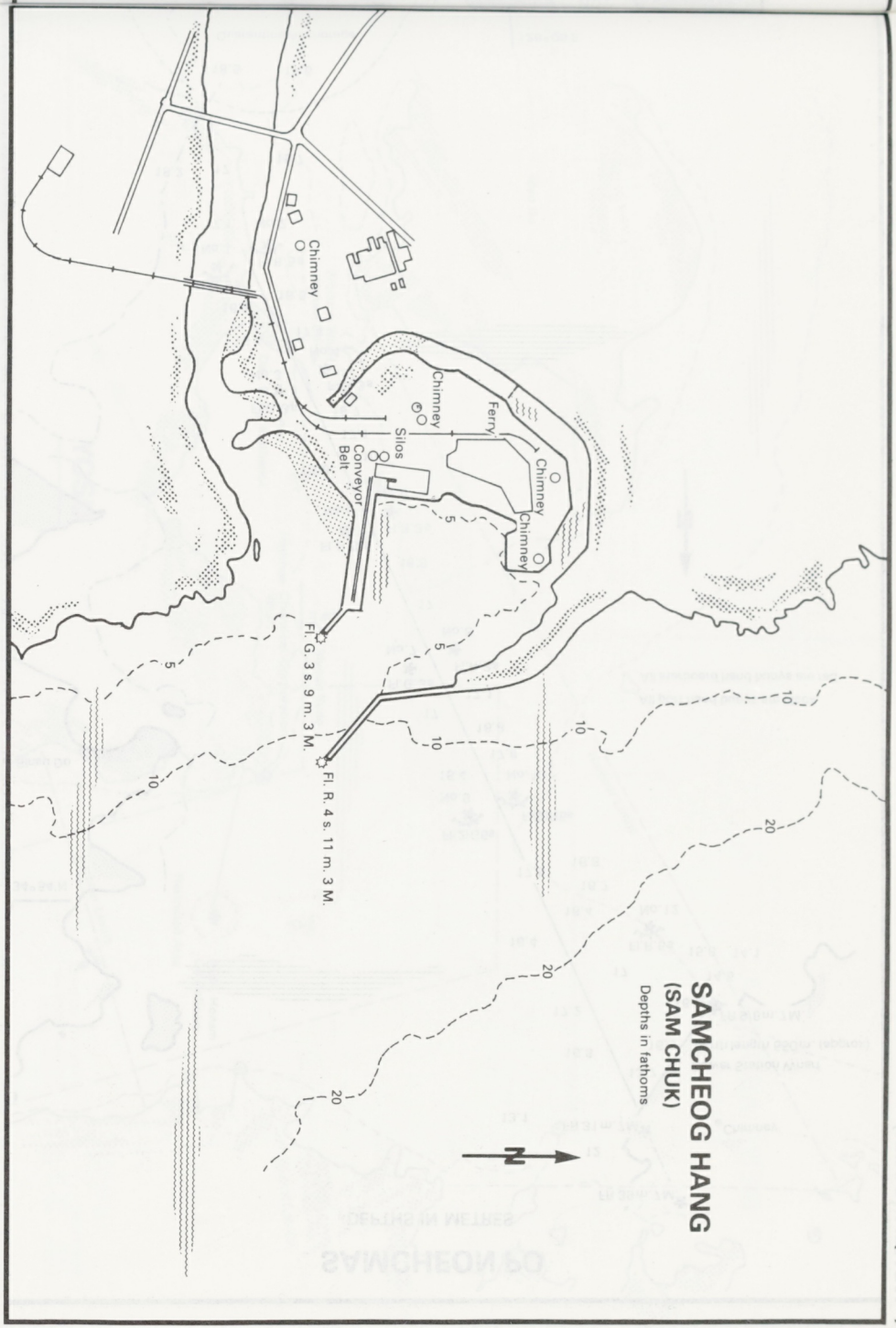
DEPTHS IN METRES



"Plan supplied by Ship's Master"

SAMCHEOG HANG
(SAM CHUK)

Depths in fathoms



"Plan supplied by Ship's Master"

ULSAN

Coasters

Gate

33 ft.

Travelling Crane and Conveyor Belt

Yong-Nan Chemical Company

Storage Tanks

Road

No.1 PIER

36 - 38 ft.

300 m

30 ft.

Gate

No.3 PIER

29 ft.

165 m

Dolphins

No.2 PIER

36 ft.

Buoyed Channel

N

No.4 PIER

SAMCHEON PO

DEPTHS IN METRES

FR 39 m. 7M

12

FR 31 m. 7M

Chimney

13.1

13.7

Power Station Wharf

Berth length 550m. (approx)

16.8

16.6

17.2

FR 9/8m. 7M.

16.6

14.5

17

Fl.R.5s

15.8

14.1

16.4

No.12

16.4

16.7

34°54'N

17.5

16.8

Fl(2)G5s

Fl(2)R5s

No.9

No.10

Sinsu Do

15.4

17.8

16.8

17

17.1

All port hand buoys are black

All starboard hand buoys are red

Fl.G.3s

Fl.R.3s

No.7

No.8

17

16.8

Fl.G.3s

Fl.R.3s

No.5

No.6

16.8

15

17.1

18.7

Fl.G.3s

Fl.R.3s

No.3

No.4

15.4

17.4

16.2

16.5

Fl.G.3s

Fl.R.5s

No.1

No.2

17.1

18.2

17

16.7

18.5

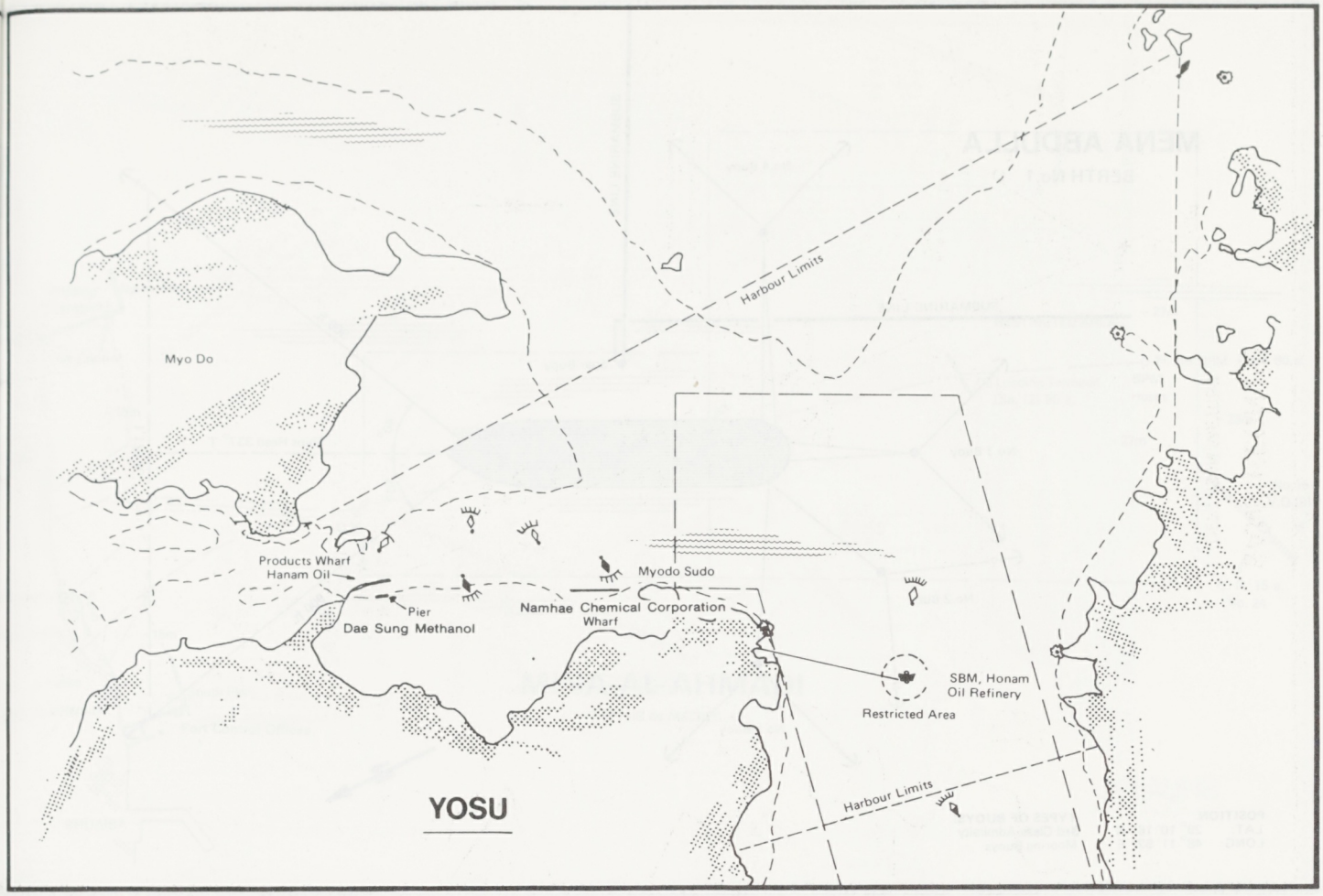
17.6

Quarantine Anchorage

128°06'E

N

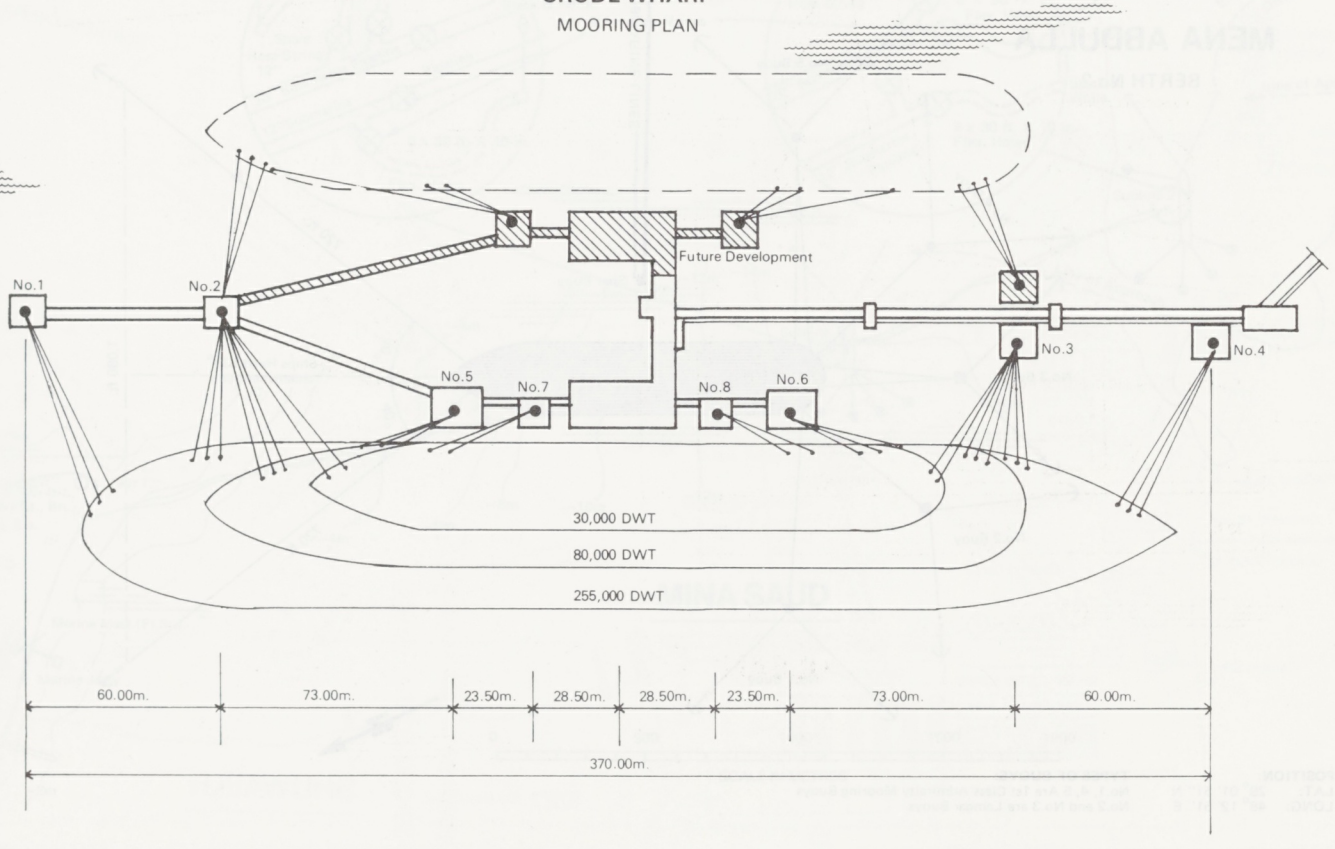
"Plan supplied by Ship's Offi



YOSU

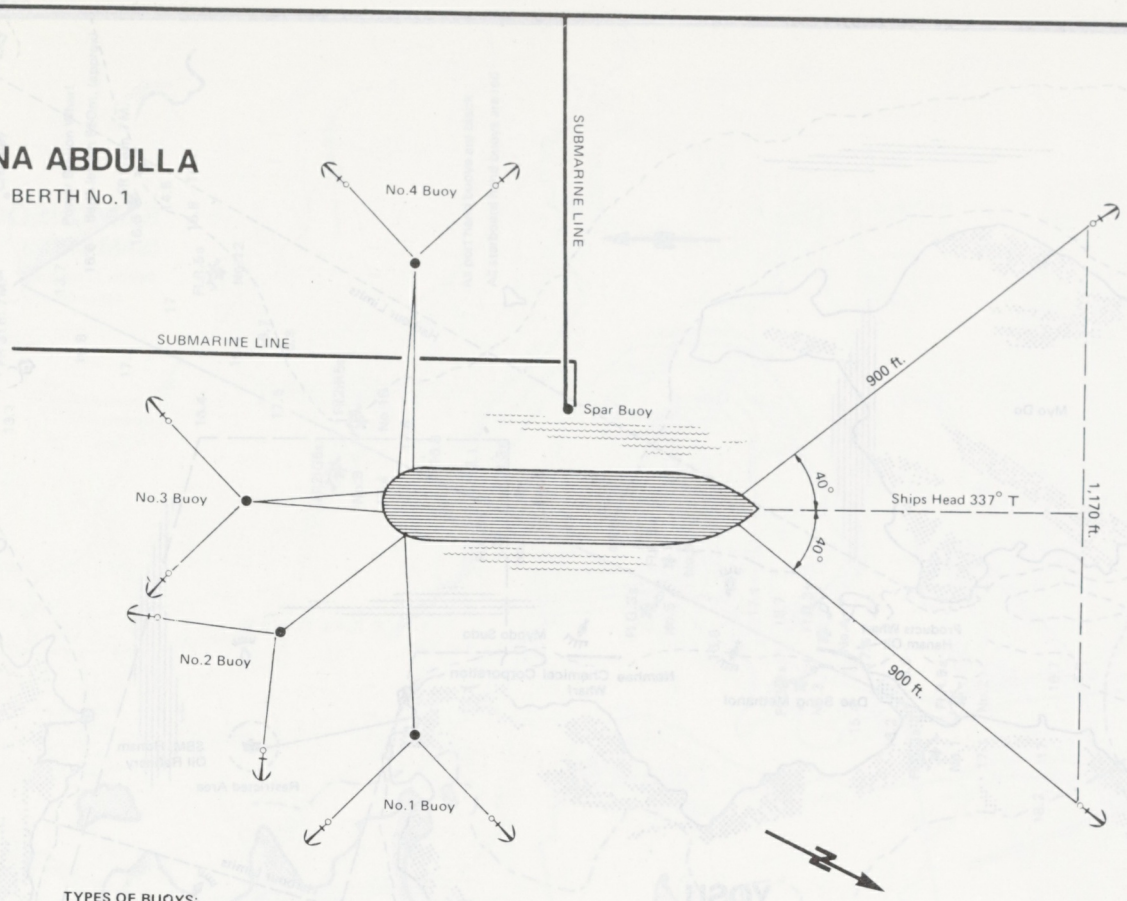
CRUDE WHARF

MOORING PLAN



MENA ABDULLA

BERTH No.1

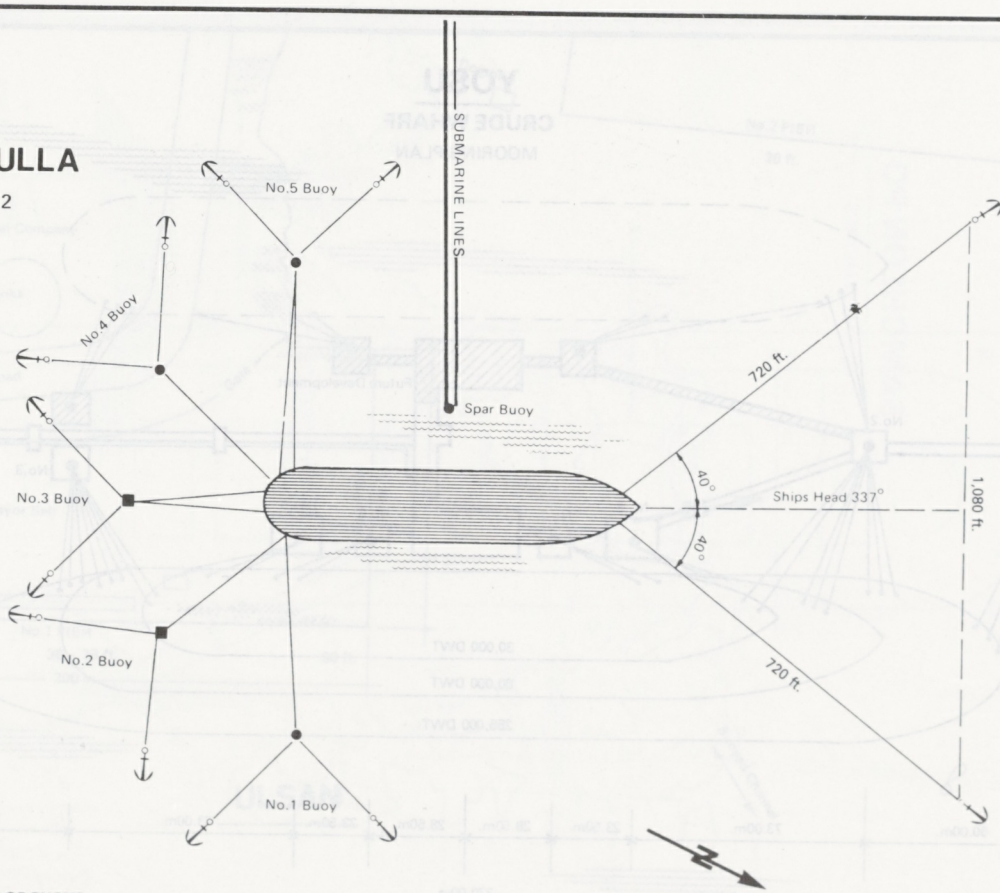


POSITION:
LAT: 29° 10' 16" N
LONG: 48° 11' 52" E

TYPES OF BUOYS:
3rd Class Admiralty
Mooring Buoys

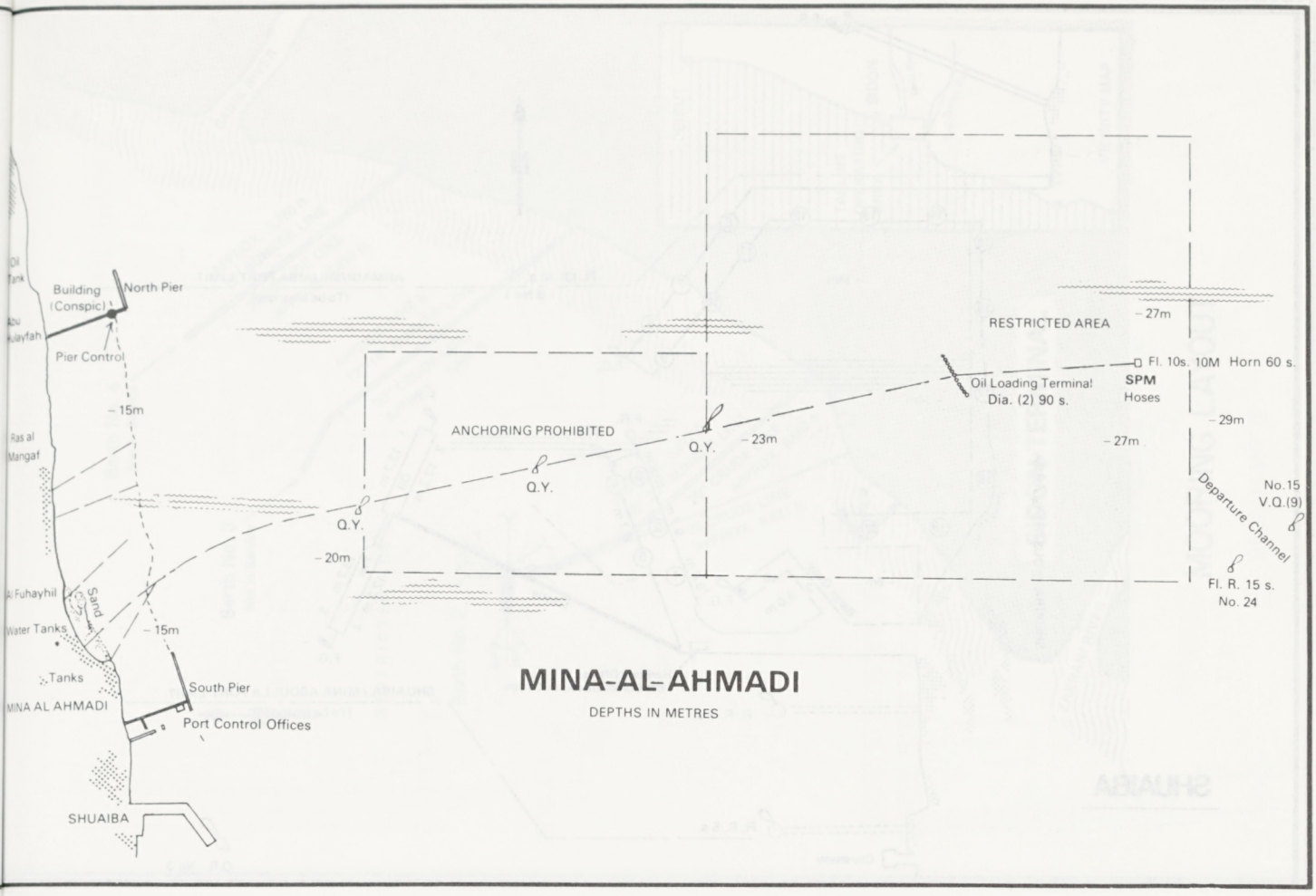
MENA ABDULLA

BERTH No.2



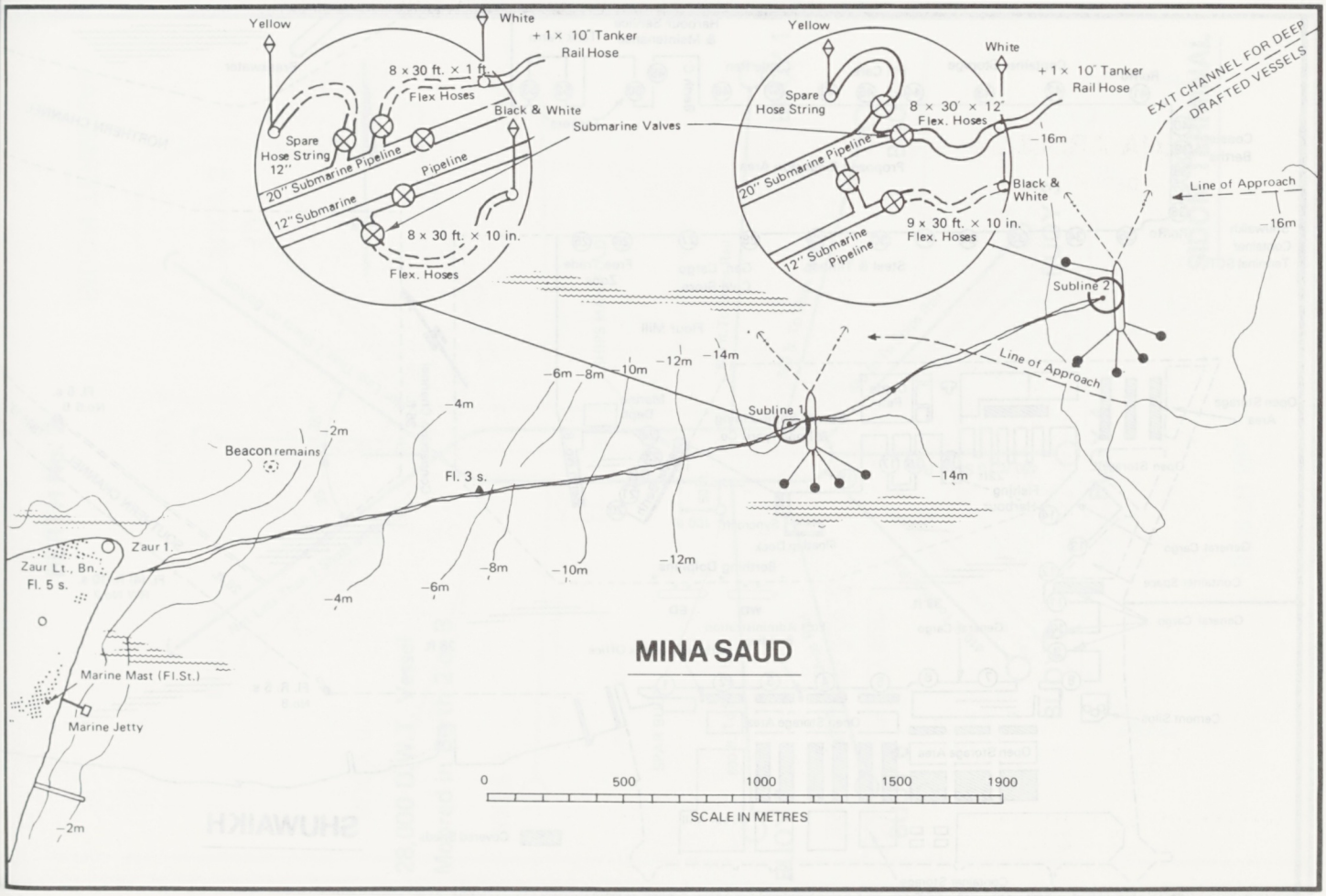
POSITION:
LAT: 29° 01' 51" N
LONG: 48° 12' 51" E

TYPES OF BUOYS:
No.1, 4, 5 Are 1st Class Admiralty Mooring Buoys
No.2 and No.3 are Lamgar Buoys

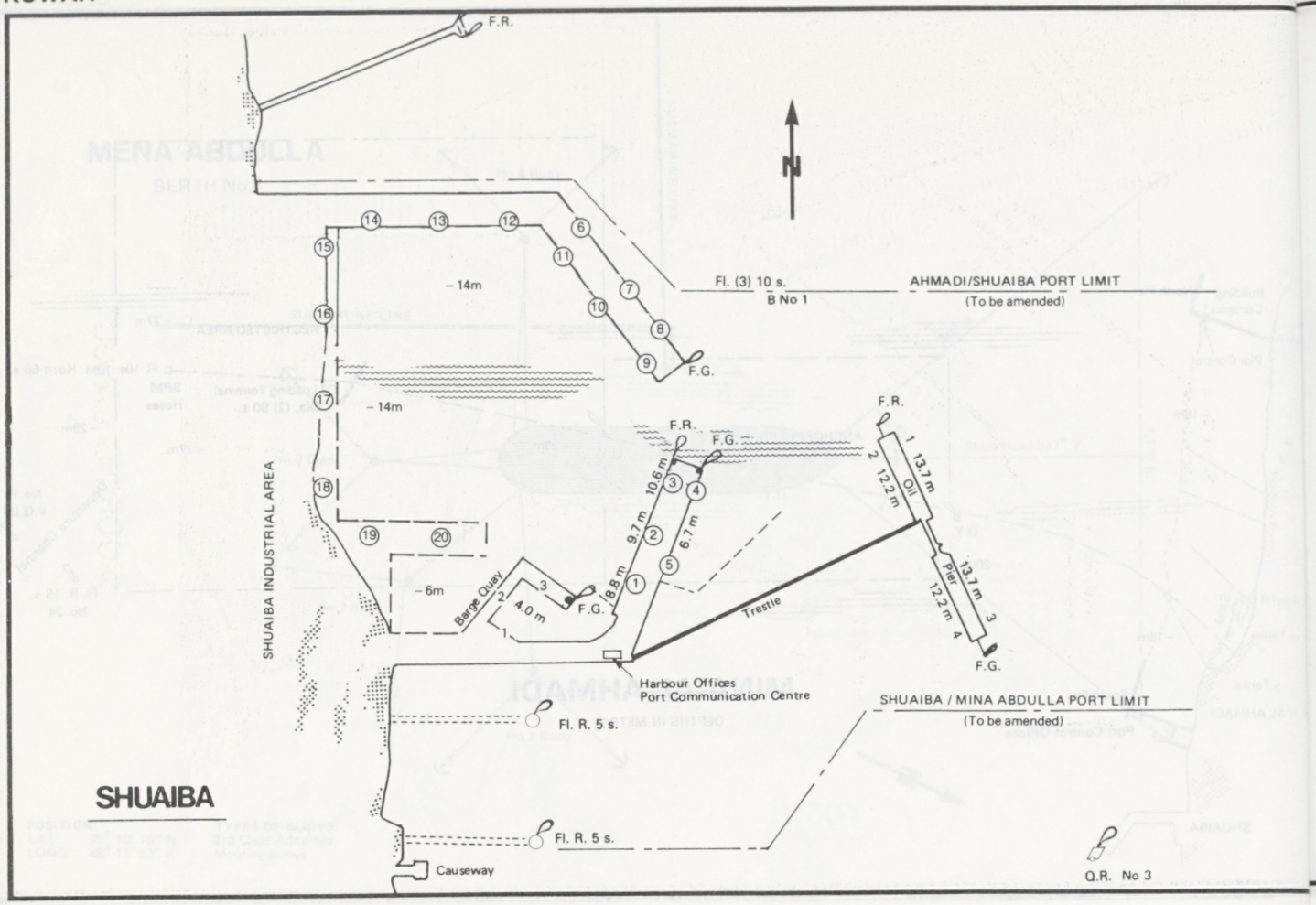


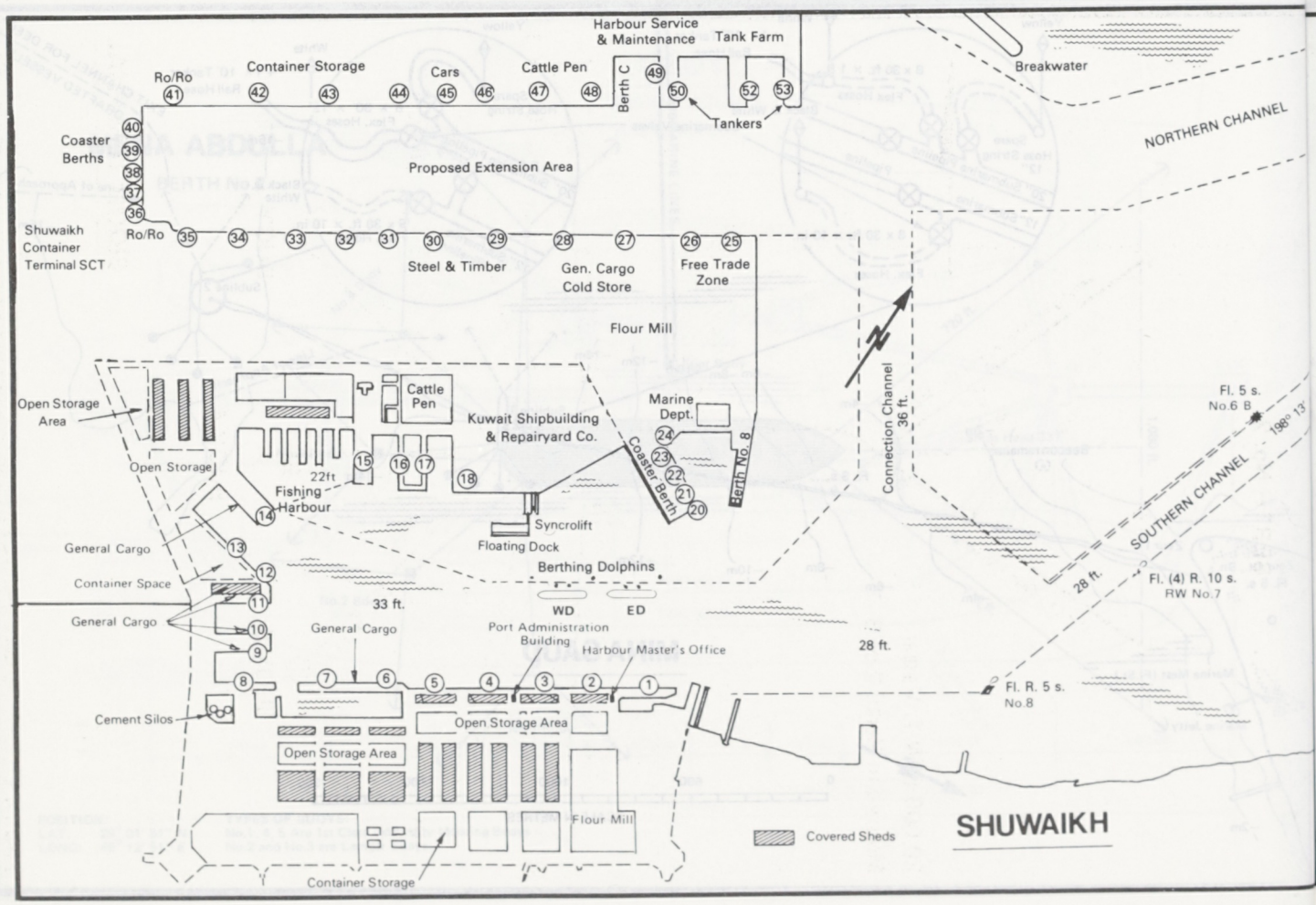
MINA-AL-AHMADI

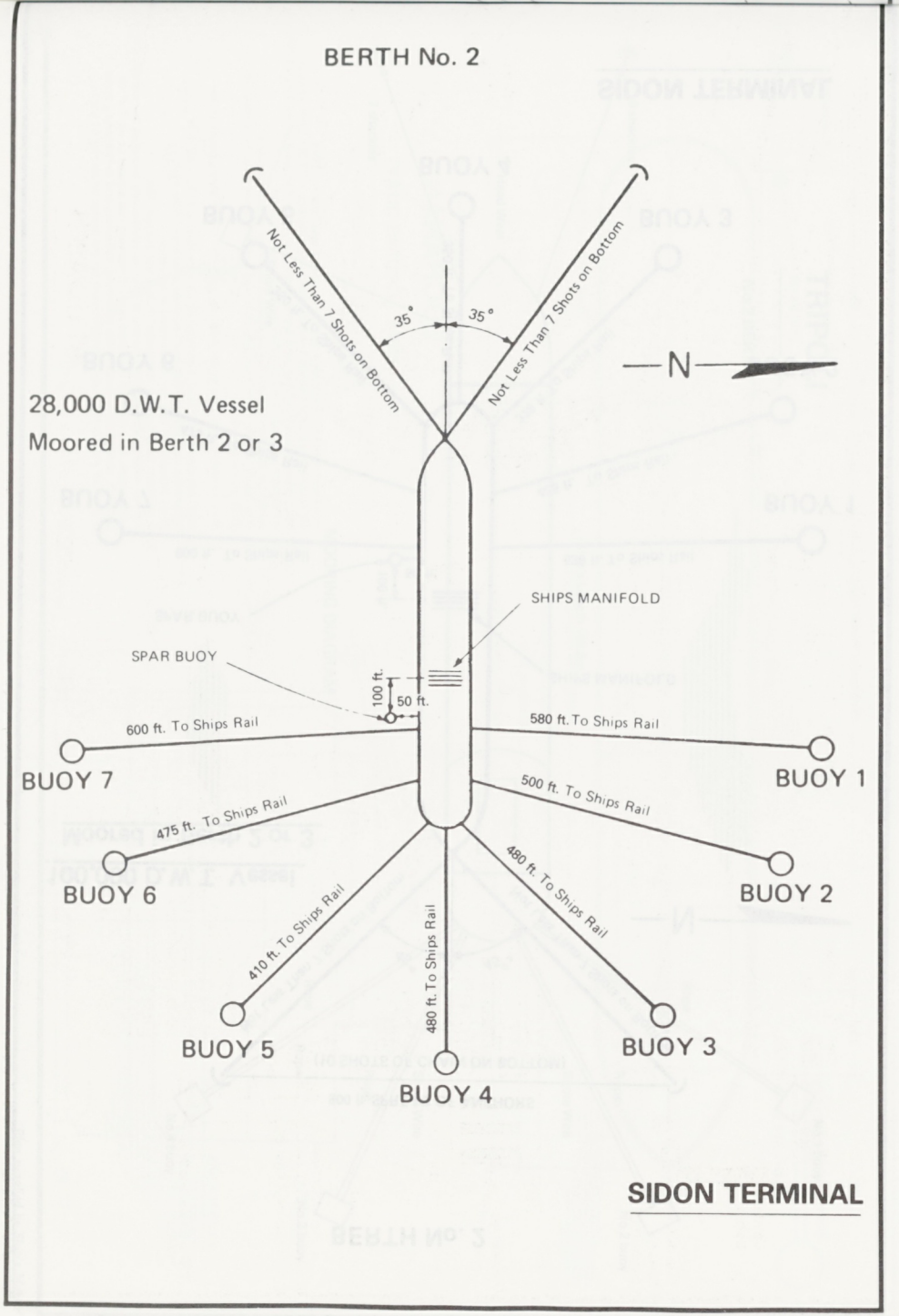
DEPTHS IN METRES

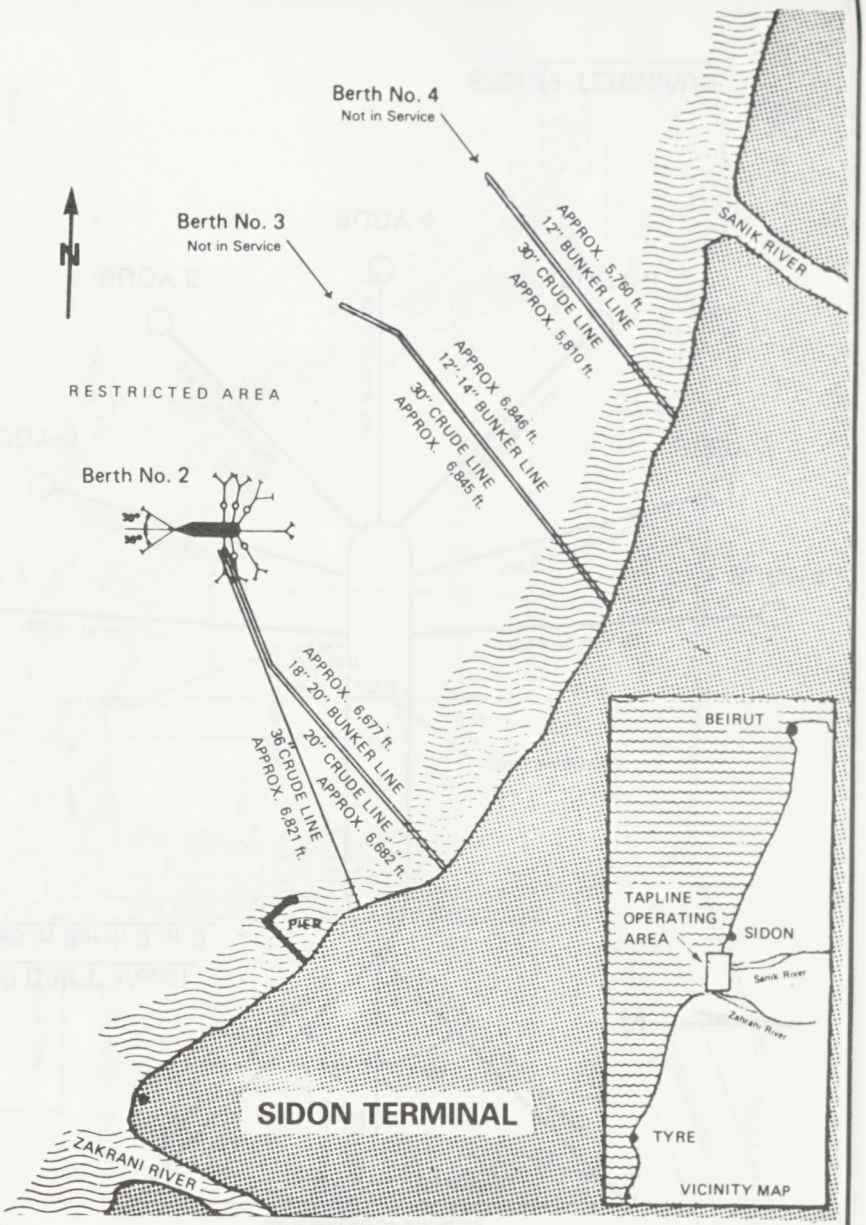


MINA SAUD


F.R.
N
14
13
12
6
15
11
7
10
8
16
9
F.G.
– 14m
17
– 14m
F.R.
F.G.
F.R.
1 13.7 m
2 12.2 m
Oil
10.6 m
3
4
18
SHUAIBA INDUSTRIAL AREA
9.7 m
2
6.7 m
5
19
20
– 6m
Barge Quay
3
2
4.0 m
1
F.G.
8.8 m
1
Trestle
Pier
13.7 m 3
12.2 m 4
F.G.
Harbour Offices
Port Communication Centre
Fl. (3) 10 s.
B No 1
AHMADI/SHUAIBA PORT LIMIT
(To be amended)
SHUAIBA / MINA ABDULLA PORT LIMIT
(To be amended)
Fl. R. 5 s.
SHUAIBA
Fl. R. 5 s.
Causeway
Q.R. No 3


Harbour Service
& Maintenance
Tank Farm
Ro/Ro
Container Storage
Cars
Cattle Pen
Berth C
41
42
43
44
45
46
47
48
49
50
52
53
Tankers
Breakwater
NORTHERN CHANNEL
Coaster
Berths
40
39
38
37
36
Proposed Extension Area
Shuwaikh
Container
Terminal SCT
Ro/Ro
35
34
33
32
31
30
29
28
27
26
25
Steel & Timber
Gen. Cargo
Cold Store
Free Trade
Zone
Flour Mill
N
Open Storage
Area
Cattle
Pen
Kuwait Shipbuilding
& Repairyard Co.
Marine
Dept.
Connection Channel
36 ft.
Fl. 5 s.
No.6 B
Open Storage
22ft
15
16
17
18
24
23
22
21
20
Berth No. 8
Coaster Berth
Fishing
Harbour
14
Syncrolift
Floating Dock
SOUTHERN CHANNEL
General Cargo
13
Container Space
12
Berthing Dolphins
28 ft.
Fl. (4) R. 10 s.
RW No.7
11
33 ft.
WD
ED
General Cargo
10
General Cargo
Port Administration
Building
Harbour Master's Office
9
28 ft.
8
7
6
5
4
3
2
1
Fl. R. 5 s.
No.8
Cement Silos
Open Storage Area
Open Storage Area
Flour Mill
Covered Sheds
SHUWAIKH
Container Storage



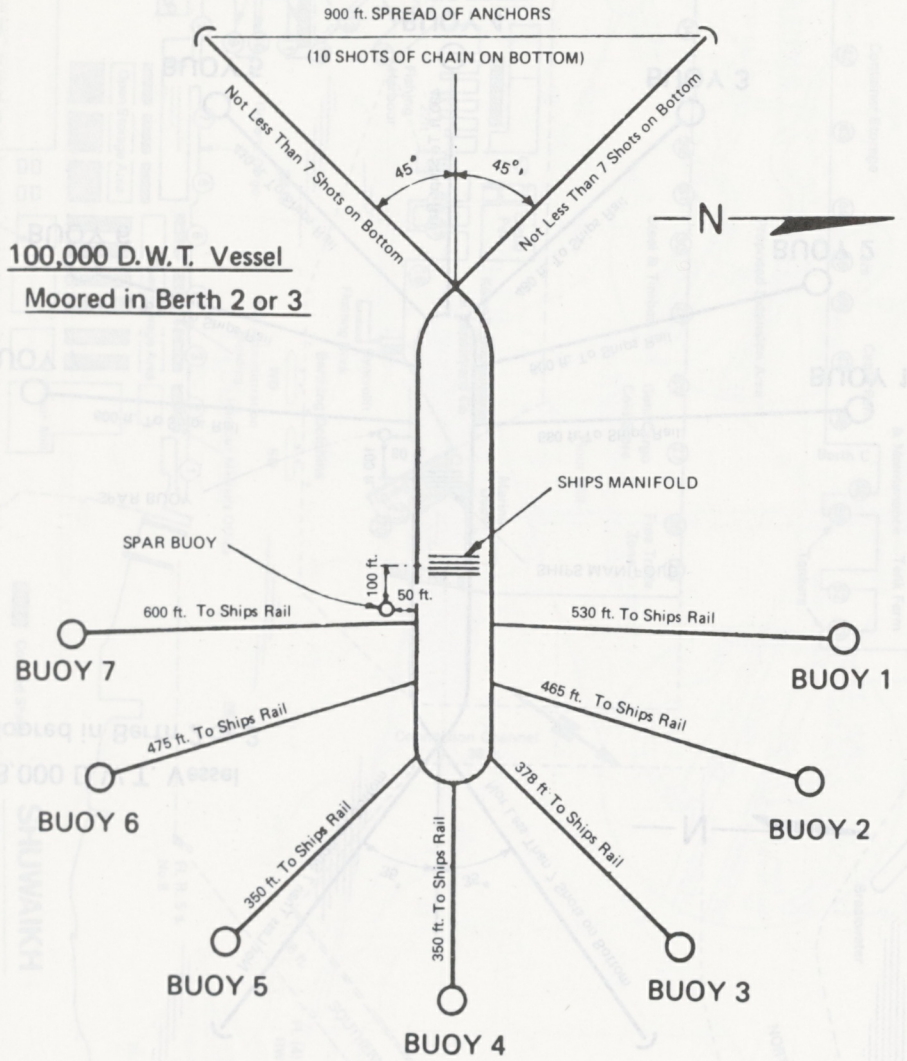


MOORING LAYOUT

LEBANON

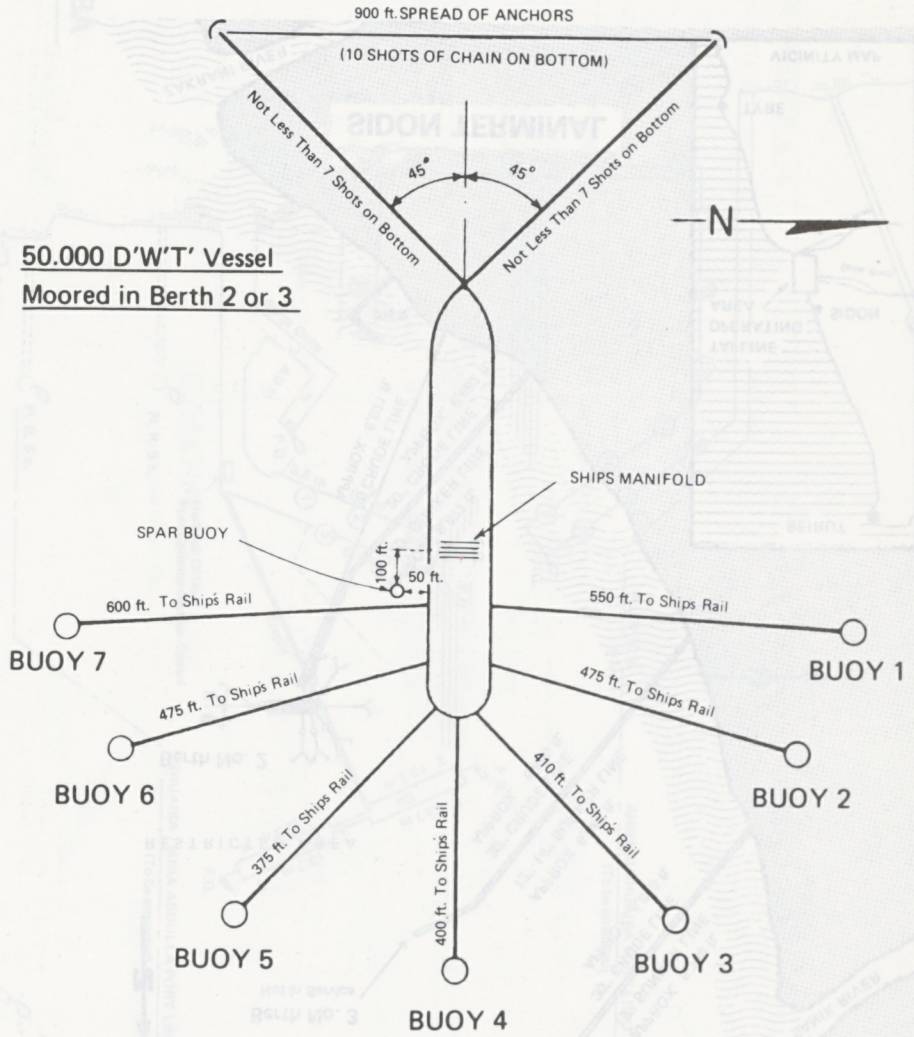
P557

BERTH No. 2

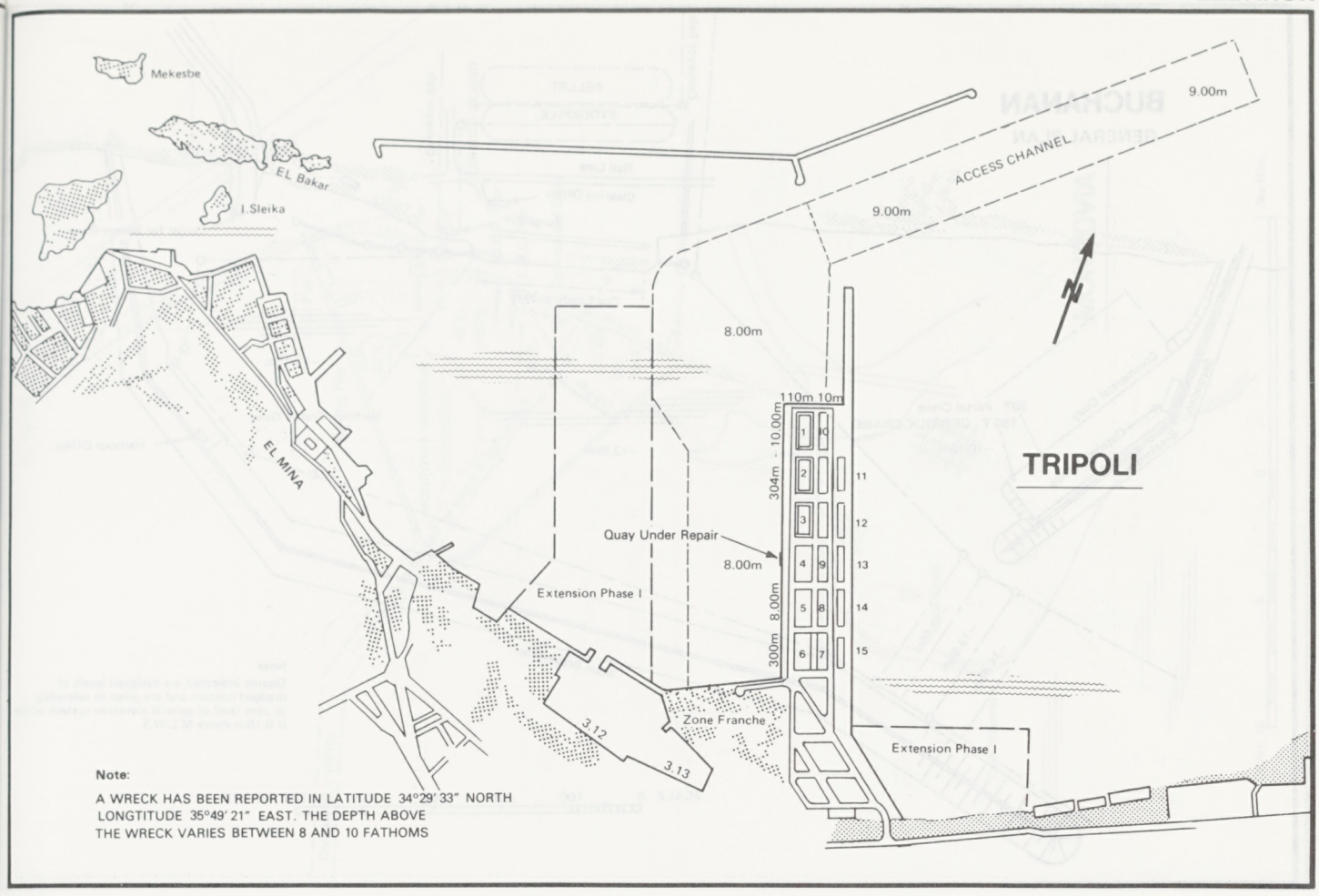


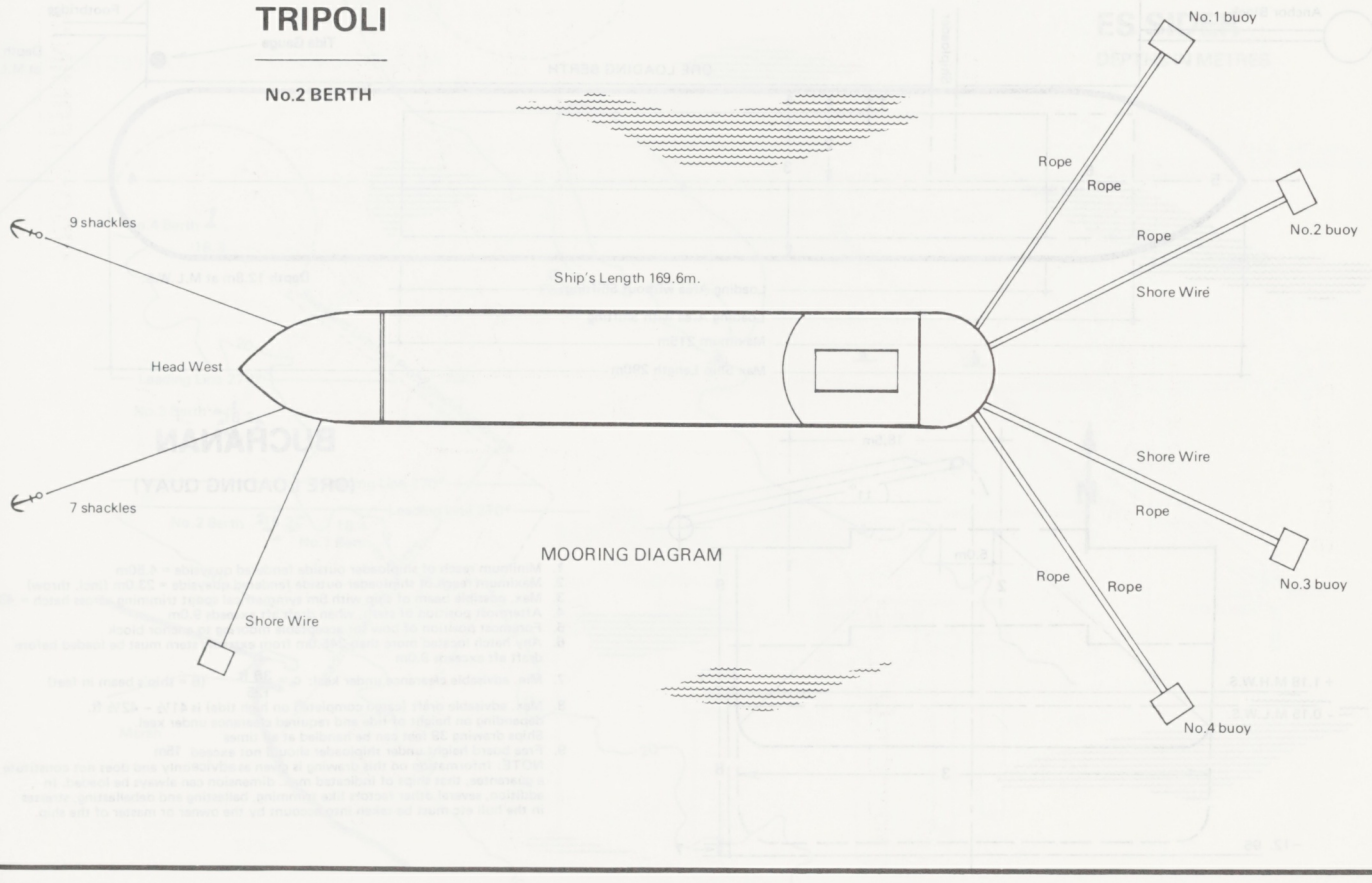
SIDON TERMINAL

BERTH No. 2



SIDON TERMINAL

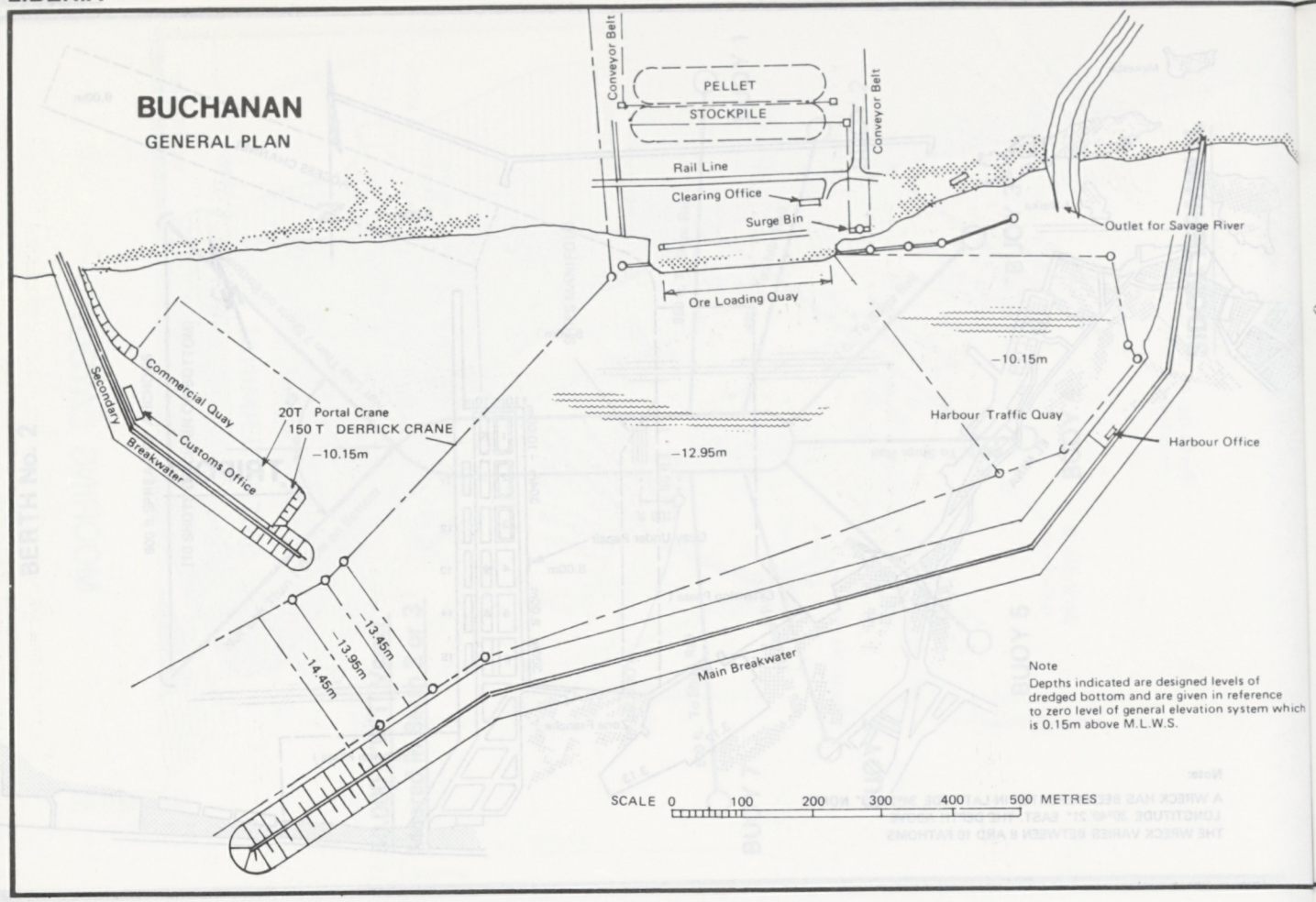




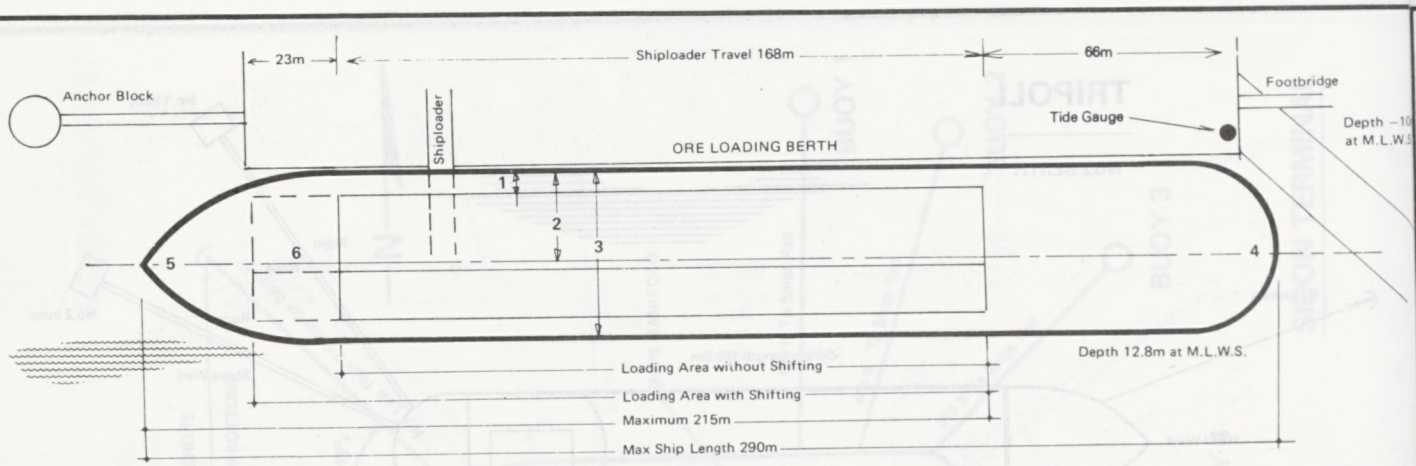
"Plan supplied by Ship's Master"

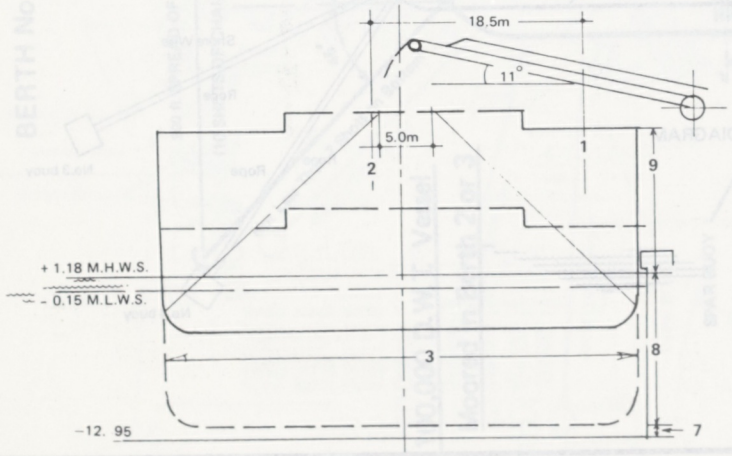
BUCHANAN

GENERAL PLAN



Note
Depths indicated are designed levels of dredged bottom and are given in reference to zero level of general elevation system which is 0.15m above M.L.W.S.



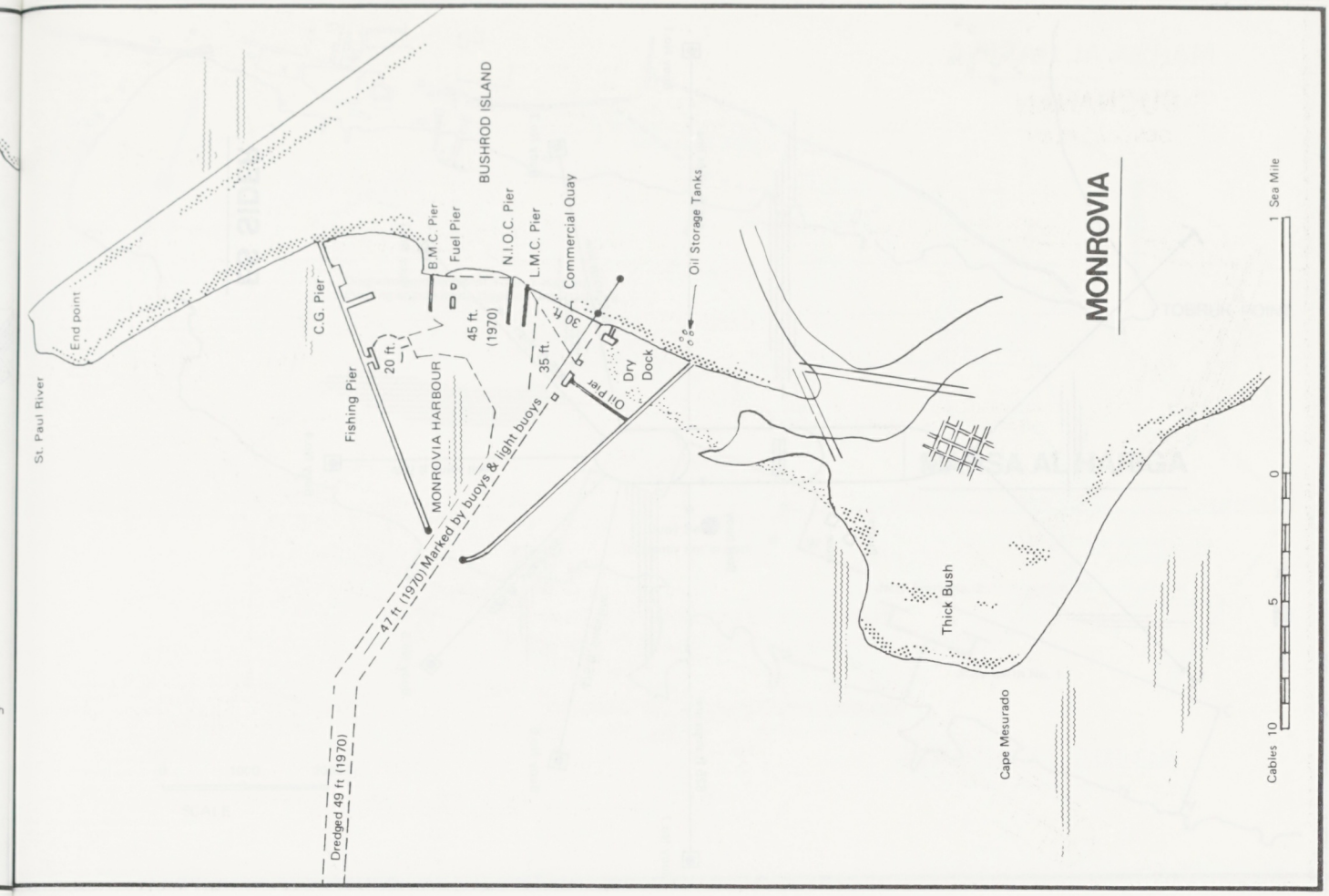


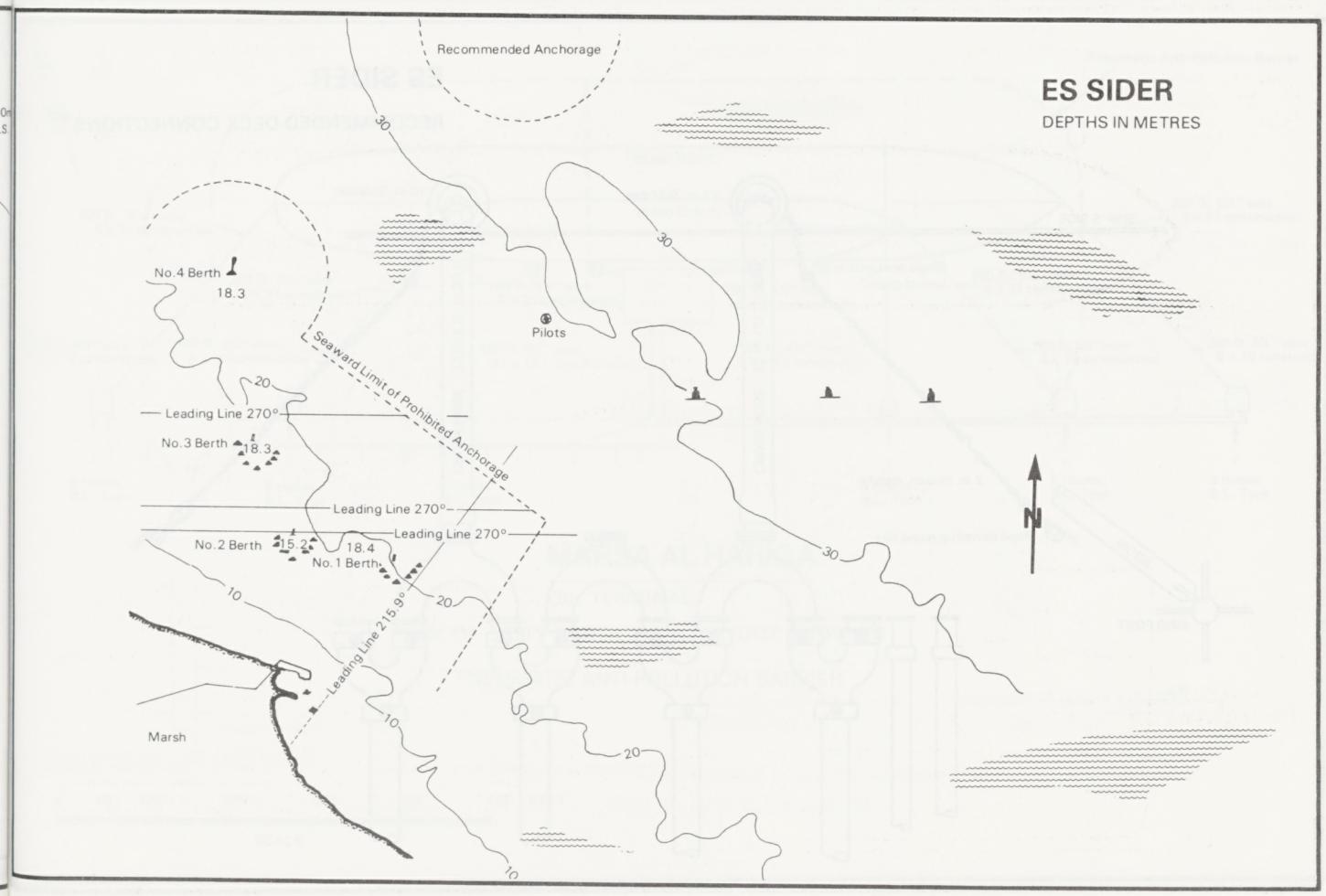
BUCHANAN

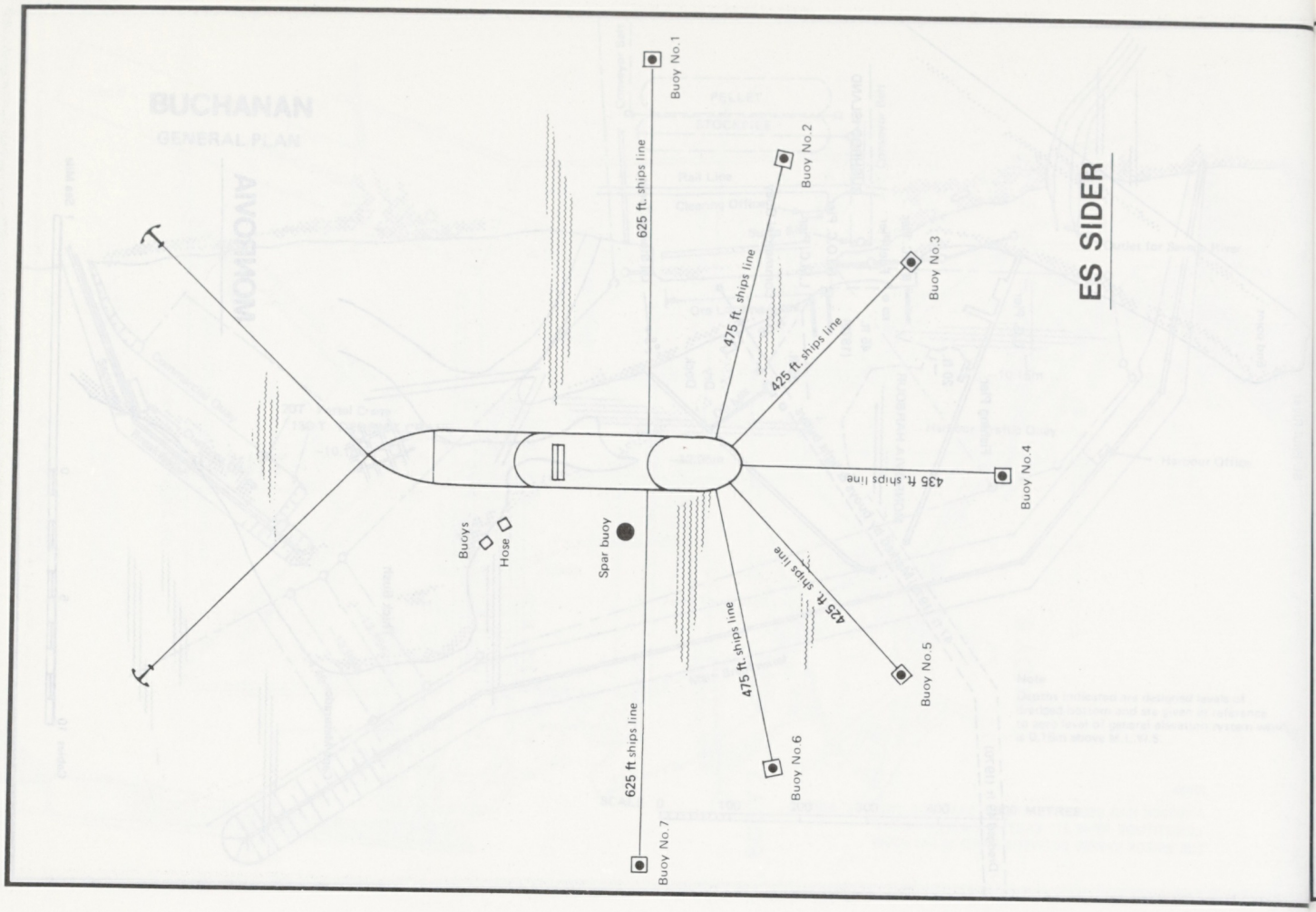
(ORE LOADING QUAY)

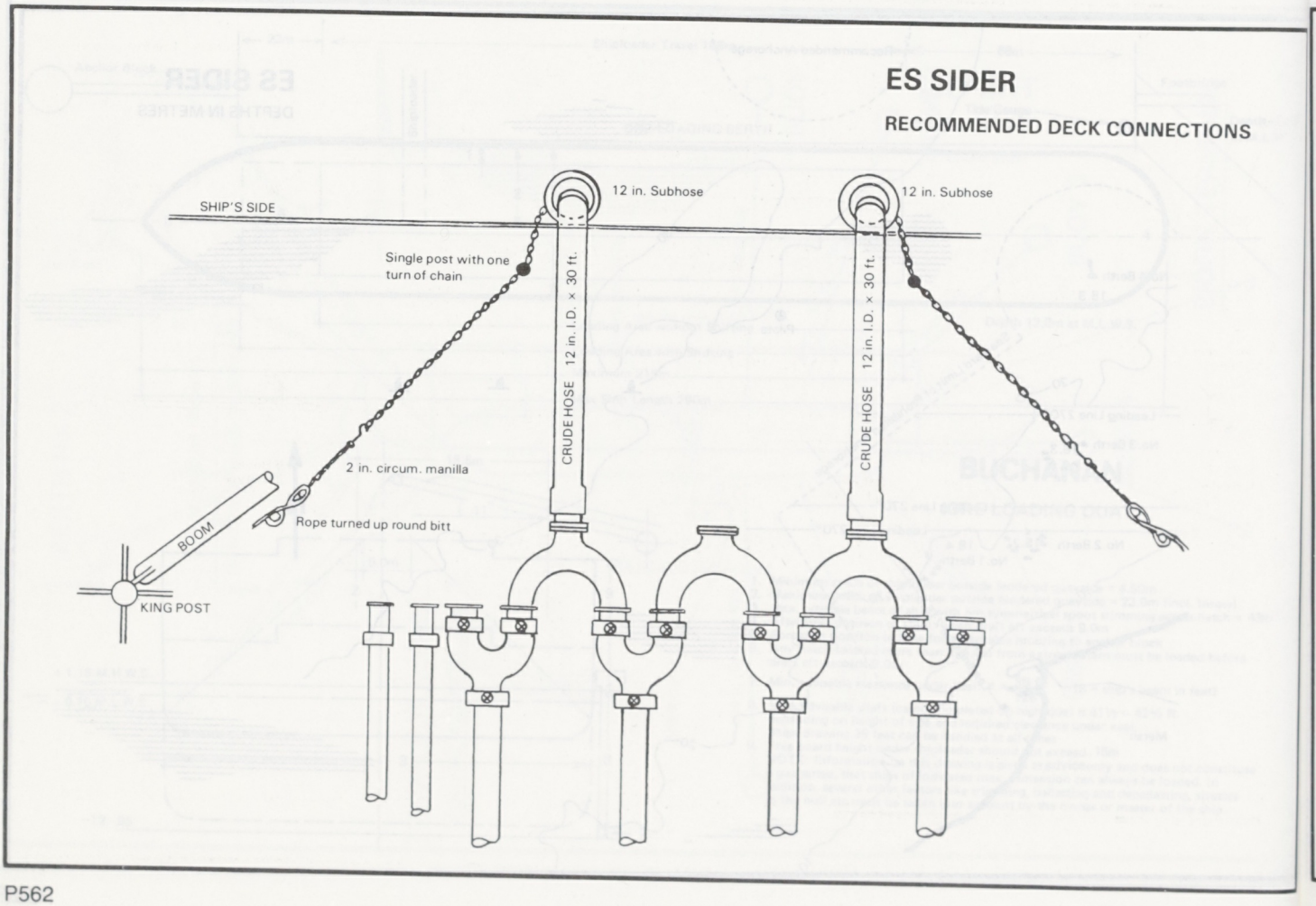
1. Minimum reach of shiploader outside fendered quayside = 4.50m
2. Maximum reach of shiploader outside fendered quayside = 23.0m (incl. throw)
3. Max. possible beam of ship with 5m symmetrical spout trimming across hatch = 43m
4. Aftermost position of stern, when draft aft exceeds 9.0m
5. Foremost position of bow for acceptable mooring to anchor block
6. Any hatch located more than 245.0m from extreme stern must be loaded before draft aft exceeds 9.0m
7. Min. advisable clearance under keel: $c = \frac{3B\ ft.}{125}$ (B = ship's beam in feet)
8. Max. advisable draft (cargo completed on high tide) is 41½ – 42½ ft. depending on height of tide and required clearance under keel. Ships drawing 39 feet can be handled at all times
9. Free board height under shiploader should not exceed 15m

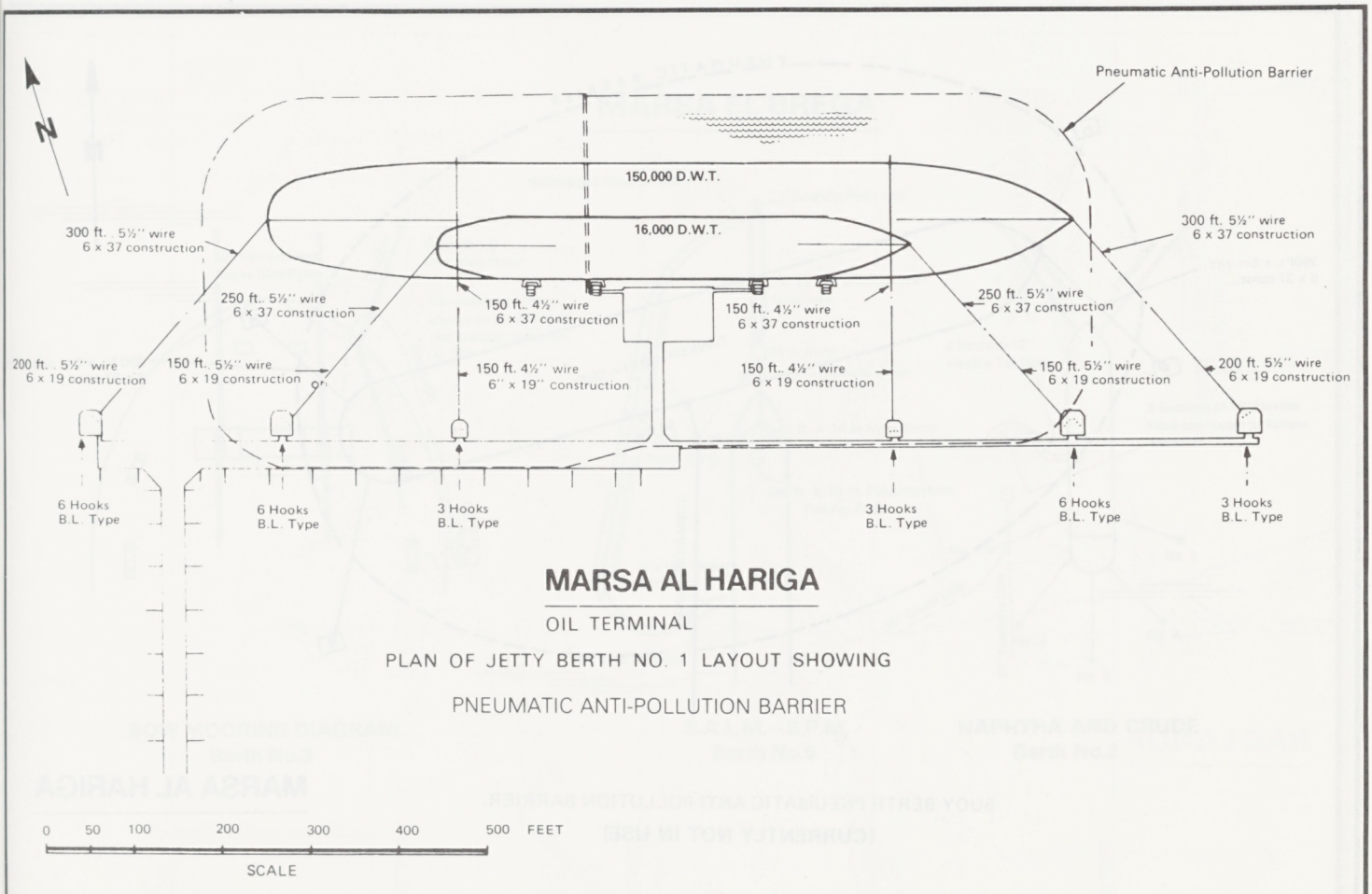
NOTE: Information on this drawing is given as advice only and does not constitute a guarantee, that ships of indicated max. dimension can always be loaded. In addition, several other factors like trimming, ballasting and deballasting, stresses in the hull etc must be taken into account by the owner or master of the ship.


MONROVIA
BUSHROD ISLAND
St. Paul River
End point
C.G. Pier
Fishing Pier
B.M.C. Pier
Fuel Pier
N.I.O.C. Pier
L.M.C. Pier
Commercial Quay
Oil Storage Tanks
Dry Dock
Oil pier
MONROVIA HARBOUR
Marked by buoys & light buoys
47 ft (1970)
Dredged 49 ft (1970)
45 ft. (1970)
35 ft.
30 ft.
20 ft.
Thick Bush
Cape Mesurado
1 Sea Mile
Cables


ES SIDER
DEPTHS IN METRES
Recommended Anchorage
Pilots
Seaward Limit of Prohibited Anchorage
No.4 Berth
18.3
No.3 Berth
18.3
No.2 Berth
15.2
18.4
No.1 Berth
Leading Line 270°
Leading Line 270°
Leading Line 270°
Leading Line 215.9°
Marsh
N


ES SIDER
Buoy No.1
Buoy No.2
Buoy No.3
Buoy No.4
Buoy No.5
Buoy No.6
Buoy No.7
625 ft. ships line
475 ft. ships line
425 ft. ships line
435 ft. ships line
425 ft. ships line
475 ft. ships line
625 ft ships line
Buoys
Hose
Spar buoy


ES SIDER
RECOMMENDED DECK CONNECTIONS
SHIP'S SIDE
12 in. Subhose
12 in. Subhose
Single post with one turn of chain
CRUDE HOSE 12 in. I.D. × 30 ft.
CRUDE HOSE 12 in. I.D. × 30 ft.
2 in. circum. manilla
Rope turned up round bitt
BOOM
KING POST



MARSA AL HARIGA

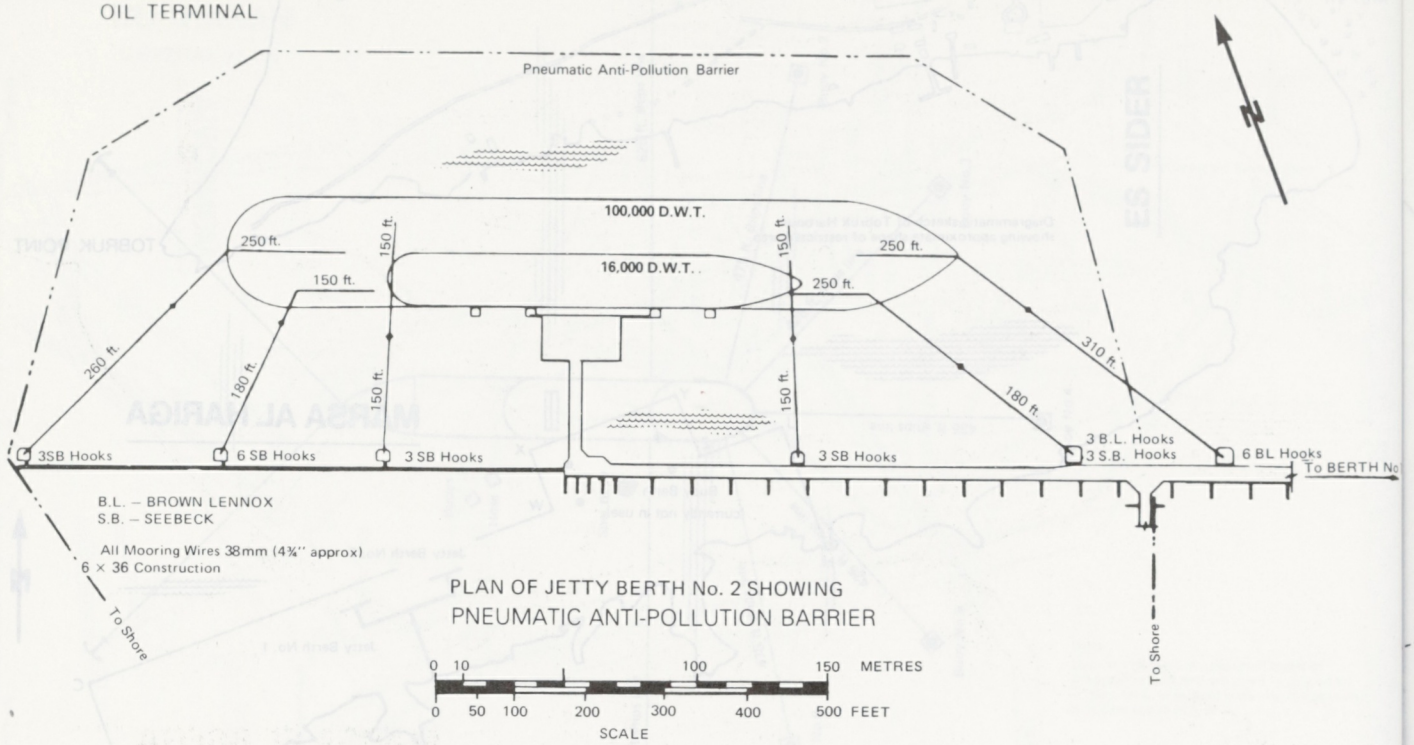
OIL TERMINAL

PLAN OF JETTY BERTH NO. 1 LAYOUT SHOWING

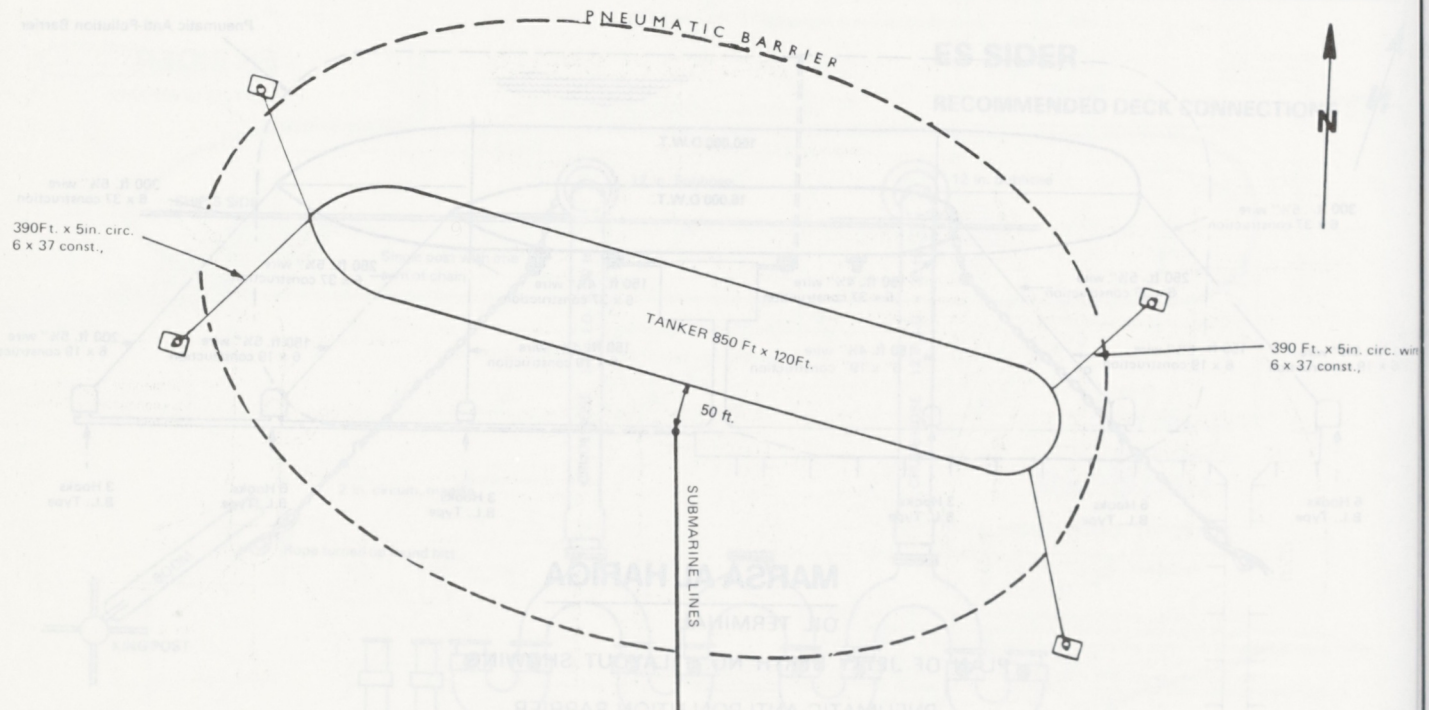
PNEUMATIC ANTI-POLLUTION BARRIER

MARSA AL HARIGA

OIL TERMINAL

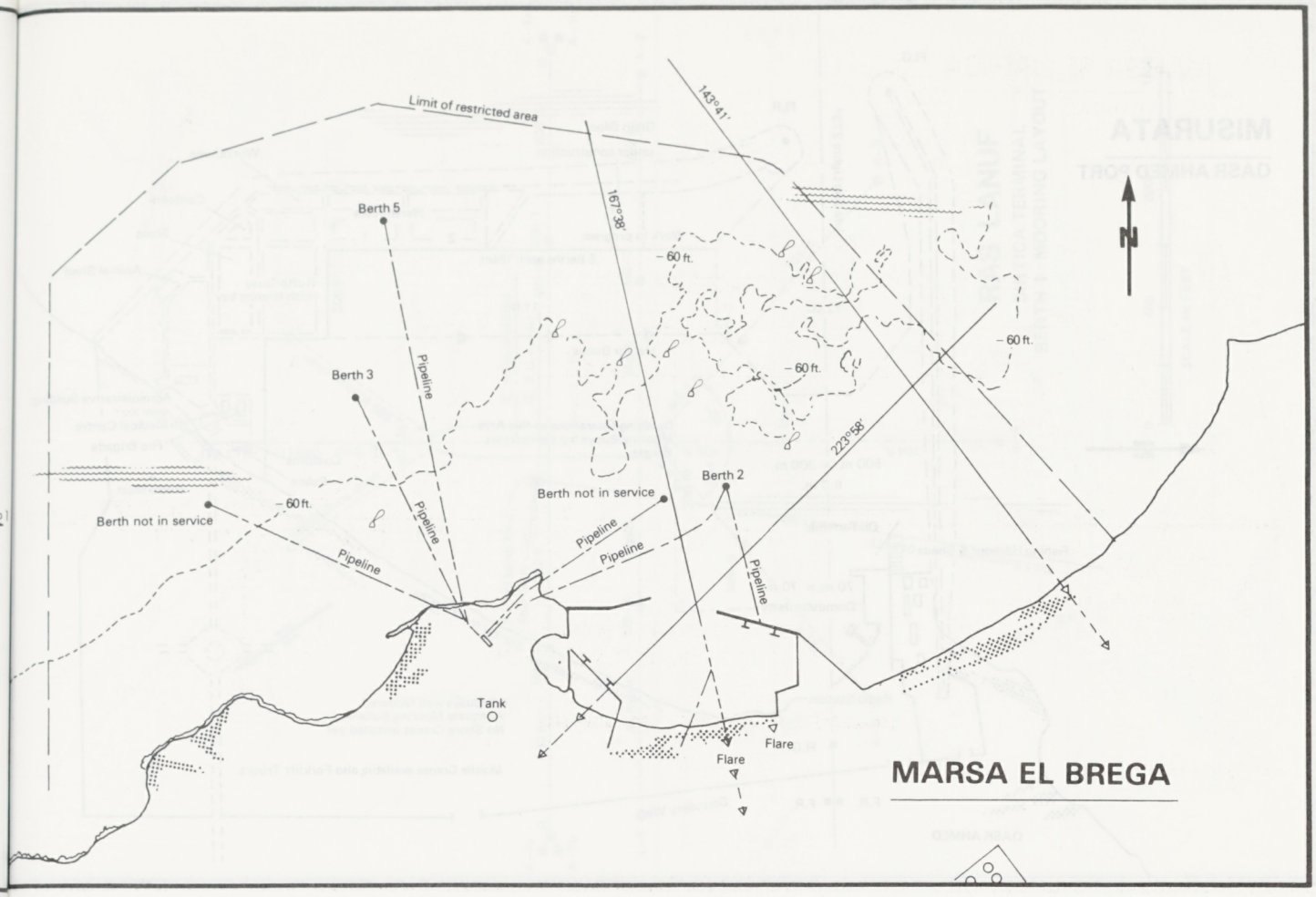


PLAN OF JETTY BERTH No. 2 SHOWING
PNEUMATIC ANTI-POLLUTION BARRIER



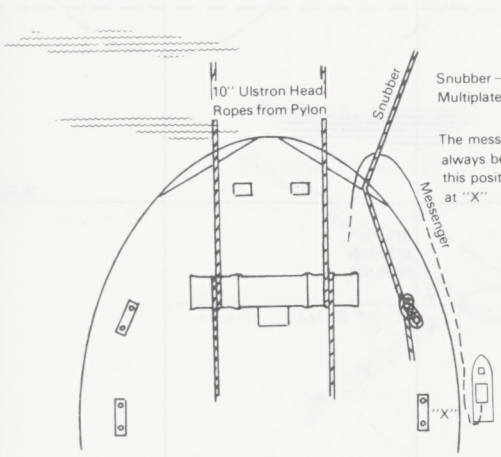
BUOY BERTH PNEUMATIC ANTI-POLLUTION BARRIER.
(CURRENTLY NOT IN USE)

MARSA AL HARIGA

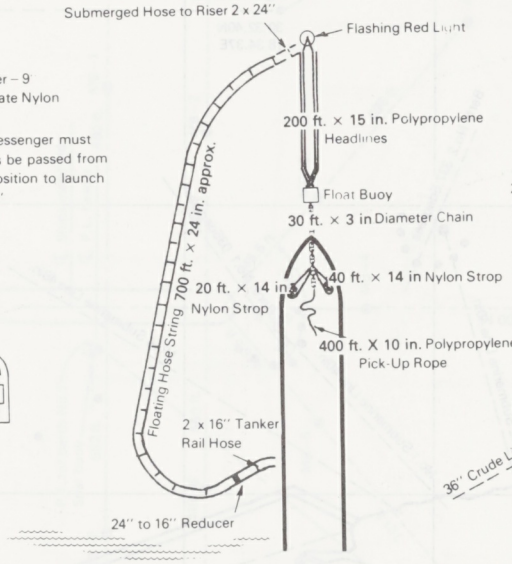


MARSA EL BREGA

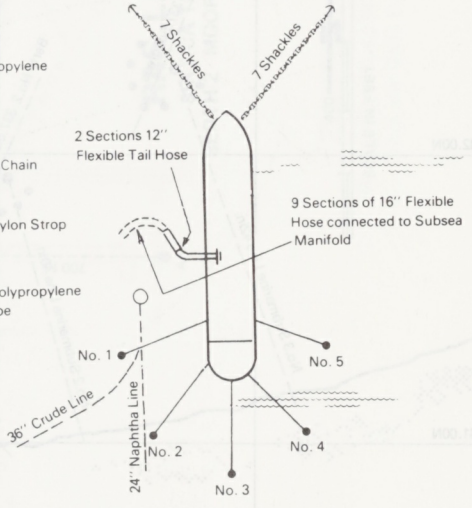
MARSA EL BREGA



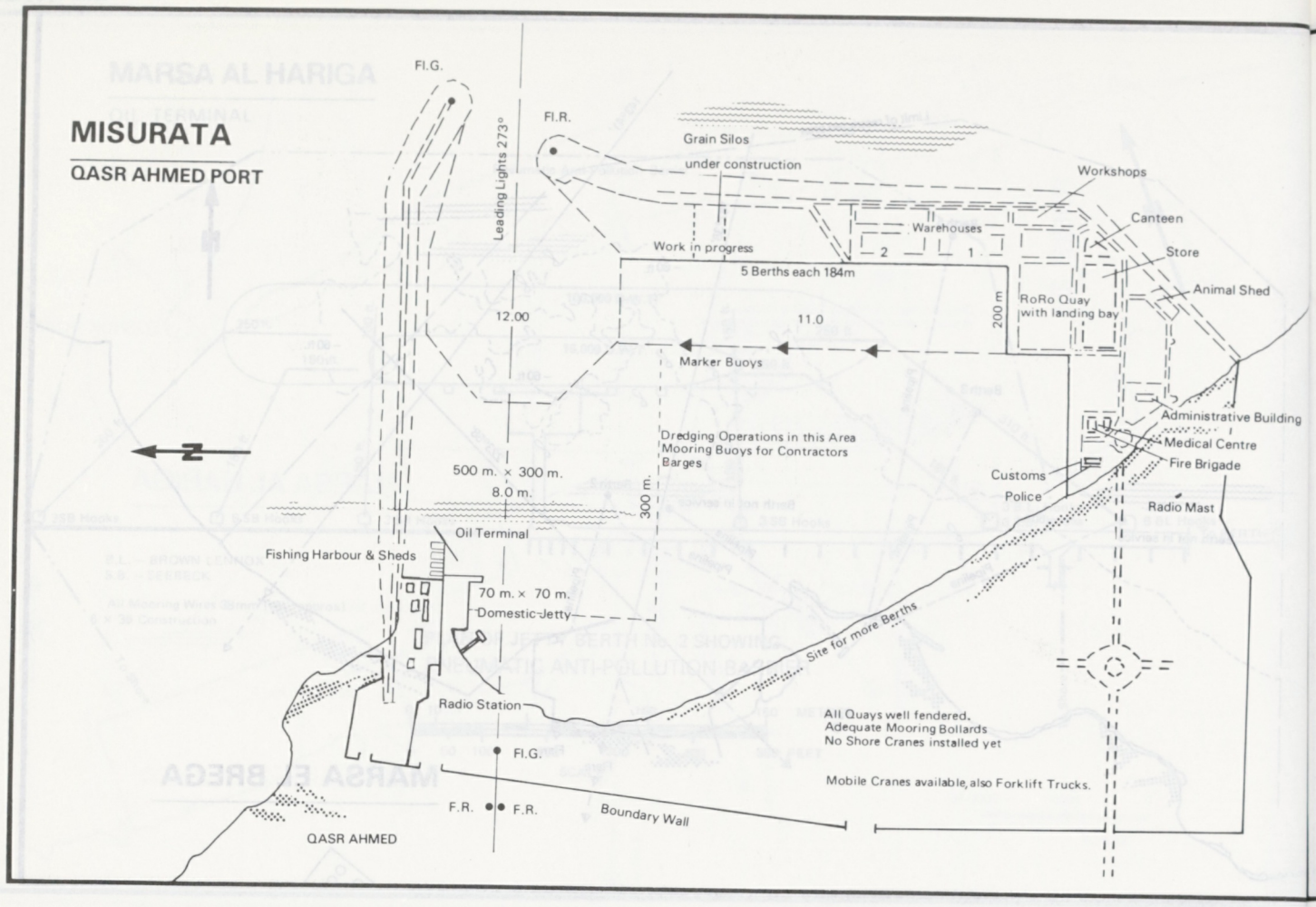
BOW MOORING DIAGRAM
Berth No.3

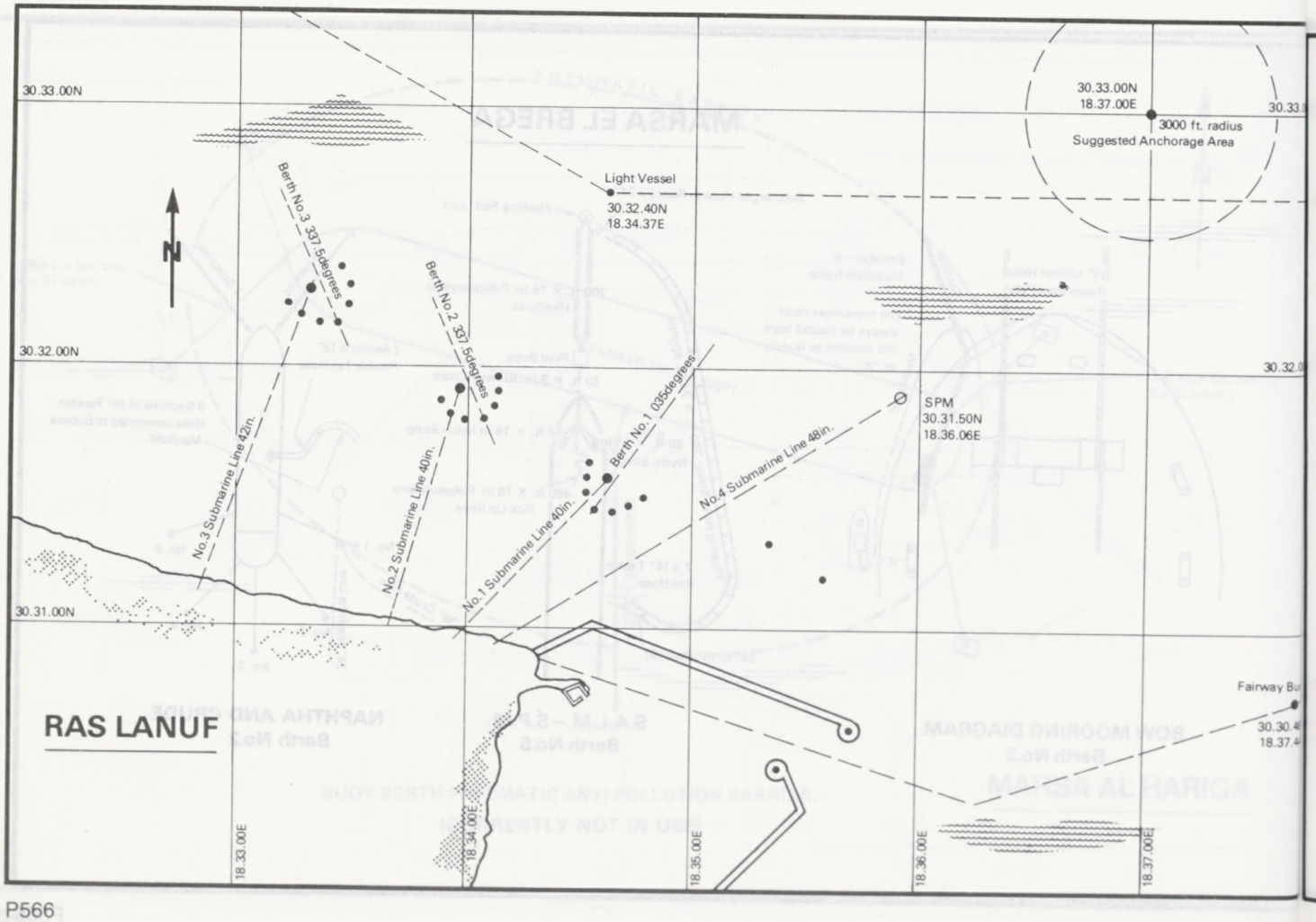


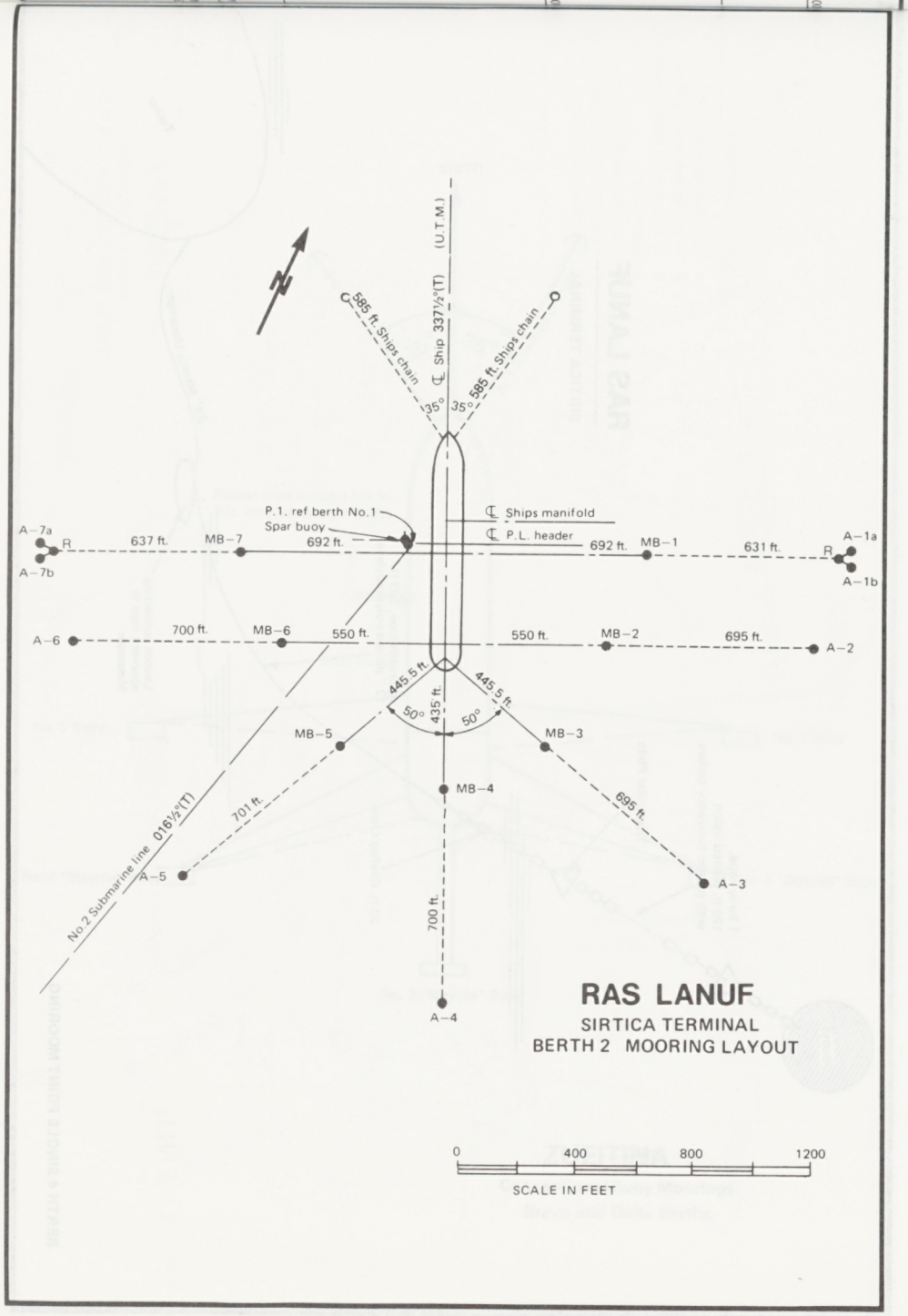
S.A.L.M. – S.P.M.
Berth No.5

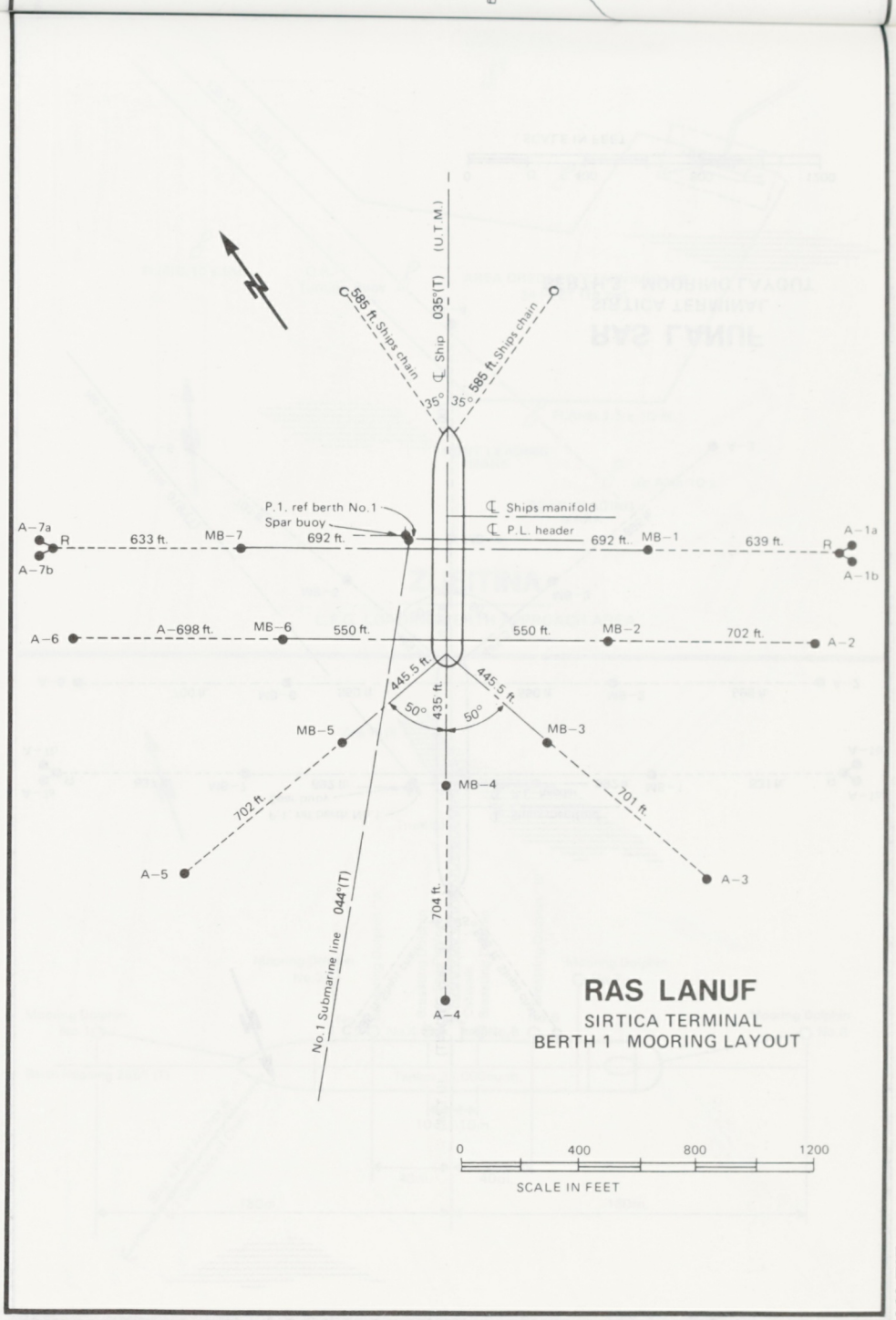


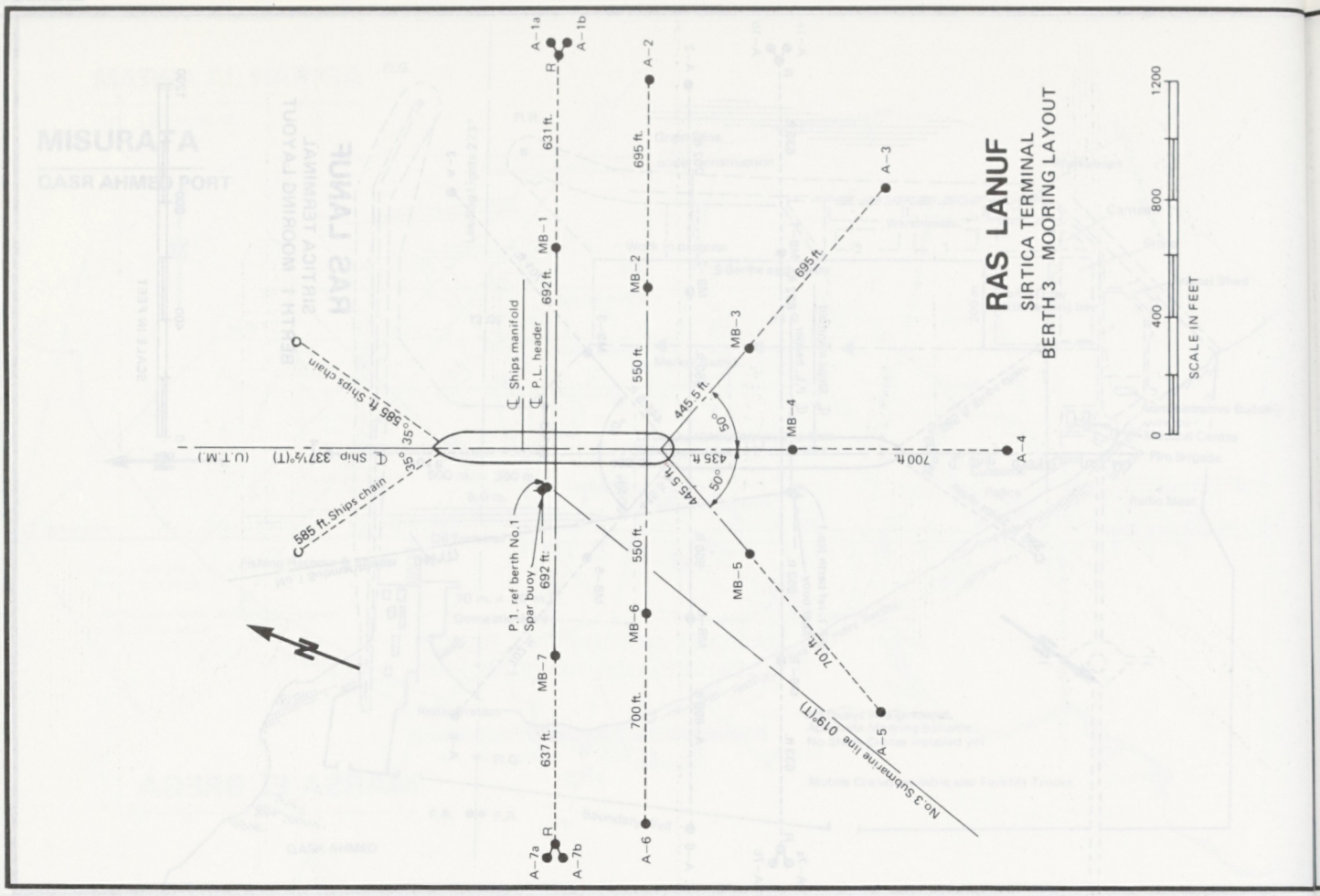
NAPHTHA AND CRUDE
Berth No.2

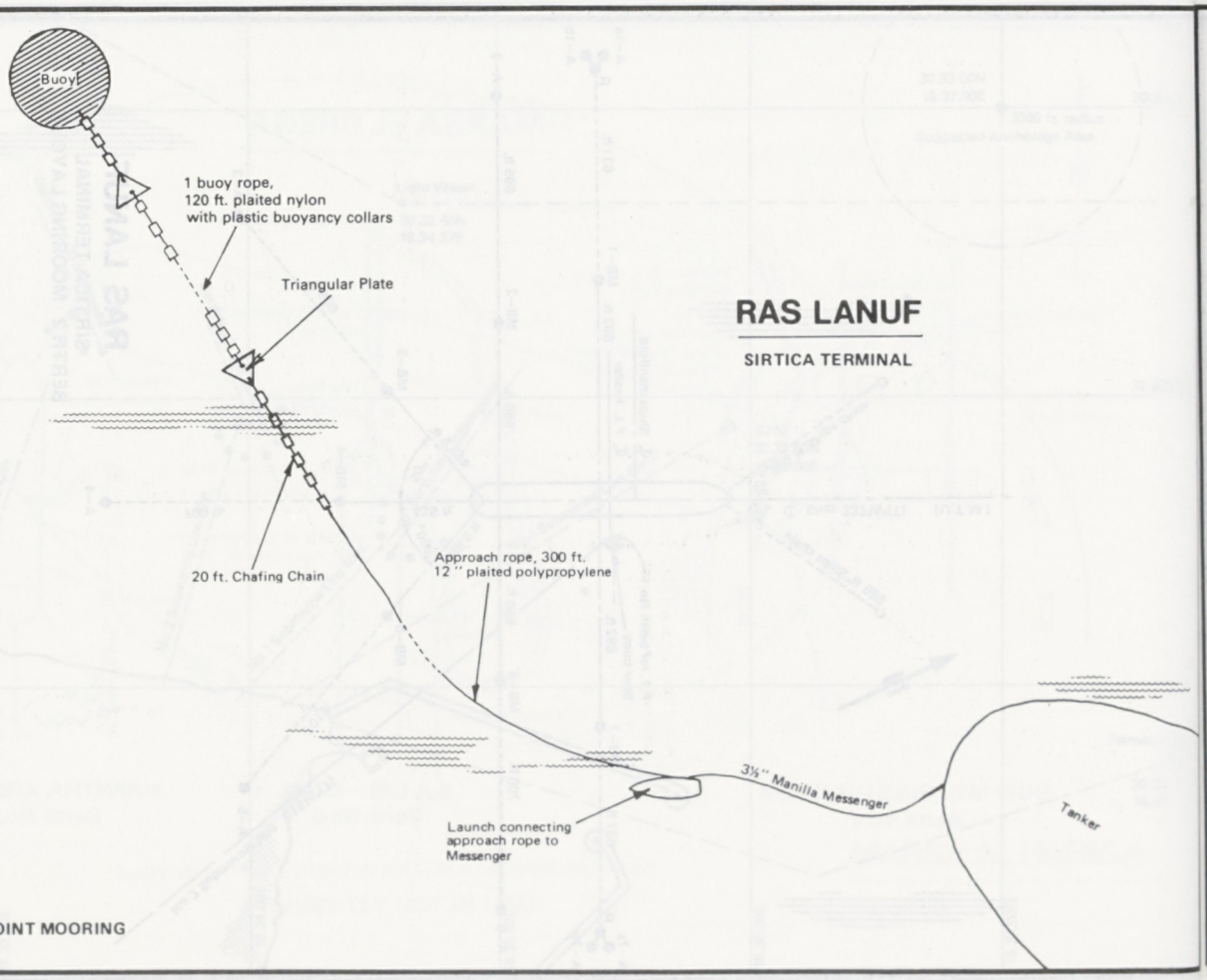

MISURATA
QASR AHMED PORT
Fl.G.
Fl.R.
Leading Lights 273°
Grain Silos
under construction
Workshops
Canteen
Warehouses
2
1
Work in progress
5 Berths each 184m
Store
Animal Shed
RoRo Quay
with landing bay
200 m
12.00
11.0
Marker Buoys
Dredging Operations in this Area
Mooring Buoys for Contractors
Barges
Administrative Building
Medical Centre
Fire Brigade
Customs
Police
Radio Mast
500 m. × 300 m.
8.0 m.
300 m.
Oil Terminal
Fishing Harbour & Sheds
70 m. × 70 m.
Domestic Jetty
Site for more Berths
Radio Station
Fl.G.
F.R.
F.R.
Boundary Wall
All Quays well fendered.
Adequate Mooring Bollards
No Shore Cranes installed yet
Mobile Cranes available, also Forklift Trucks.
QASR AHMED

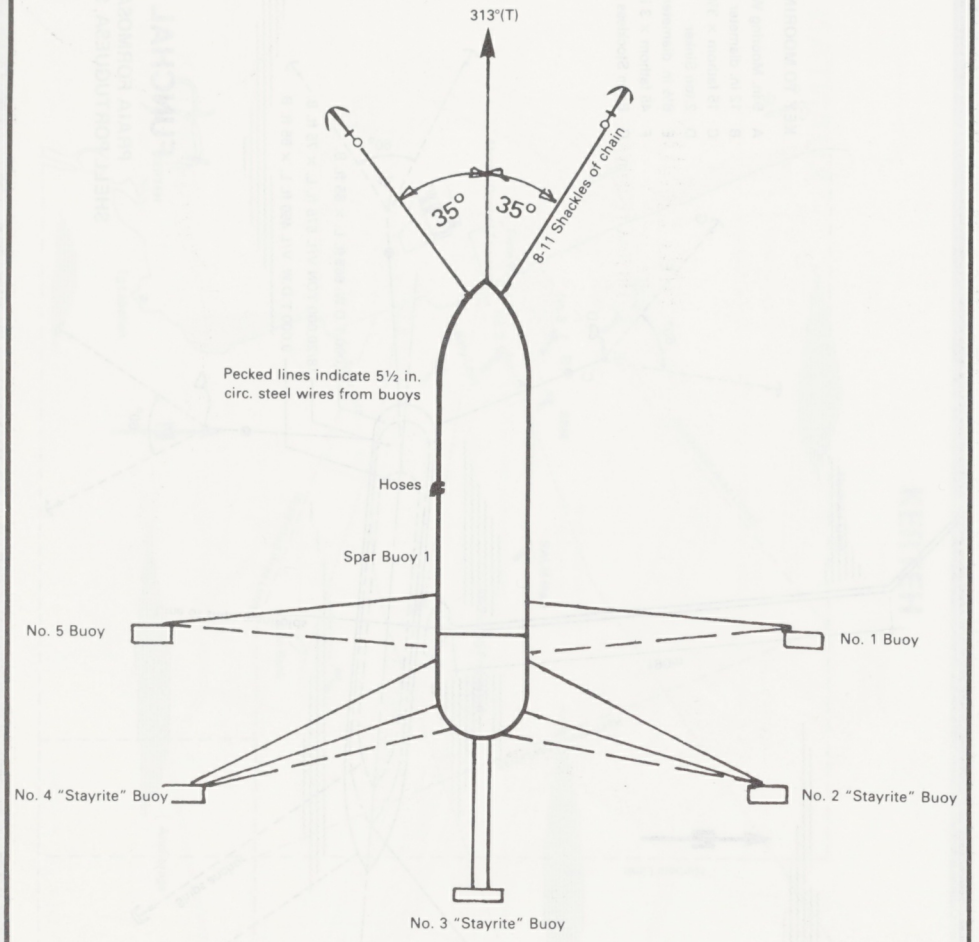

RAS LANUF
30.33.00N
30.32.00N
30.31.00N
18.33.00E
18.34.00E
18.35.00E
18.36.00E
18.37.00E
N
Light Vessel
30.32.40N
18.34.37E
30.33.00N
18.37.00E
3000 ft. radius
Suggested Anchorage Area
SPM
30.31.50N
18.36.06E
Berth No.3 337.5degrees
Berth No.2 337.5degrees
Berth No.1 035degrees
No.3 Submarine Line 42in.
No.2 Submarine Line 40in.
No.1 Submarine Line 40in.
No.4 Submarine Line 48in.
Fairway Bu


(U.T.M.)
Ship 337½°(T)
585 ft. Ships chain
585 ft. Ships chain
135°
35°
P.1. ref berth No.1
Spar buoy
Ships manifold
P.L. header
A–7a
A–7b
R
637 ft.
MB–7
692 ft.
692 ft.
MB–1
631 ft.
A–1a
A–1b
A–6
700 ft.
MB–6
550 ft.
550 ft.
MB–2
695 ft.
A–2
445 5 ft.
445 5 ft.
50°
50°
435 ft.
MB–5
MB–3
MB–4
701 ft.
695 ft.
A–5
A–3
700 ft.
A–4
No.2 Submarine line 016½°(T)
RAS LANUF
SIRTICA TERMINAL
BERTH 2 MOORING LAYOUT
0
400
800
1200
SCALE IN FEET


(U.T.M.)
Ship 035°(T)
585 ft. Ships chain
585 ft. Ships chain
135°
35°
P.1. ref berth No.1
Spar buoy
Ships manifold
P.L. header
A–7a
A–7b
R
633 ft.
MB–7
692 ft.
692 ft.
MB–1
639 ft.
A–1a
A–1b
A–6
A–698 ft.
MB–6
550 ft.
550 ft.
MB–2
702 ft.
A–2
445 5 ft.
445 5 ft.
50°
50°
435 ft.
MB–5
MB–3
MB–4
702 ft.
701 ft.
A–5
A–3
704 ft.
A–4
No.1 Submarine line 044°(T)
RAS LANUF
SIRTICA TERMINAL
BERTH 1 MOORING LAYOUT
0
400
800
1200
SCALE IN FEET


RAS LANUF
SIRTICA TERMINAL
BERTH 3 MOORING LAYOUT
SCALE IN FEET
0
400
800
1200
A-1a
A-1b
A-2
A-3
A-4
A-5
A-6
A-7a
A-7b
MB-1
MB-2
MB-3
MB-4
MB-5
MB-6
MB-7
631 ft.
695 ft.
692 ft.
550 ft.
445.5 ft.
435 ft.
700 ft.
637 ft.
700 ft.
Ships manifold
P.L. header
585 ft. Ships chain
℄ Ship 337½°(T) (U.T.M.)
P.1. ref berth No.1
Spar buoy
No.3 Submarine line 019°(T)

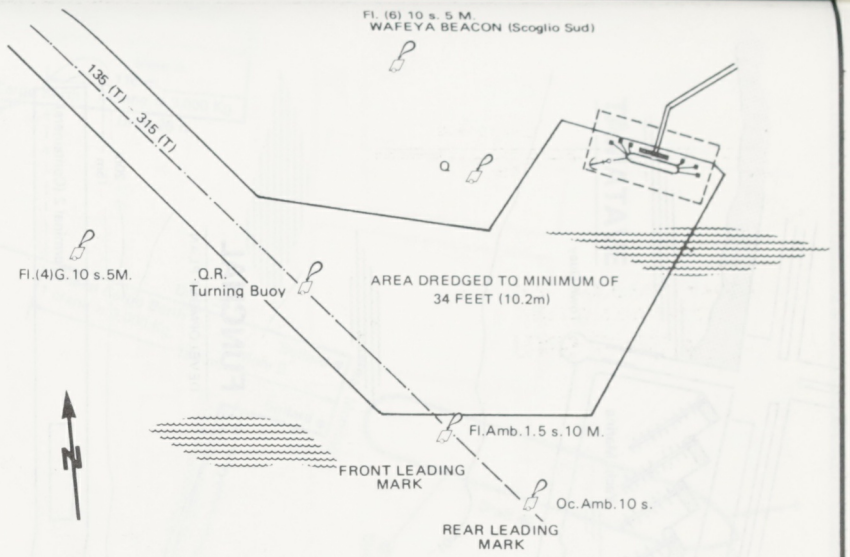

Buoy
1 buoy rope,
120 ft. plaited nylon
with plastic buoyancy collars
Triangular Plate
20 ft. Chafing Chain
Approach rope, 300 ft.
12 " plaited polypropylene
3½" Manilla Messenger
Launch connecting
approach rope to
Messenger
Tanker
RAS LANUF
SIRTICA TERMINAL
BERTH 4 SINGLE POINT MOORING



ZUEITINA

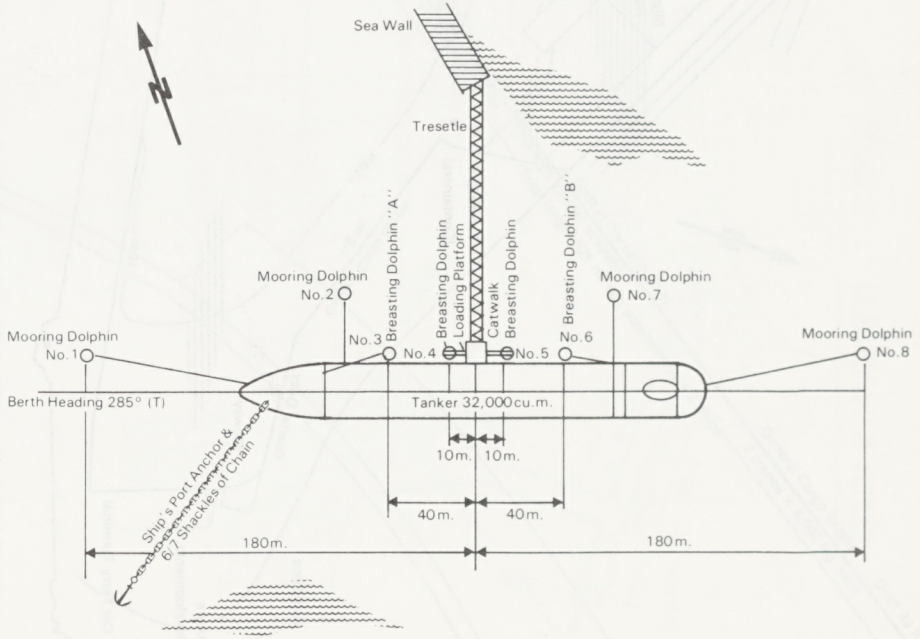
Conventional Buoy Moorings

Bravo and Delta Berths



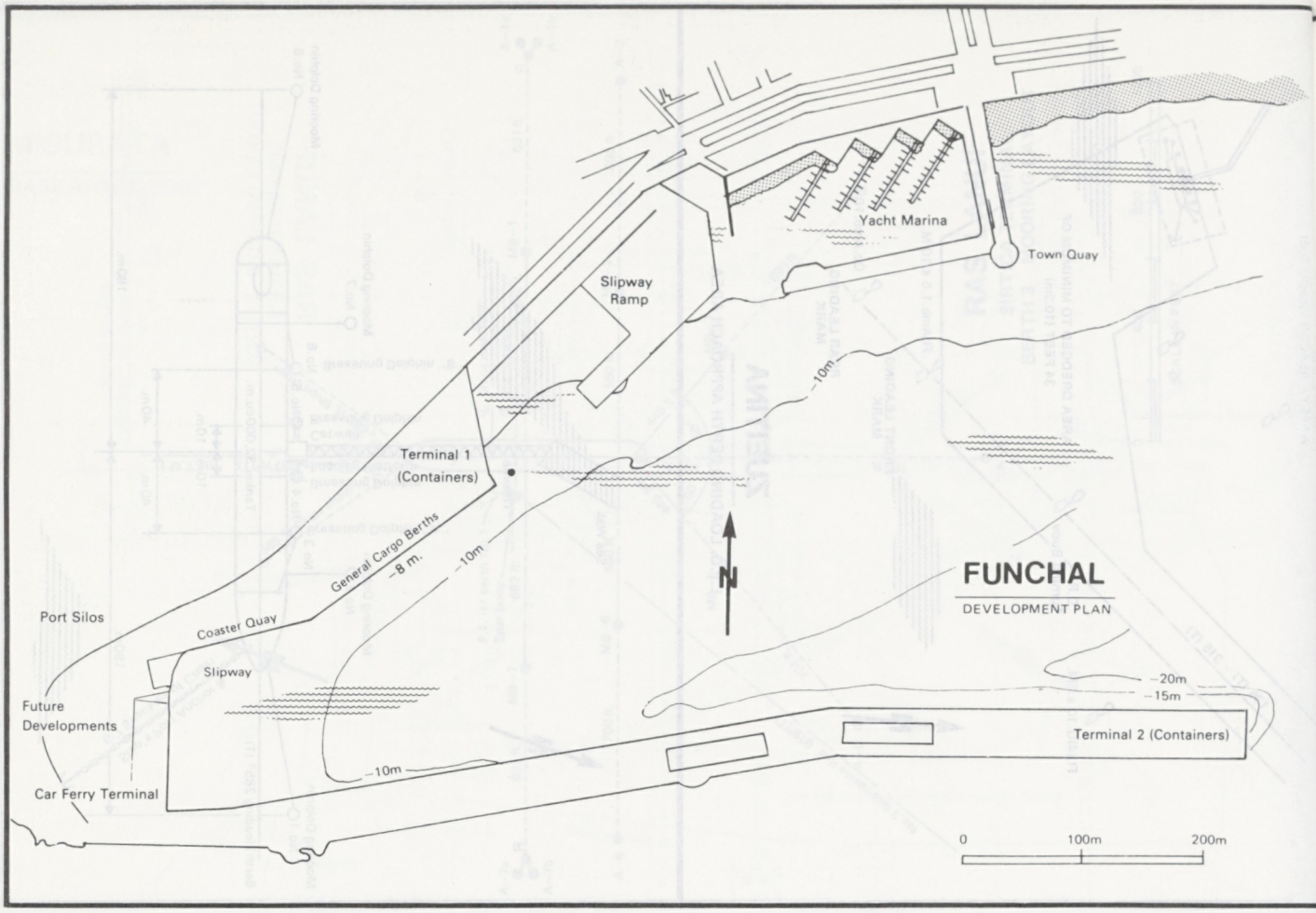
ZUEITINA

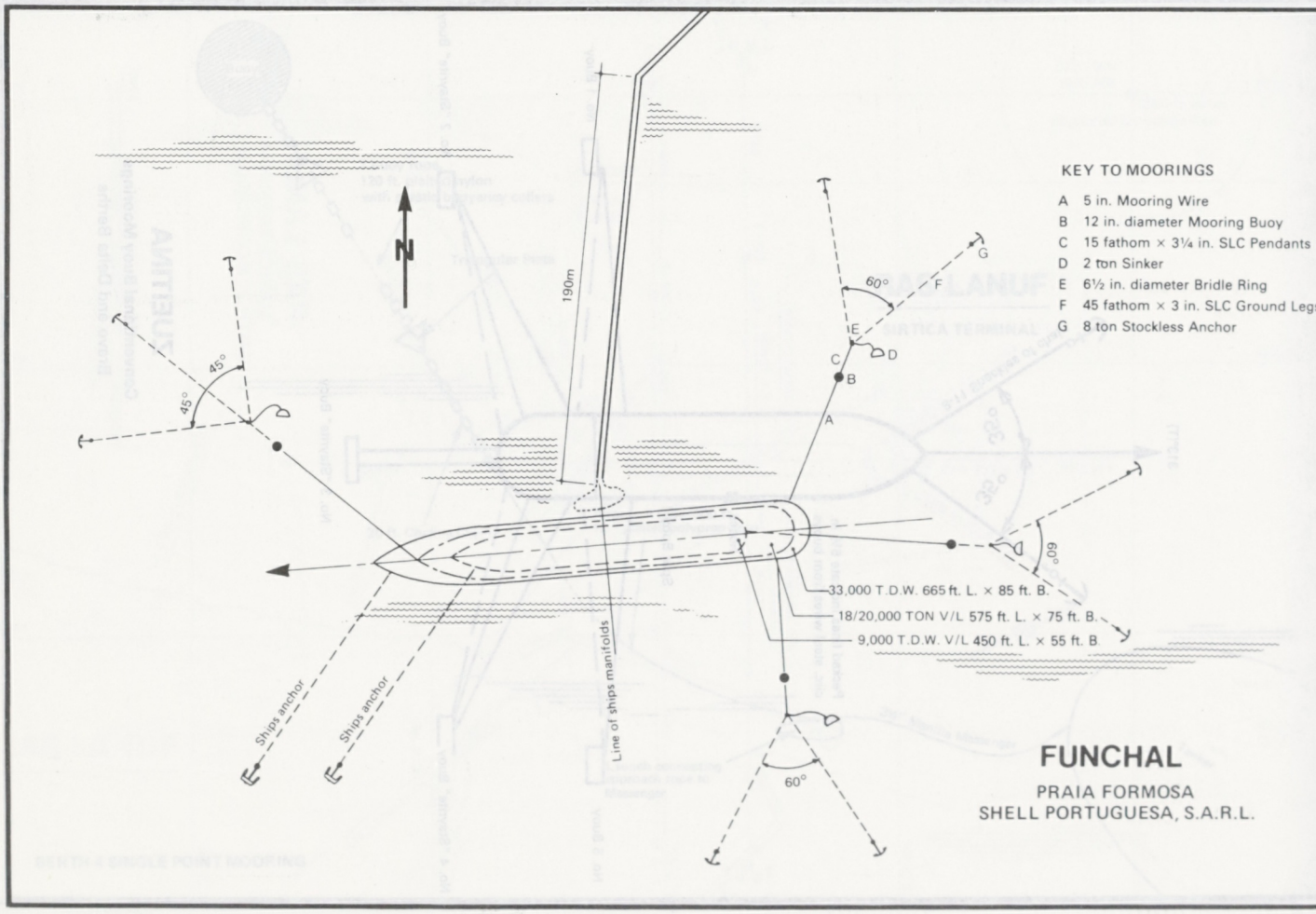
L.P.G. LOADING BERTH APPROACH AREA

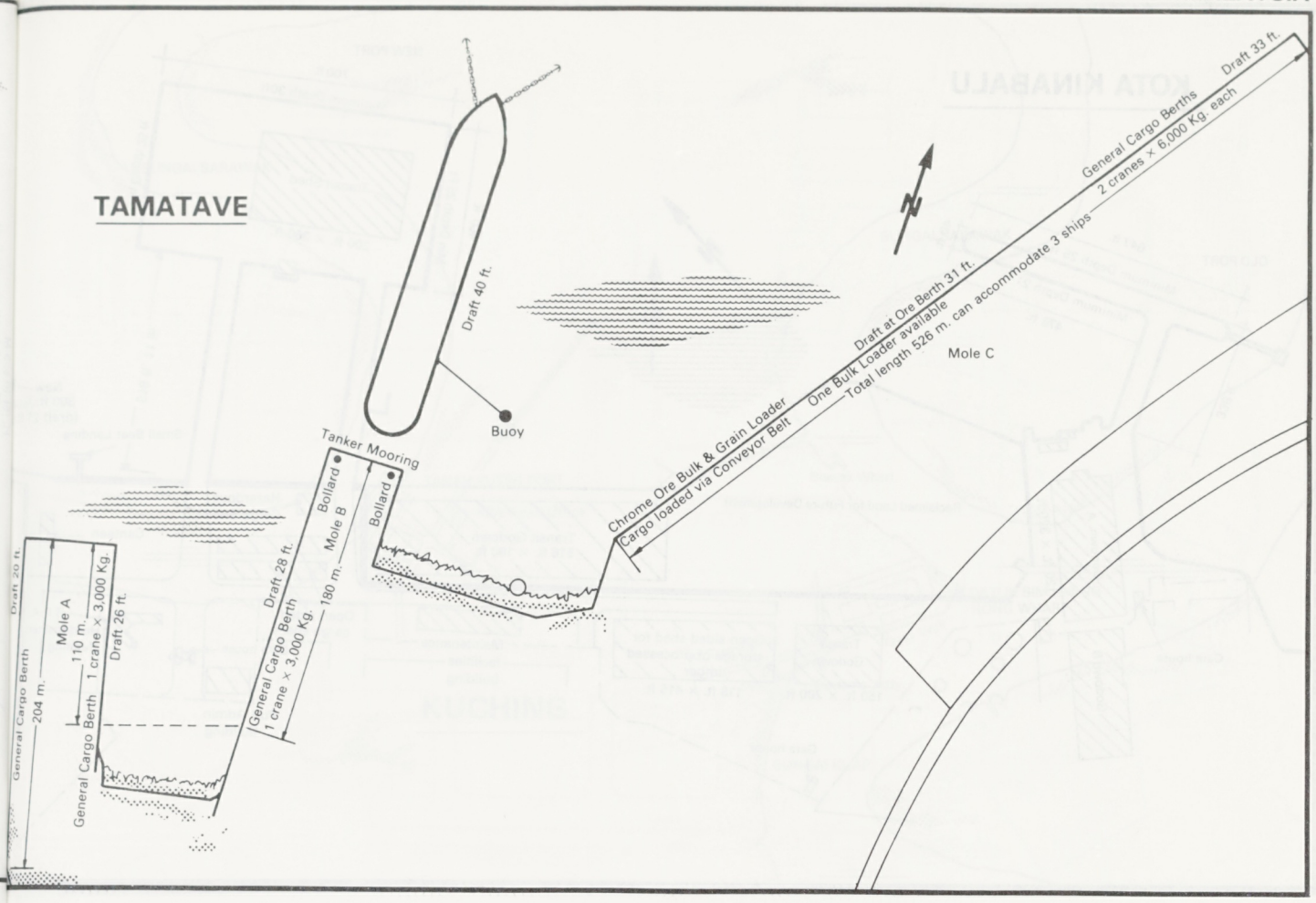


P569

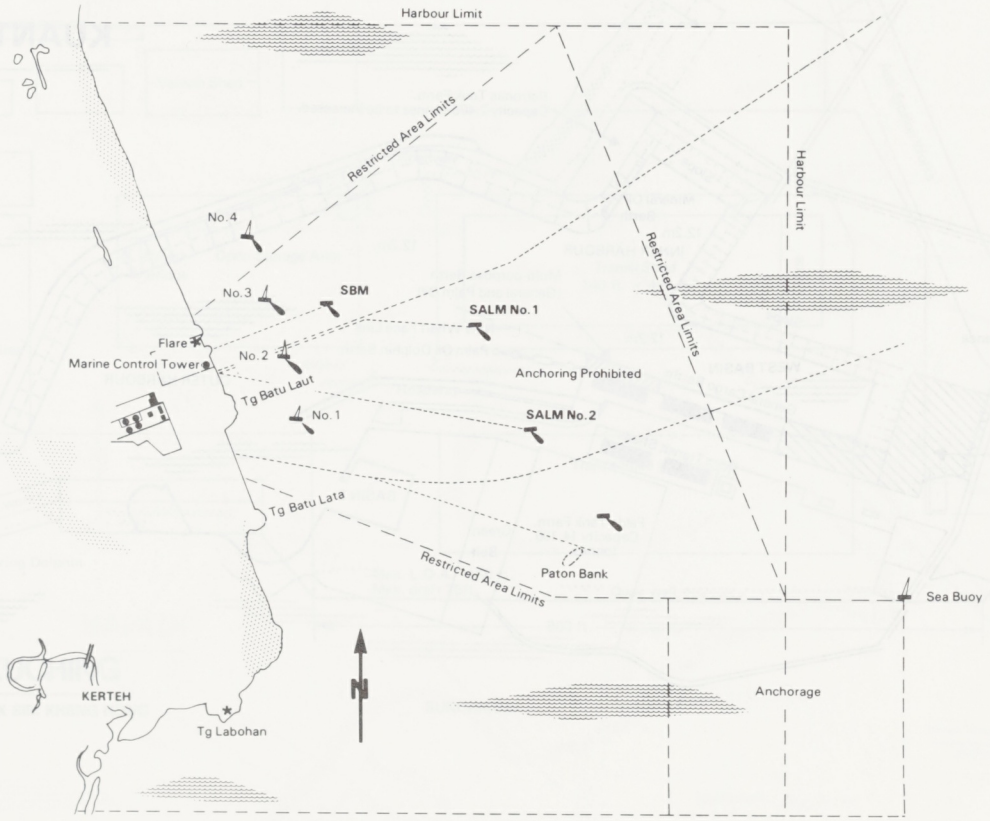
LIBYA


Yacht Marina
Town Quay
Slipway Ramp
10m
Terminal 1 (Containers)
General Cargo Berths
8 m.
10m
Port Silos
Coaster Quay
Slipway
Future Developments
Car Ferry Terminal
10m
N
FUNCHAL
DEVELOPMENT PLAN
20m
15m
Terminal 2 (Containers)
0
100m
200m
Draft 20 ft.
General Cargo Berth
204 m

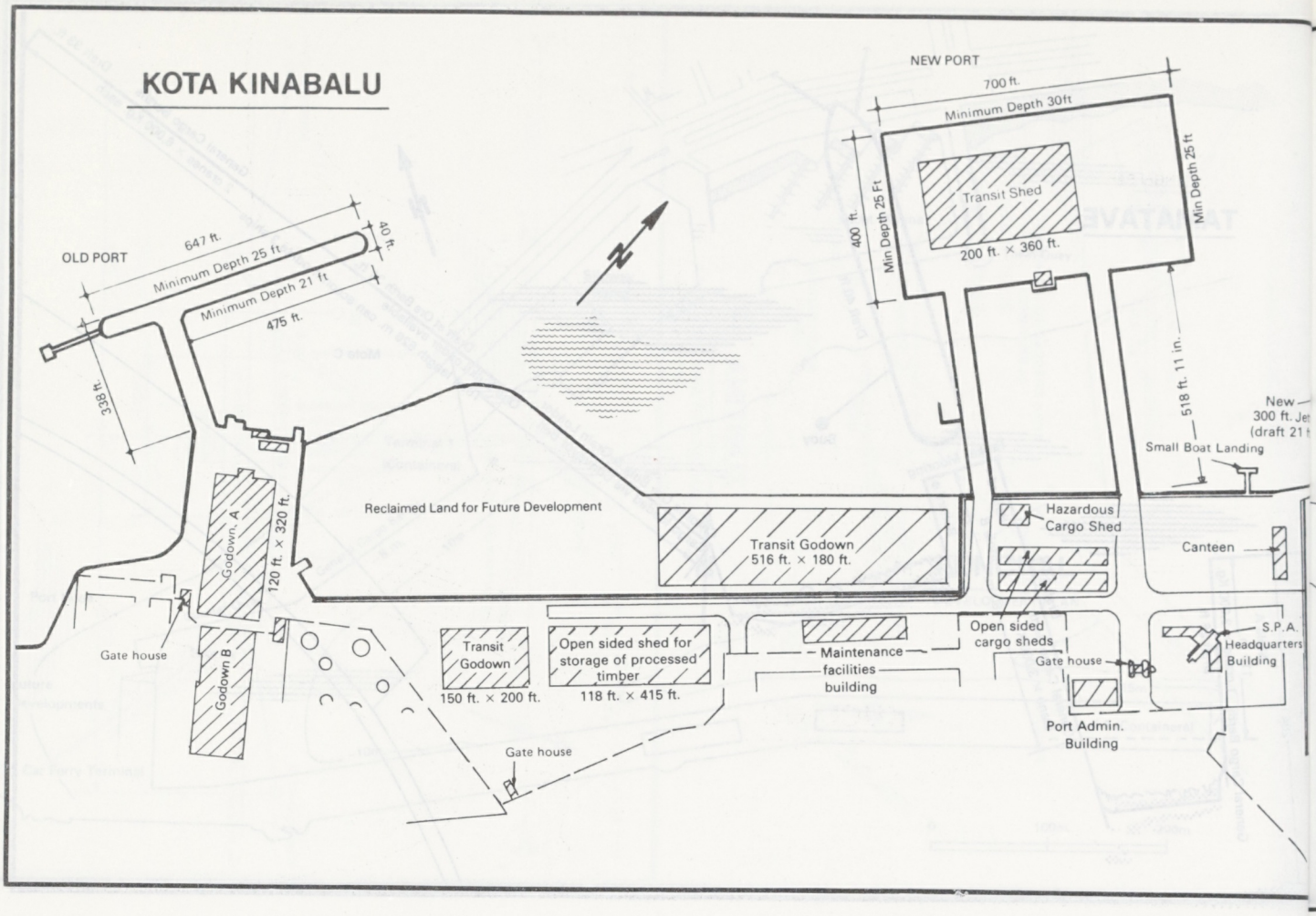

N
190m
45°
45°
60°
F
G
E
D
C
B
A
60°
33,000 T.D.W. 665 ft. L. × 85 ft. B.
18/20,000 TON V/L 575 ft. L. × 75 ft. B.
9,000 T.D.W. V/L 450 ft. L. × 55 ft. B
Ships anchor
Ships anchor
Line of ships manifolds
60°
KEY TO MOORINGS
A 5 in. Mooring Wire
B 12 in. diameter Mooring Buoy
C 15 fathom × 3¼ in. SLC Pendants
D 2 ton Sinker
E 6½ in. diameter Bridle Ring
F 45 fathom × 3 in. SLC Ground Legs
G 8 ton Stockless Anchor
FUNCHAL
PRAIA FORMOSA
SHELL PORTUGUESA, S.A.R.L.


TAMATAVE
Draft 40 ft.
Buoy
Tanker Mooring
Bollard
Bollard
Mole B
Draft 28 ft.
General Cargo Berth
1 crane × 3,000 Kg.
180 m.
Chrome Ore Bulk & Grain Loader
Cargo loaded via Conveyor Belt
One Bulk Loader available
Draft at Ore Berth 31 ft.
Total length 526 m. can accommodate 3 ships
General Cargo Berths
2 cranes × 6,000 Kg. each
Draft 33 ft.
Mole C
Draft 20 ft.
General Cargo Berth
204 m.
Mole A
110 m.
1 crane × 3,000 Kg.
Draft 26 ft.
General Cargo Berth

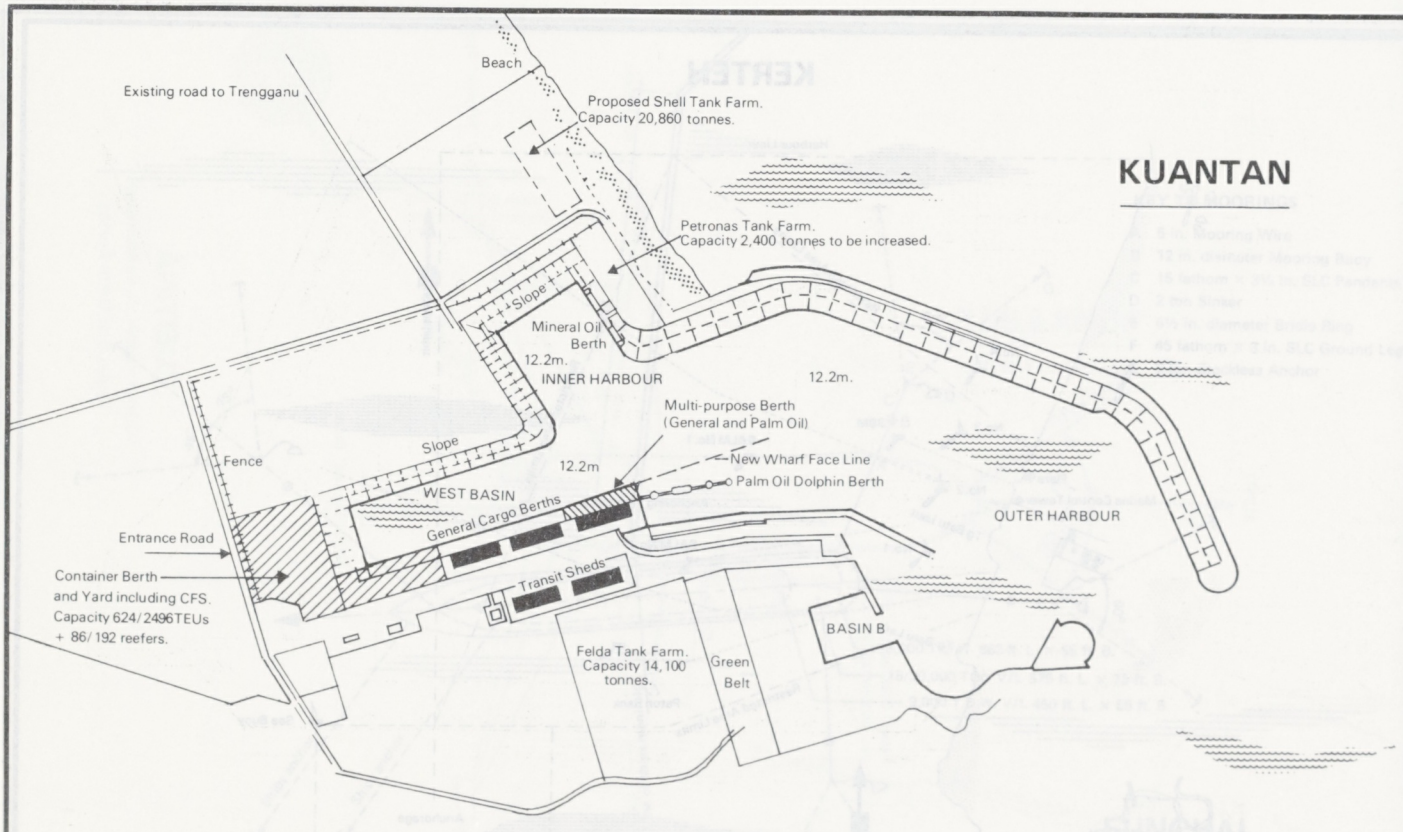
KERTEH

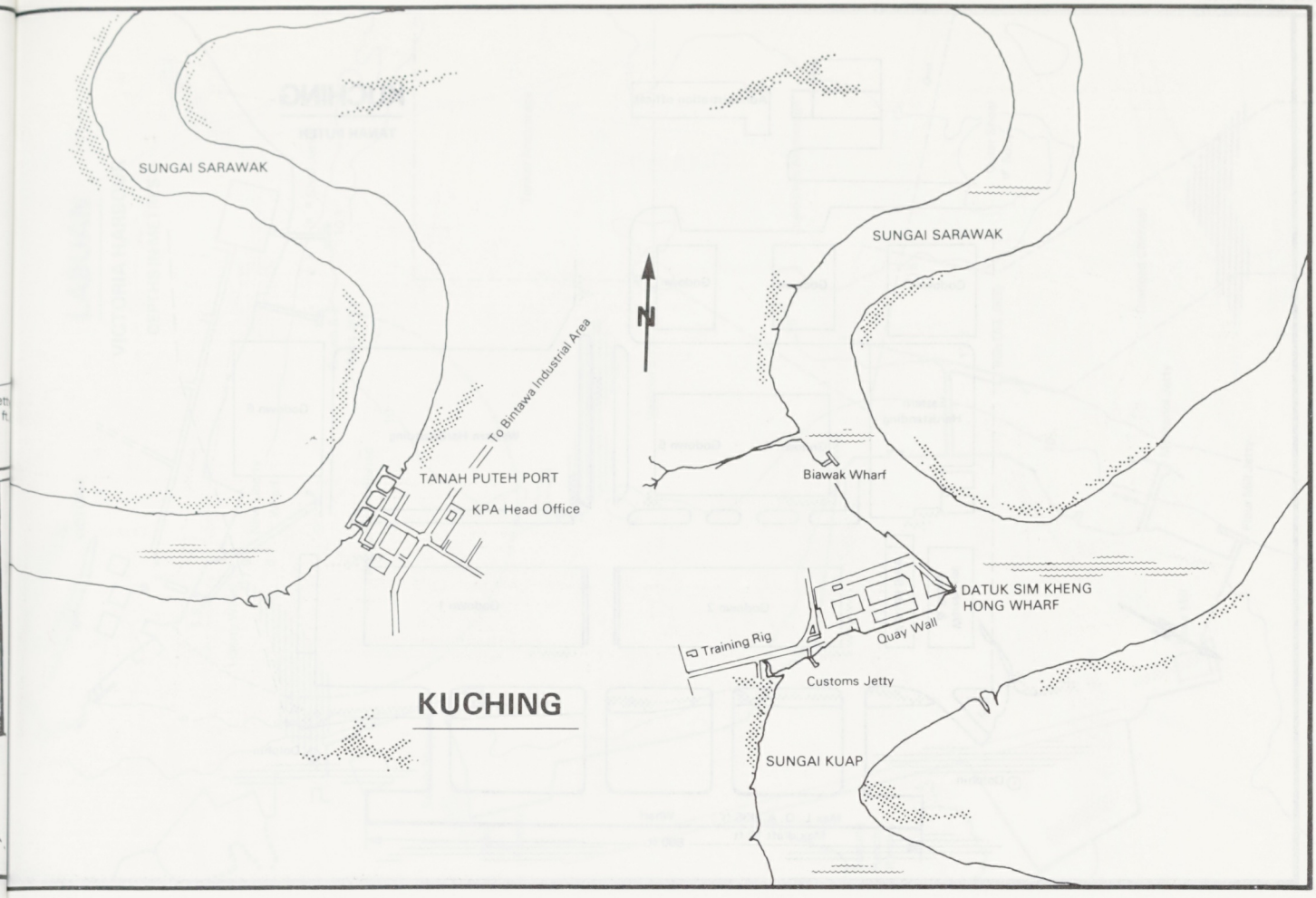

Harbour Limit
Restricted Area Limits
Harbour Limit
Restricted Area Limits
No. 4
No. 3
SBM
SALM No. 1
Flare
Marine Control Tower
No. 2
Anchoring Prohibited
Tg Batu Laut
No. 1
SALM No. 2
Tg Batu Lata
Restricted Area Limits
Paton Bank
Sea Buoy
KERTEH
Tg Labohan
Anchorage

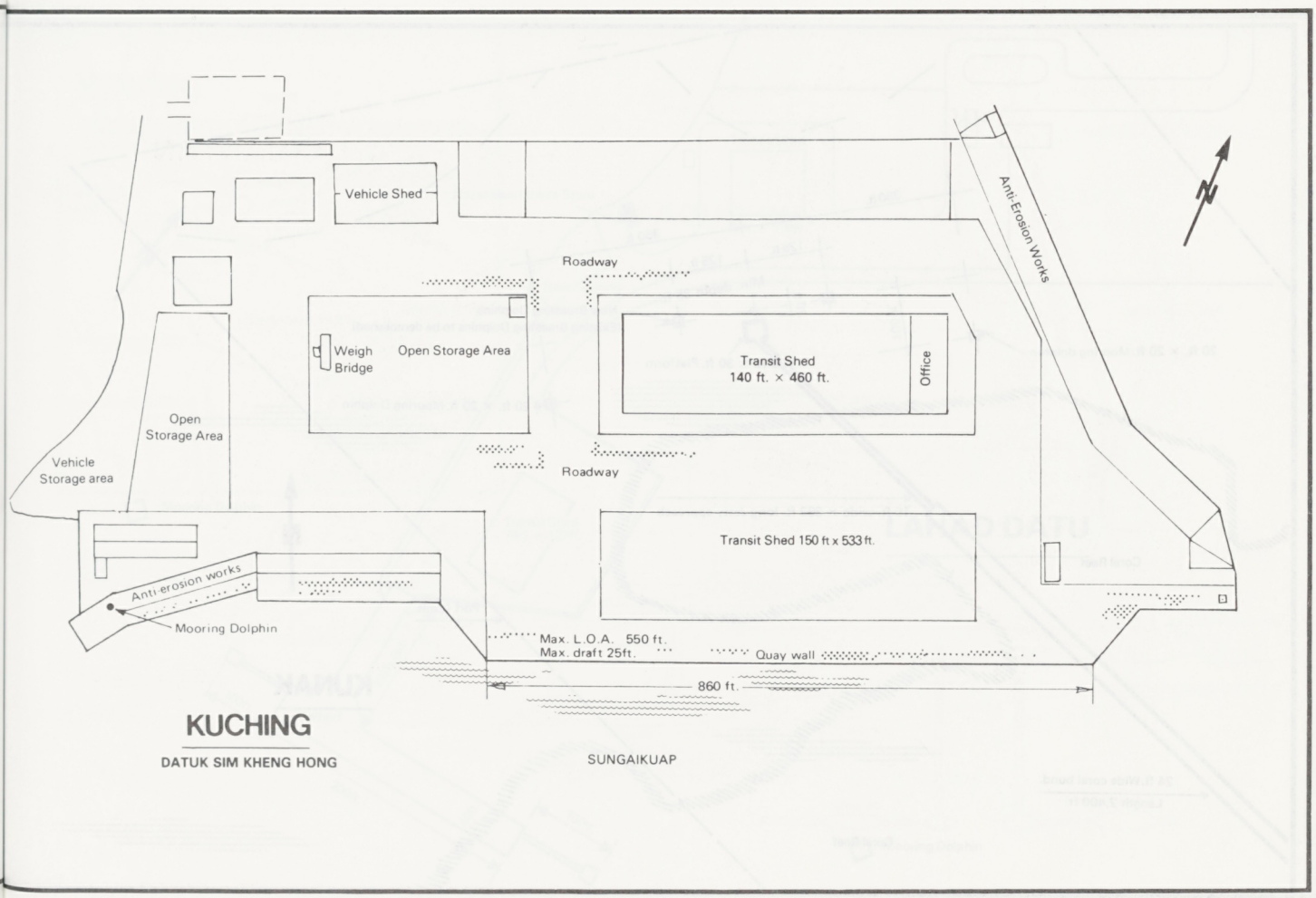
KOTA KINABALU

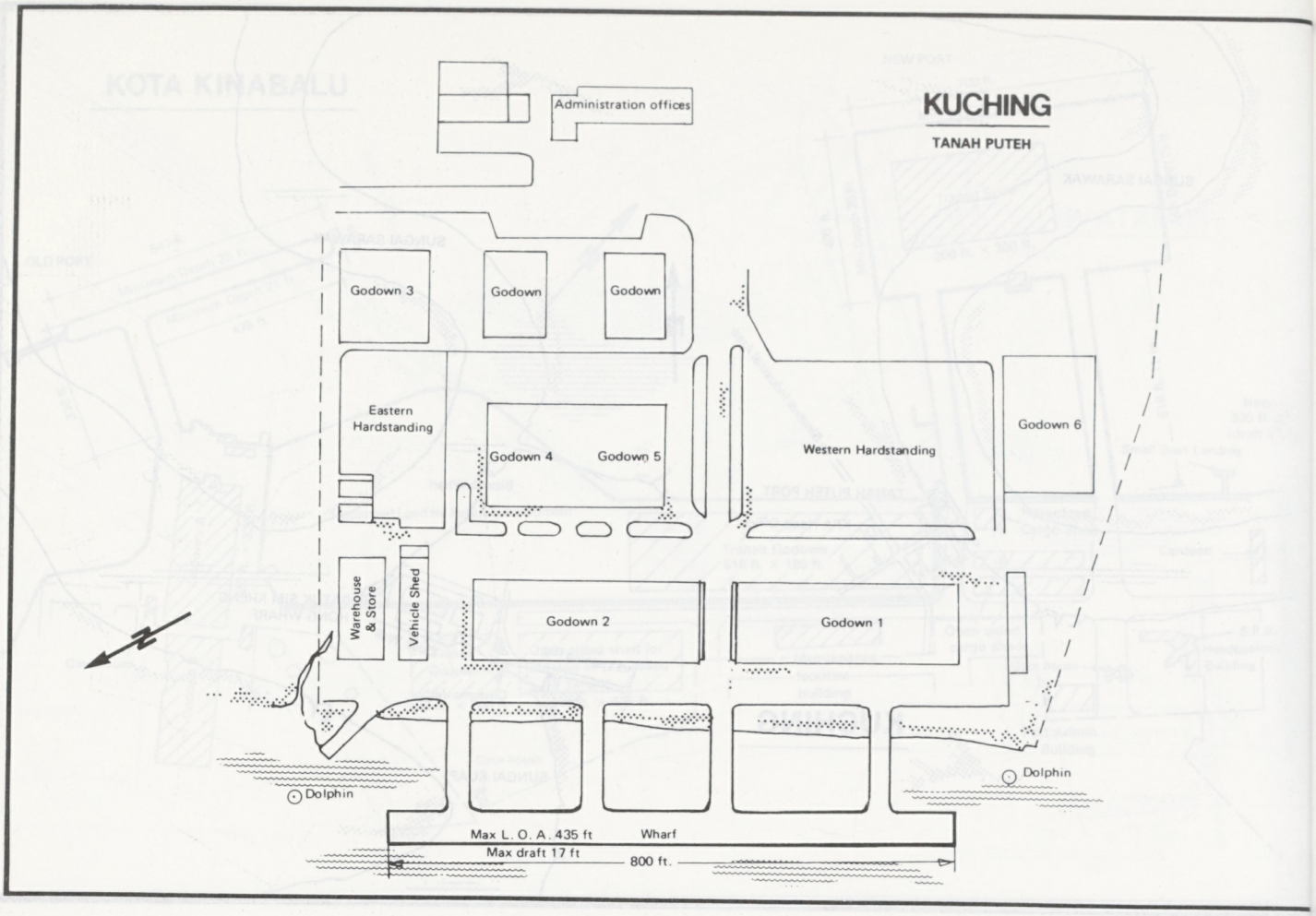


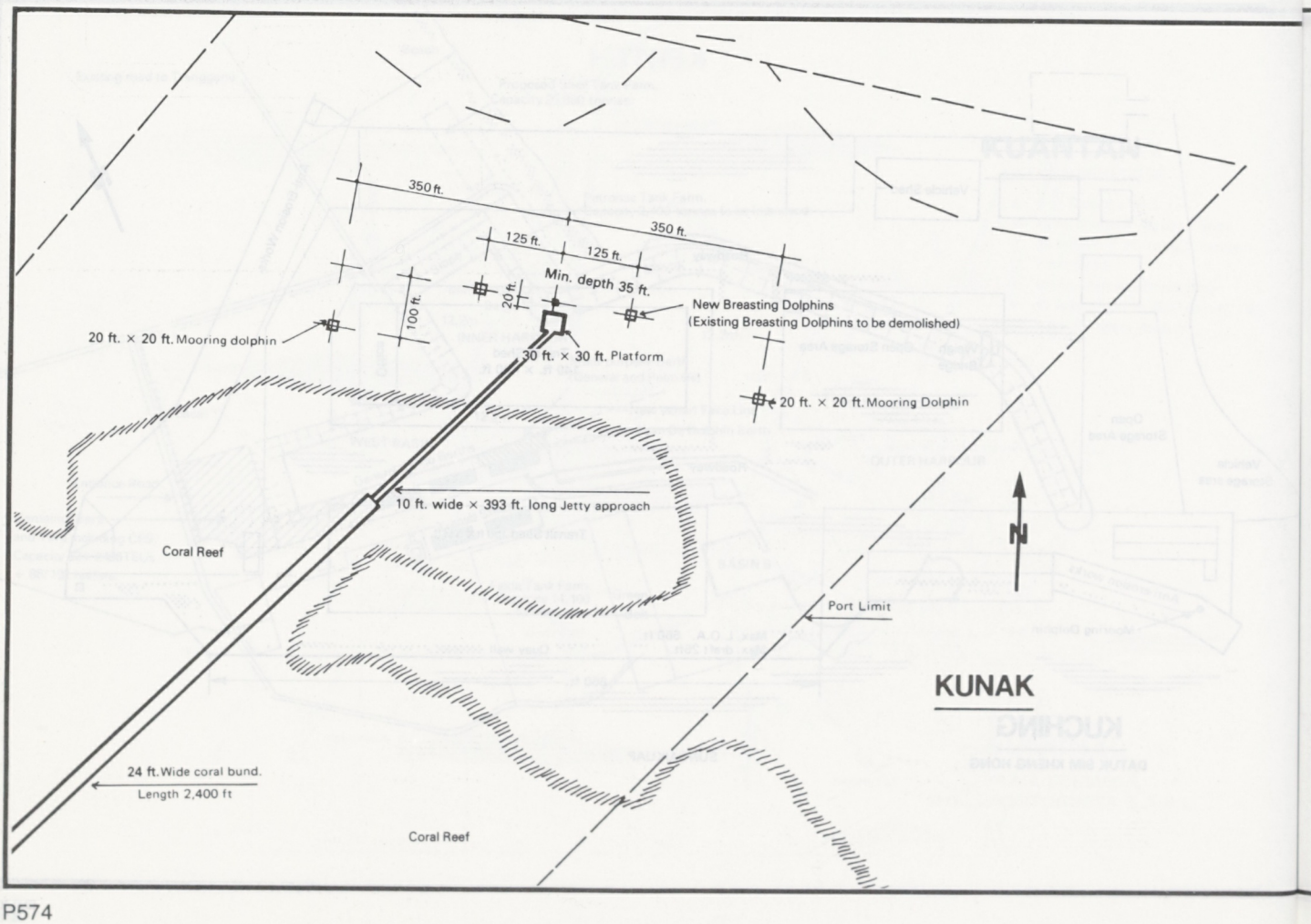
KUANTAN



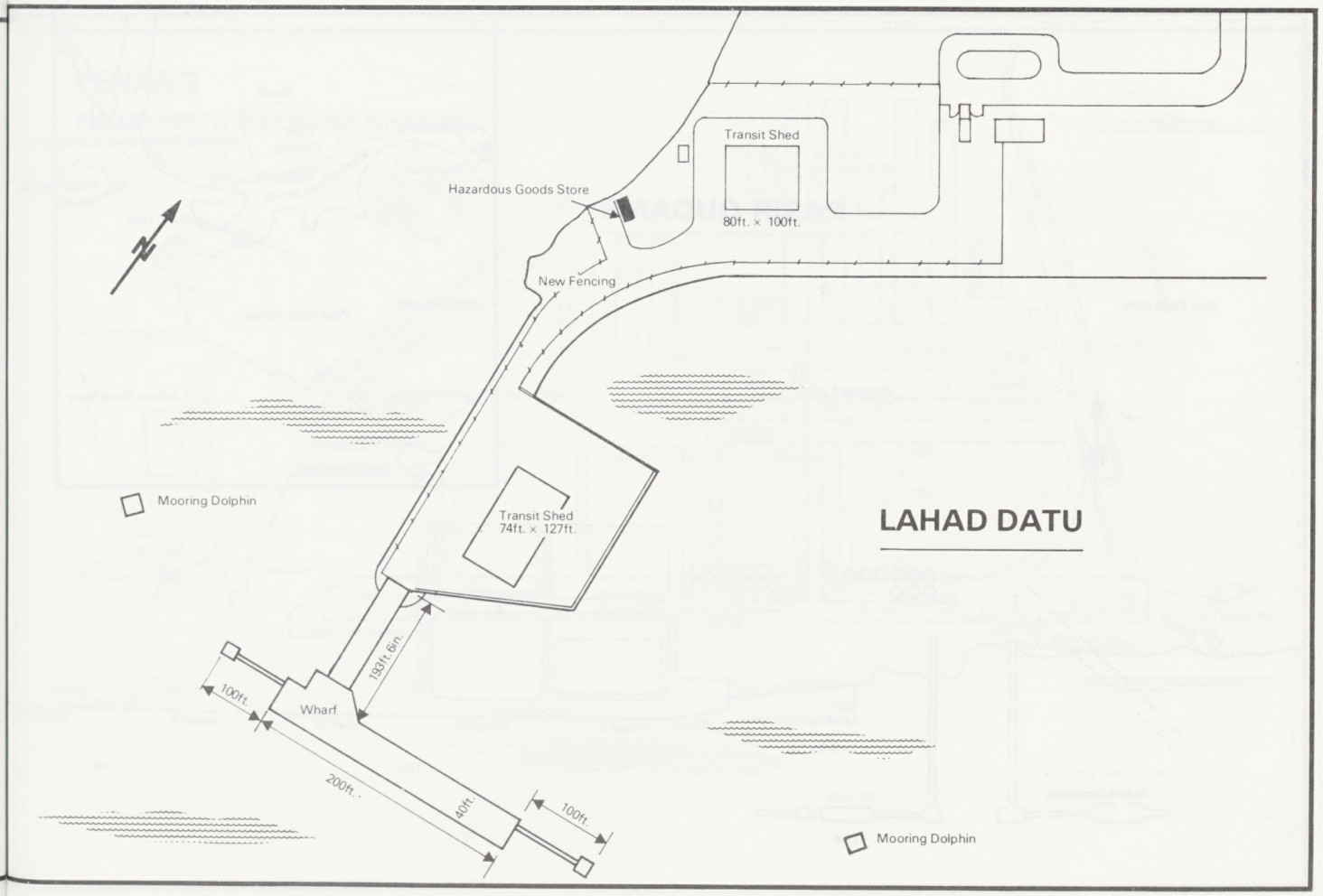

SUNGAI SARAWAK
SUNGAI SARAWAK
N
To Bintawa Industrial Area
TANAH PUTEH PORT
KPA Head Office
Biawak Wharf
DATUK SIM KHENG HONG WHARF
Training Rig
Quay Wall
Customs Jetty
KUCHING
SUNGAI KUAP

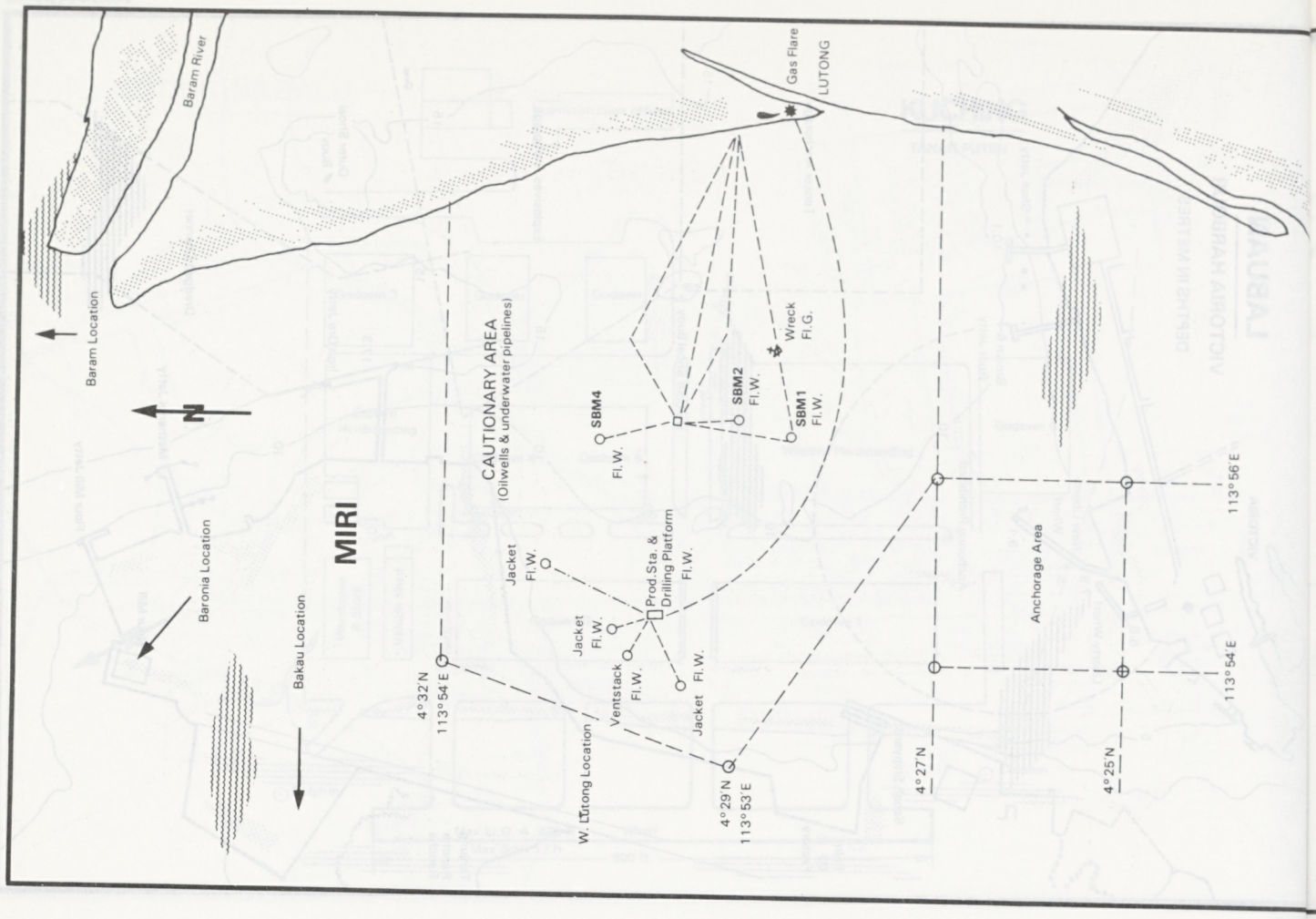

Vehicle Shed
Roadway
Anti-Erosion Works
N
Weigh Bridge
Open Storage Area
Transit Shed 140 ft. × 460 ft.
Office
Open Storage Area
Vehicle Storage area
Roadway
Transit Shed 150 ft x 533 ft.
Anti-erosion works
Mooring Dolphin
Max. L.O.A. 550 ft.
Max. draft 25ft.
Quay wall
860 ft.
KUCHING
DATUK SIM KHENG HONG
SUNGAIKUAP


KUCHING
TANAH PUTEH
Administration offices
Godown 3
Godown
Godown
Eastern Hardstanding
Godown 4
Godown 5
Western Hardstanding
Godown 6
Warehouse & Store
Vehicle Shed
Godown 2
Godown 1
Dolphin
Dolphin
Max L. O. A. 435 ft
Max draft 17 ft
Wharf
800 ft.

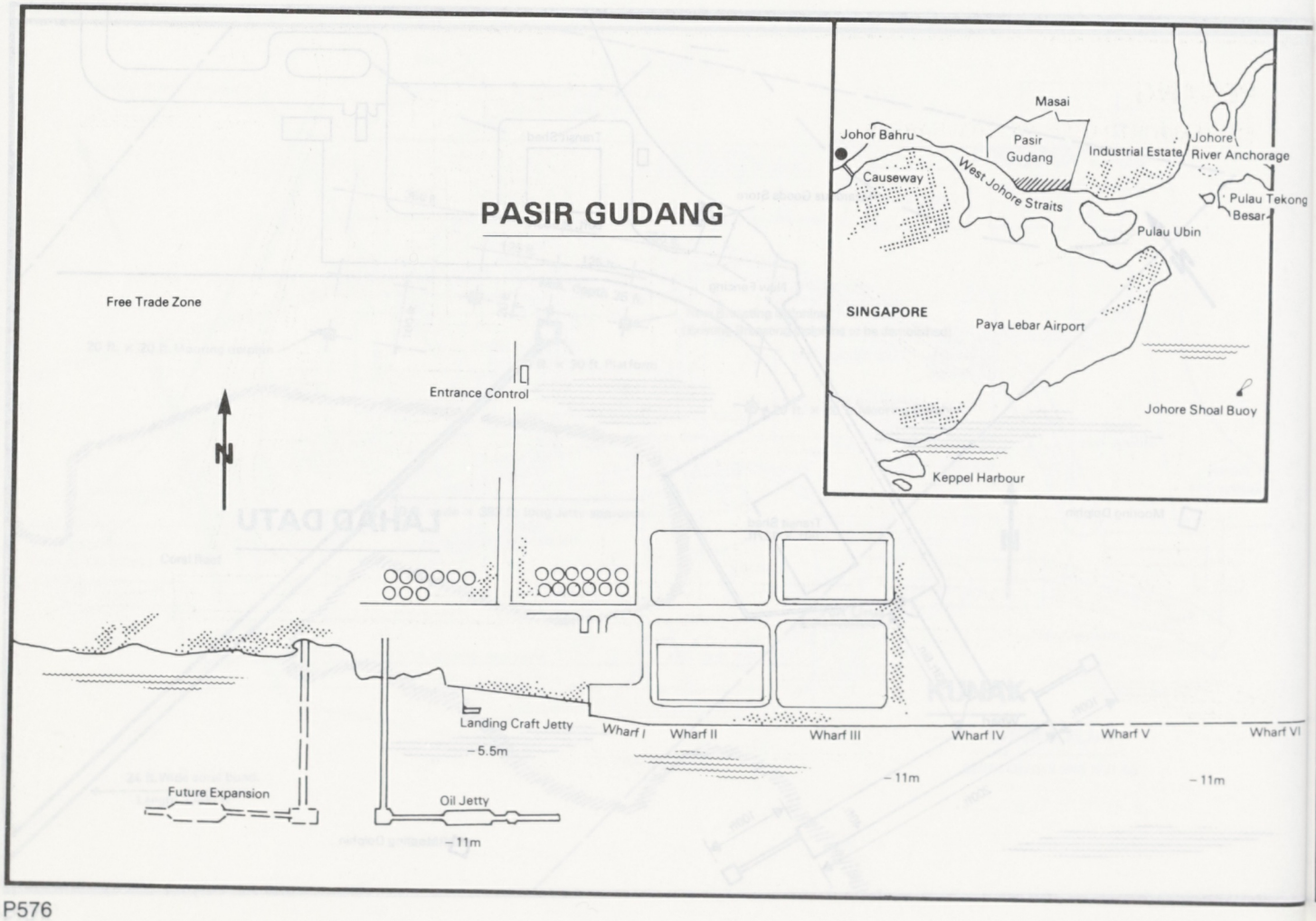

350 ft.
350 ft.
125 ft.
125 ft.
Min. depth 35 ft.
20 ft.
100 ft.
20 ft. × 20 ft. Mooring dolphin
New Breasting Dolphins
(Existing Breasting Dolphins to be demolished)
30 ft. × 30 ft. Platform
20 ft. × 20 ft. Mooring Dolphin
10 ft. wide × 393 ft. long Jetty approach
Coral Reef
N
Port Limit
KUNAK
24 ft. Wide coral bund.
Length 2,400 ft
Coral Reef

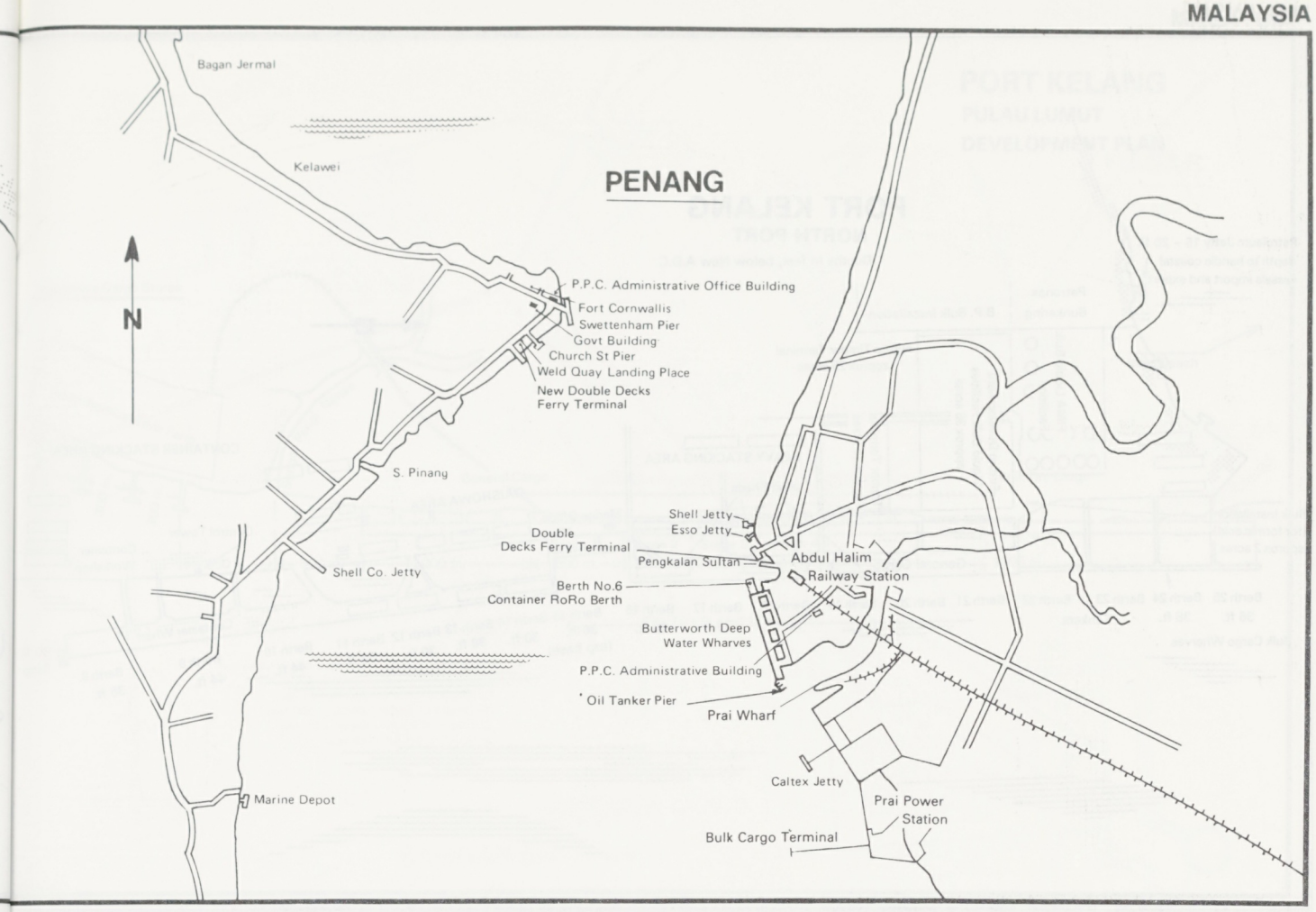
LABUAN
VICTORIA HARBOUR
DEPTHS IN METRES
Shell Jetty
10.1
Brown & Root Jetty
Tanker Anchorage
15
Explosives Anchorage
Outer Shoal Buoy
Dredged Channel
Harbour Shoal Buoy
17.3
Iron Ore Jetty
Methanol Jetty
Flour Mill Jetty
Flour Mill
VICTORIA
New Liberty Wharf
9.1
9
8.7
Liberty Wharf
5.8
Anchoring Prohibited
10
5
Sabah Shipyard
Palm Oil Factory
Tanjung Rancha Rancha


Transit Shed
80ft. × 100ft.
Hazardous Goods Store
New Fencing
Mooring Dolphin
Transit Shed
74ft. × 127ft.
LAHAD DATU
193ft. 6in.
100ft.
Wharf
200ft.
40ft.
100ft.
Mooring Dolphin



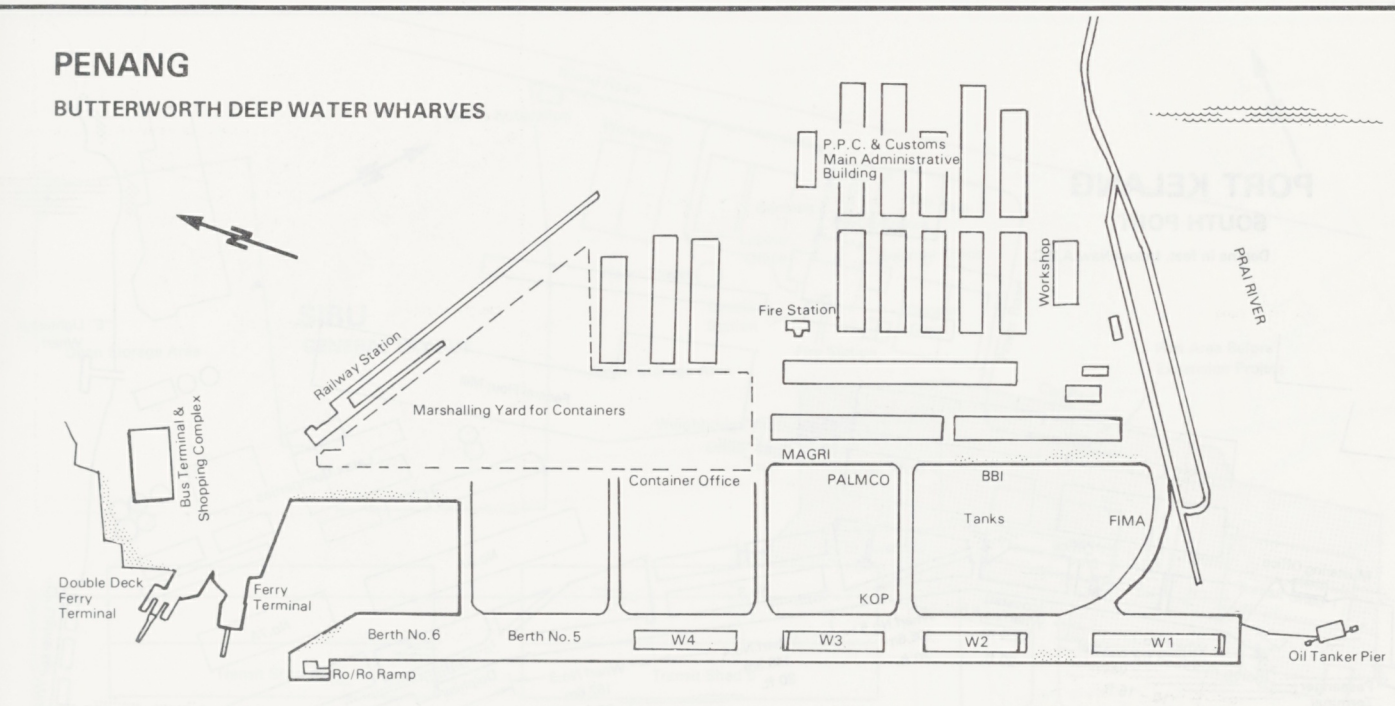
PASIR GUDANG

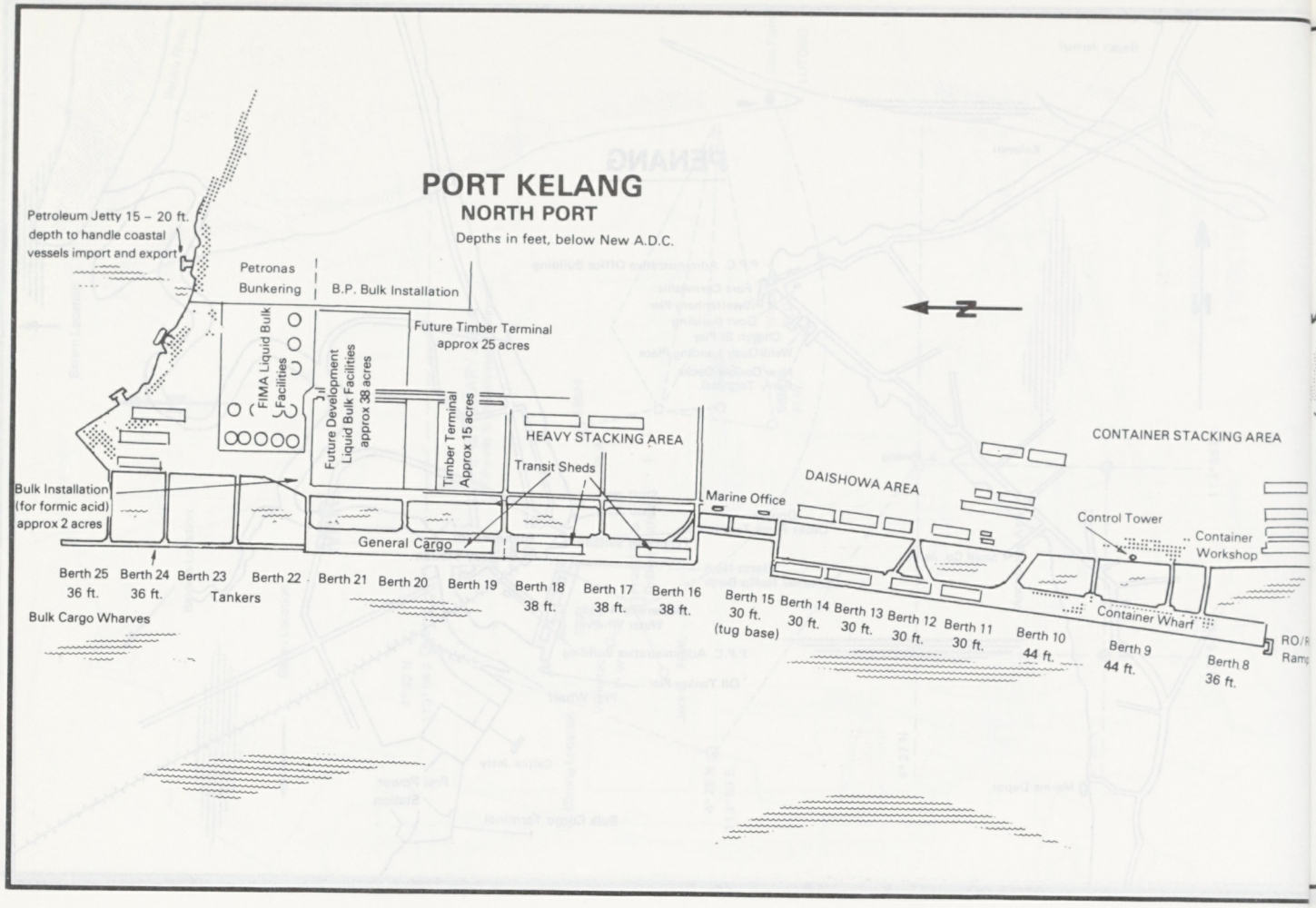


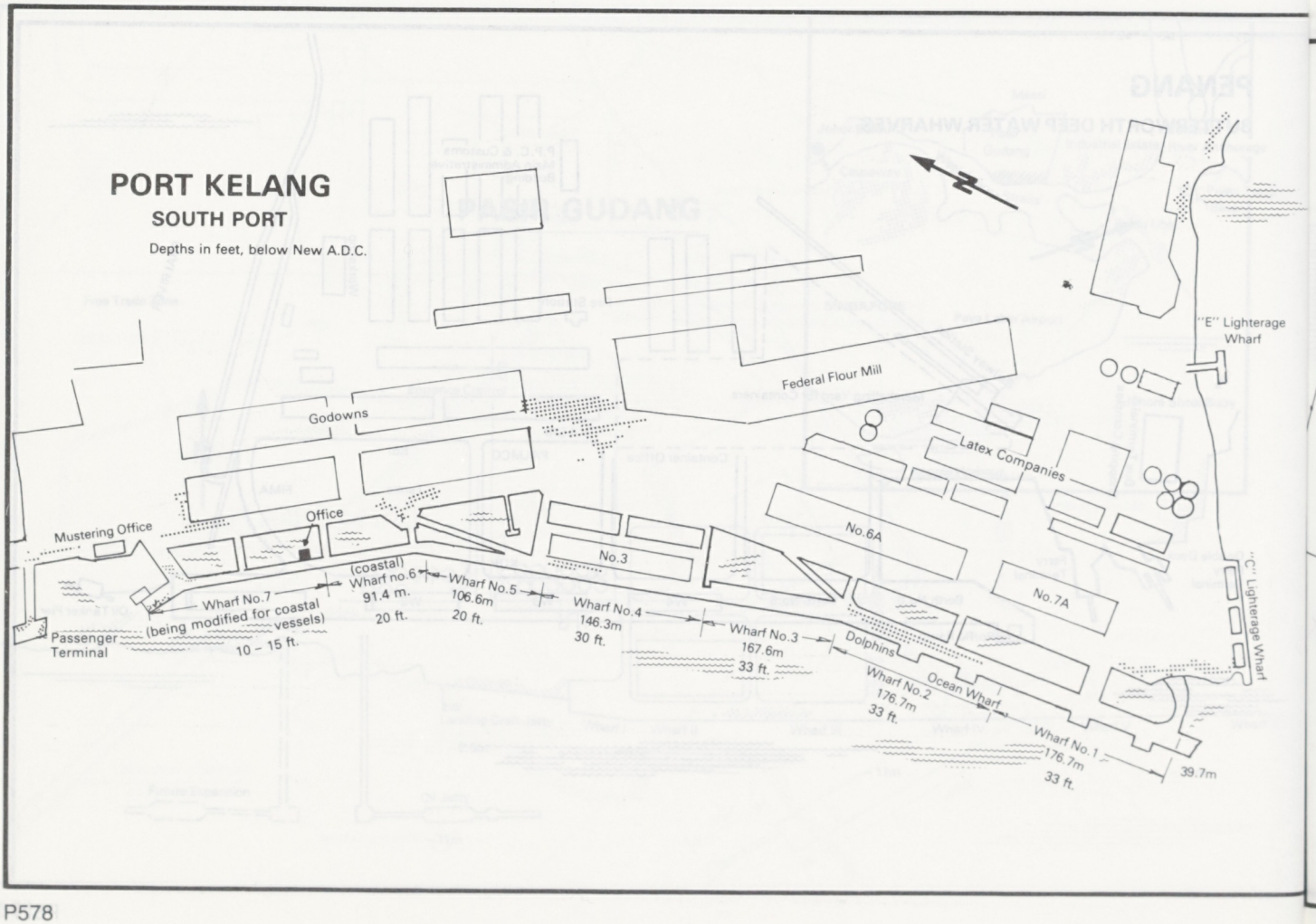


PENANG

BUTTERWORTH DEEP WATER WHARVES

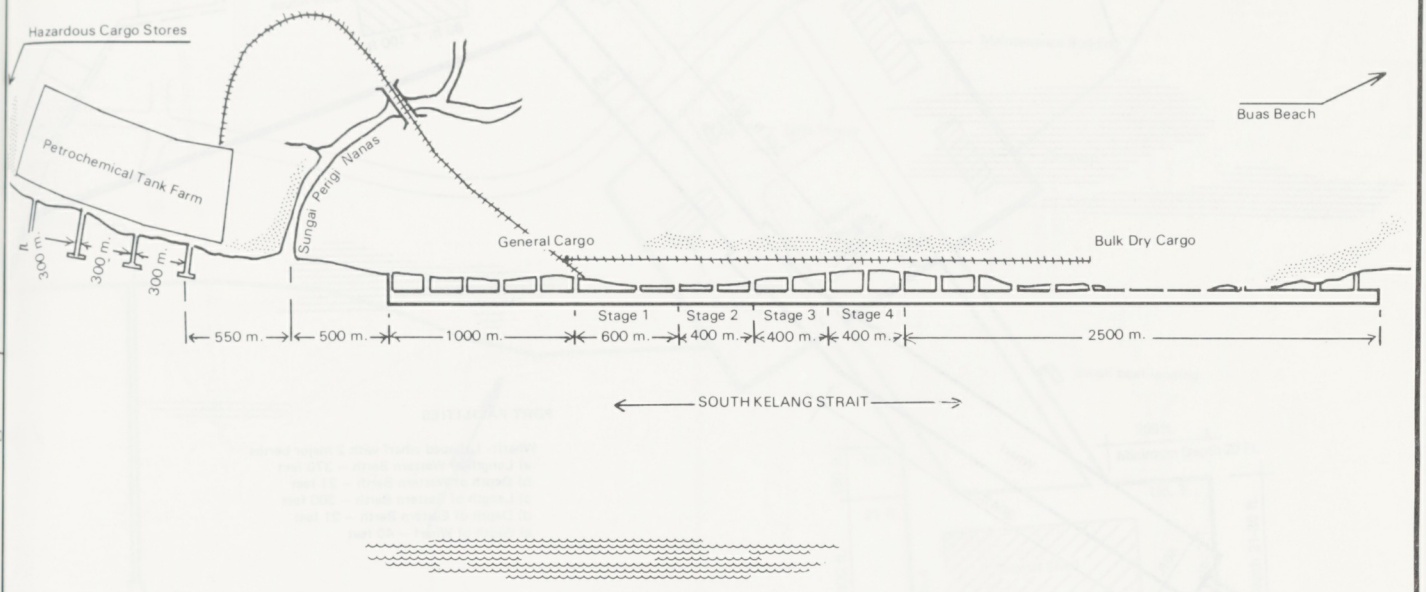


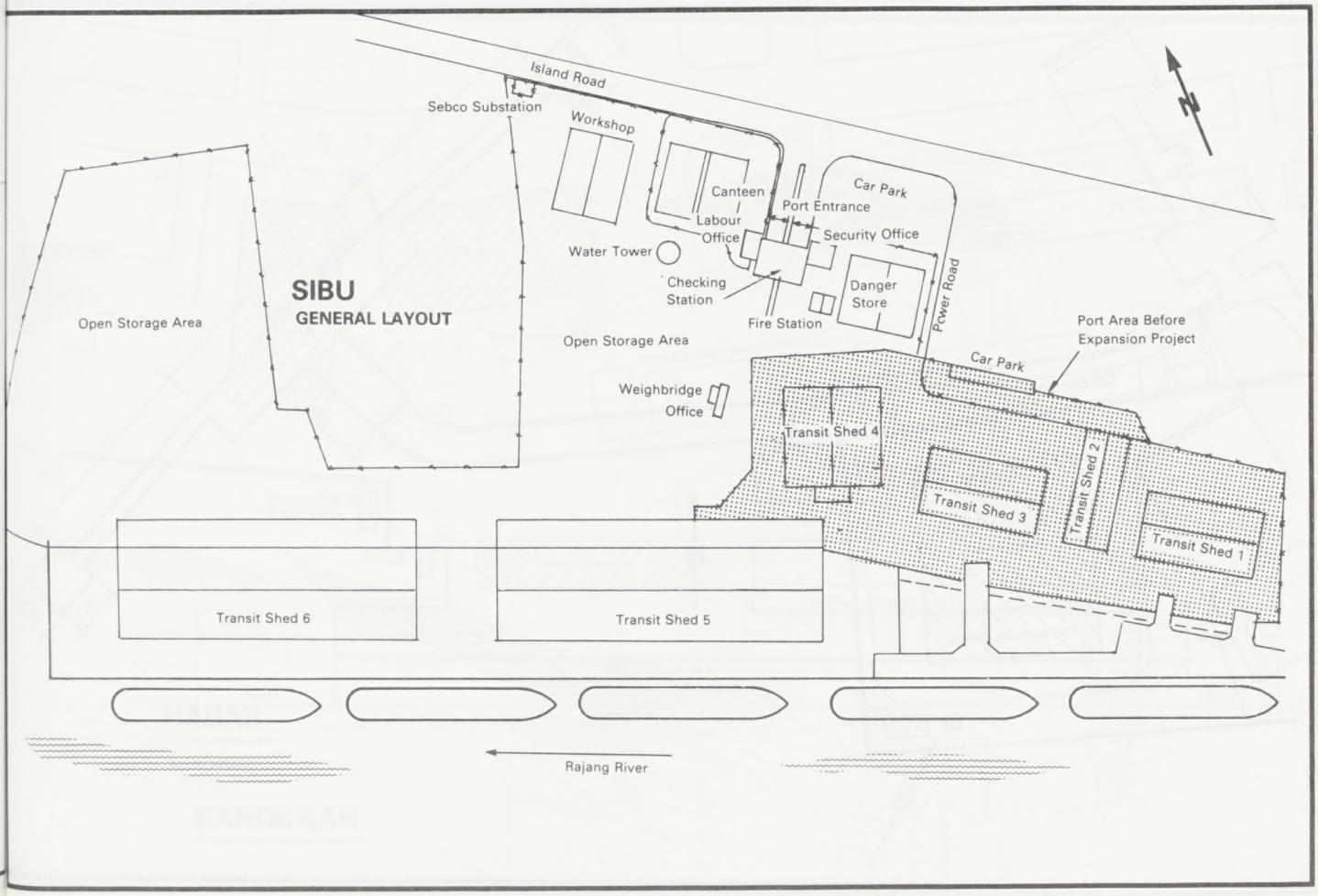

PORT KELANG
NORTH PORT
Depths in feet, below New A.D.C.
Petroleum Jetty 15 – 20 ft. depth to handle coastal vessels import and export
Petronas Bunkering
B.P. Bulk Installation
Future Timber Terminal approx 25 acres
FIMA Liquid Bulk Facilities
Future Development Liquid Bulk Facilities approx 38 acres
Timber Terminal Approx 15 acres
HEAVY STACKING AREA
CONTAINER STACKING AREA
Transit Sheds
DAISHOWA AREA
Marine Office
Control Tower
Container Workshop
Bulk Installation (for formic acid) approx 2 acres
General Cargo
Container Wharf
RO/R Ramp
Berth 25 36 ft.
Berth 24 36 ft.
Berth 23 Tankers
Berth 22
Berth 21
Berth 20
Berth 19
Berth 18 38 ft.
Berth 17 38 ft.
Berth 16 38 ft.
Berth 15 30 ft. (tug base)
Berth 14 30 ft.
Berth 13 30 ft.
Berth 12 30 ft.
Berth 11 30 ft.
Berth 10 44 ft.
Berth 9 44 ft.
Berth 8 36 ft.
Bulk Cargo Wharves

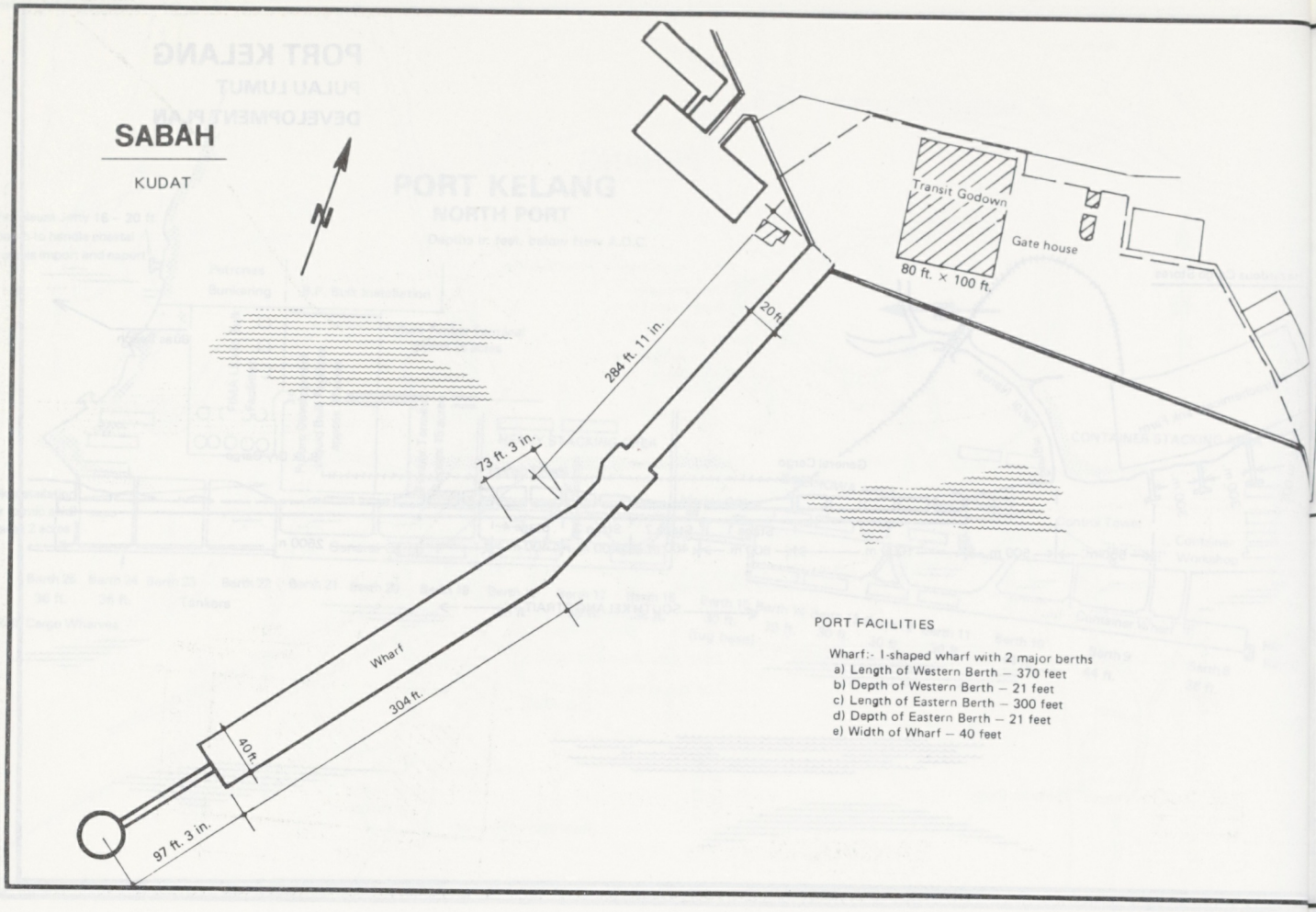

PORT KELANG
SOUTH PORT
Depths in feet, below New A.D.C.
"E" Lighterage Wharf
Federal Flour Mill
Godowns
Latex Companies
Mustering Office
Office
No.3
No.6A
No.7A
"C" Lighterage Wharf
Passenger Terminal
Wharf No.7 (being modified for coastal vessels) 10 – 15 ft.
(coastal) Wharf no.6 91.4 m. 20 ft.
Wharf No.5 106.6m 20 ft.
Wharf No.4 146.3m 30 ft.
Wharf No.3 167.6m 33 ft.
Dolphins
Wharf No.2 176.7m 33 ft.
Ocean Wharf
Wharf No.1 176.7m 33 ft.
39.7m

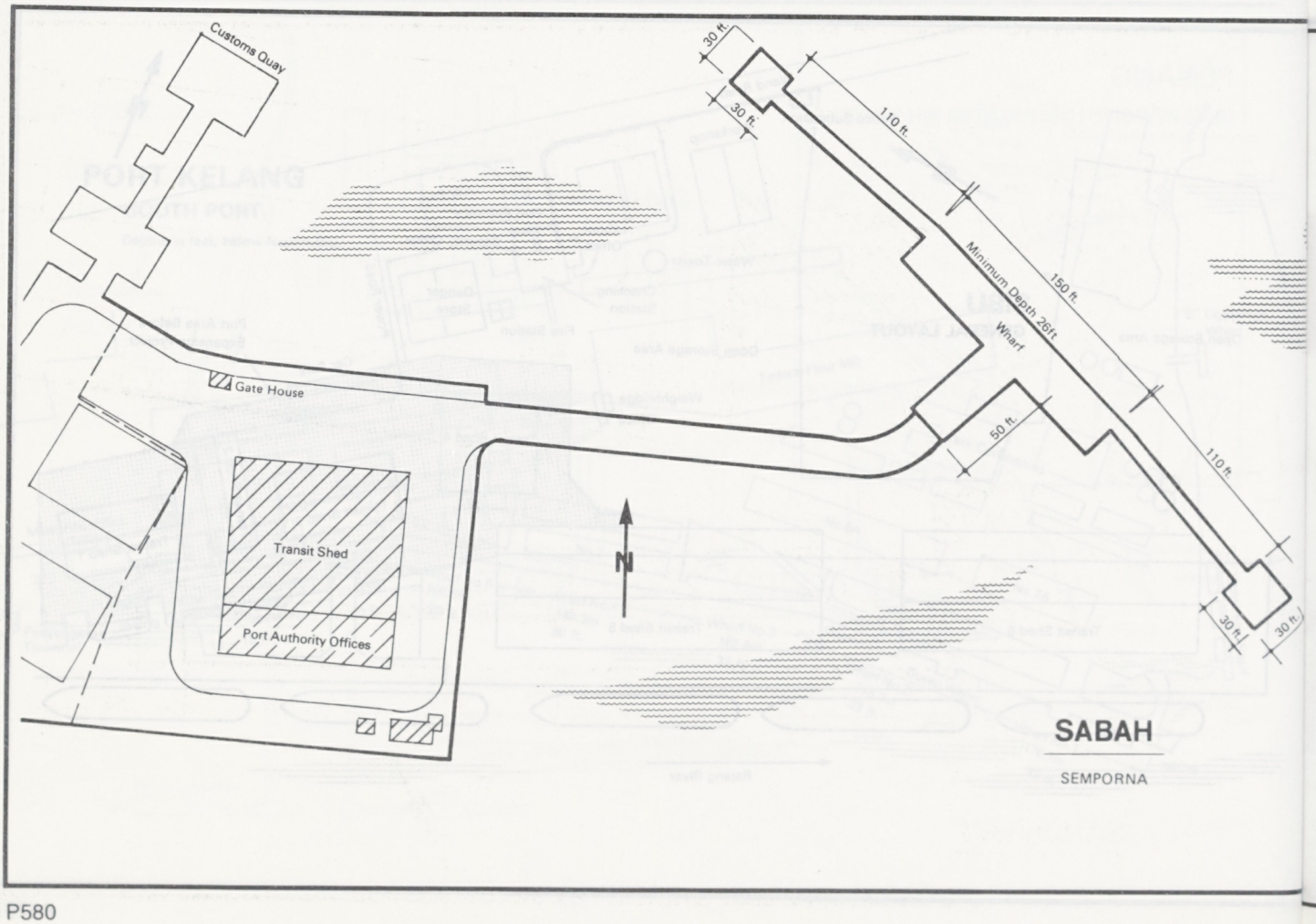
PORT KELANG

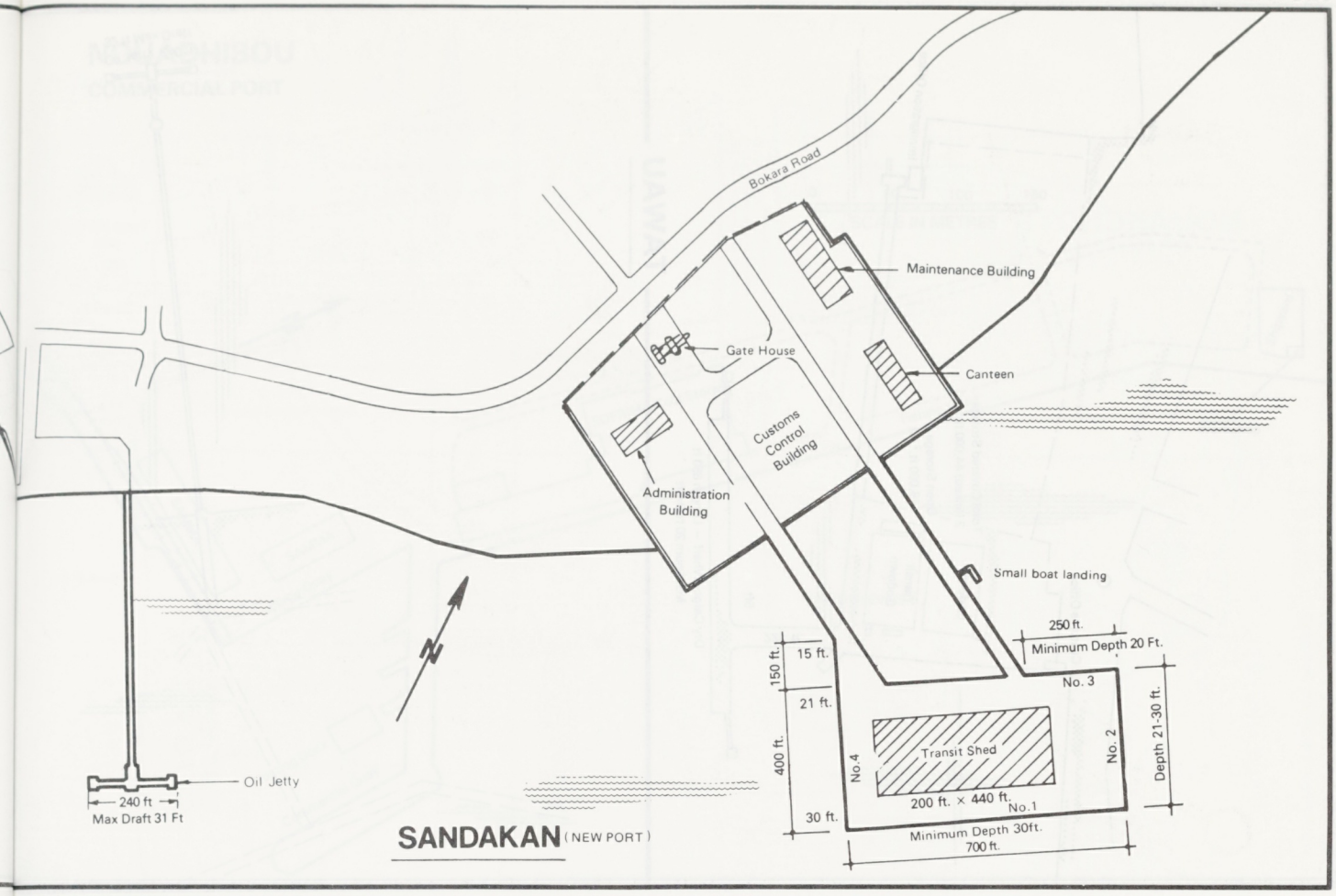
PULAU LUMUT
DEVELOPMENT PLAN



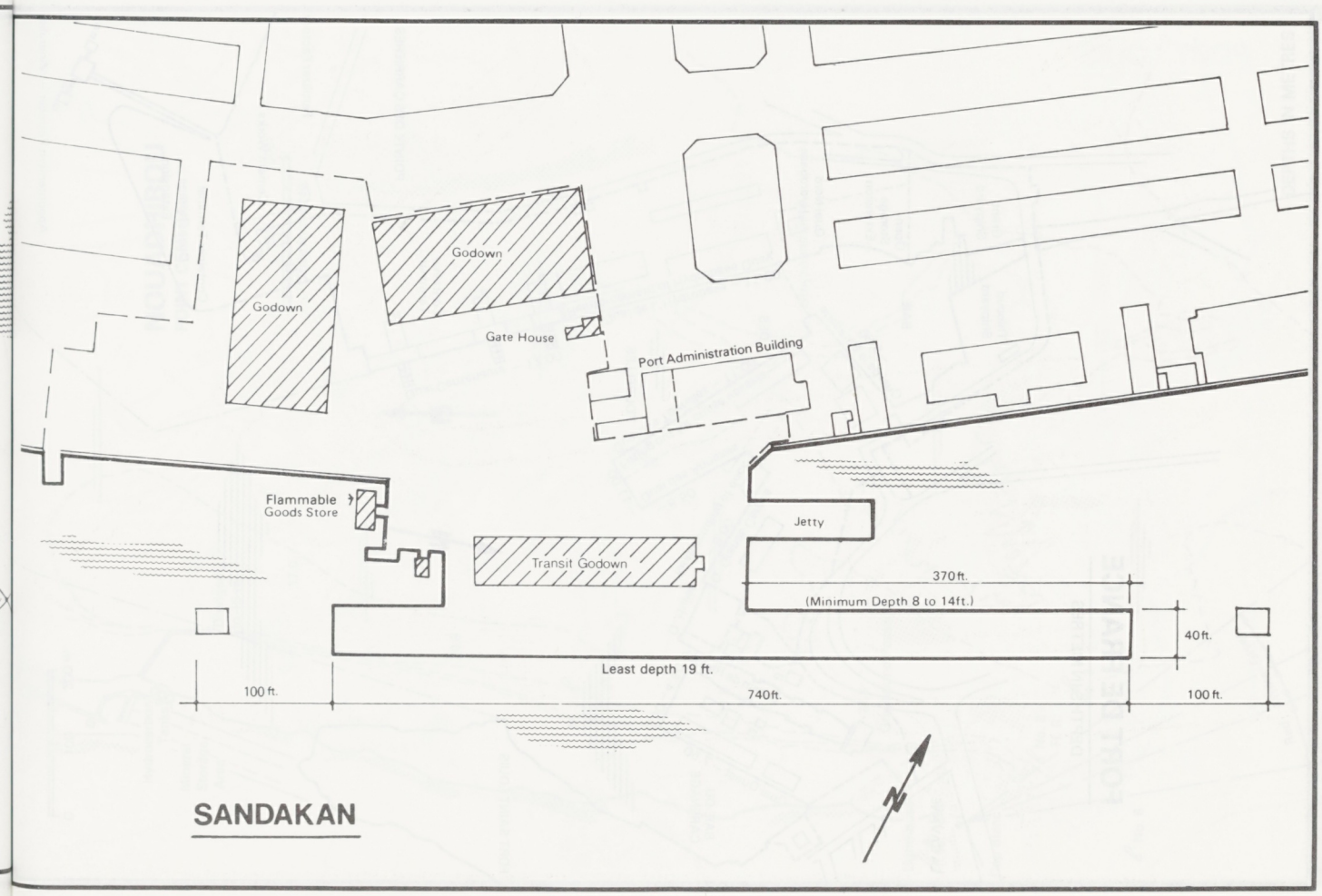



SABAH
KUDAT
N
Transit Godown
80 ft. × 100 ft.
Gate house
20 ft.
284 ft. 11 in.
73 ft. 3 in.
Wharf
304 ft.
40 ft.
97 ft. 3 in.
PORT FACILITIES
Wharf:- I-shaped wharf with 2 major berths
a) Length of Western Berth – 370 feet
b) Depth of Western Berth – 21 feet
c) Length of Eastern Berth – 300 feet
d) Depth of Eastern Berth – 21 feet
e) Width of Wharf – 40 feet

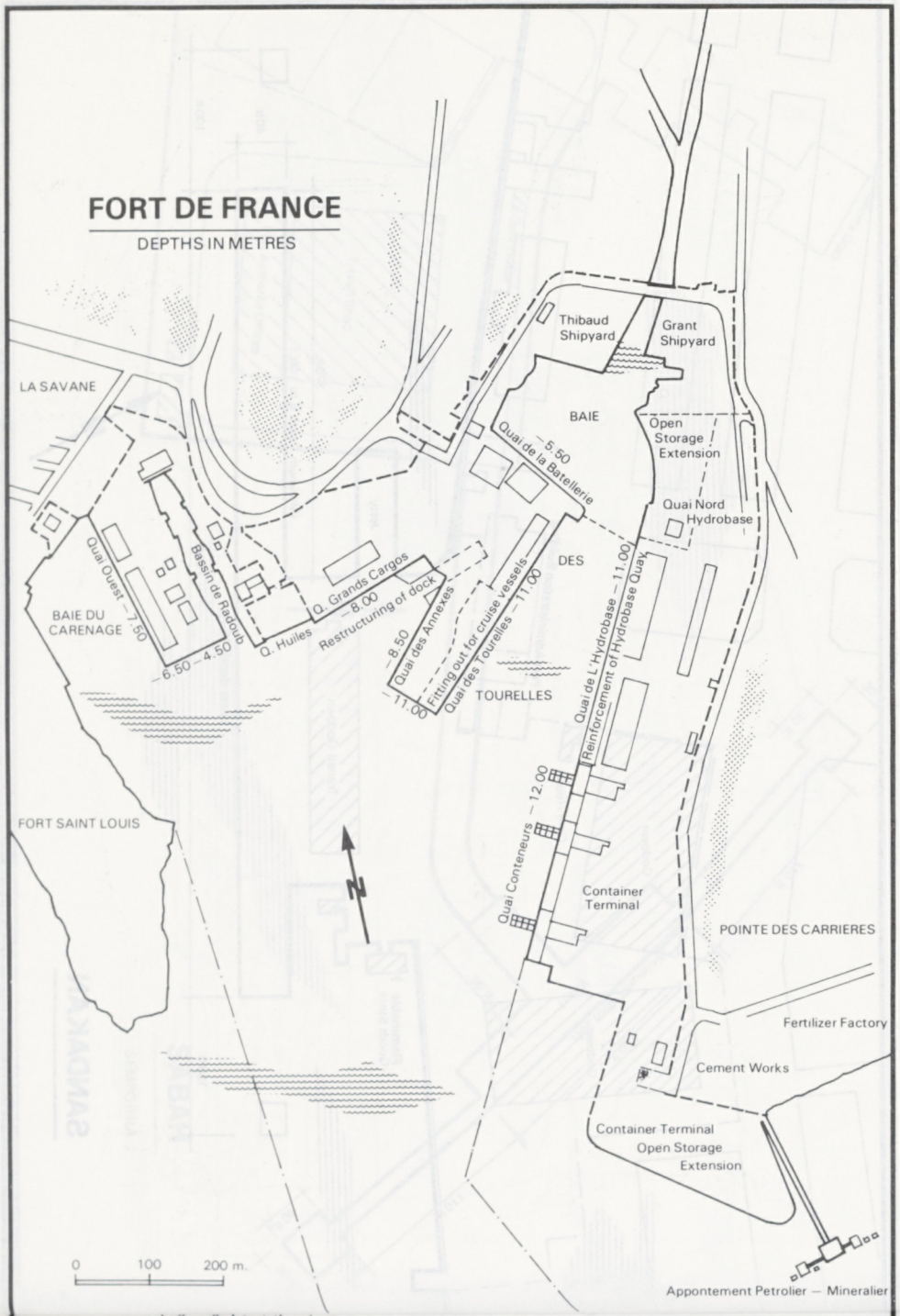

Customs Quay
30 ft.
30 ft.
110 ft.
Minimum Depth 26ft.
150 ft.
Wharf
Gate House
50 ft.
110 ft.
Transit Shed
Port Authority Offices
N
30 ft.
30 ft.
SABAH
SEMPORNA

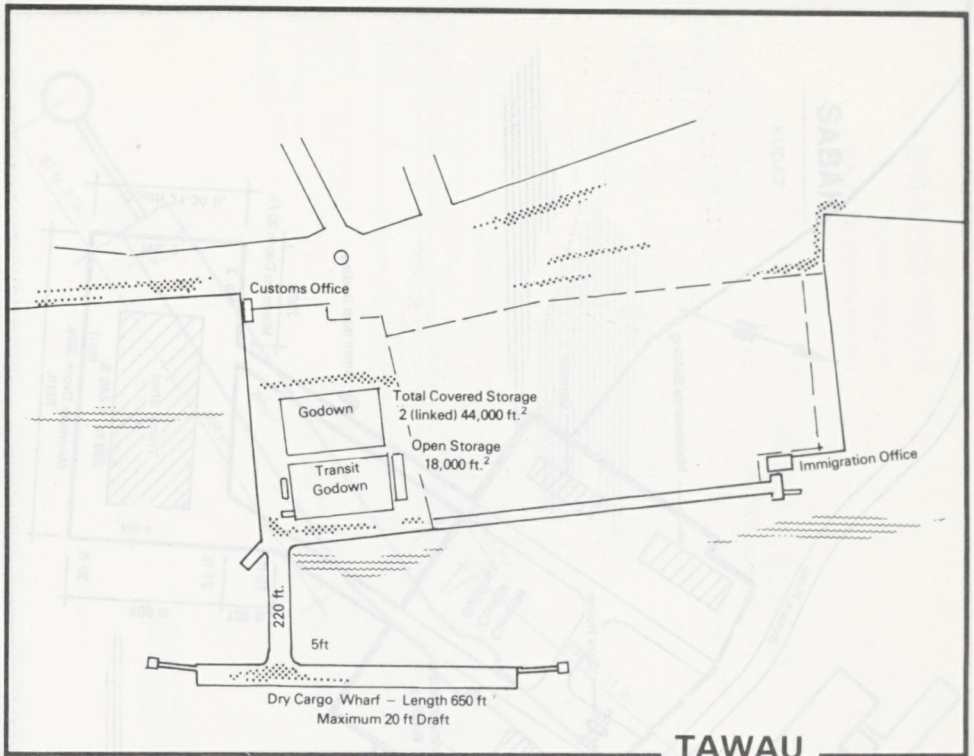


SANDAKAN (NEW PORT)

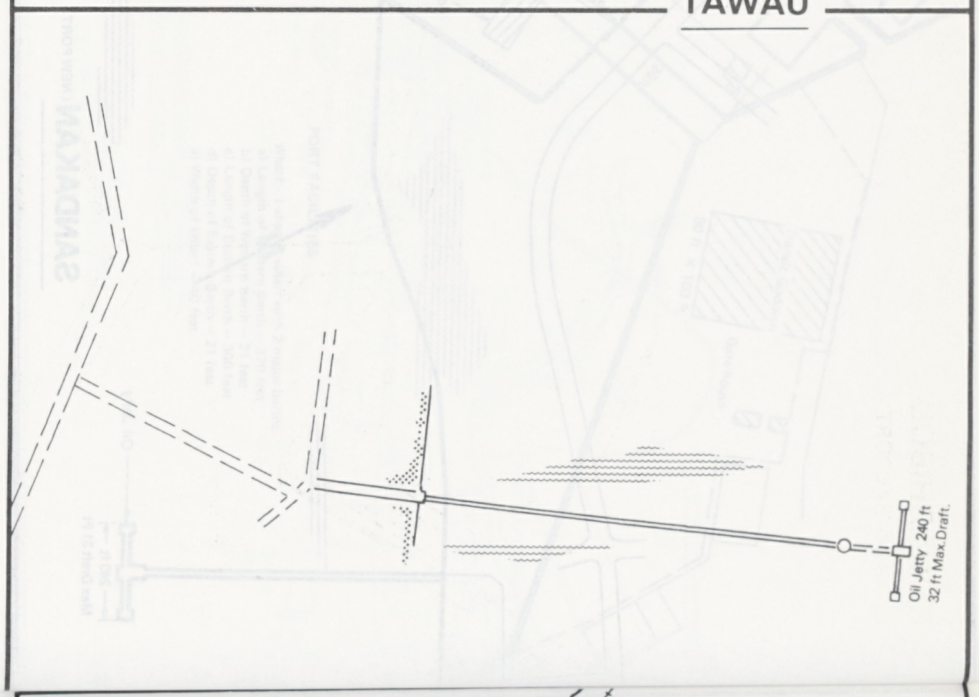


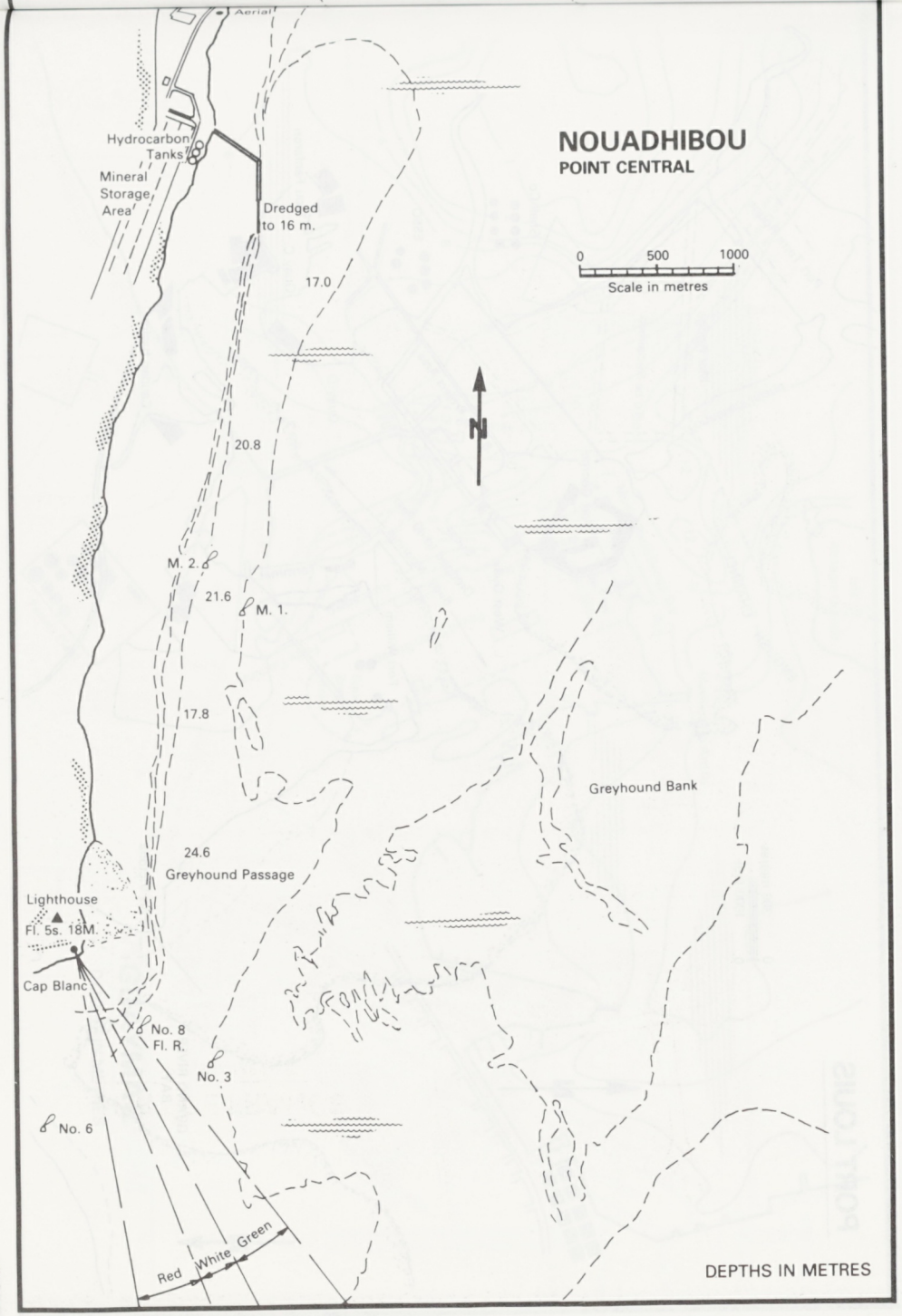
SANDAKAN

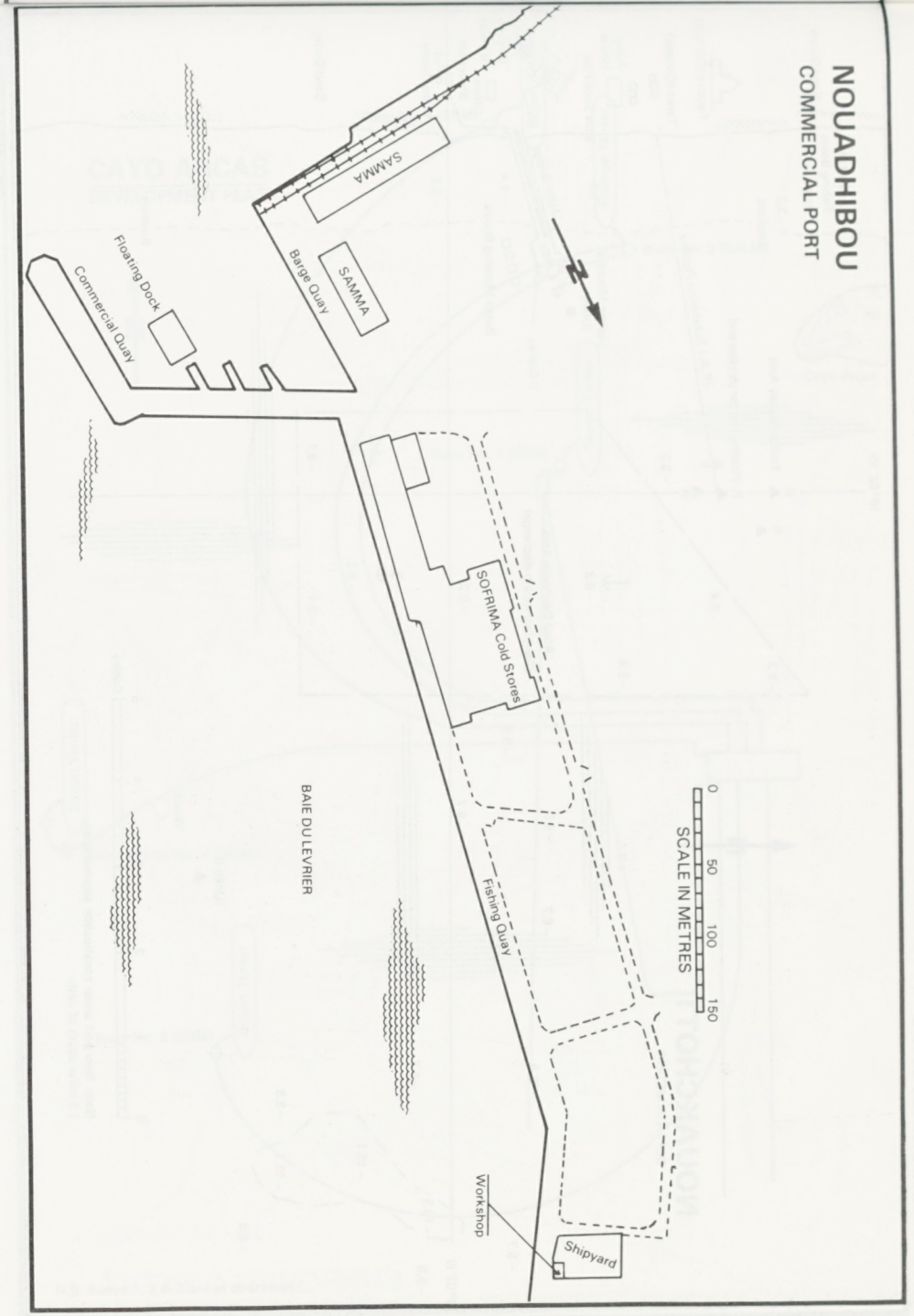

FORT DE FRANCE
DEPTHS IN METRES
LA SAVANE
Thibaud Shipyard
Grant Shipyard
BAIE
Open Storage Extension
Quai de la Batellerie
−5.50
Quai Nord Hydrobase
DES
Quai de L'Hydrobase − 11.00
Reinforcement of Hydrobase Quay
Quai Ouest − 7.50
Bassin de Radoub
BAIE DU CARENAGE
−6.50
−4.50
Q. Huiles
Q. Grands Cargos
−8.00
Restructuring of dock
−8.50
Quai des Annexes
Fitting out for cruise vessels
Quai des Tourelles − 11.00
−11.00
TOURELLES
FORT SAINT LOUIS
Quai Conteneurs − 12.00
Container Terminal
POINTE DES CARRIERES
Fertilizer Factory
Cement Works
Container Terminal Open Storage Extension
Appontement Petrolier — Mineralier
0
100
200 m.
Aerial

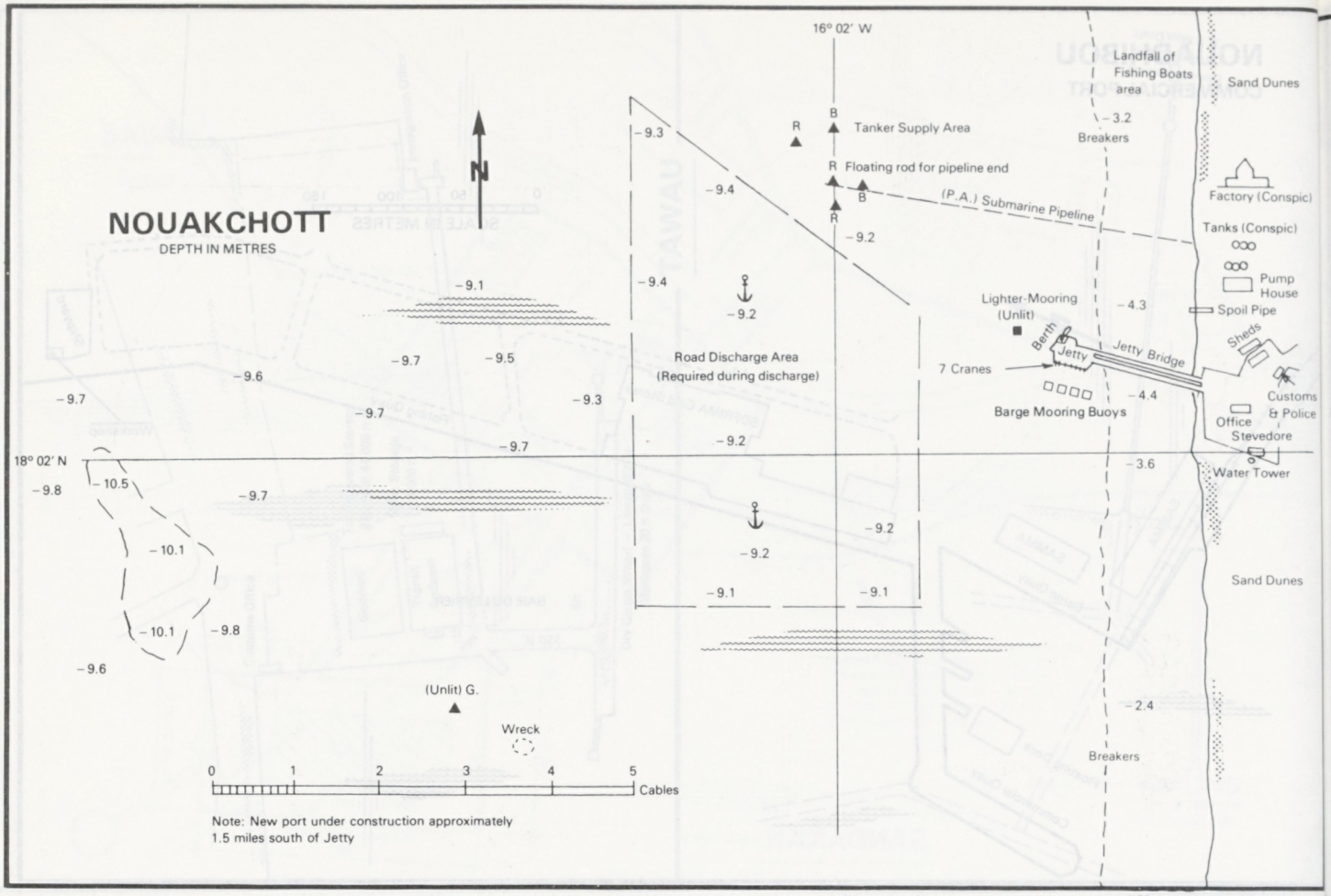

Customs Office
Godown
Total Covered Storage 2 (linked) 44,000 ft.²
Transit Godown
Open Storage 18,000 ft.²
Immigration Office
220 ft.
5ft
Dry Cargo Wharf — Length 650 ft
Maximum 20 ft Draft

TAWAU

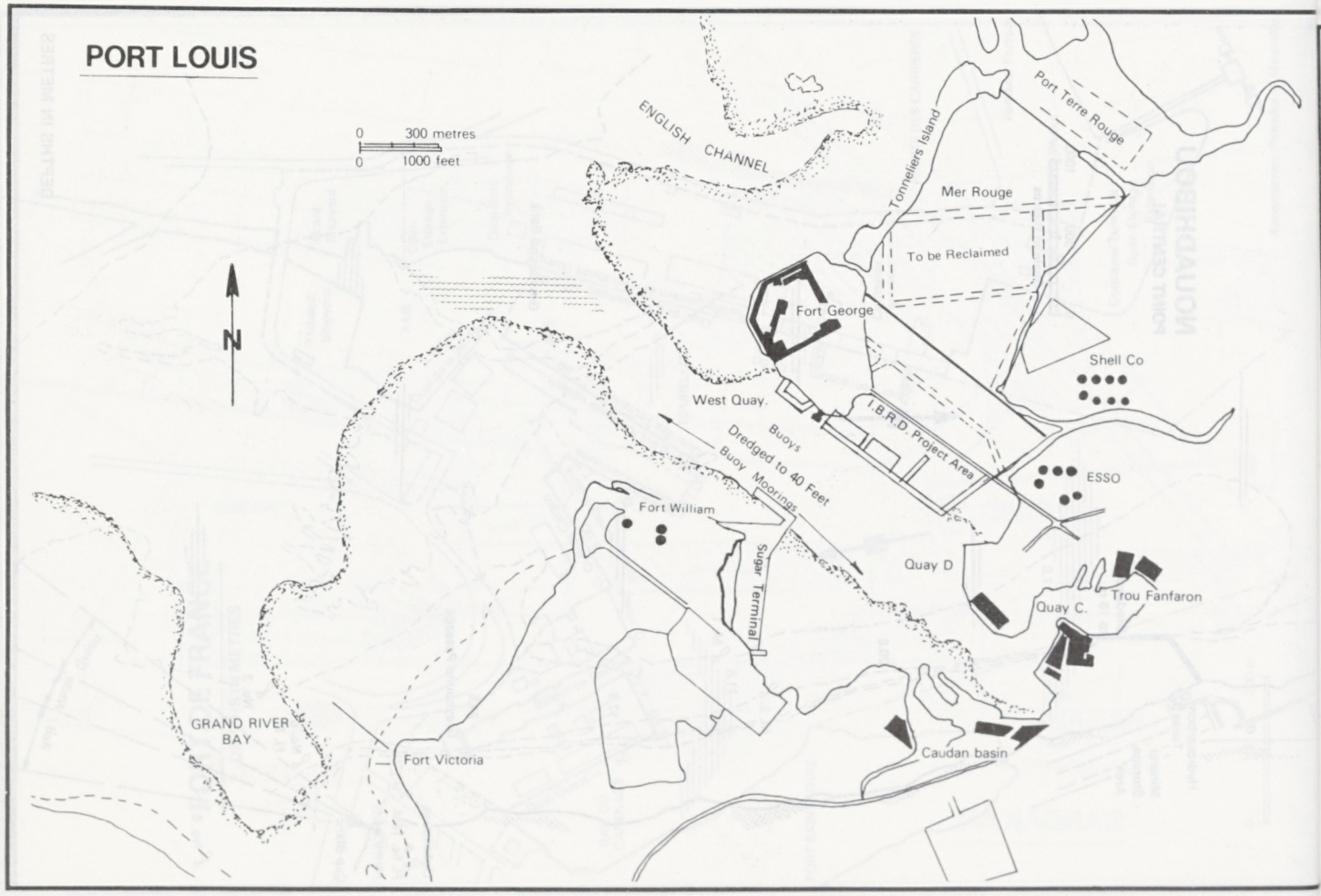

Oil Jetty 240 ft
32 ft Max. Draft.

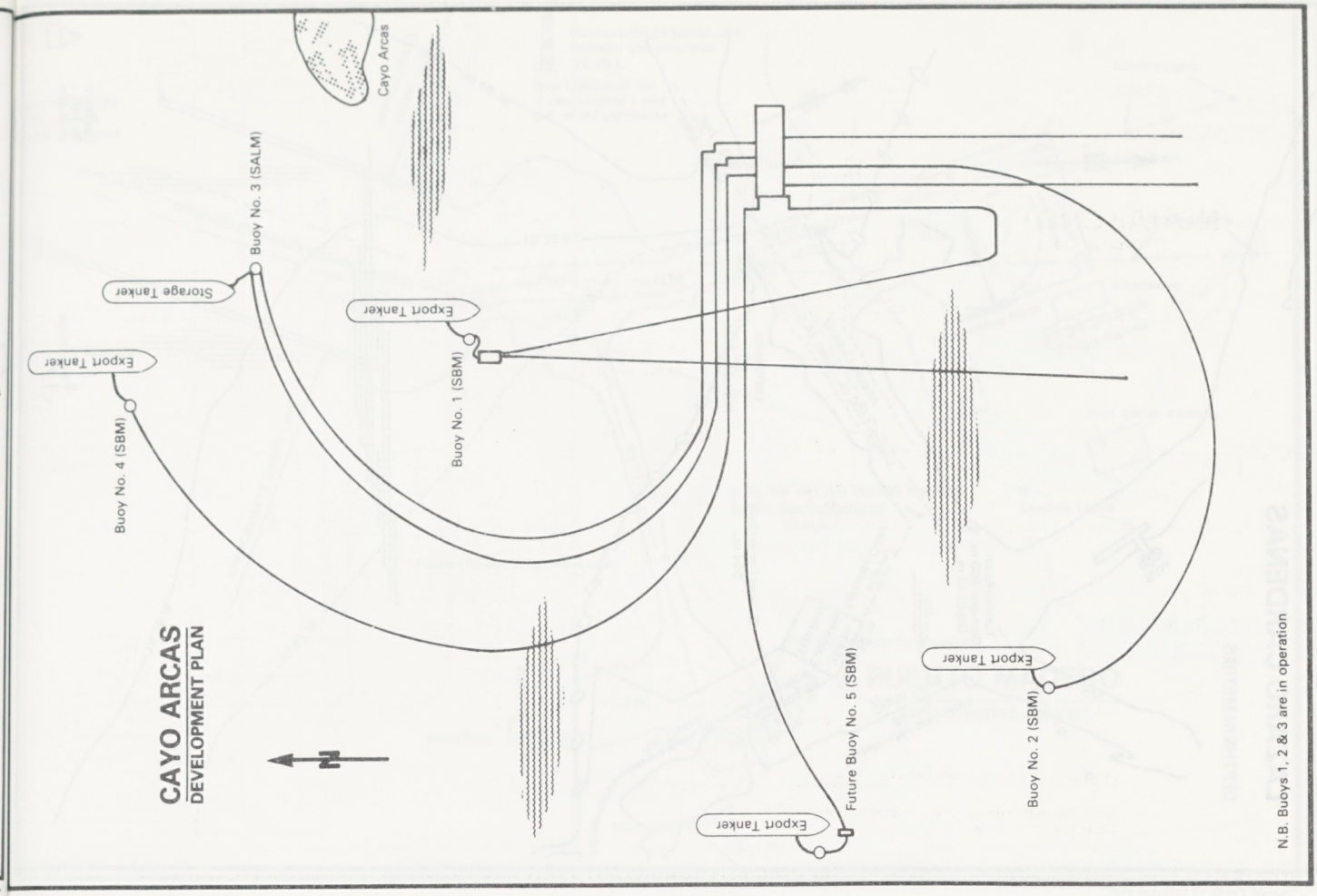

NOUADHIBOU
POINT CENTRAL
Aerial
Hydrocarbon Tanks
Mineral Storage Area
Dredged to 16 m.
0 500 1000
Scale in metres
17.0
20.8
M. 2.
21.6
M. 1.
17.8
Greyhound Bank
24.6
Greyhound Passage
Lighthouse
Fl. 5s. 18M.
Cap Blanc
No. 8
Fl. R.
No. 3
No. 6
Red
White
Green
DEPTHS IN METRES

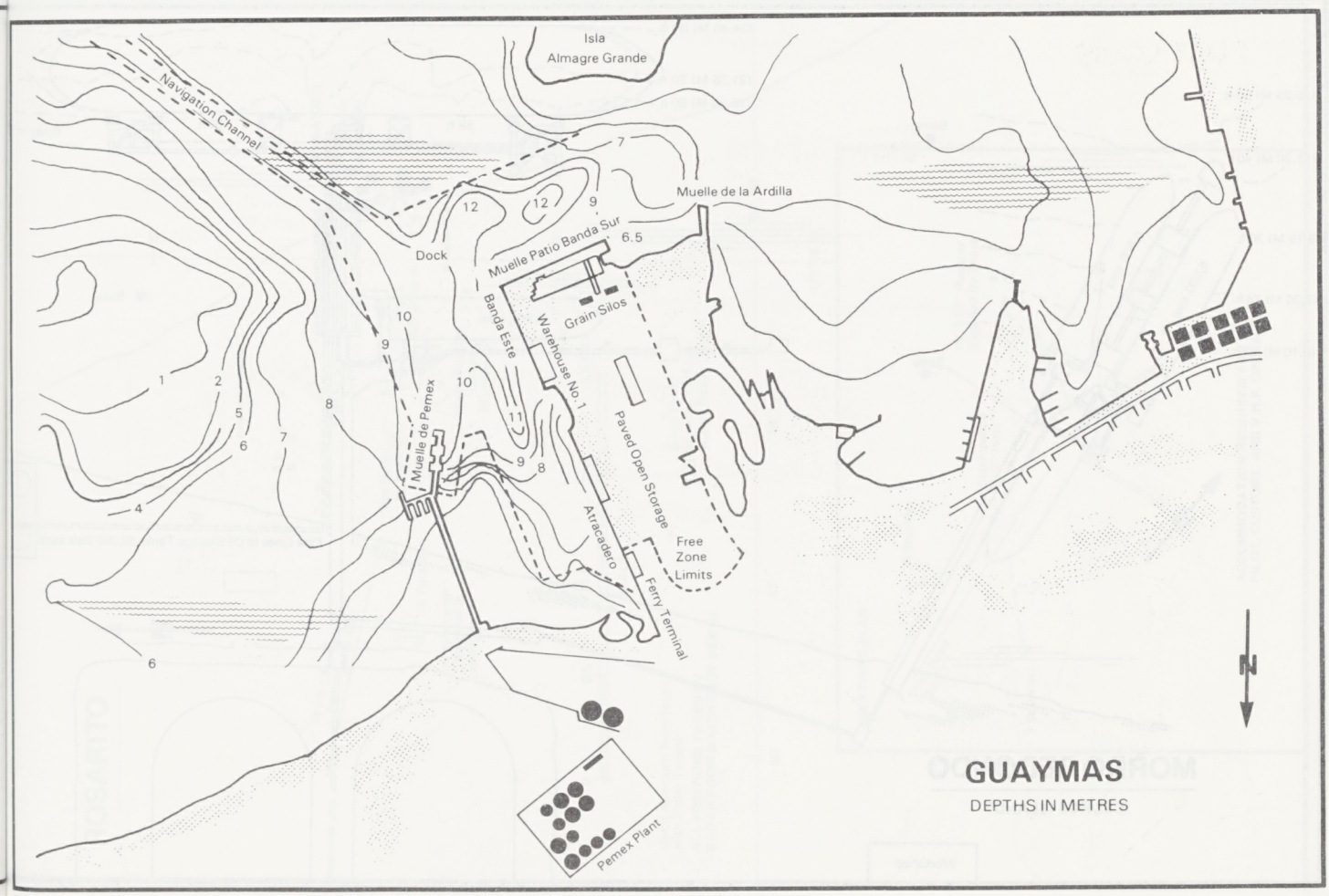

NOUADHIBOU
COMMERCIAL PORT
SAMMA
Barge Quay
SAMMA
Floating Dock
Commercial Quay
SOFRIMA Cold Stores
BAIE DU LEVRIER
Fishing Quay
0 50 100 150
SCALE IN METRES
Workshop
Shipyard

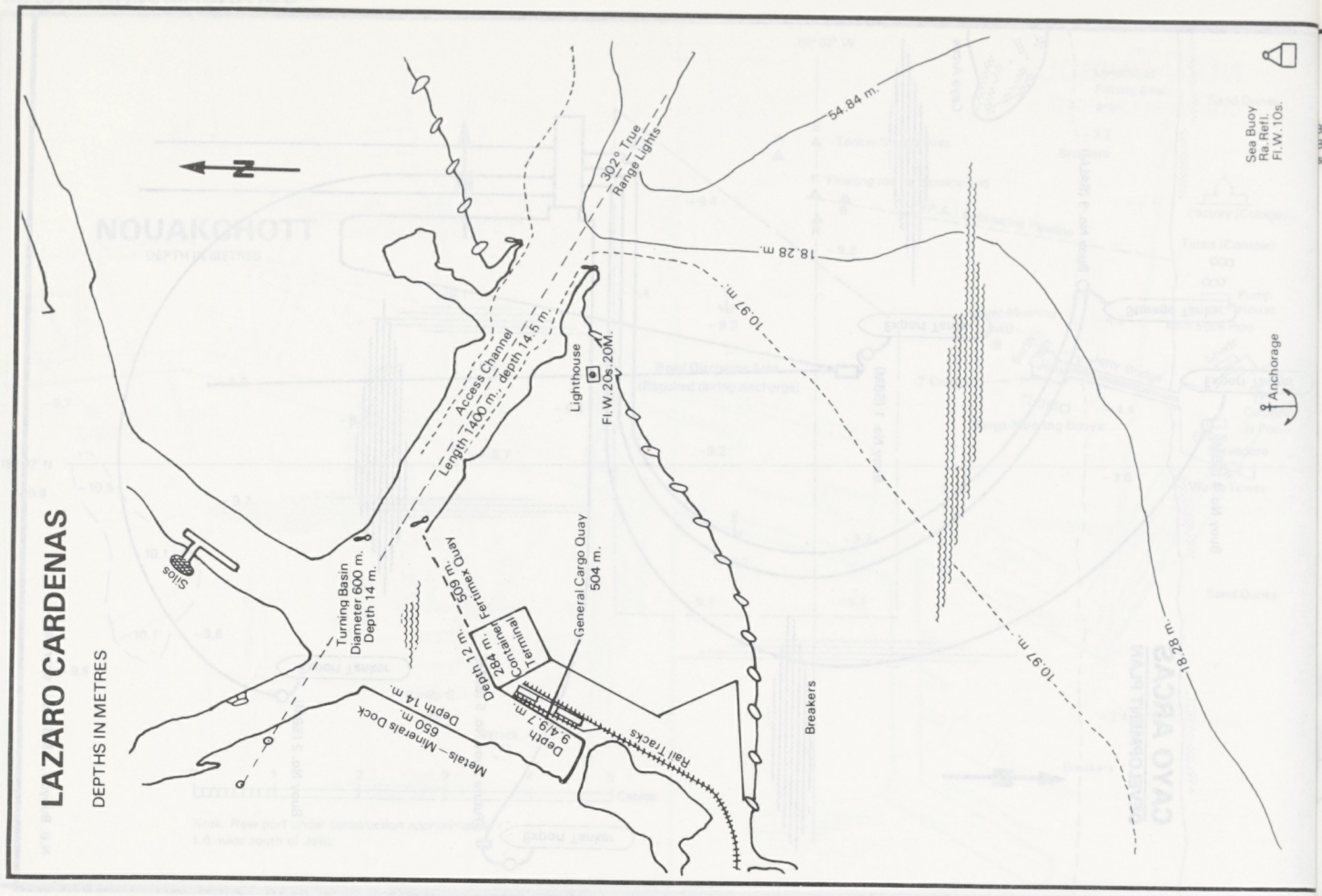


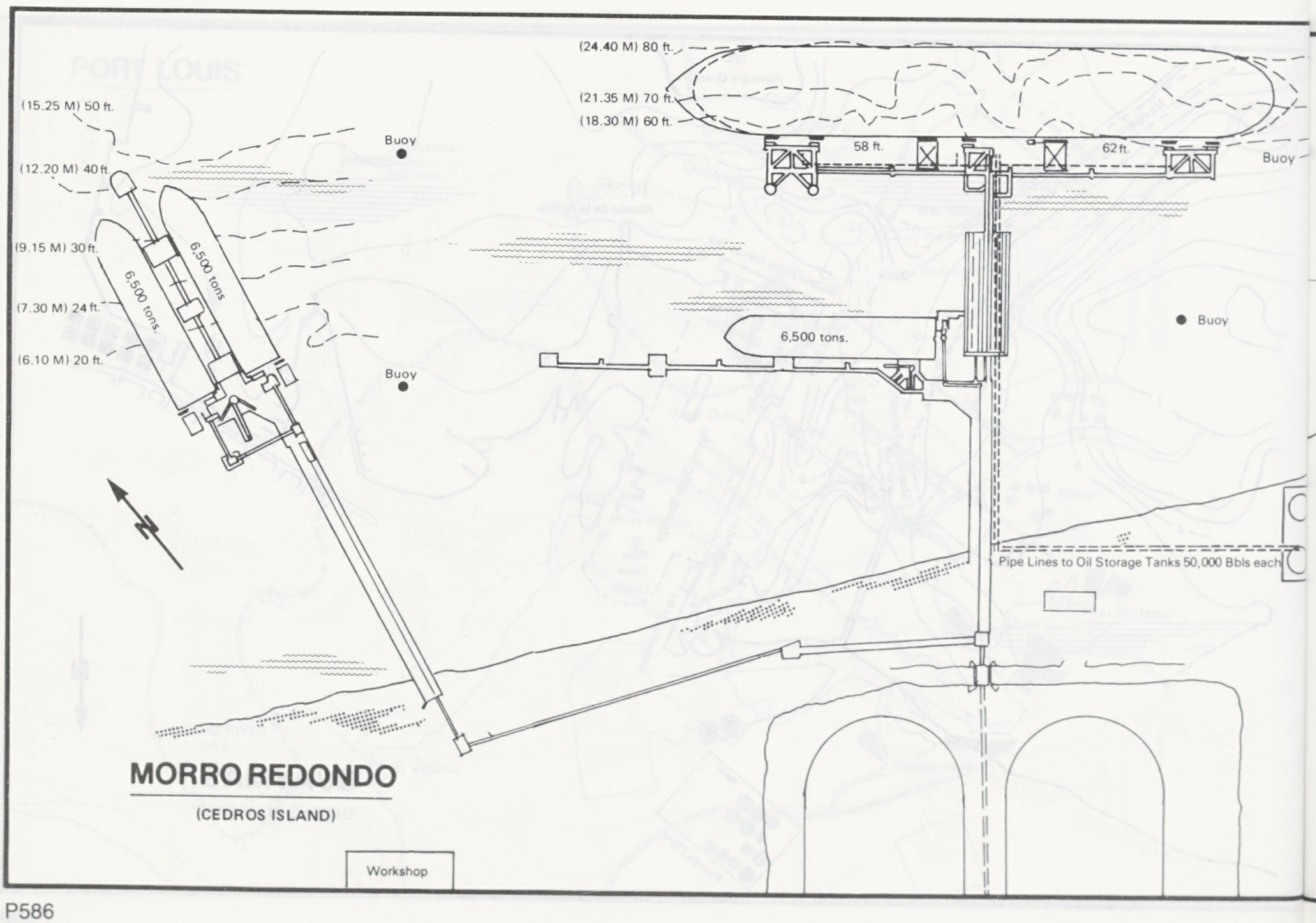
"Plan supplied by Ship's Master"

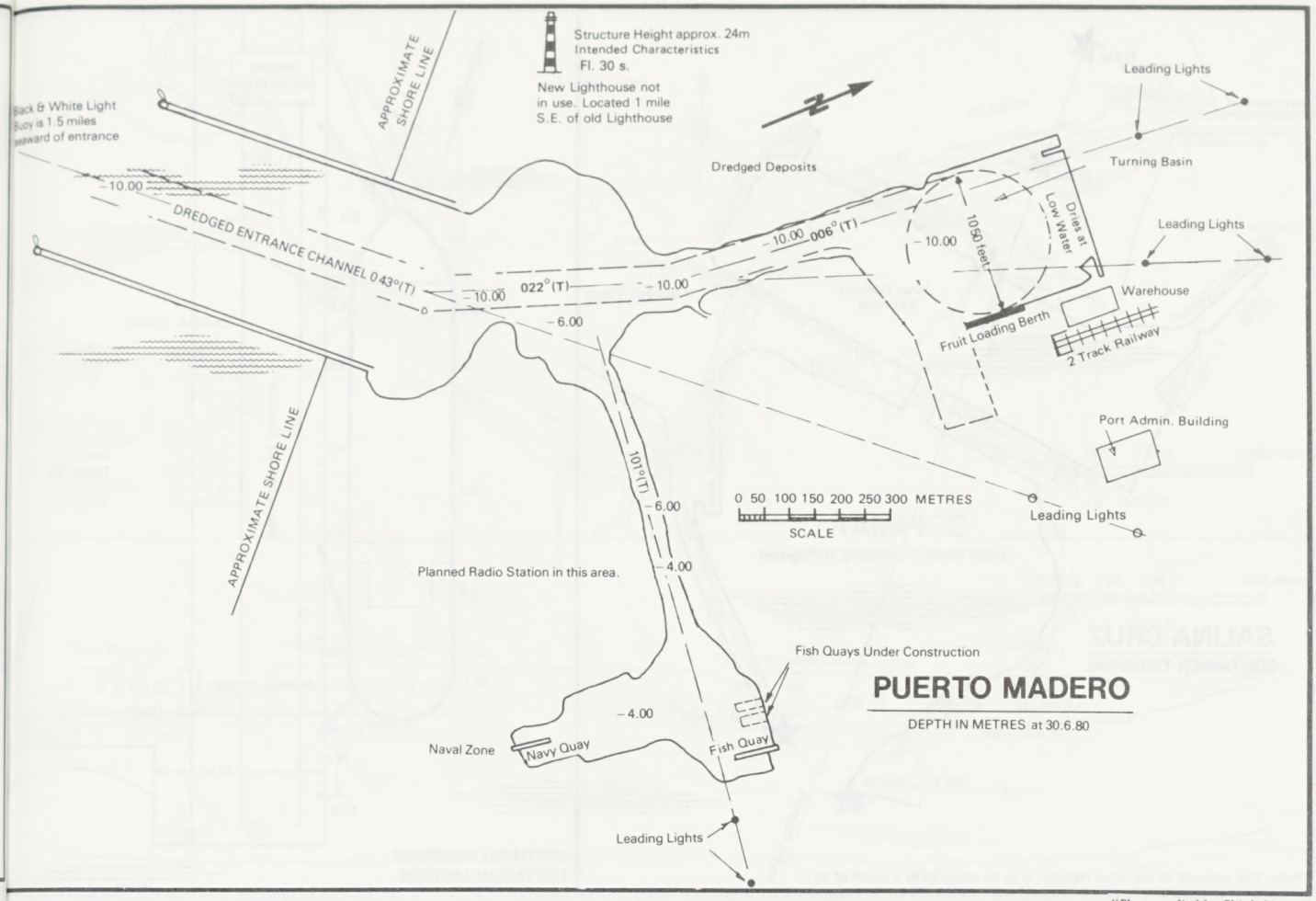



Cayo Arcas
Buoy No. 3 (SALM)
Storage Tanker
Export Tanker
Export Tanker
Buoy No. 1 (SBM)
Buoy No. 4 (SBM)
CAYO ARCAS
DEVELOPMENT PLAN
N
Export Tanker
Future Buoy No. 5 (SBM)
Export Tanker
Buoy No. 2 (SBM)
N.B. Buoys 1, 2 & 3 are in operation

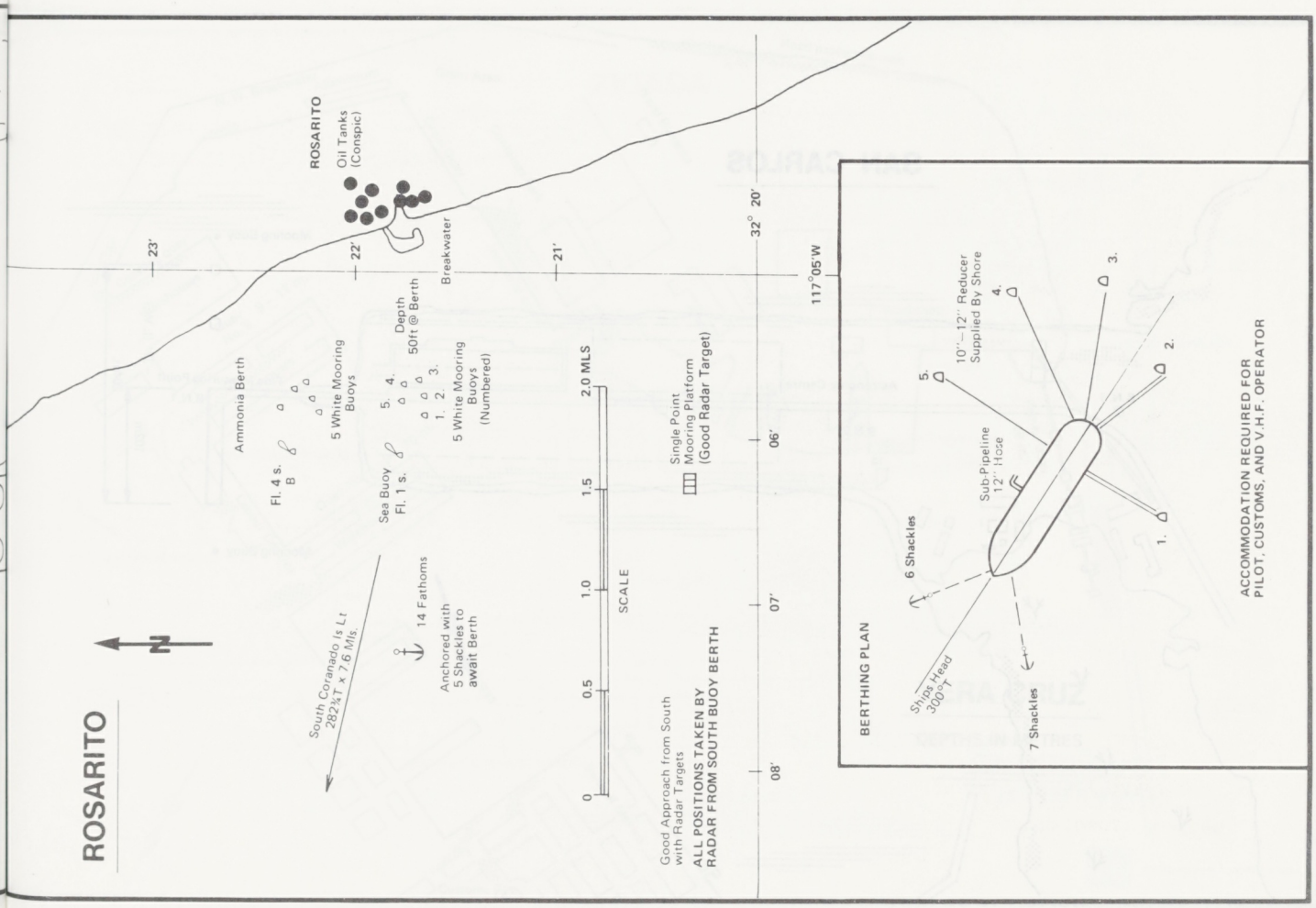

Isla
Almagre Grande
Navigation Channel
Muelle de la Ardilla
Dock
Muelle Patio Banda Sur
Banda Este
Grain Silos
Warehouse No.1
Paved Open Storage
Muelle de Pemex
Atracadero
Free
Zone
Limits
Ferry Terminal
Pemex Plant
N
GUAYMAS
DEPTHS IN METRES


LAZARO CARDENAS
DEPTHS IN METRES
N
Sea Buoy
Ra Refl.
Fl.W.10s.
54.84 m.
302° True
Range Lights
18.28 m.
10.97 m.
Access Channel
Length 1400 m.; depth 14.5 m.
Lighthouse
Fl.W.20s.20M.
Anchorage
Silos
Turning Basin
Diameter 600 m.
Depth 14 m.
509 m.
Fertimex Quay
Depth 12 m.
284 m.
Container Terminal
General Cargo Quay
504 m.
Depth 9.4/9.7 m
Metals—Minerals Dock
650 m.
Depth 14 m.
Rail Tracks
Breakers
10.97 m.
18.28 m.

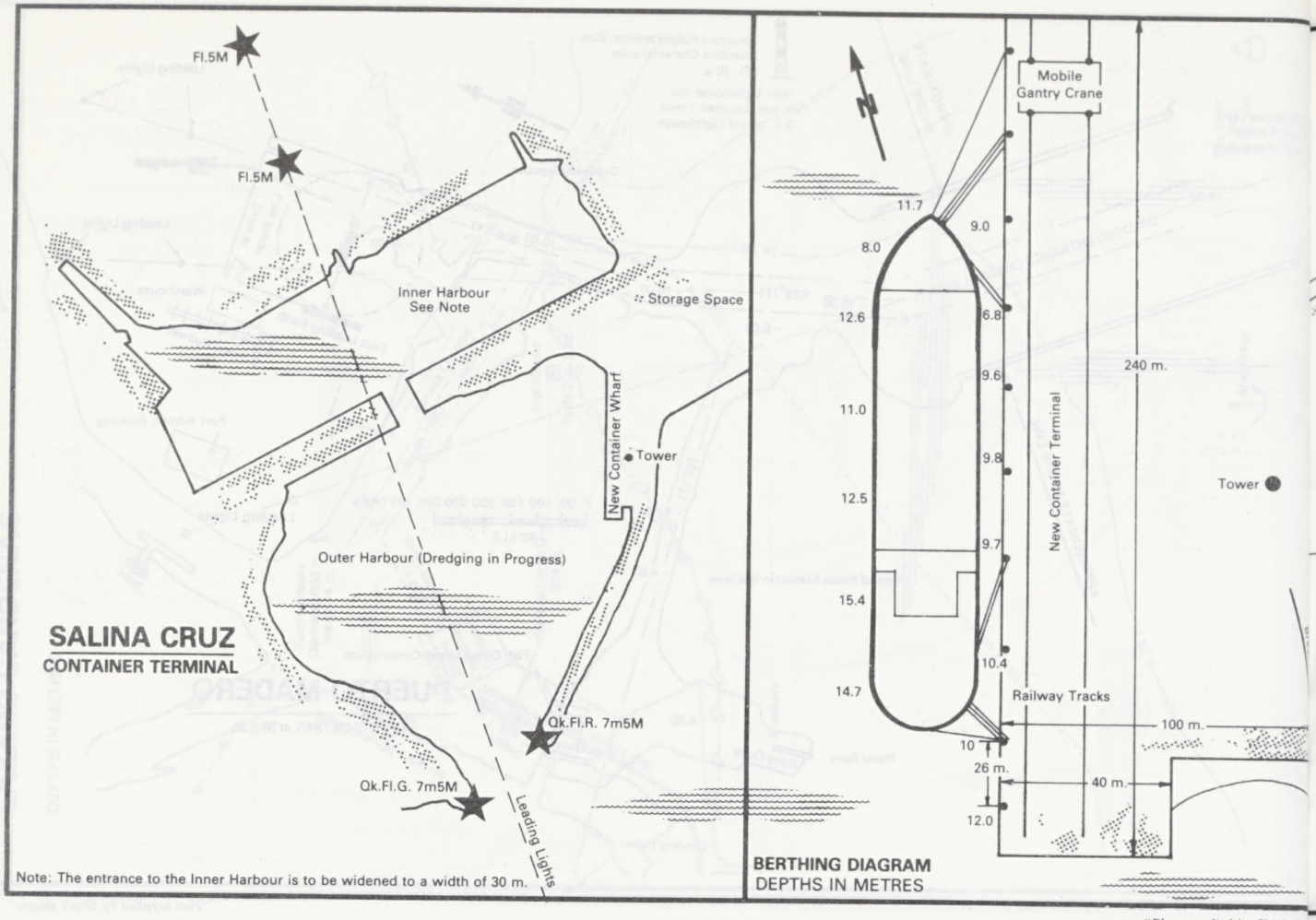

(24.40 M) 80 ft.
(21.35 M) 70 ft.
(18.30 M) 60 ft.
(15.25 M) 50 ft.
(12.20 M) 40 ft.
(9.15 M) 30 ft.
(7.30 M) 24 ft.
(6.10 M) 20 ft.
Buoy
58 ft.
62 ft.
6,500 tons.
6,500 tons.
6,500 tons.
Pipe Lines to Oil Storage Tanks 50,000 Bbls each
MORRO REDONDO
(CEDROS ISLAND)
Workshop



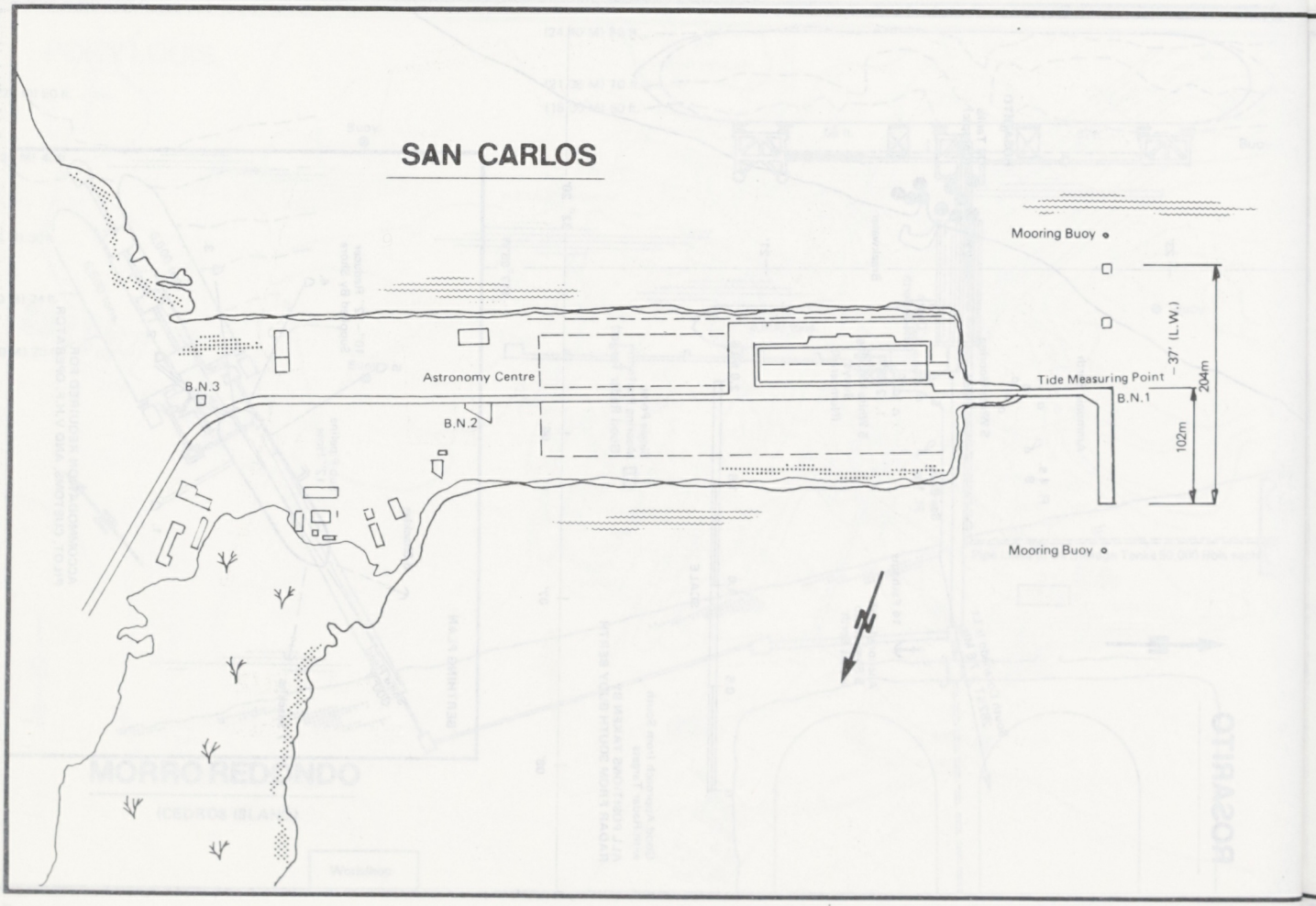
"Plan supplied by Ship's Master"

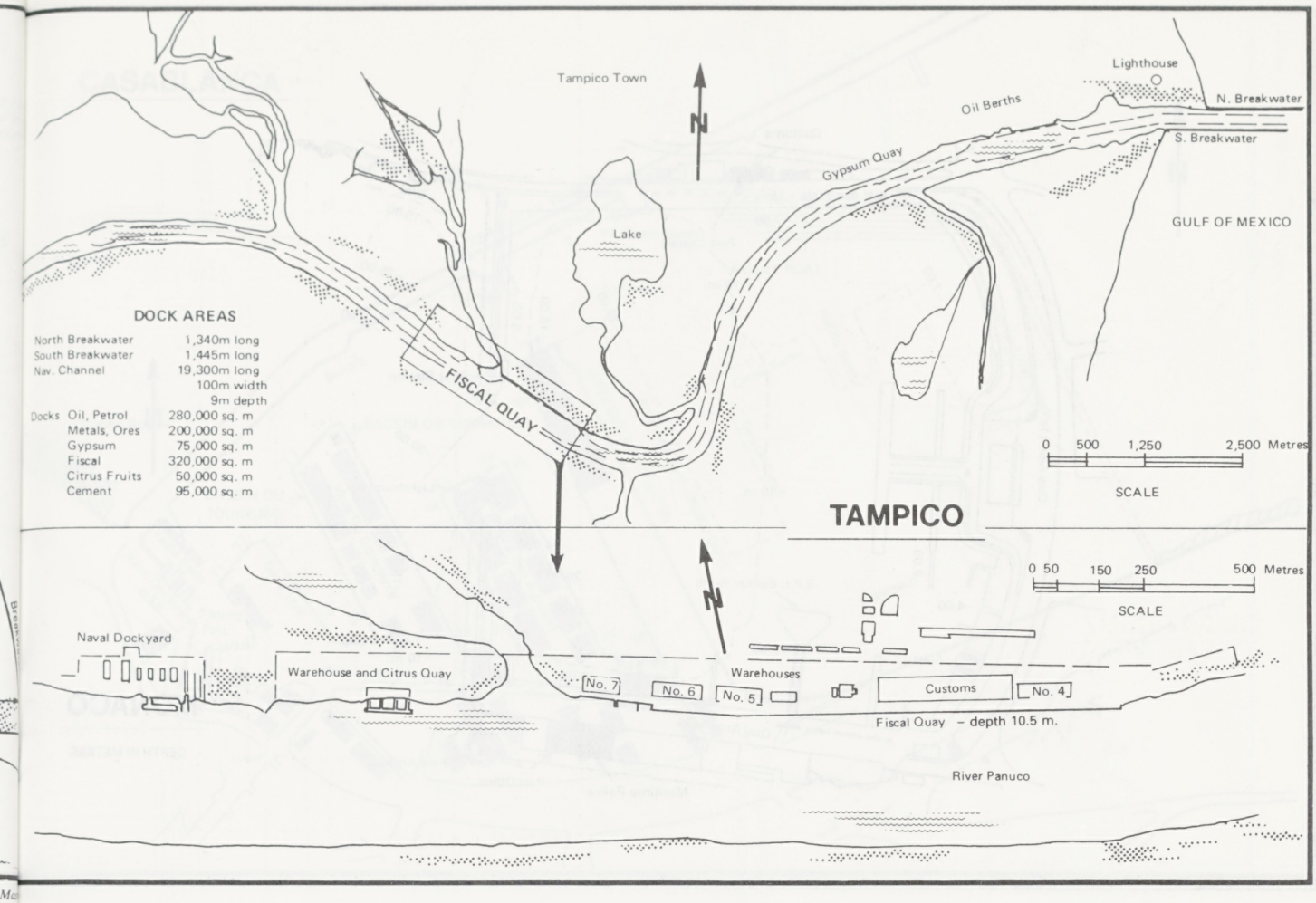


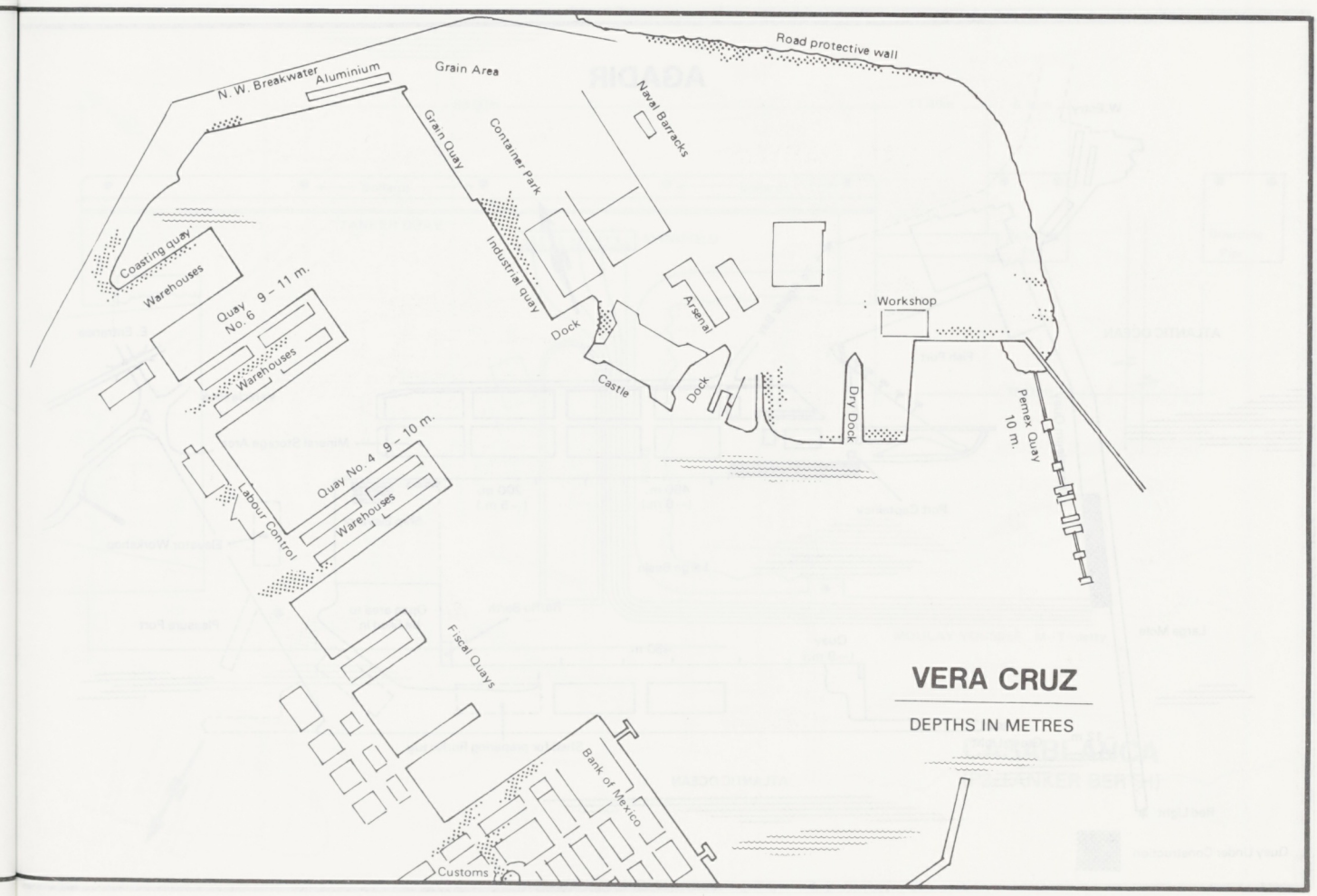
"Plan supplied by Ship's Master"

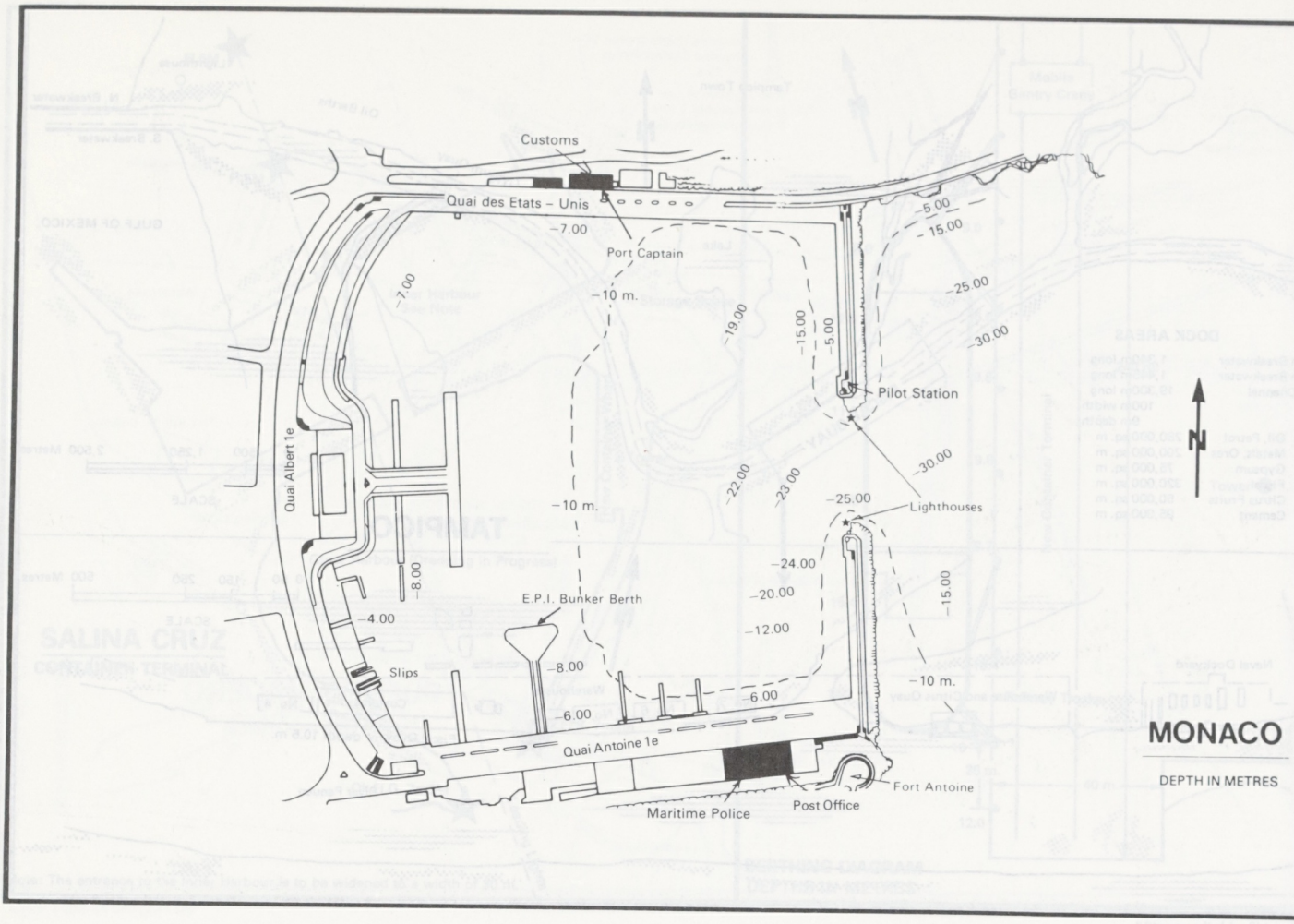


"Plan supplied by Ship's M




Tampico Town
N
Lighthouse
N. Breakwater
Oil Berths
S. Breakwater
Gypsum Quay
Lake
GULF OF MEXICO
FISCAL QUAY
DOCK AREAS
North Breakwater 1,340m long
South Breakwater 1,445m long
Nav. Channel 19,300m long
100m width
9m depth
Docks Oil, Petrol 280,000 sq. m
Metals, Ores 200,000 sq. m
Gypsum 75,000 sq. m
Fiscal 320,000 sq. m
Citrus Fruits 50,000 sq. m
Cement 95,000 sq. m
0 500 1,250 2,500 Metres
SCALE
TAMPICO
0 50 150 250 500 Metres
SCALE
N
Naval Dockyard
Warehouse and Citrus Quay
Warehouses
No. 7
No. 6
No. 5
Customs
No. 4
Fiscal Quay – depth 10.5 m.
River Panuco

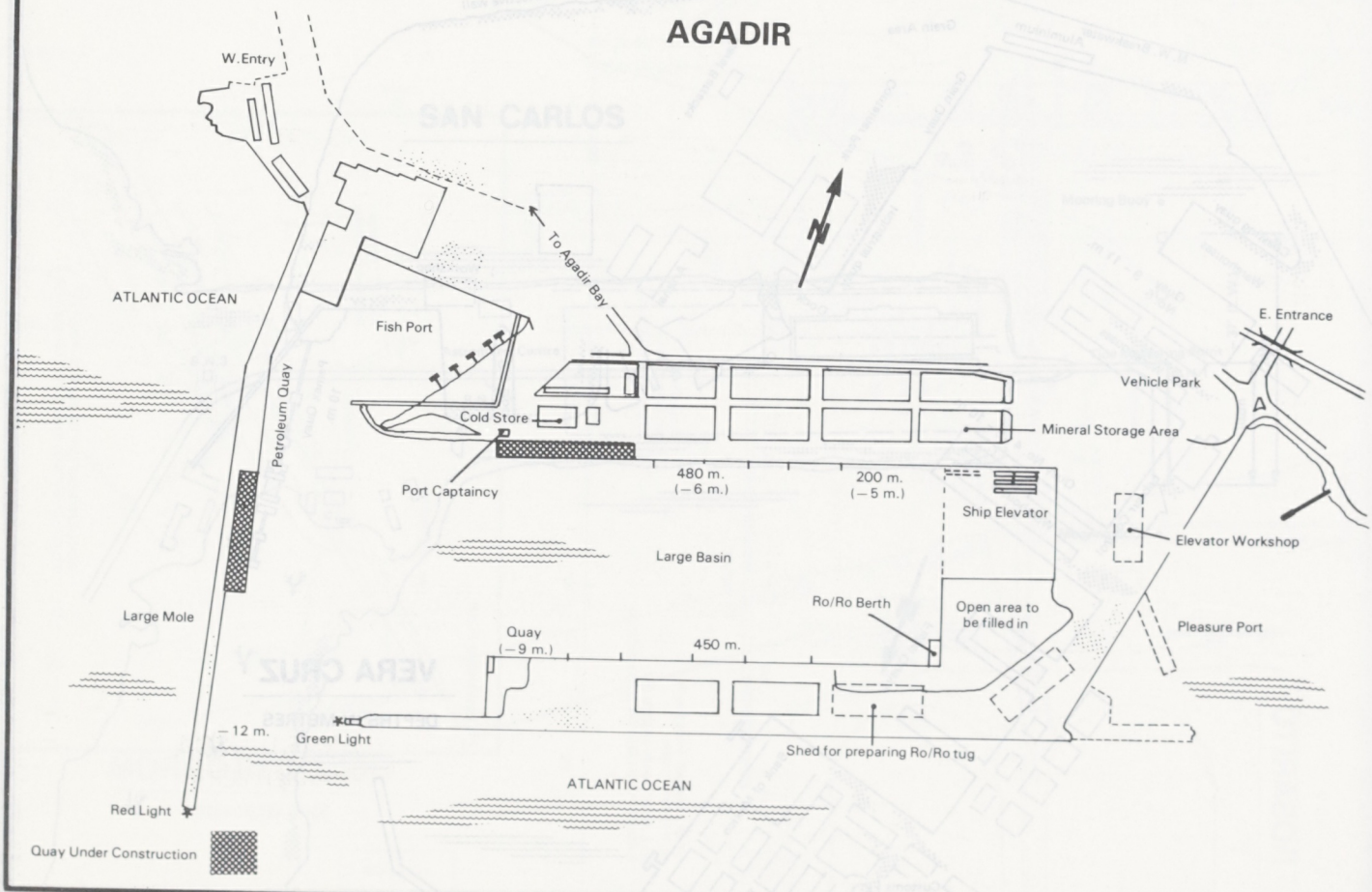

Road protective wall
N. W. Breakwater
Aluminium
Grain Area
Naval Barracks
Grain Quay
Container Park
Coasting quay
Warehouses
Quay No. 6 9 – 11 m.
Warehouses
Industrial quay
Dock
Arsenal
Workshop
Castle
Dock
Dry Dock
Pemex Quay 10 m.
Quay No. 4 9 – 10 m.
Warehouses
Labour Control
Fiscal Quays
Bank of Mexico
Customs
VERA CRUZ
DEPTHS IN METRES



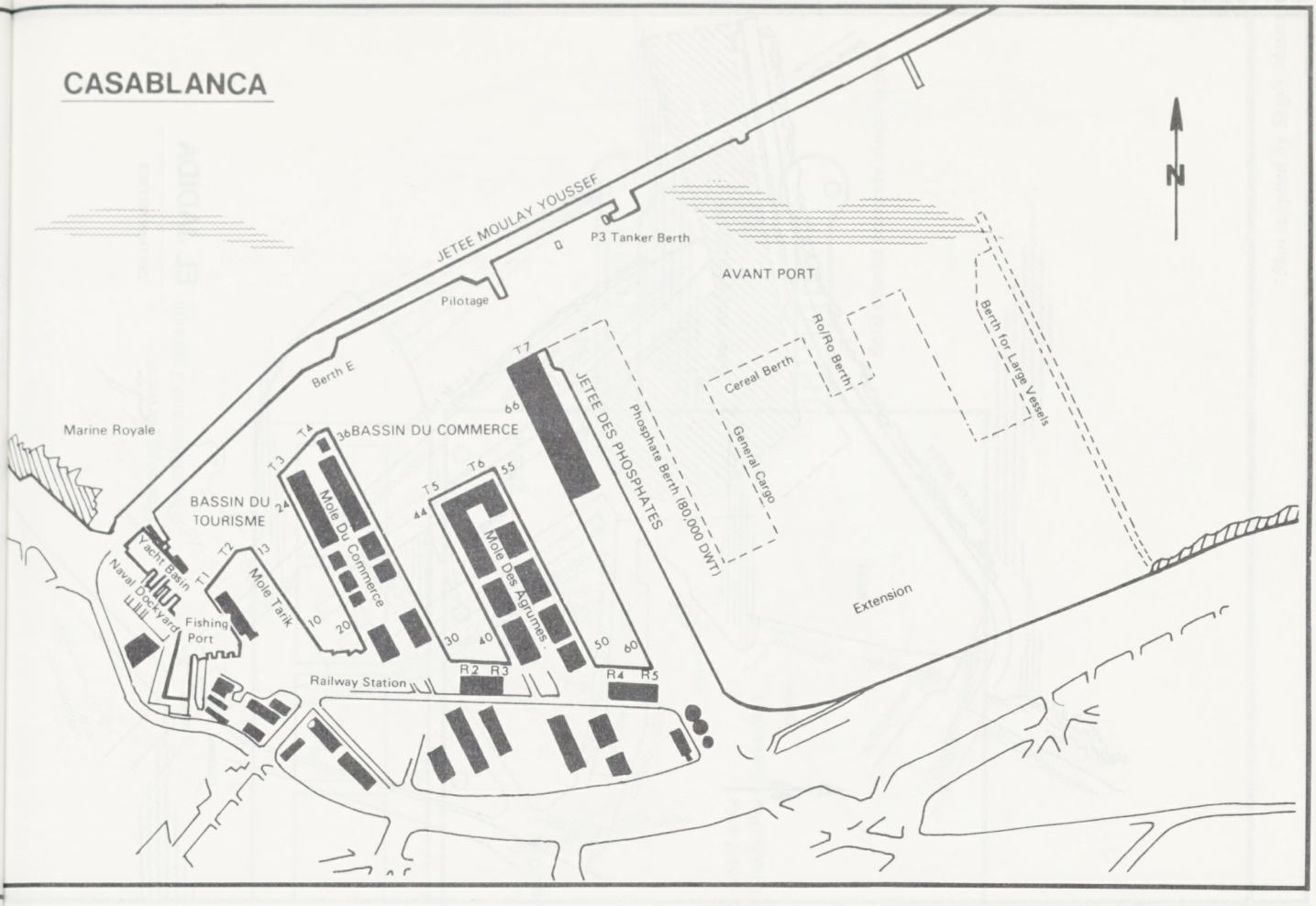
MONACO

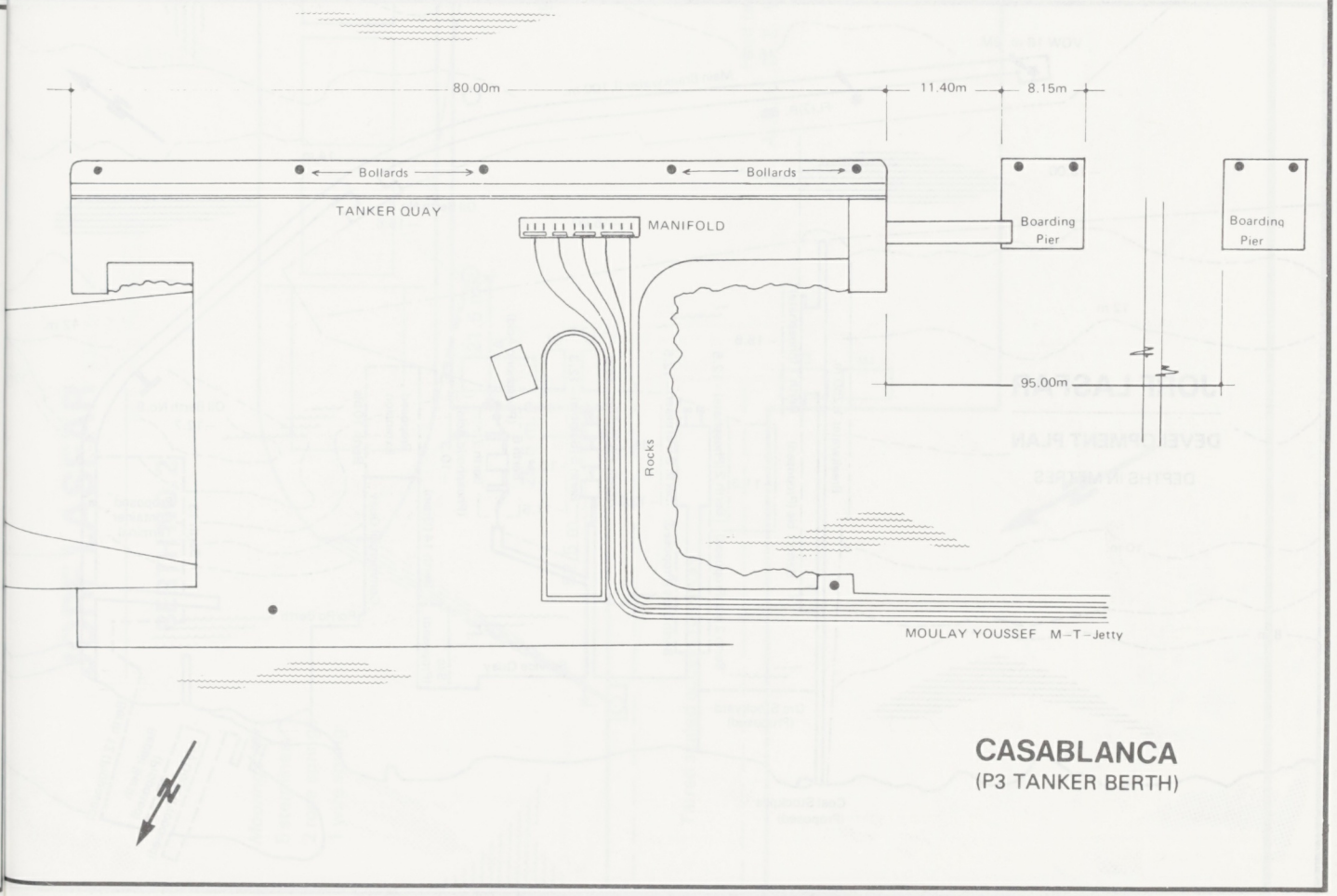
DEPTH IN METRES

AGADIR



CASABLANCA



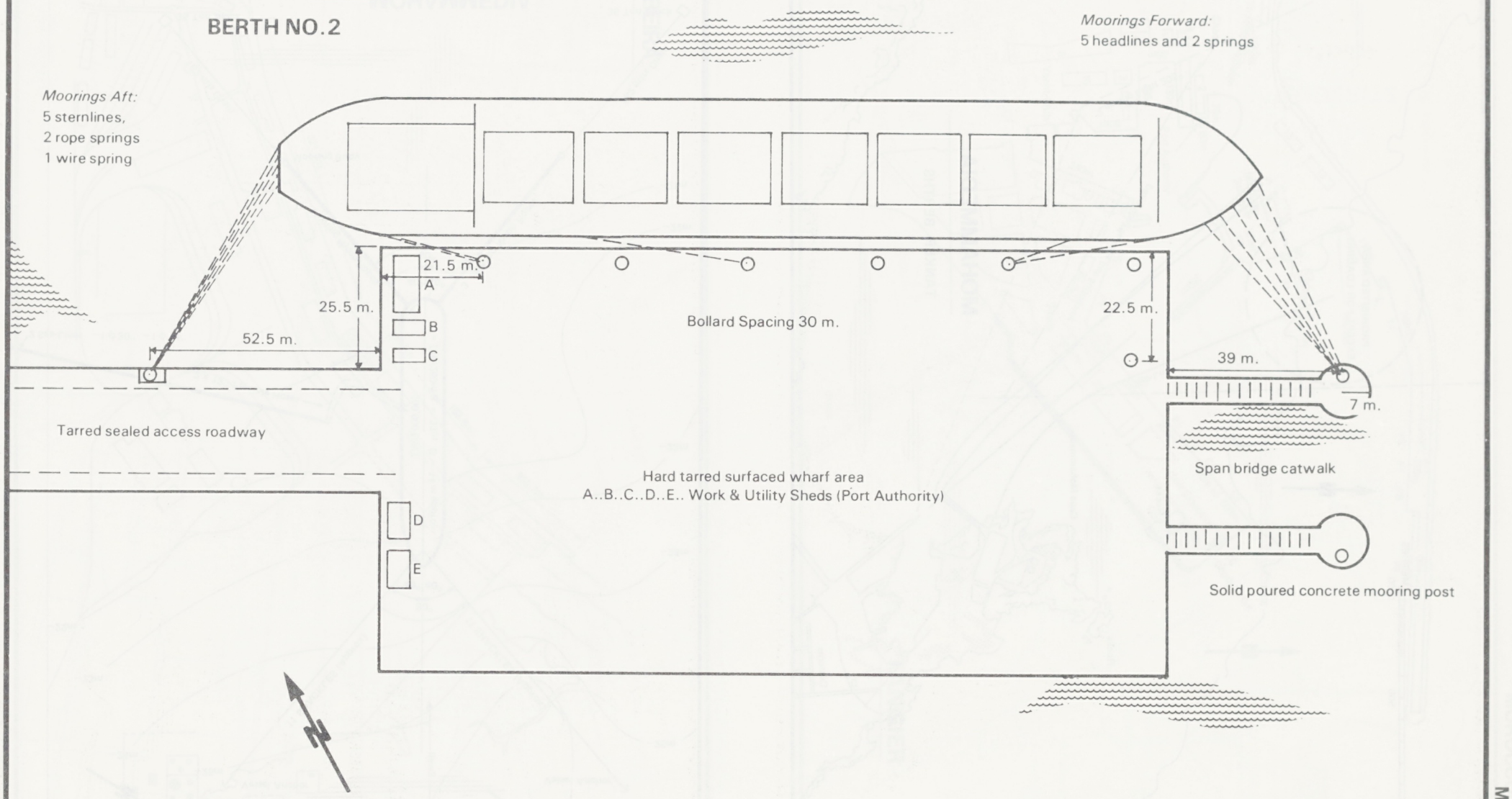


CASABLANCA
(P3 TANKER BERTH)

JORF LASFAR
DEVELOPMENT PLAN
DEPTHS IN METRES
8 m.
10 m.
12 m
−16.00
VQW 18 m. 8M.
Fl.(2)R. 6 s.
16 m
Main Breakwater 3,100 m.
Breakwater 1,250 m.
Coal Stockpile (Proposed)
Ore Stockyard (Proposed)
Berth 1 bis (Proposed)
Berth 1 (phosphate)
Berth 2 bis (Proposed)
Berth 2 (Phosphate) − 12.5
Berth 3 bis (Proposed)
Berth 3 (Fertiliser) − 12.5
Berth 4 (Sulphur) − 12.3
Berth 5 (Sulphur) − 12.3
Service Quay
Berth 6 (Phosphoric Acid)
Berth 7 (Phosphoric Acid) − 10.3
Silo (Proposed)
Berth 14 (Grain)
Proposed Extension
Commercial Quay
Berth 10 bis
Ro/Ro Berth
Dry Dock (Proposed)
Repair Berth (Proposed)
Berth 12 (Proposed)
Berth 13
Proposed Container Terminal
Oil Berth No. 9 − 12.7
Oil Berth No. 8 − 15.6
−15.00
14 m.
12 m.
11.3
15.6
12.3
14.0
13.5
11.5
10.3
11.3
11.5
N
NORTH JETTY
Rocks
Citadel
Heavy Swell
−1.50
−3.00
−3.00
Dry Dock
−0.50
Seaman's Club
75m
−6.00
Shops
Basin
Shops
SOUTH JETTY
Port Captain
Customs
Police
Beach
EL JADIDA
DEPTH IN METRES

JORF LASFAR

BERTH NO. 2



"Plan supplied by Ship's Master"

MOHAMMEDIA

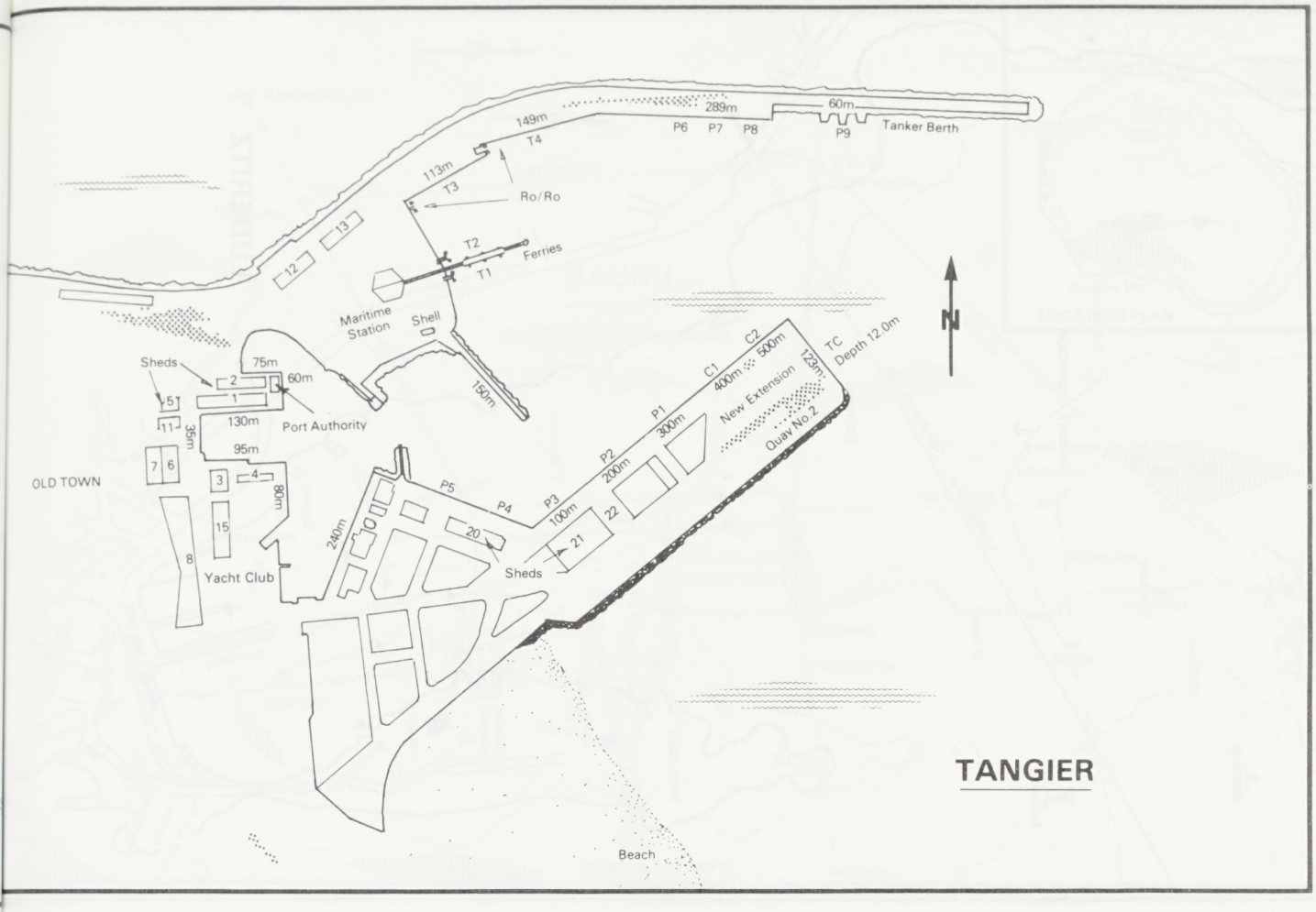
SEA BERTH No.2

NOTE:

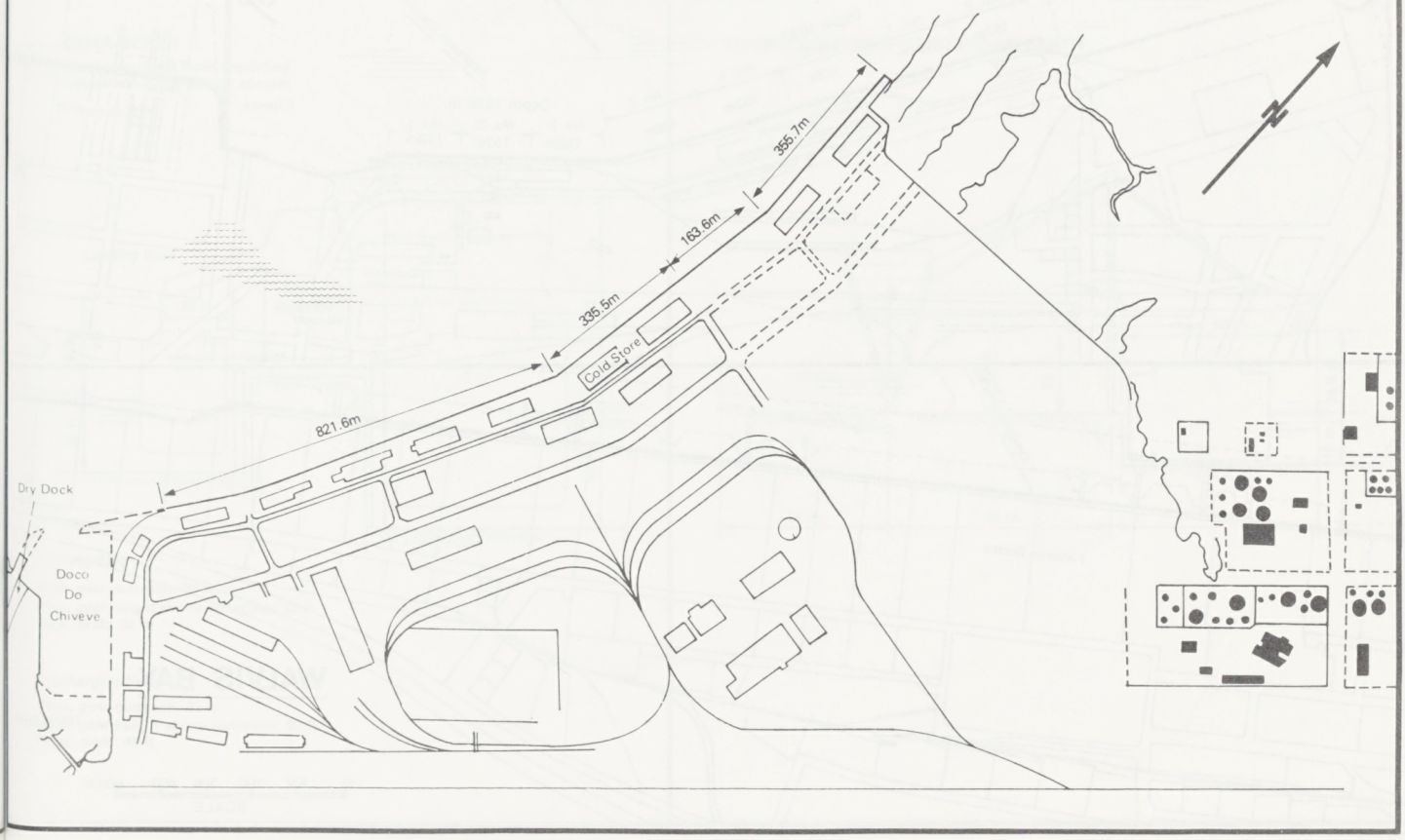
Sea Berth No.3 for 120,000 DWT vessels is situated 1,000 metres north of No.2, and employs a similar mooring system.

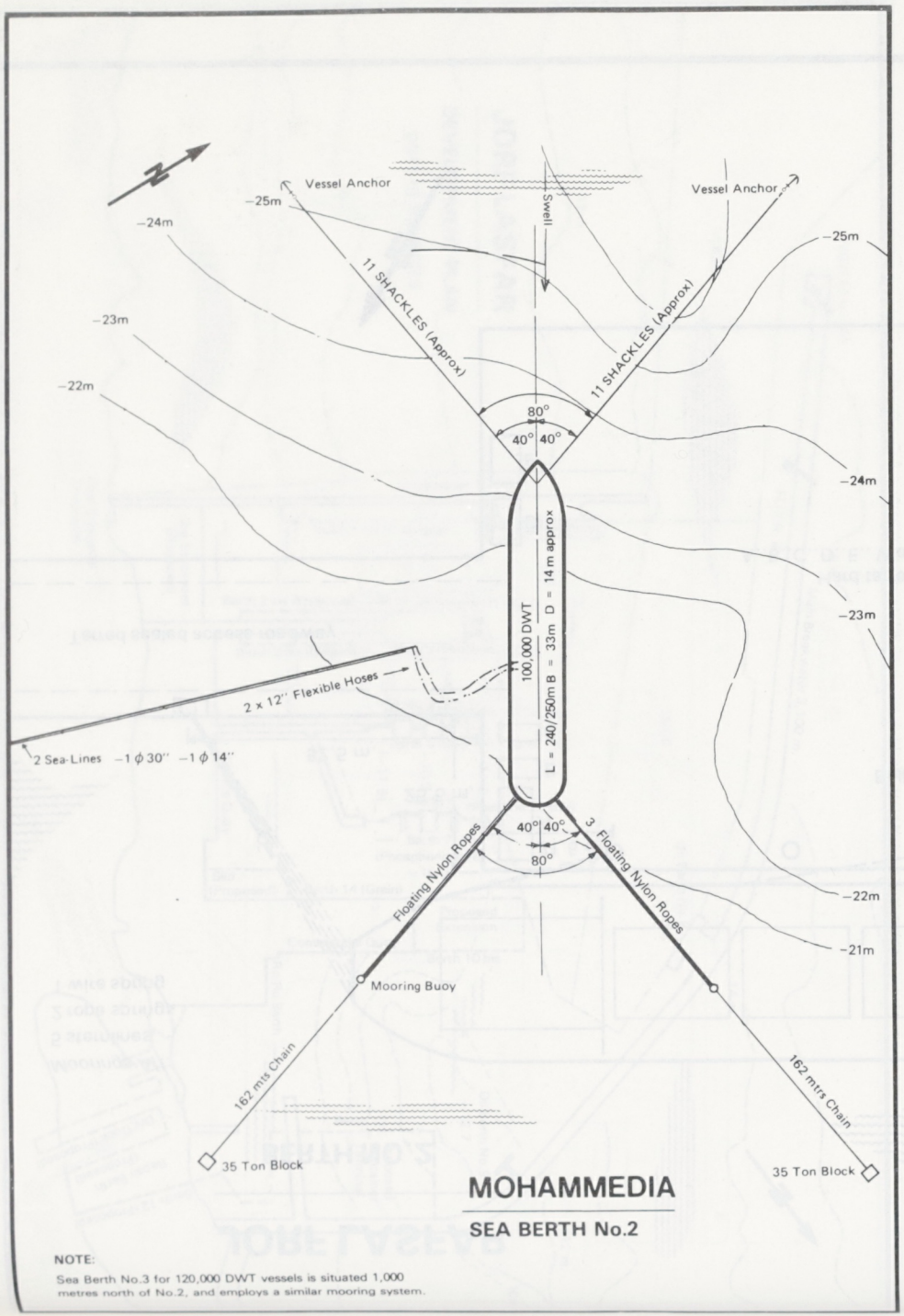
MOHAMMEDIA

TANKER BERTHS


149m
T4
289m
P6 P7 P8
60m
P9
Tanker Berth
113m
T3
Ro/Ro
T2
T1
Ferries
12
13
Maritime Station
Shell
Sheds
75m
60m
2
1
5
11
35m
130m
Port Authority
150m
95m
7 6
3
4
80m
OLD TOWN
15
8
Yacht Club
240m
P5
P4
P3
100m
20
21
22
Sheds
P2
200m
P1
300m
C1
400m
C2
500m
123m
New Extension
Quay No.2
TC
Depth 12.0m
N
Beach
TANGIER

BEIRA

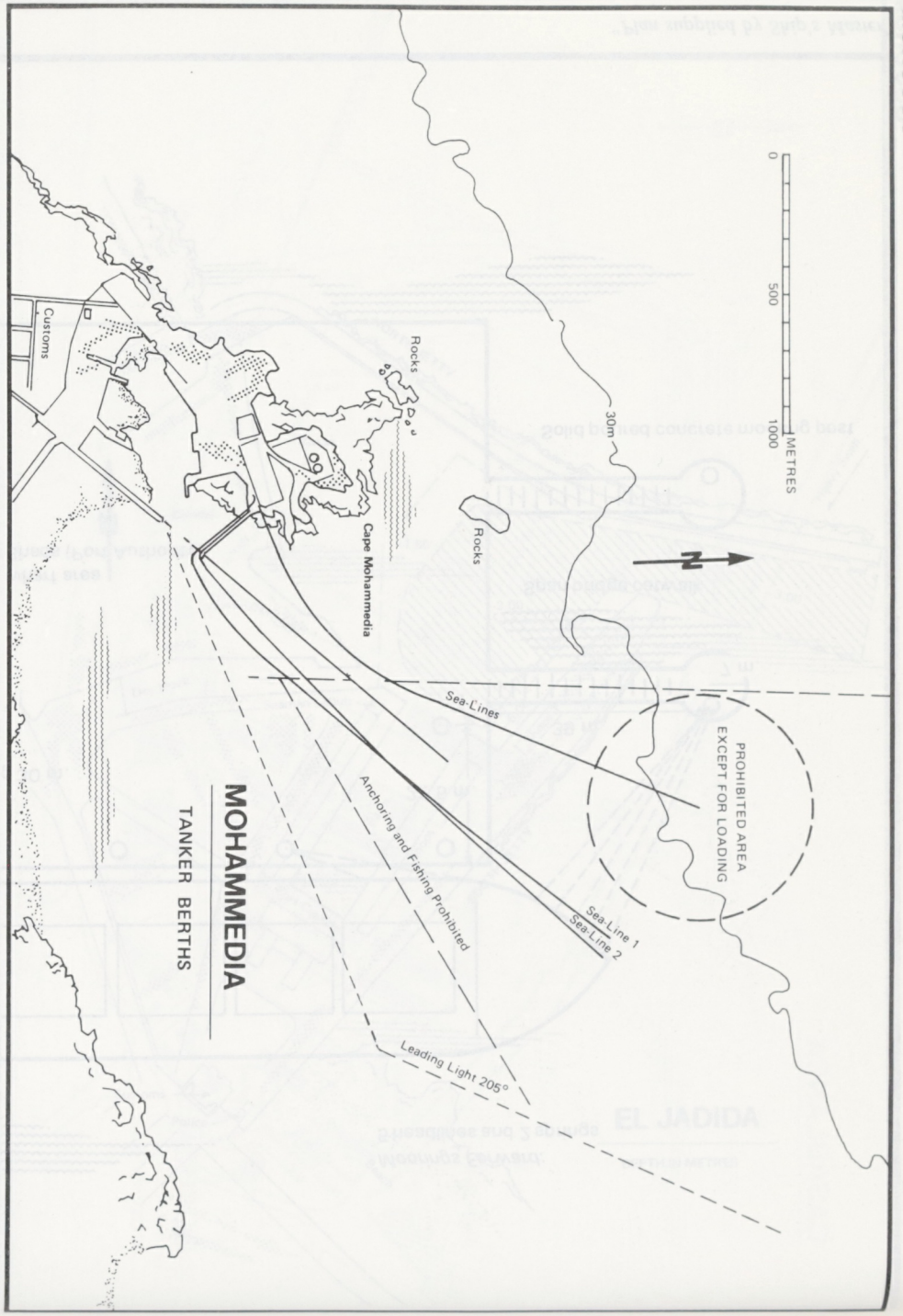

355.7m
163.6m
335.5m
Cold Store
821.6m
Dry Dock
Doco
Do
Chiveve
N



MOHAMMEDIA

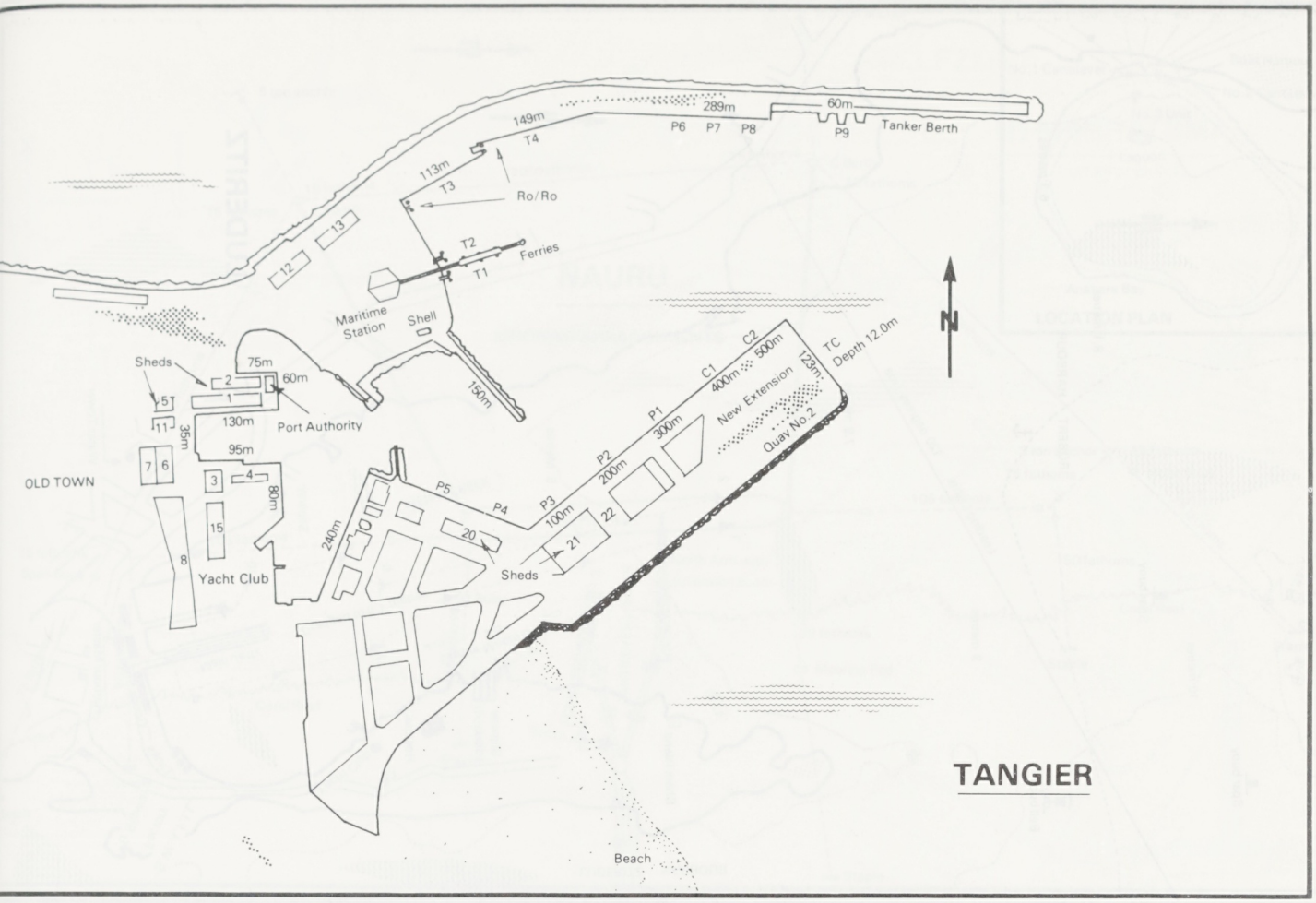
SEA BERTH No.2

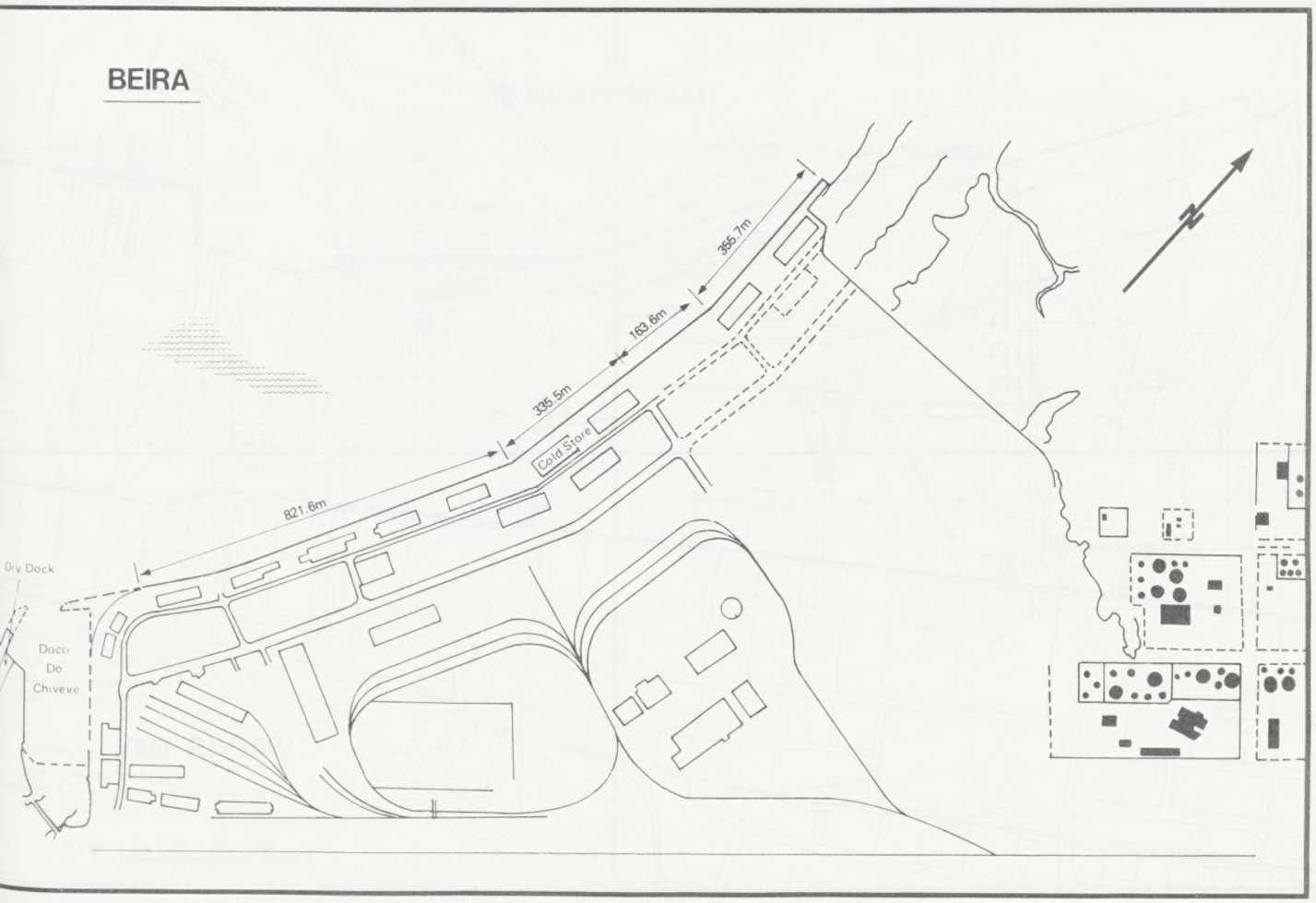
NOTE:
Sea Berth No.3 for 120,000 DWT vessels is situated 1,000 metres north of No.2, and employs a similar mooring system.

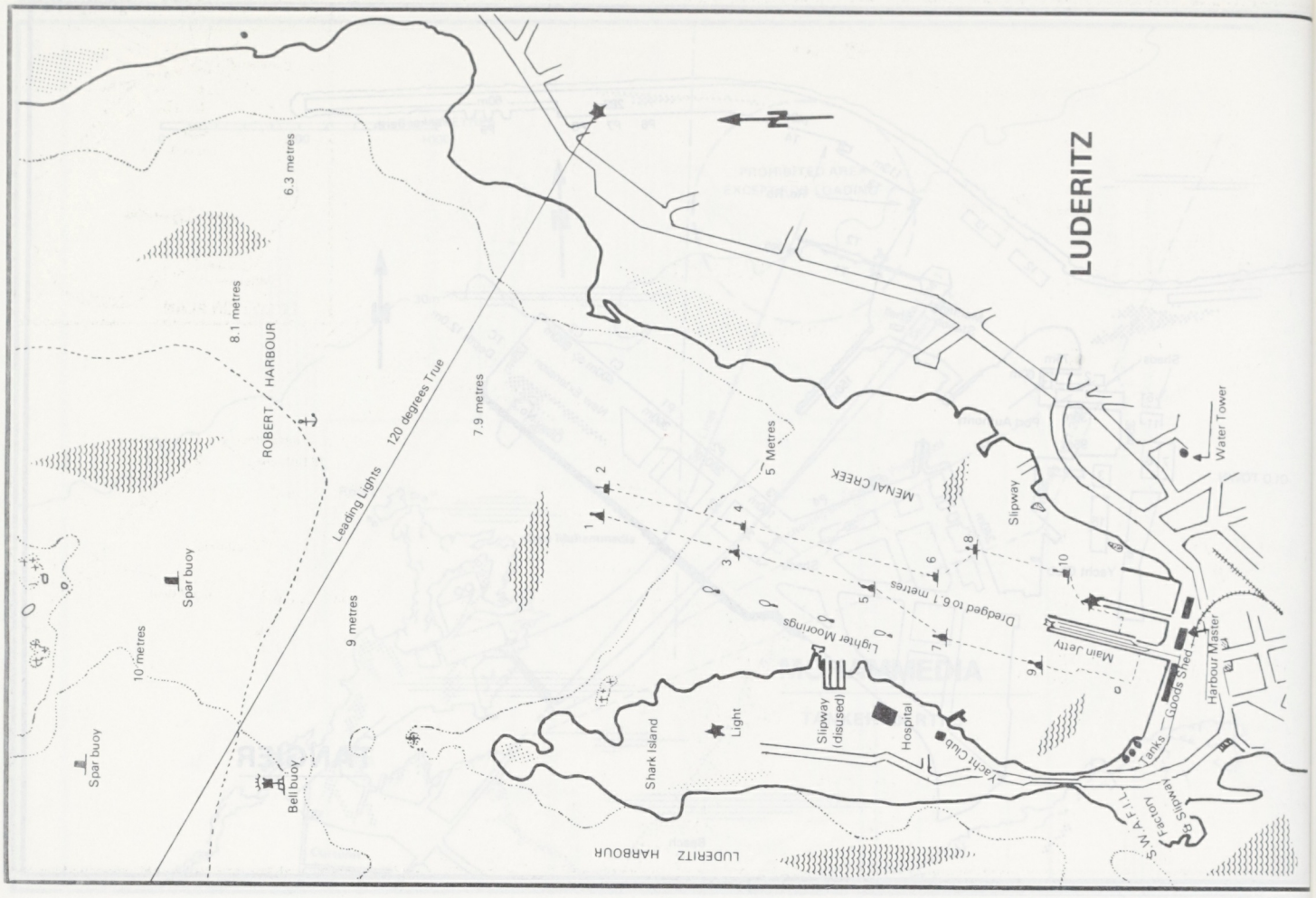


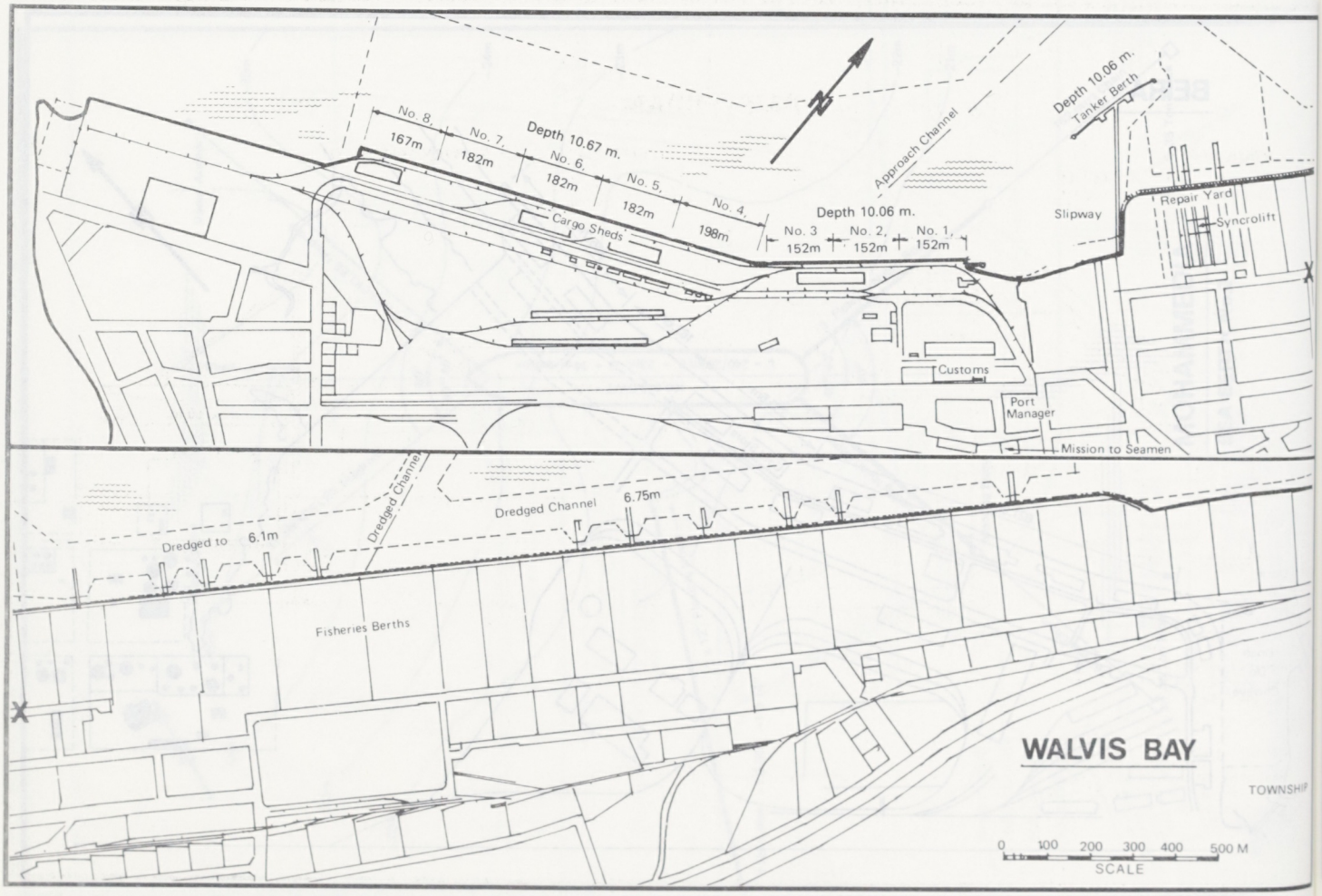
MOHAMMEDIA

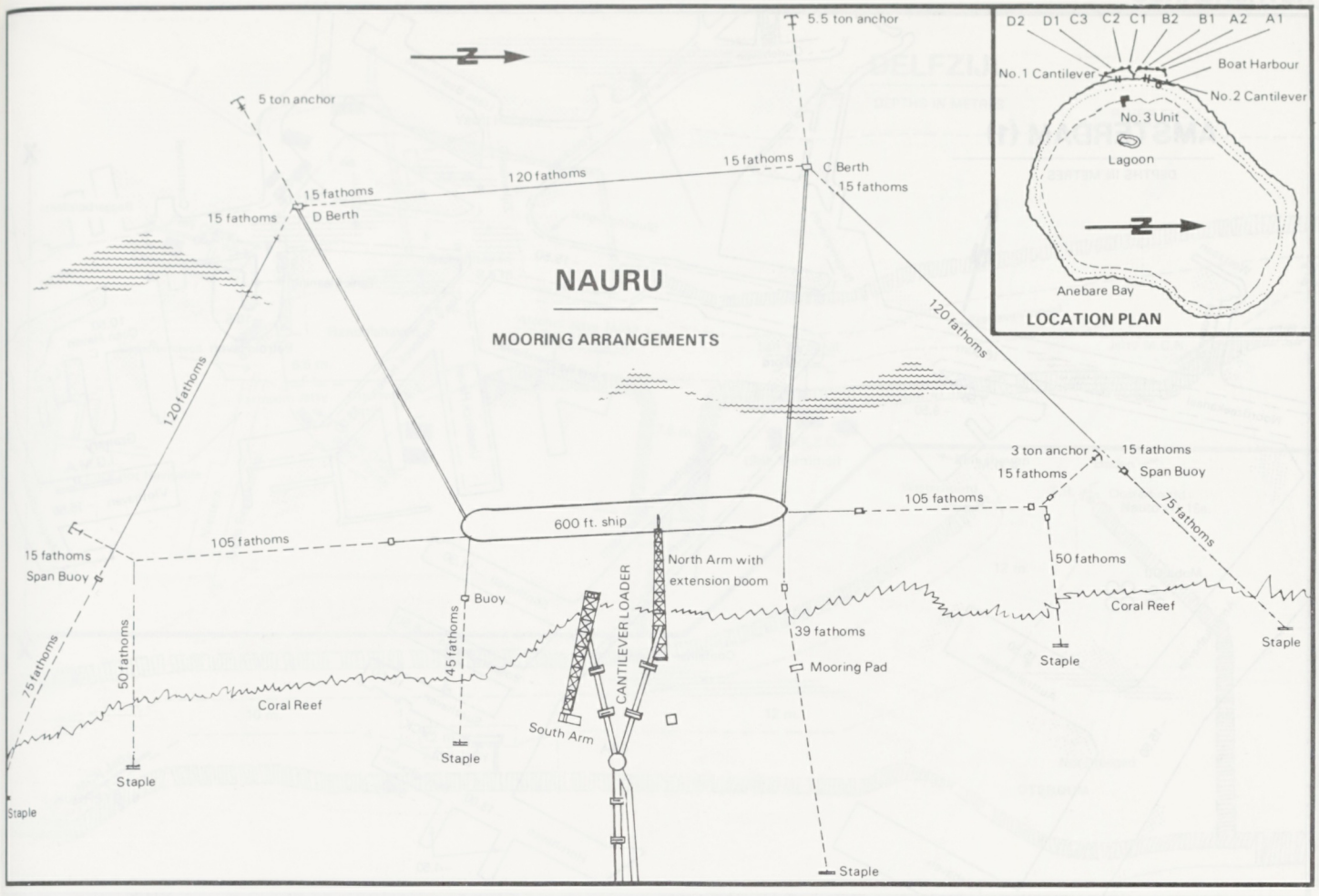
TANKER BERTHS


149m
T4
289m
P6 P7 P8
60m
P9
Tanker Berth
113m
T3
Ro/Ro
T2
T1
Ferries
Maritime Station
Shell
Sheds
75m
60m
Port Authority
130m
95m
35m
OLD TOWN
Yacht Club
80m
240m
150m
C1
C2
500m
400m
123m
TC
Depth 12.0m
New Extension
Quay No.2
P1
300m
P2
200m
P3
100m
P4
P5
Sheds
N
TANGIER
Beach


BEIRA
355.7m
183.6m
335.5m
Cold Store
821.6m
Dry Dock
Doco Do Chiveve
N


LUDERITZ
N
6.3 metres
8.1 metres
ROBERT HARBOUR
Leading Lights 120 degrees True
7.9 metres
9 metres
10 metres
Spar buoy
Spar buoy
Bell buoy
5 Metres
MENAI CREEK
Slipway
Water Tower
Dredged to 6.1 metres
Lighter Moorings
Main Jetty
Harbour Master
Goods Shed
Tanks
Slipway
S.W.A.F.L. Factory
Yacht Club
Hospital
Slipway (disused)
Light
Shark Island
LUDERITZ HARBOUR

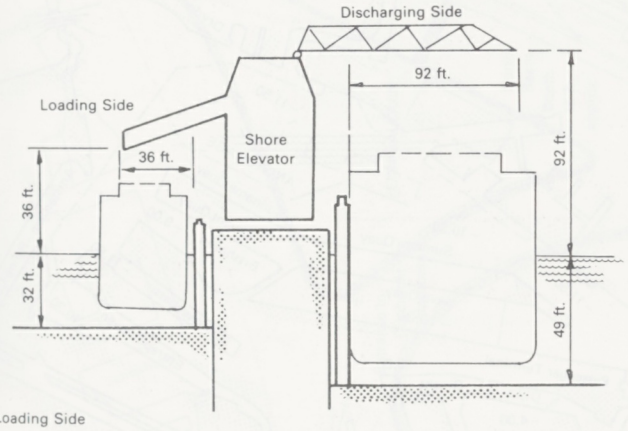

N
No. 8, 167m
No. 7, 182m
No. 6, 182m
No. 5, 182m
No. 4, 198m
Depth 10.67 m.
Cargo Sheds
Depth 10.06 m.
No. 3 152m
No. 2, 152m
No. 1, 152m
Approach Channel
Depth 10.06 m. Tanker Berth
Slipway
Repair Yard
Syncrolift
Customs
Port Manager
Mission to Seamen
Dredged Channel
Dredged to 6.1m
Dredged Channel 6.75m
Fisheries Berths
WALVIS BAY
TOWNSHIP
0 100 200 300 400 500 M
SCALE



AMSTERDAM

IGMA-BERTH

Discharge direct from importing vessel into barge and/or coaster



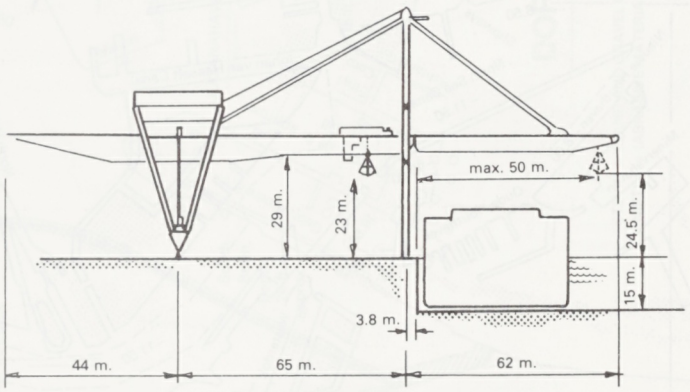
Loading Side

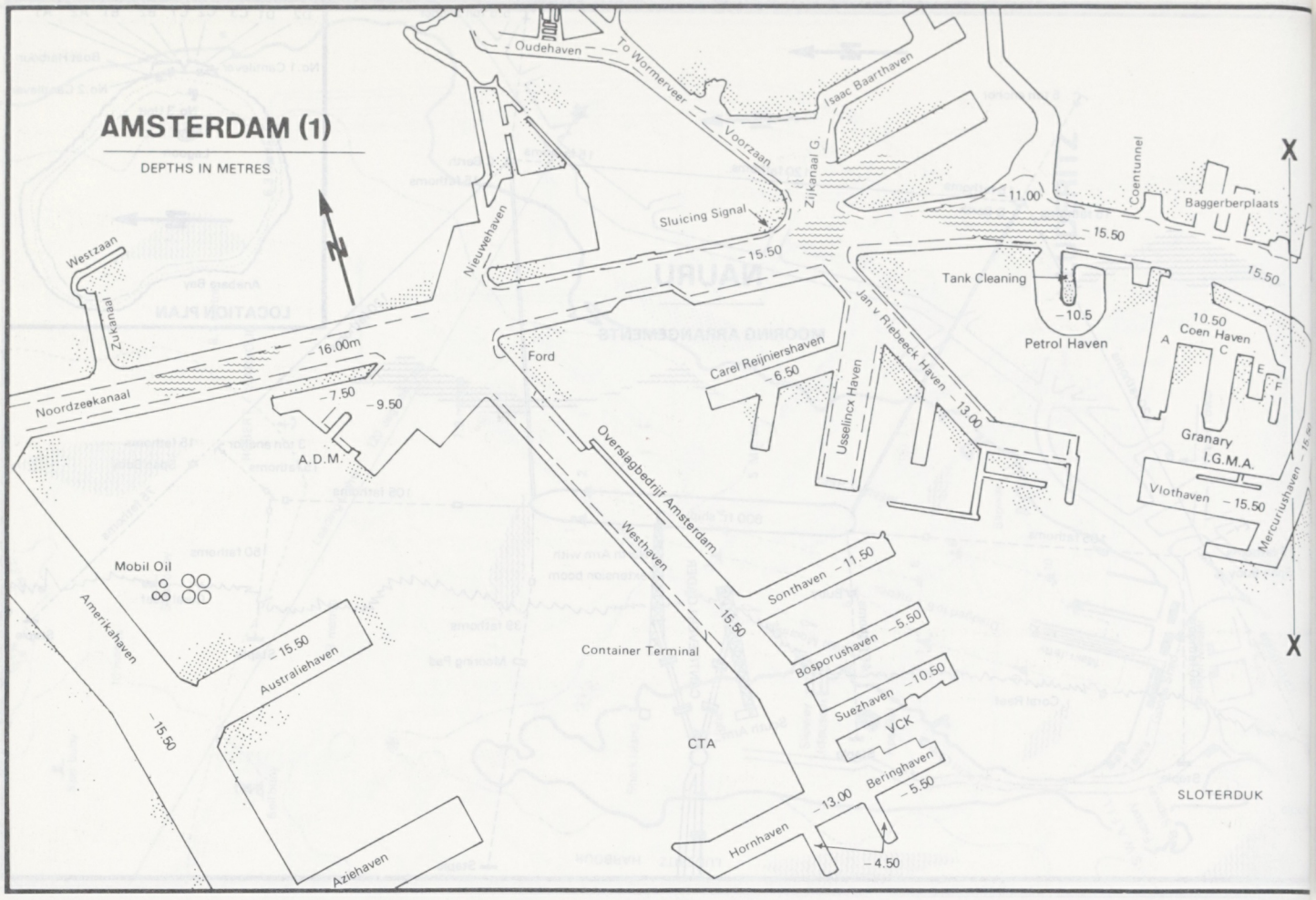
Max. gear outreach: 36 ft.
Max. gear height above waterline: 36 ft.
Max. draft: 32 ft.

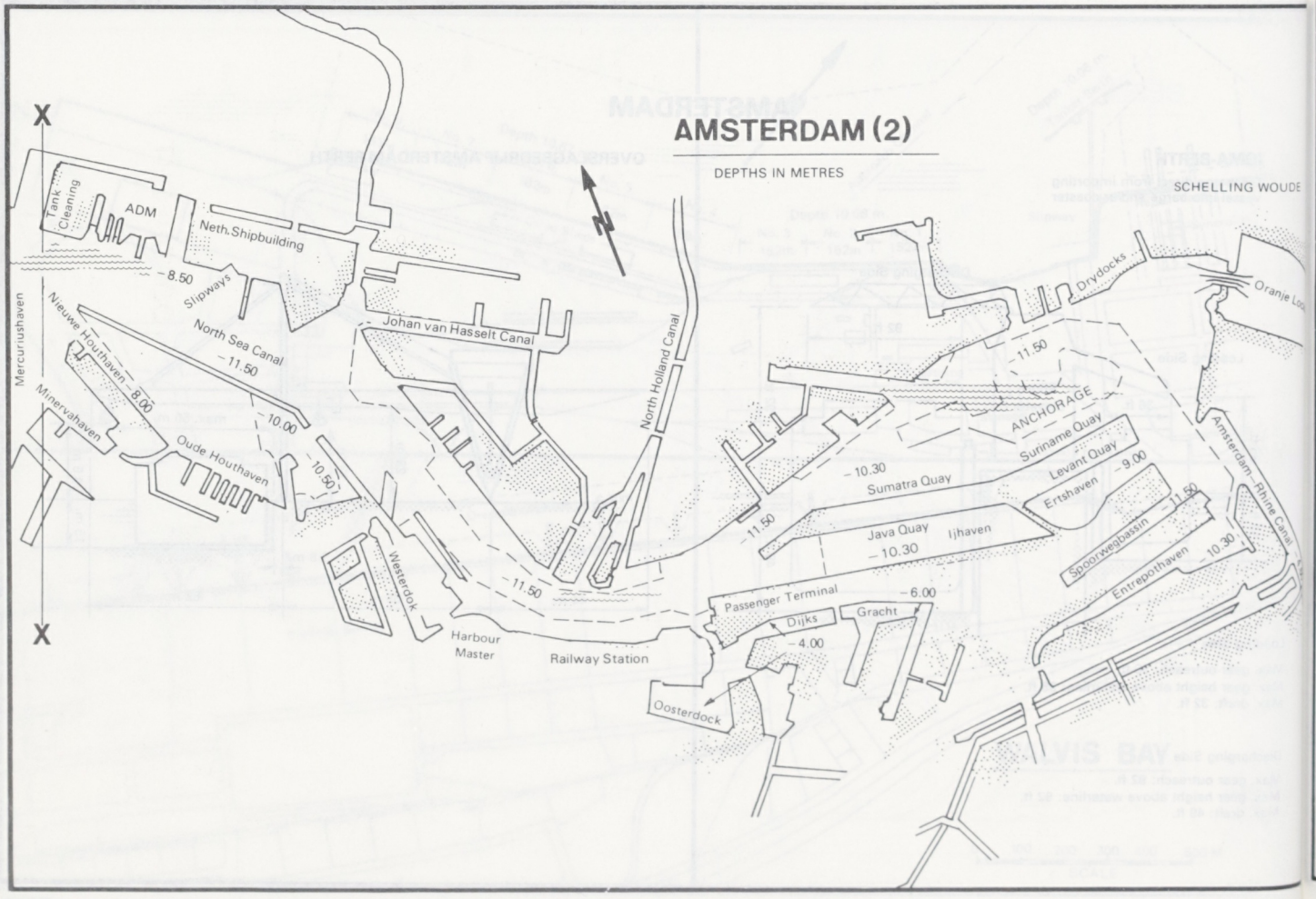
Discharging Side

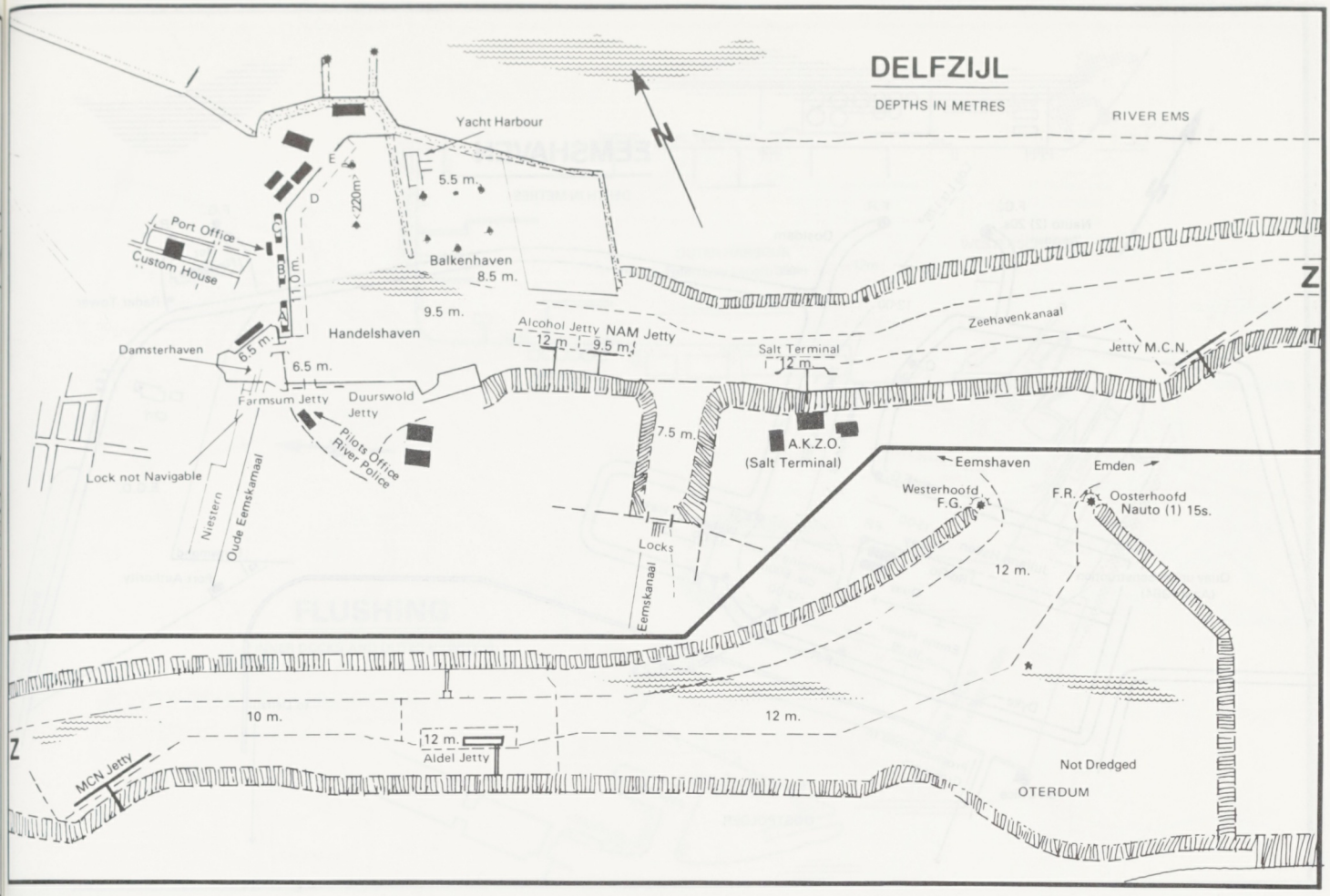
Max. gear outreach: 92 ft.
Max. gear height above waterline: 92 ft.
Max. draft: 49 ft.

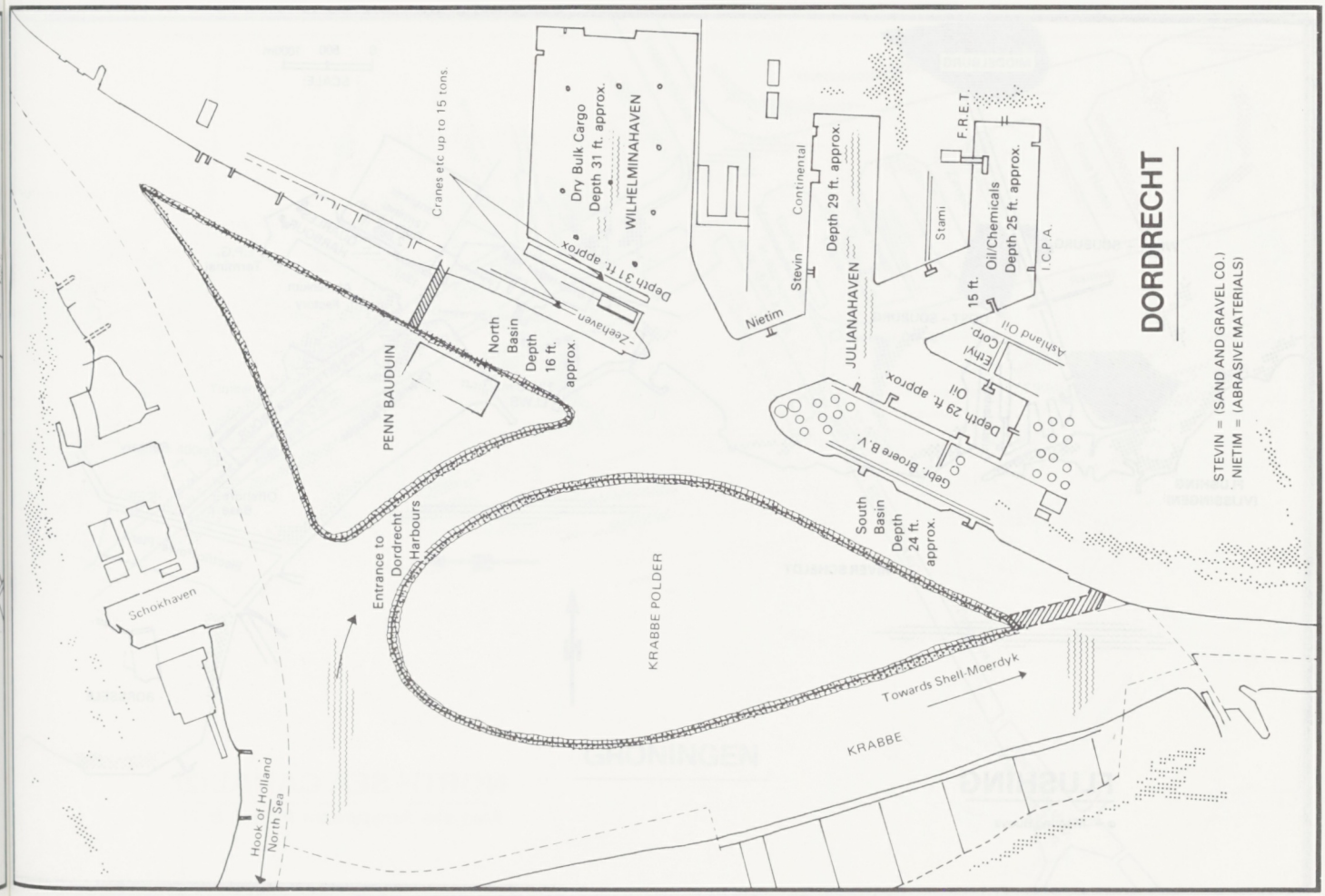
OVERSLAGBEDRIJF AMSTERDAM BERTH

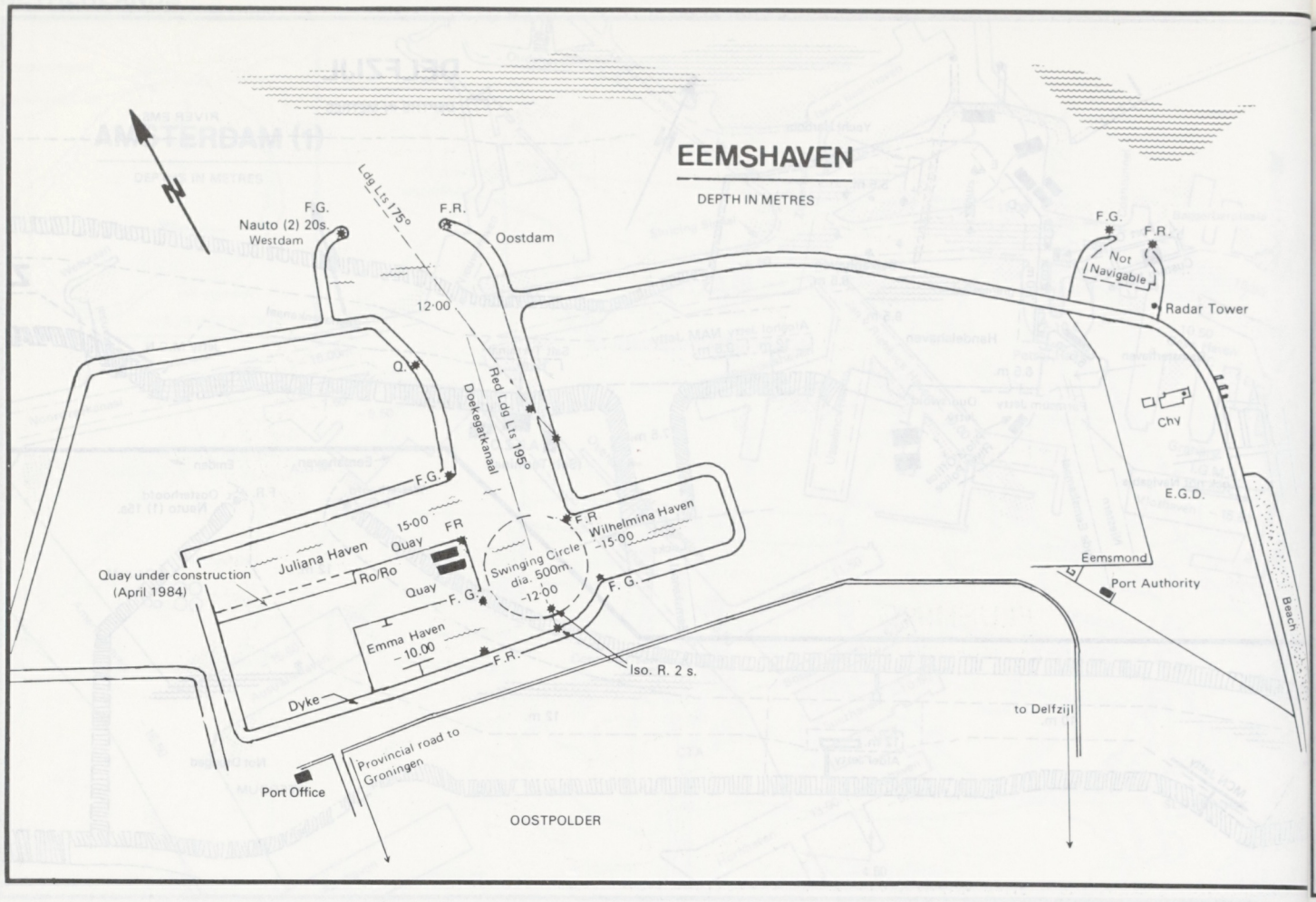


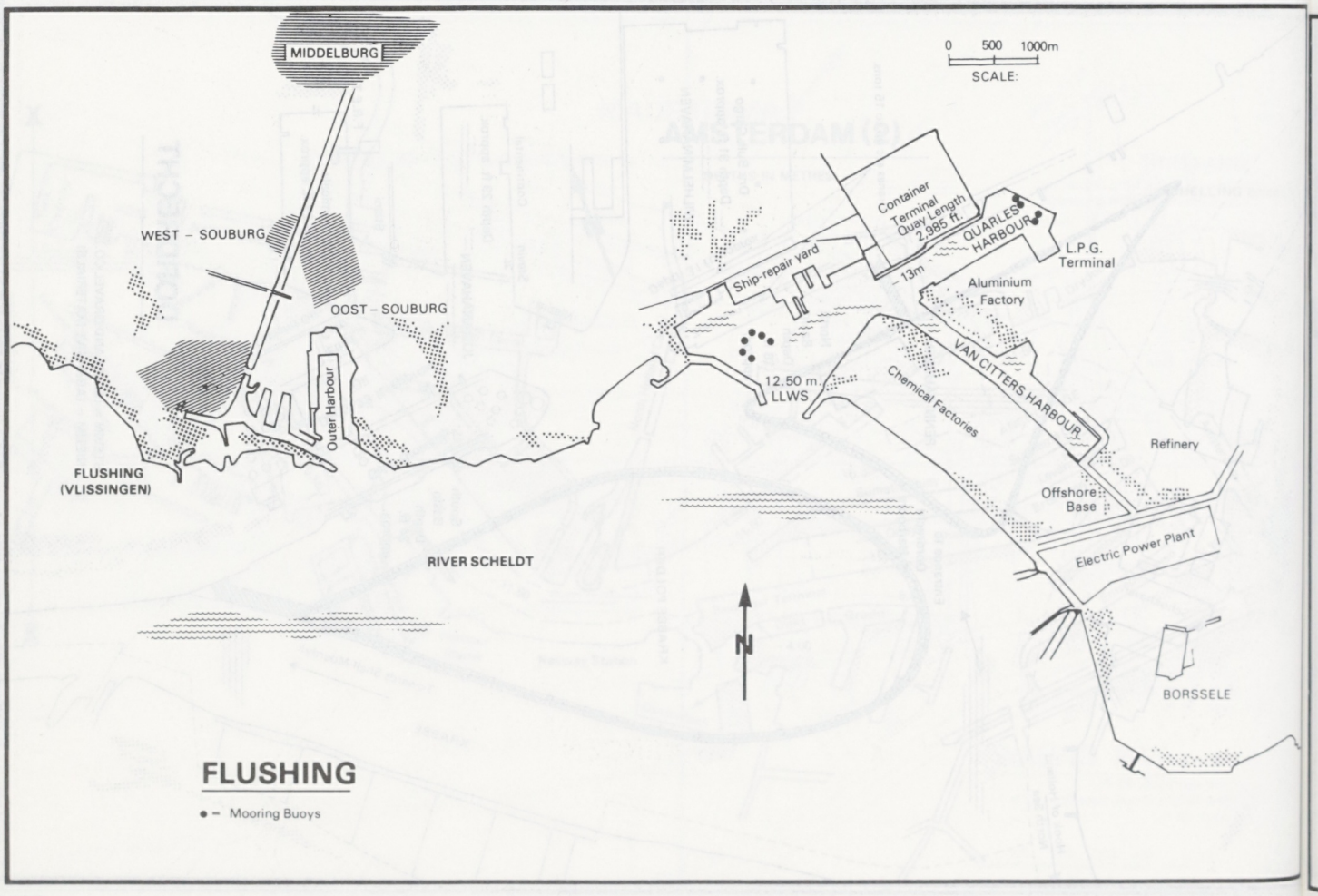

AMSTERDAM (1)
DEPTHS IN METRES
Oudehaven
To Wormerveer
Voorzaan
Isaac Baarthaven
Zijkanaal G
Coentunnel
Baggerberplaats
Sluicing Signal
Nieuwehaven
Westzaan
Zuikanaal
Noordzeekanaal
16.00m
7.50
9.50
A.D.M.
Ford
15.50
11.00
Tank Cleaning
10.5
Petrol Haven
Carel Reijniershaven
6.50
Jan v Riebeeck Haven
13.00
Usselincx Haven
10.50
Coen Haven
A
C
E
F
Granary
I.G.M.A.
Vlothaven
Mercuriushaven
Overslagbedrijf Amsterdam
Westhaven
Sonthaven
11.50
Bosporushaven
5.50
Suezhaven
10.50
VCK
Beringhaven
5.50
Hornhaven
13.00
4.50
Container Terminal
CTA
Mobil Oil
Amerikahaven
Australiehaven
Aziehaven
SLOTERDUK
X
X

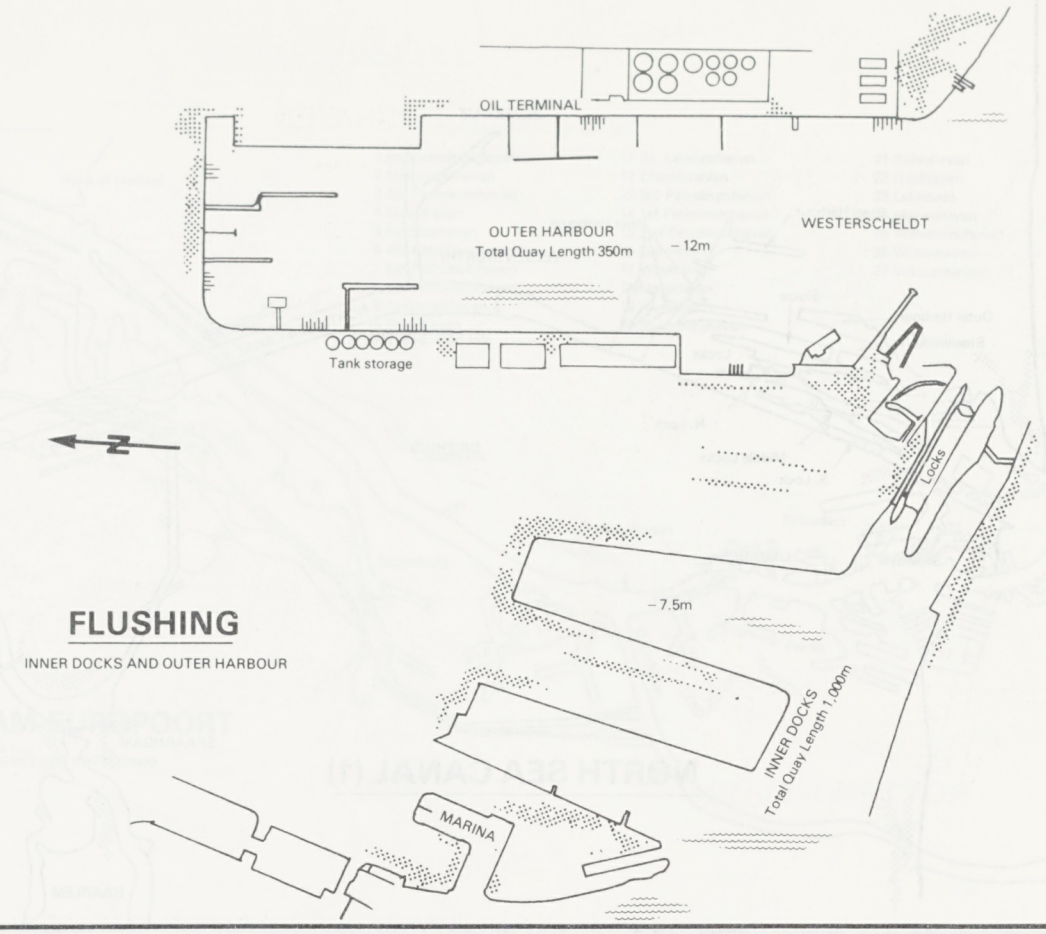

AMSTERDAM (2)
DEPTHS IN METRES
SCHELLING WOUDE
X
X
Tank Cleaning
ADM
Neth. Shipbuilding
8.50
Slipways
Mercuriushaven
Nieuwe Houthaven
8.00
Minervahaven
North Sea Canal
11.50
Johan van Hasselt Canal
North Holland Canal
10.00
Oude Houthaven
10.50
Westerdok
Harbour Master
Railway Station
11.50
Passenger Terminal
Dijks
4.00
Gracht
6.00
Oosterdock
Drydocks
11.50
ANCHORAGE
Suriname Quay
Levant Quay
9.00
10.30
Sumatra Quay
Ertshaven
11.50
Java Quay
10.30
Ijhaven
Spoorwegbassin
Entrepothaven
10.30
Amsterdam-Rhine Canal
Oranje Lo


DELFZIJL
DEPTHS IN METRES
RIVER EMS
N
Yacht Harbour
220m
5.5 m.
Port Office
Custom House
Balkenhaven
8.5 m.
11.0 m.
9.5 m.
Handelshaven
Alcohol Jetty
NAM Jetty
12 m
9.5 m
Zeehavenkanaal
Damsterhaven
6.5 m
6.5 m.
Salt Terminal
12 m
Jetty M.C.N.
Farmsum Jetty
Duurswold Jetty
Pilots Office
River Police
7.5 m.
A.K.Z.O.
(Salt Terminal)
Lock not Navigable
Niestern
Oude Eemskanaal
Eemshaven
Emden
Westerhoofd
F.G.
F.R.
Oosterhoofd
Nauto (1) 15s.
Locks
Eemskanaal
12 m.
10 m.
12 m.
12 m.
Aldel Jetty
MCN Jetty
Not Dredged
OTERDUM


DORDRECHT
Cranes etc up to 15 tons
Dry Bulk Cargo
Depth 31 ft. approx.
WILHELMINAHAVEN
Depth 31 ft. approx
Zeehaven
North Basin
Depth 16 ft.
approx.
PENN BAUDUIN
Continental
Depth 29 ft. approx.
Stevin
Nietim
JULIANAHAVEN
Stami
F.R.E.T.
Oil/Chemicals
Depth 25 ft. approx.
I.C.P.A.
15 ft.
Ashland Oil
Ethyl Corp.
Depth 29 ft. approx.
Oil
Gebr. Broere B.V.
South Basin
Depth 24 ft.
approx.
STEVIN = (SAND AND GRAVEL CO.)
NIETIM = (ABRASIVE MATERIALS)
Entrance to Dordrecht Harbours
KRABBE POLDER
Towards Shell-Moerdyk
KRABBE
Schoxhaven
Hook of Holland
North Sea

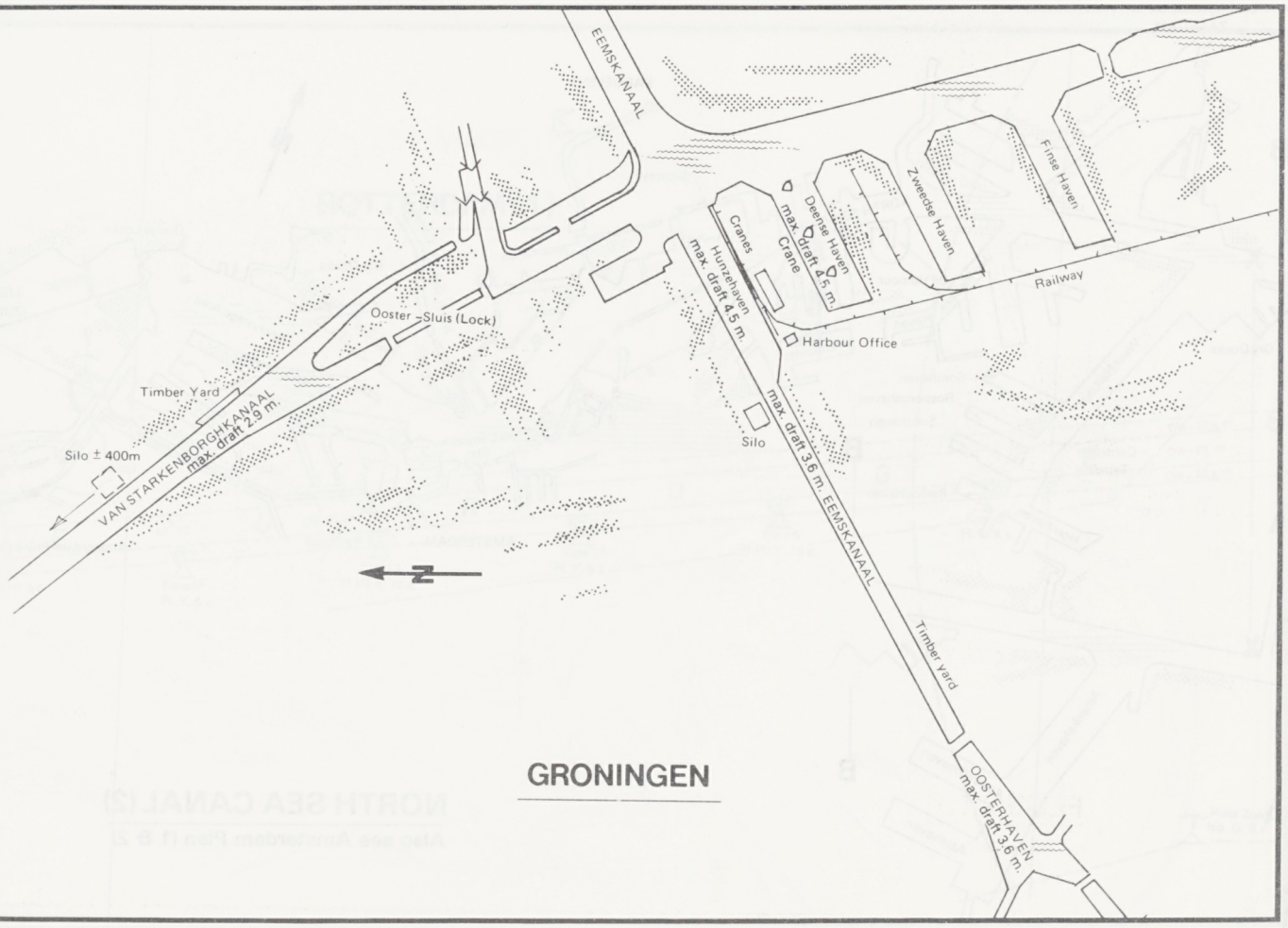

EEMSHAVEN
DEPTH IN METRES
N
F.G.
Nauto (2) 20s.
Westdam
Ldg Lts 175°
F.R.
Oostdam
12·00
Q.
Red Ldg Lts 195°
Doekegatkanaal
F.G.
15·00
Quay
FR
Juliana Haven
Quay under construction
(April 1984)
Ro/Ro
Quay
F. G.
Swinging Circle
dia. 500m.
-12·00
F.R
Wilhelmina Haven
-15·00
F. G.
Emma Haven
-10.00
F.R.
Iso. R. 2 s.
Dyke
Port Office
Provincial road to
Groningen
OOSTPOLDER
to Delfzijl
F.G.
F.R.
Not
Navigable
Radar Tower
Chy
E.G.D.
Eemsmond
Port Authority
Beach


MIDDELBURG
0 500 1000m
SCALE:
WEST – SOUBURG
OOST – SOUBURG
Outer Harbour
FLUSHING
(VLISSINGEN)
Container
Terminal
Quay Length
2,985 ft.
QUARLES
HARBOUR
L.P.G.
Terminal
Ship-repair yard
13m
Aluminium
Factory
12.50 m.
LLWS
Chemical Factories
VAN CITTERS HARBOUR
Refinery
Offshore
Base
Electric Power Plant
RIVER SCHELDT
N
BORSSELE
FLUSHING
● – Mooring Buoys

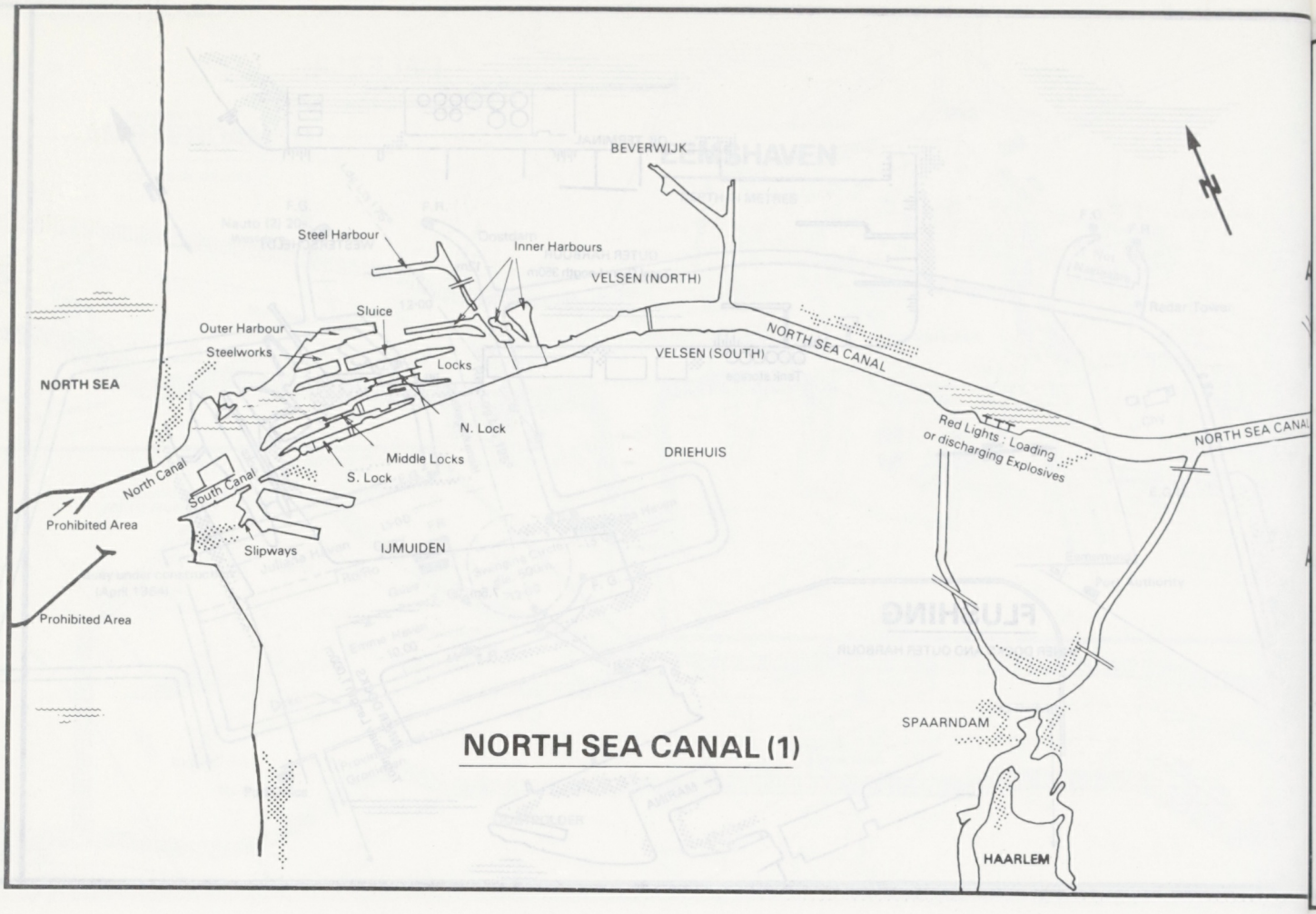


FLUSHING

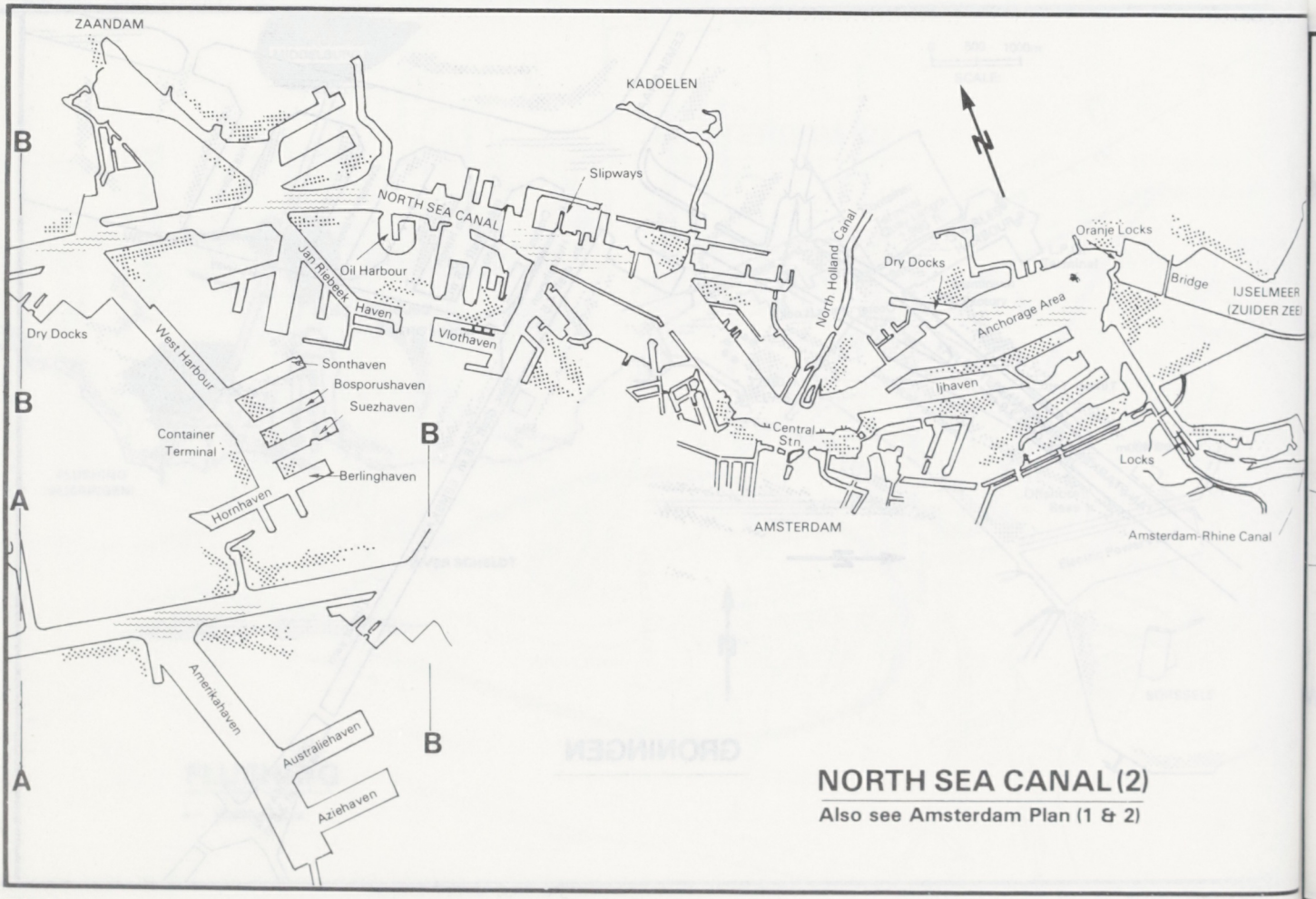
INNER DOCKS AND OUTER HARBOUR



GRONINGEN

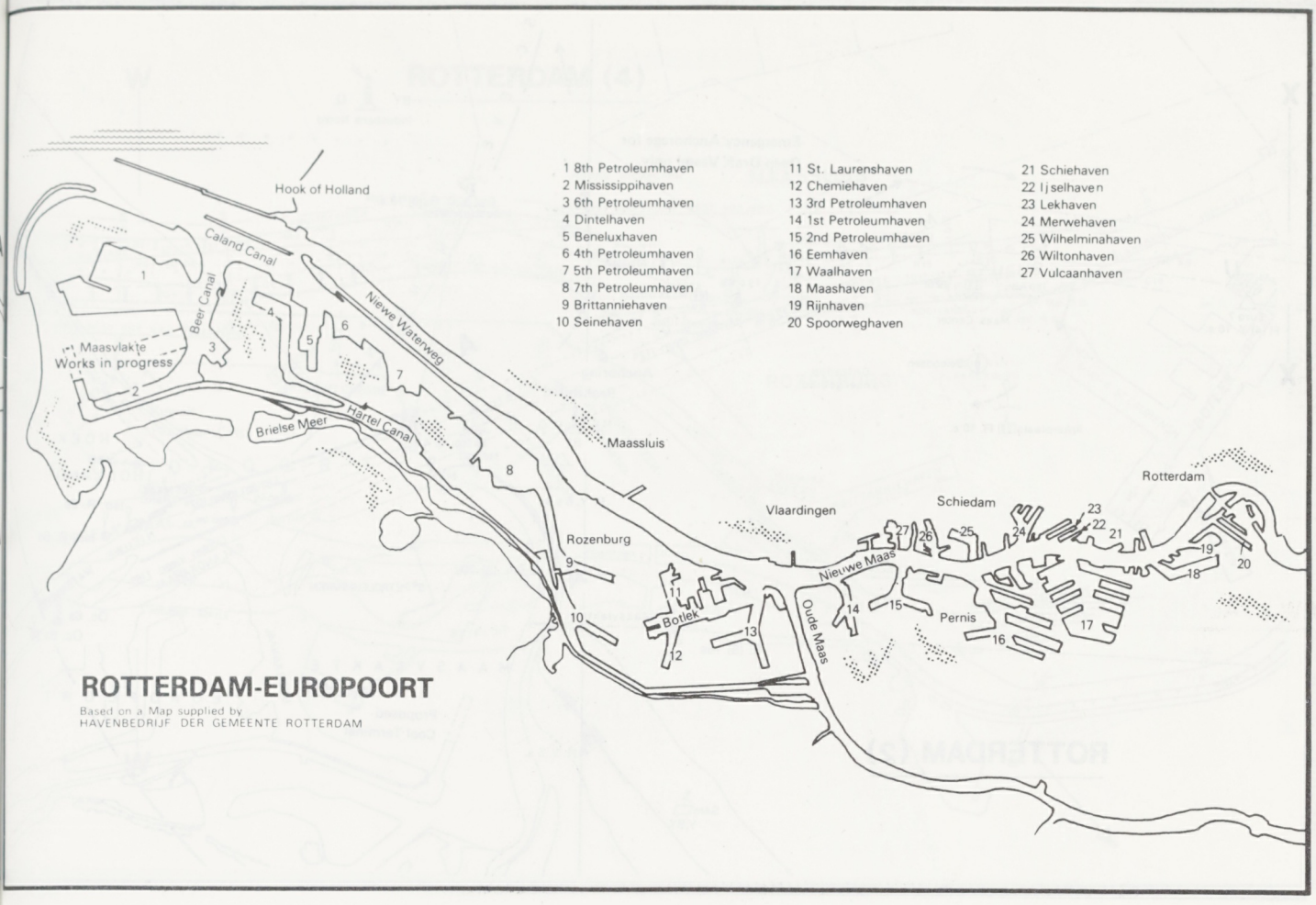


NORTH SEA CANAL (1)



NORTH SEA CANAL (2)

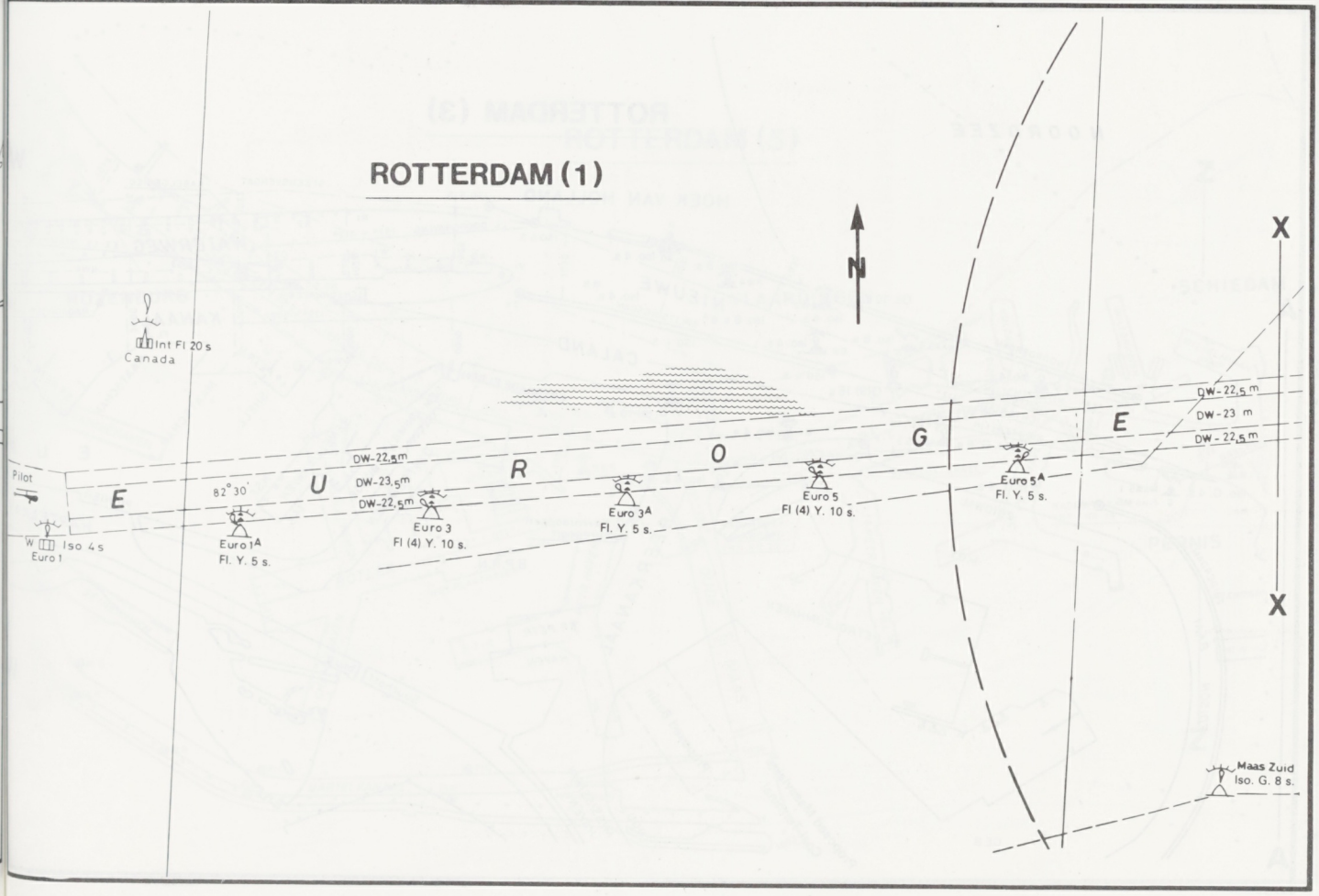
Also see Amsterdam Plan (1 & 2)

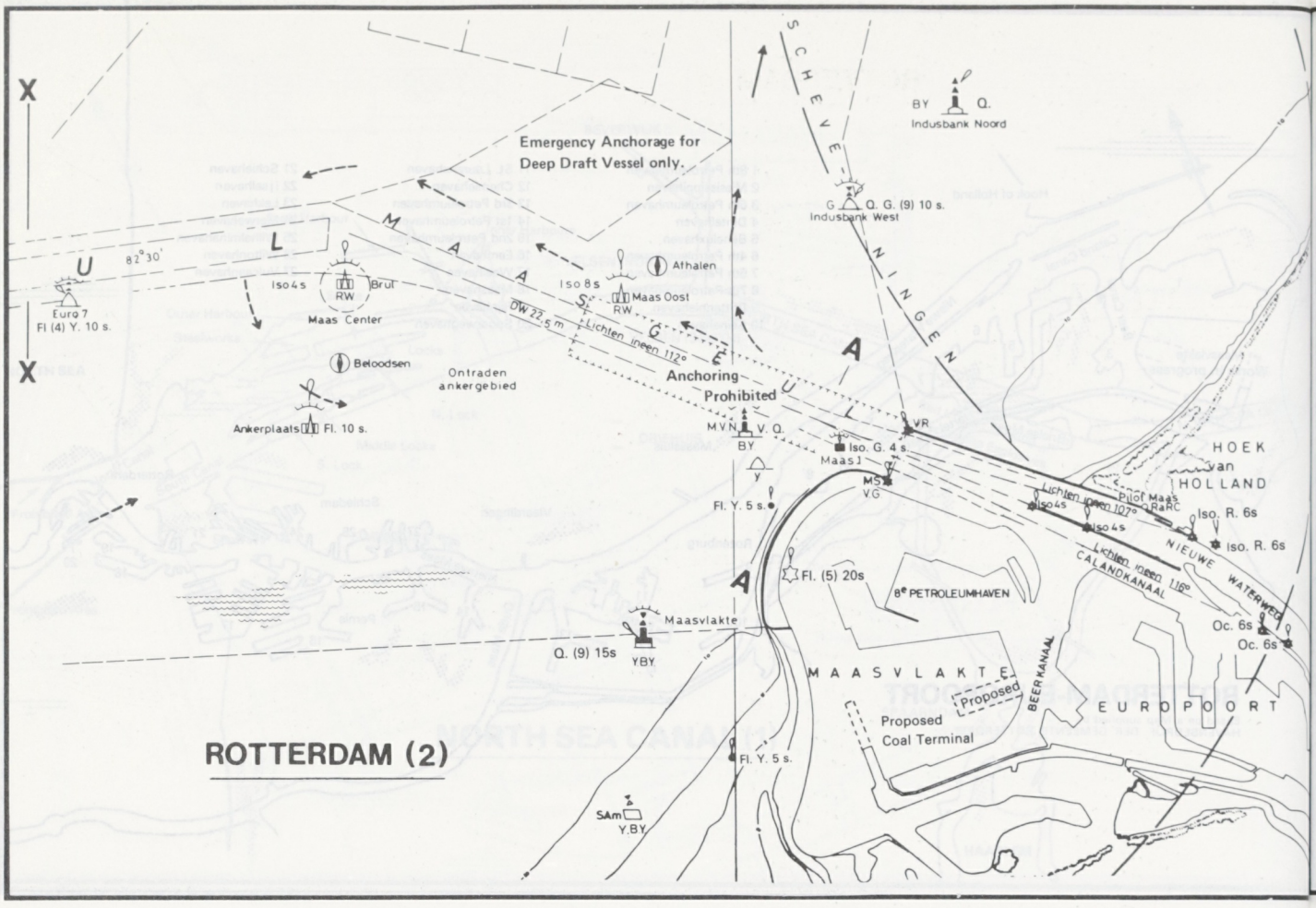


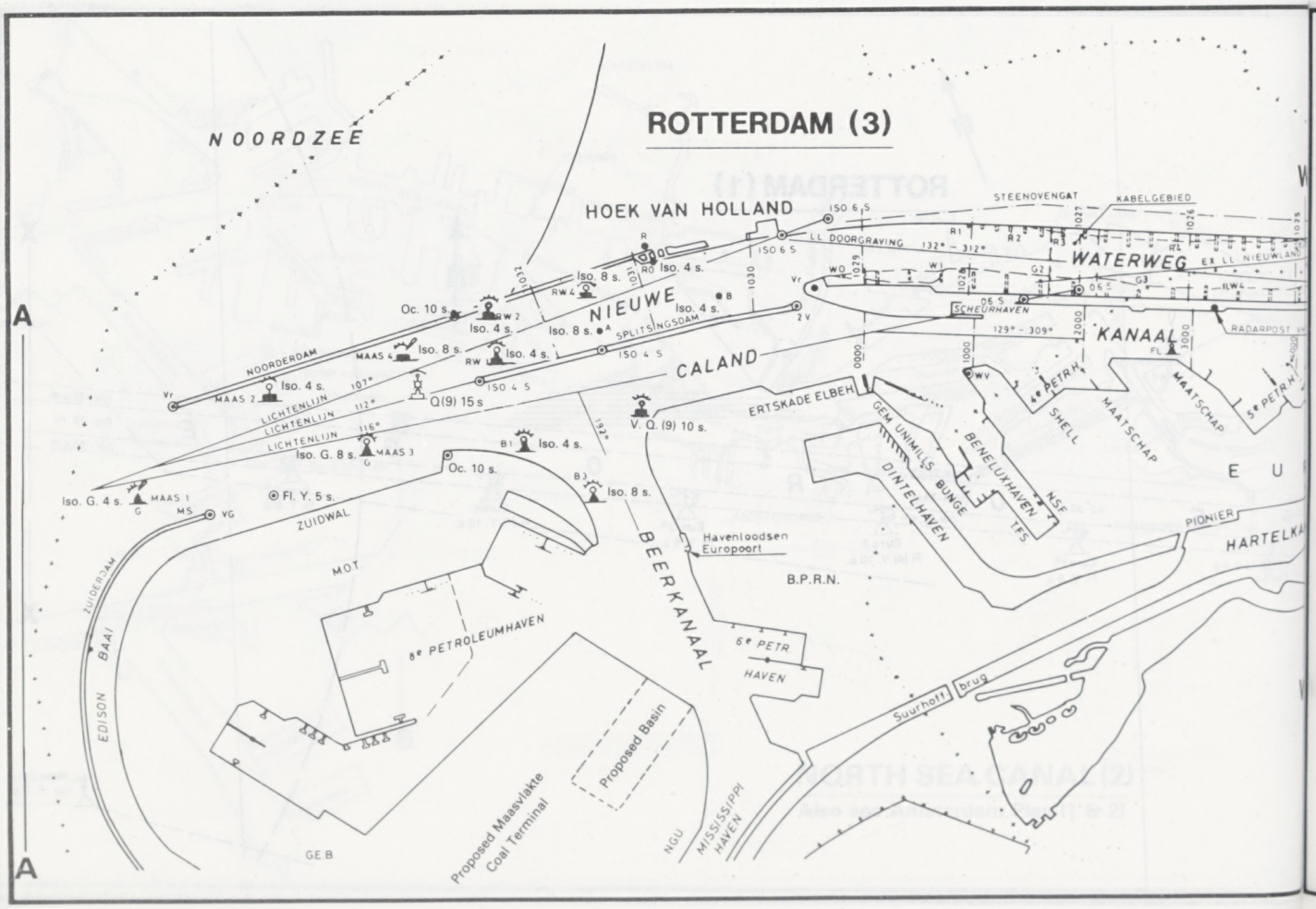
ROTTERDAM-EUROPOORT

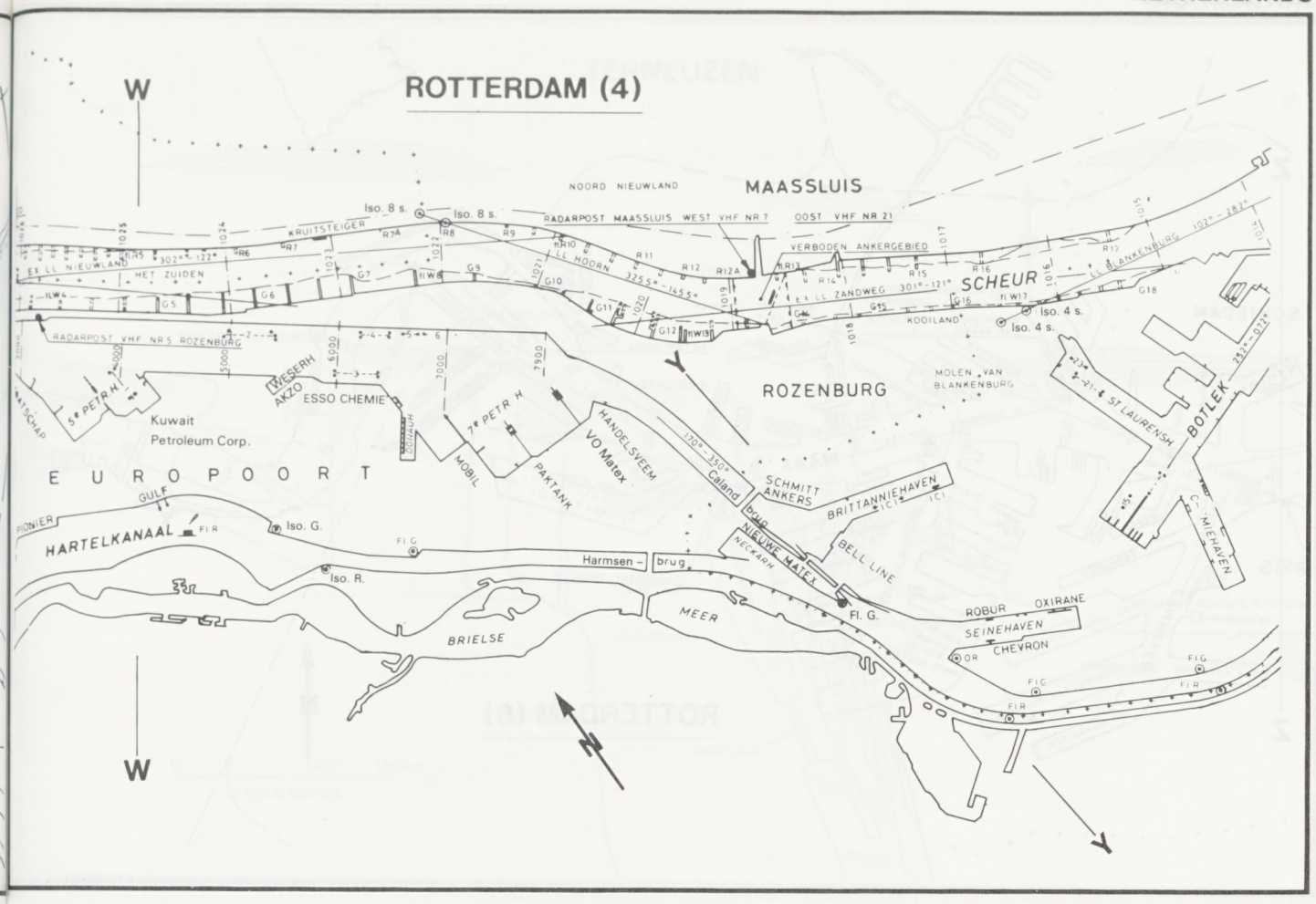
Based on a Map supplied by
HAVENBEDRIJF DER GEMEENTE ROTTERDAM

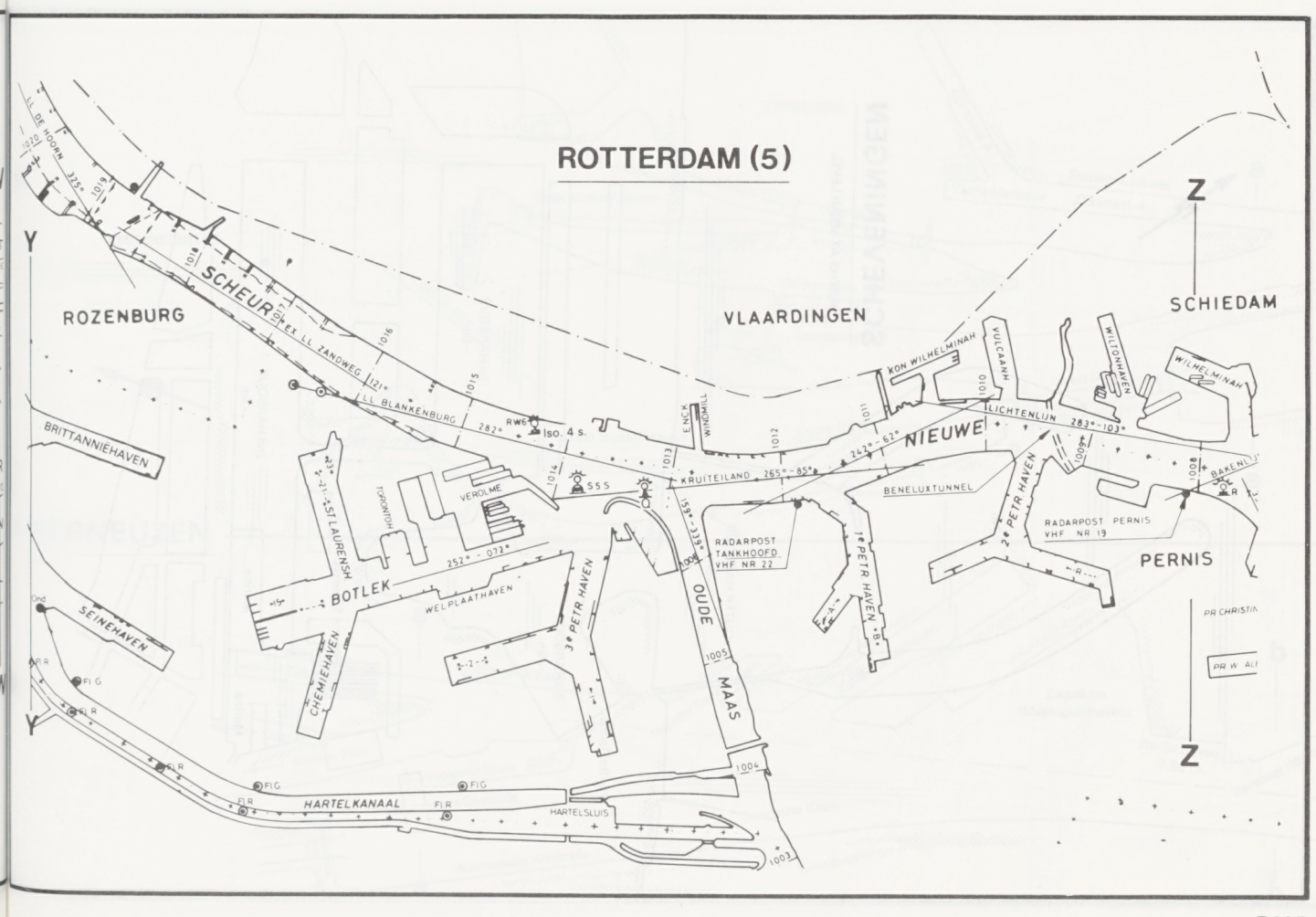
ROTTERDAM (1)

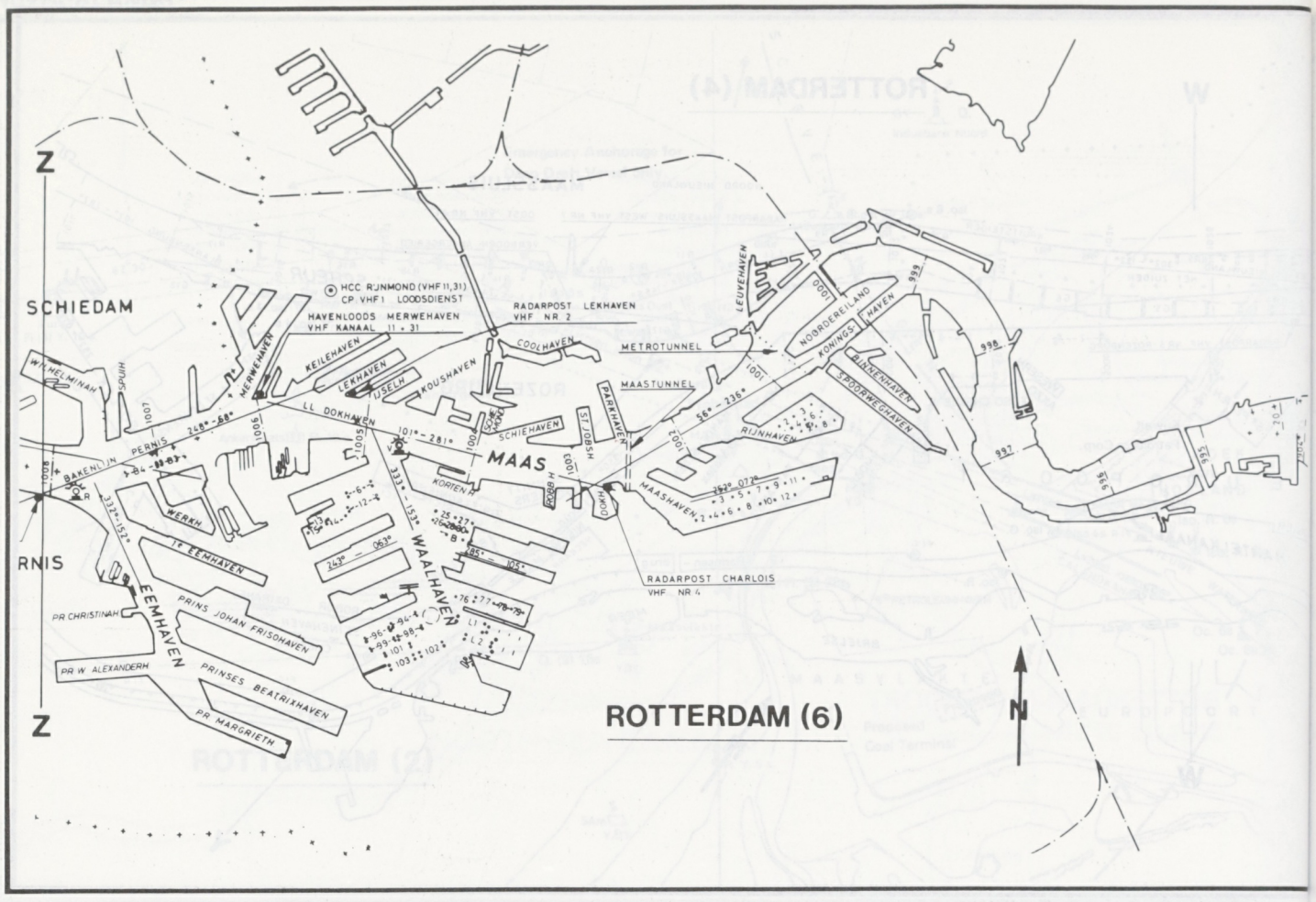


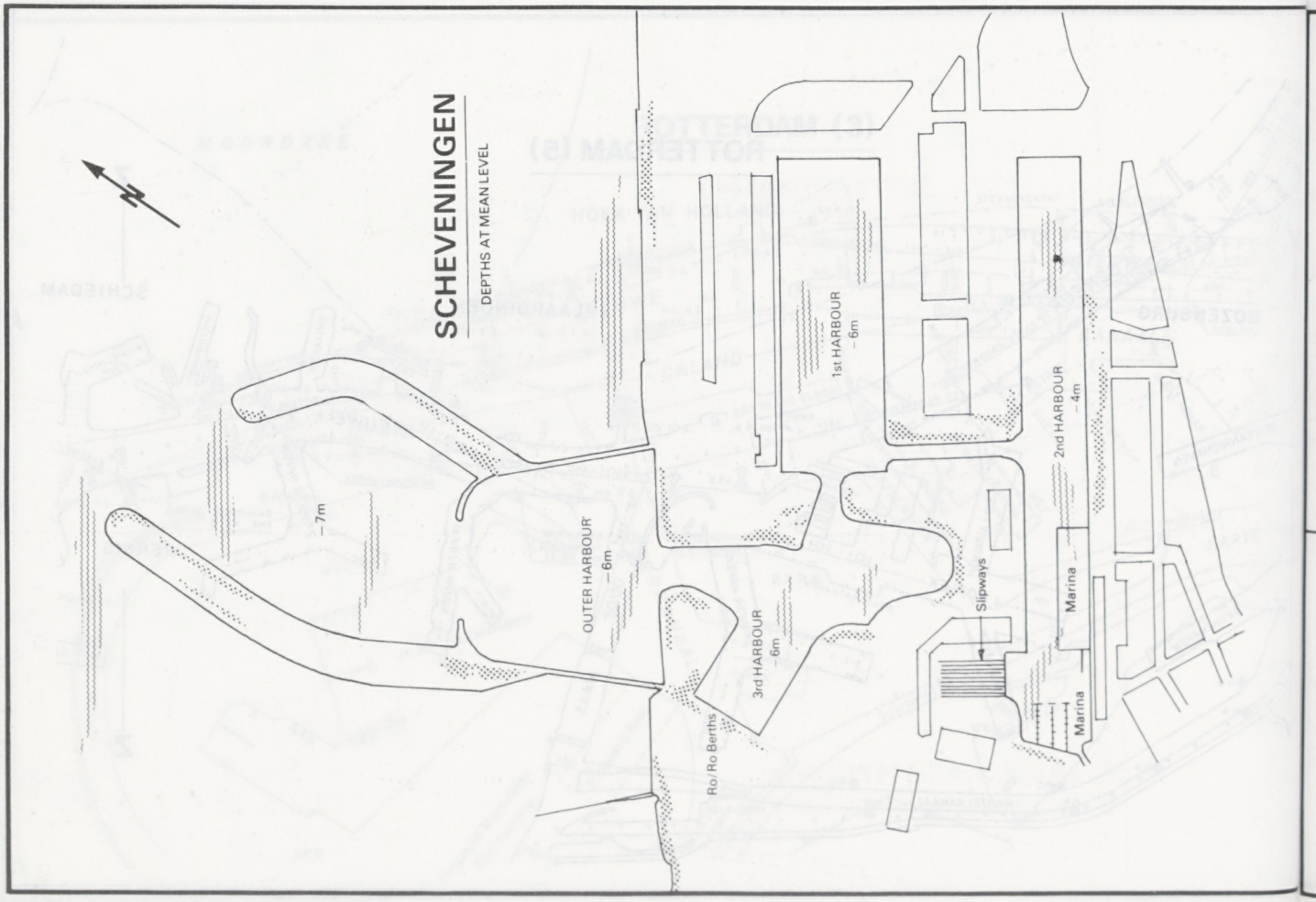

ROTTERDAM (2)
Emergency Anchorage for Deep Draft Vessel only.
Anchoring Prohibited
Ontraden ankergebied
Ankerplaats
Fl. 10 s.
Beloodsen
Maas Center
Euro 7
Fl (4) Y. 10 s.
Iso 4 s
Brut
Iso 8 s
Maas Oost
Athalen
Lichten ineen 112°
DW 22.5 m
Indusbank Noord
Indusbank West
Q. G. (9) 10 s.
Iso. G. 4 s.
Maas 1
Fl. Y. 5 s.
Fl. (5) 20s
8e PETROLEUMHAVEN
Maasvlakte
Q. (9) 15s
MAASVLAKTE
Proposed
Proposed Coal Terminal
BEER KANAAL
EUROPOORT
HOEK van HOLLAND
Pilot Maas
Iso. R. 6s
NIEUWE WATERWEG
CALANDKANAAL
Oc. 6s
SAm
Y.BY
SCHEVENINGEN

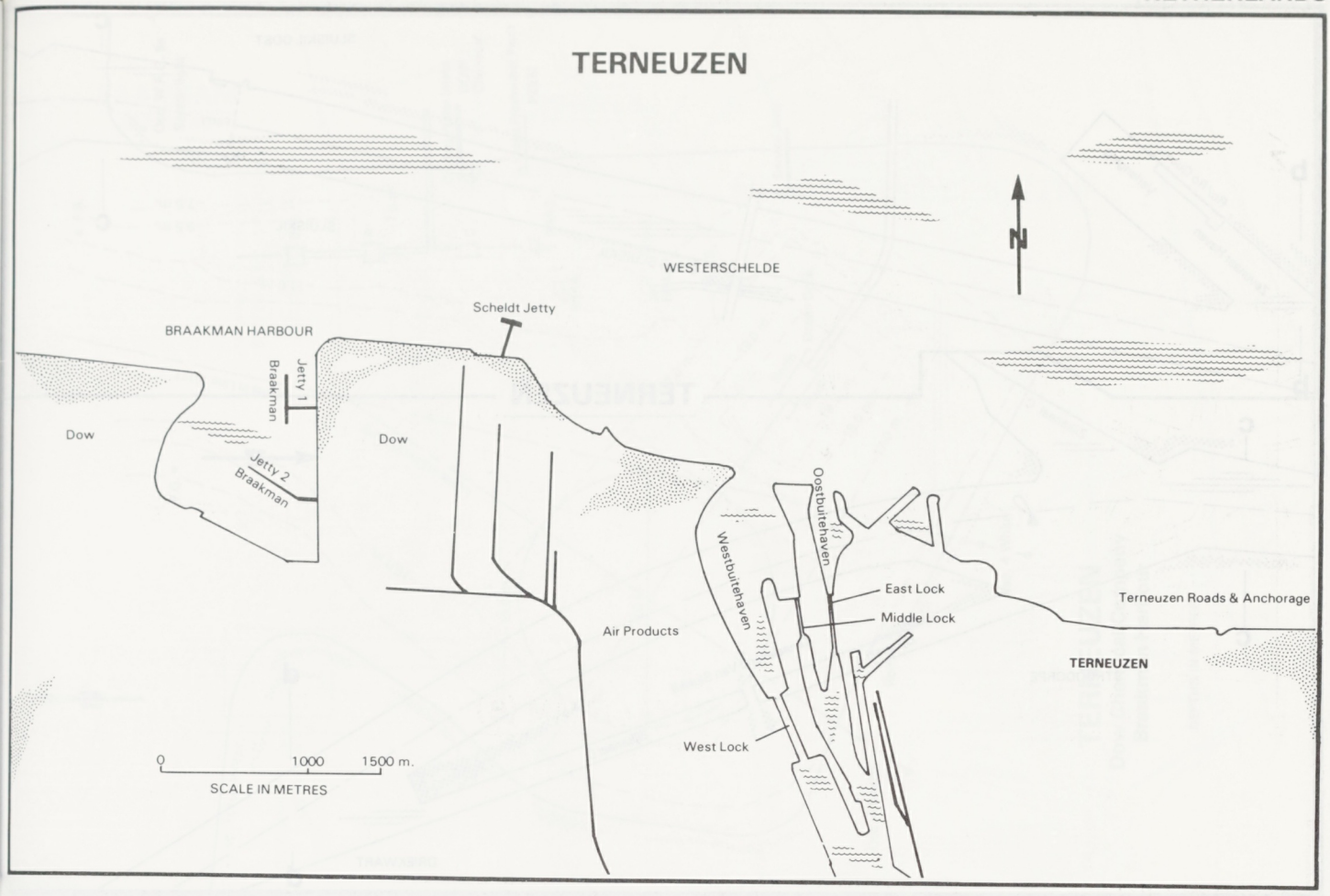

ROTTERDAM (3)
NOORDZEE
HOEK VAN HOLLAND
STEENOVENGAT
KABELGEBIED
LL DOORGRAVING
WATERWEG
NIEUWE
CALAND
SPLITSINGSDAM
SCHEURHAVEN
KANAAL
RADARPOST
NOORDERDAM
LICHTENLIJN
ERTSKADE ELBEH
SHELL
MAATSCHAP
BENELUXHAVEN
DINTELHAVEN
GEM UNIMILLS
BUNGE
NSF
TFS
PIONIER
HARTELKA
ZUIDWAL
MOT
Havenloodsen Europoort
B.P.R.N.
BEERKANAAL
8e PETROLEUMHAVEN
6e PETR HAVEN
Suurhoff brug
Proposed Basin
Proposed Maasvlakte Coal Terminal
EDISON BAAI
ZUIDERDAM
GEB
NGU
MISSISSIPPI HAVEN
Iso. G. 4 s.
MAAS 1
Fl. Y. 5 s.
Oc. 10 s.
Iso. G. 8 s.
MAAS 3
Iso. 4 s.
Iso. 8 s.
Q.(9) 15 s
V. Q. (9) 10 s.
MAAS 2
MAAS 4
RW 2
RW 4
ISO 6 S
ISO 4 S

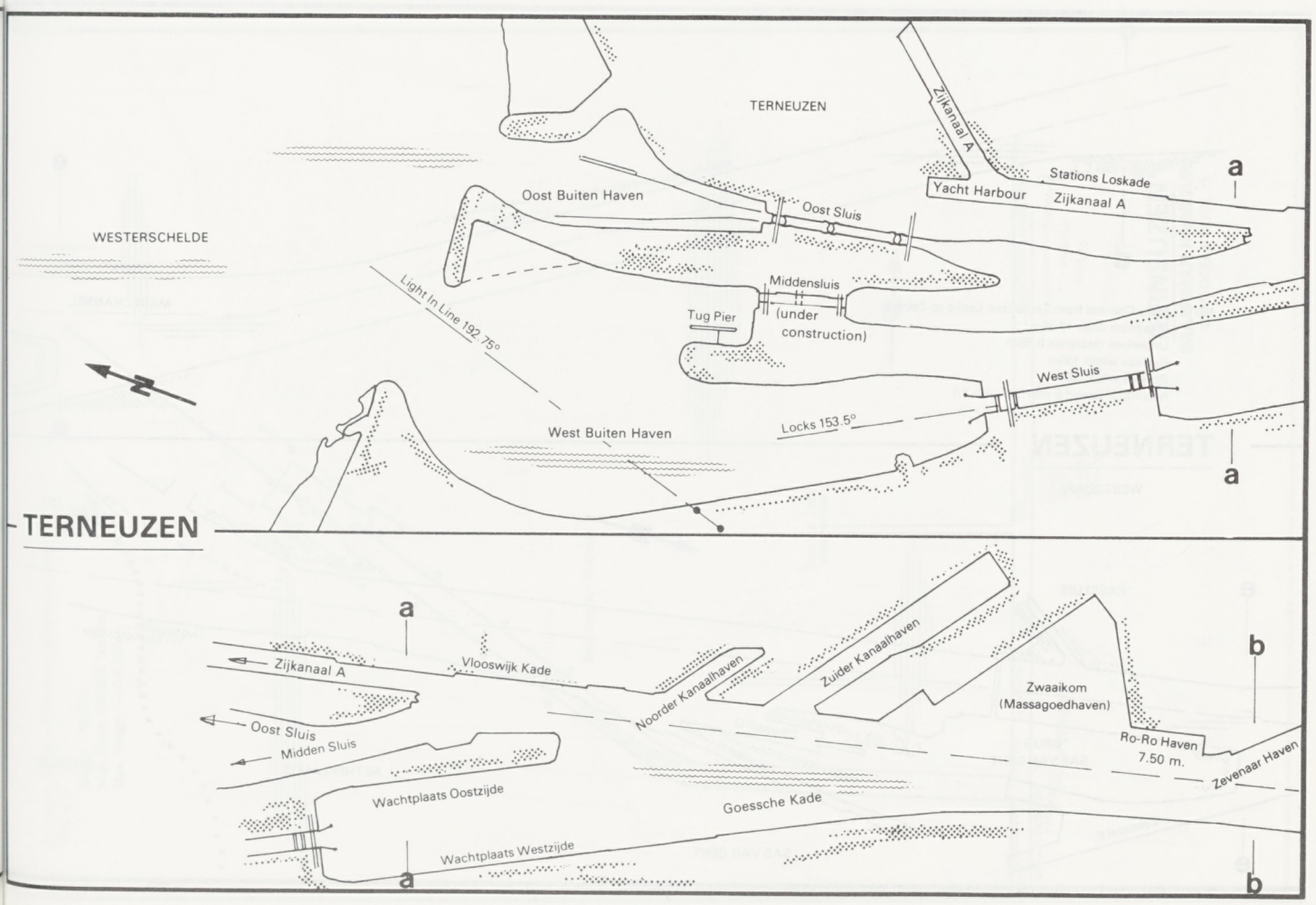

ROTTERDAM (4)
W
MAASSLUIS
NOORD NIEUWLAND
RADARPOST MAASSLUIS WEST VHF NR 7
OOST VHF NR 21
VERBODEN ANKERGEBIED
SCHEUR
ROZENBURG
MOLEN VAN BLANKENBURG
KOOILAND
Iso. 4 s.
RADARPOST VHF NRS ROZENBURG
WESERH
AKZO
ESSO CHEMIE
Kuwait
Petroleum Corp.
5e PETR H
7e PETR H
MOBIL
PAKTANK
HANDELSVEEM
VO Matex
Caland
SCHMITT ANKERS
BRITTANNIEHAVEN
BOTLEK
ST LAURENSH
EUROPOORT
GULF
PIONIER
HARTELKANAAL
Iso. G.
Iso. R.
Harmsen – brug
NIEUWE MATEX
BELL LINE
ROBUR
OXIRANE
SEINEHAVEN
CHEVRON
MEER
BRIELSE
Y
Z
W

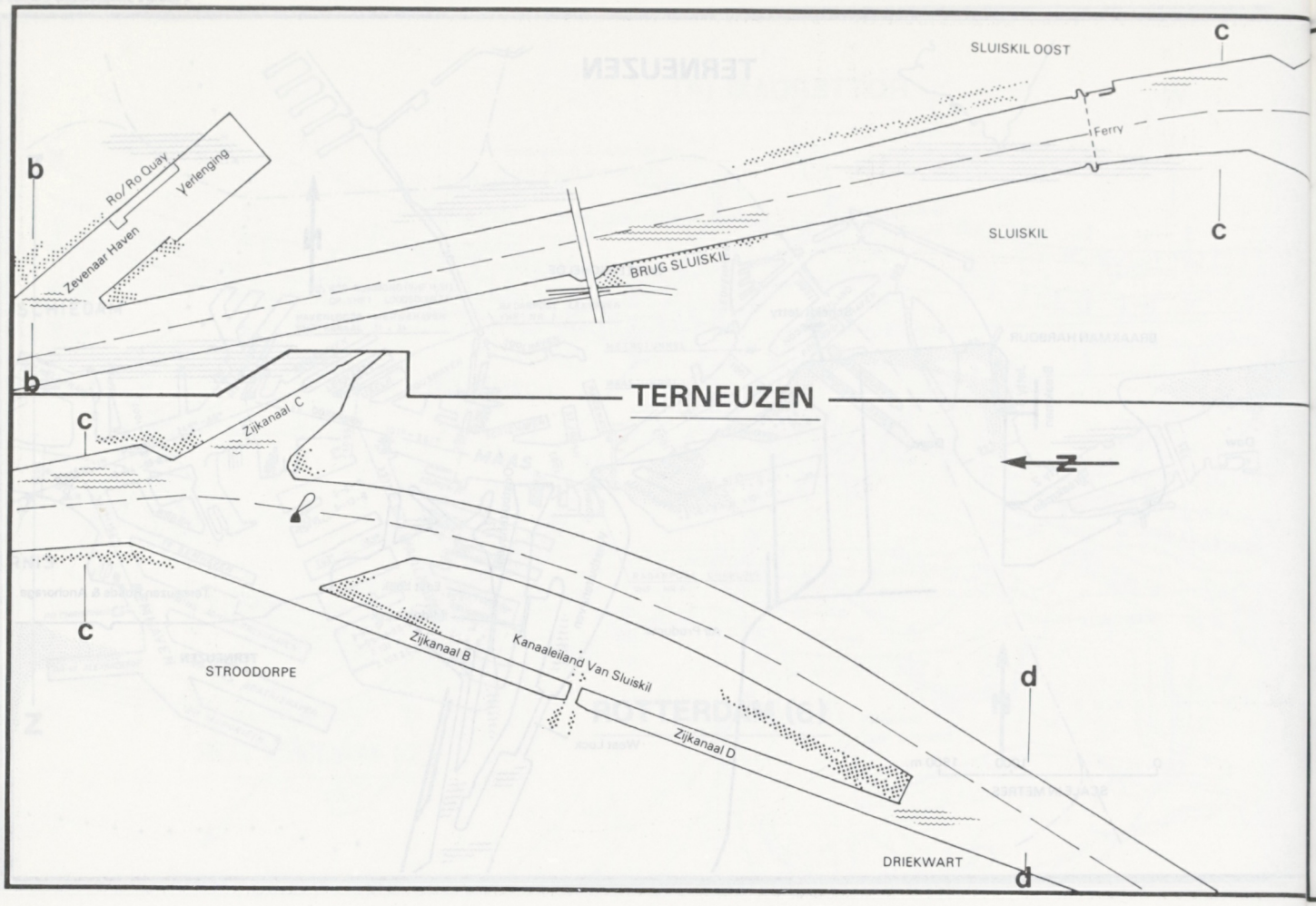

ROTTERDAM (5)
Z
Y
ROZENBURG
SCHEUR
VLAARDINGEN
SCHIEDAM
BRITTANNIEHAVEN
SEINEHAVEN
BOTLEK
ST LAURENSH
CHEMIEHAVEN
WELPLAATHAVEN
3e PETR HAVEN
OUDE MAAS
HARTELKANAAL
HARTELSLUIS
RADARPOST TANKHOOFD VHF NR 22
RADARPOST PERNIS VHF NR 19
PERNIS
NIEUWE
BENELUXTUNNEL
KRUITEILAND
LICHTENLIJN
KON WILHELMINAH
WILHELMINAH
VULCAANH
WILTONHAVEN
1e PETR HAVEN
2e PETR HAVEN
Iso. 4 s.
SSS
Z

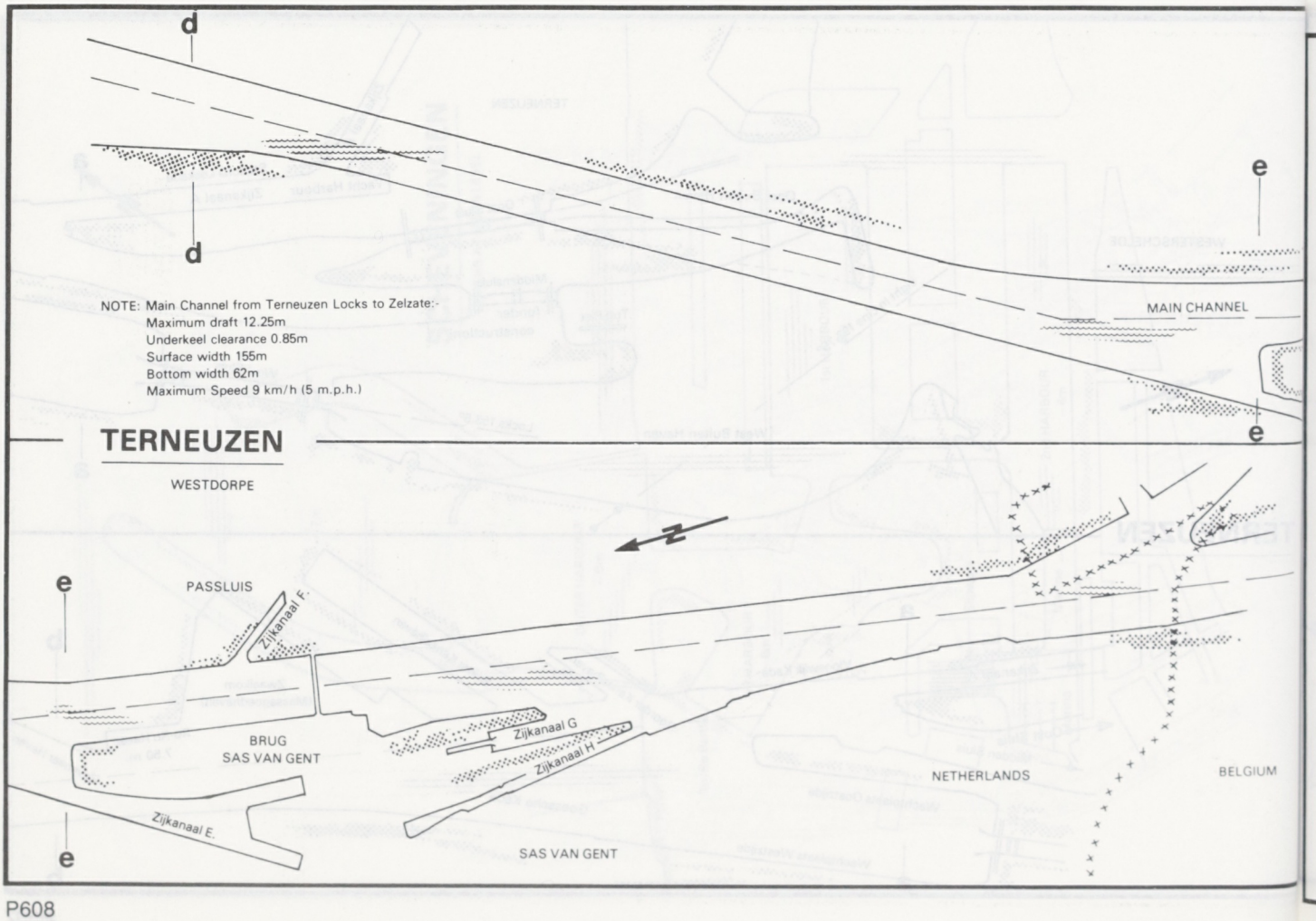

Z
SCHIEDAM
HCC RIJNMOND (VHF 11, 31)
CP VHF 1 LOODSDIENST
HAVENLOODS MERWEHAVEN
VHF KANAAL 11 + 31
RADARPOST LEKHAVEN
VHF NR 2
METROTUNNEL
MAASTUNNEL
MAAS
WILHELMINAHAVEN
MERWEHAVEN
KEILEHAVEN
LEKHAVEN
IJSELHAVEN
COOLHAVEN
LL DOKHAVEN
SCHIEHAVEN
PARKHAVEN
LEUVENHAVEN
NOORDEREILAND HAVEN
KONINGSHAVEN
BINNENHAVEN
BOOMWEGHAVEN
RIJNHAVEN
MAASHAVEN
KORTEN H
WERKH
WAALHAVEN
1e EEMHAVEN
EEMHAVEN
PR CHRISTINAH
PRINS JOHAN FRISOHAVEN
PR W ALEXANDERH
PRINSES BEATRIXHAVEN
PR MARGRIETH
RNIS
RADARPOST CHARLOIS
VHF NR 4
ROTTERDAM (6)
N
Z


SCHEVENINGEN
DEPTHS AT MEAN LEVEL
N
– 7m
OUTER HARBOUR
– 6m
1st HARBOUR
– 6m
2nd HARBOUR
– 4m
3rd HARBOUR
– 6m
Ro/Ro Berths
Slipways
Marina
Marina


TERNEUZEN
WESTERSCHELDE
N
Scheldt Jetty
BRAAKMAN HARBOUR
Braakman
Jetty 1
Jetty 2
Braakman
Dow
Dow
Oostbuitenhaven
Westbuitenhaven
East Lock
Middle Lock
Terneuzen Roads & Anchorage
Air Products
TERNEUZEN
West Lock
0
1000
1500 m.
SCALE IN METRES

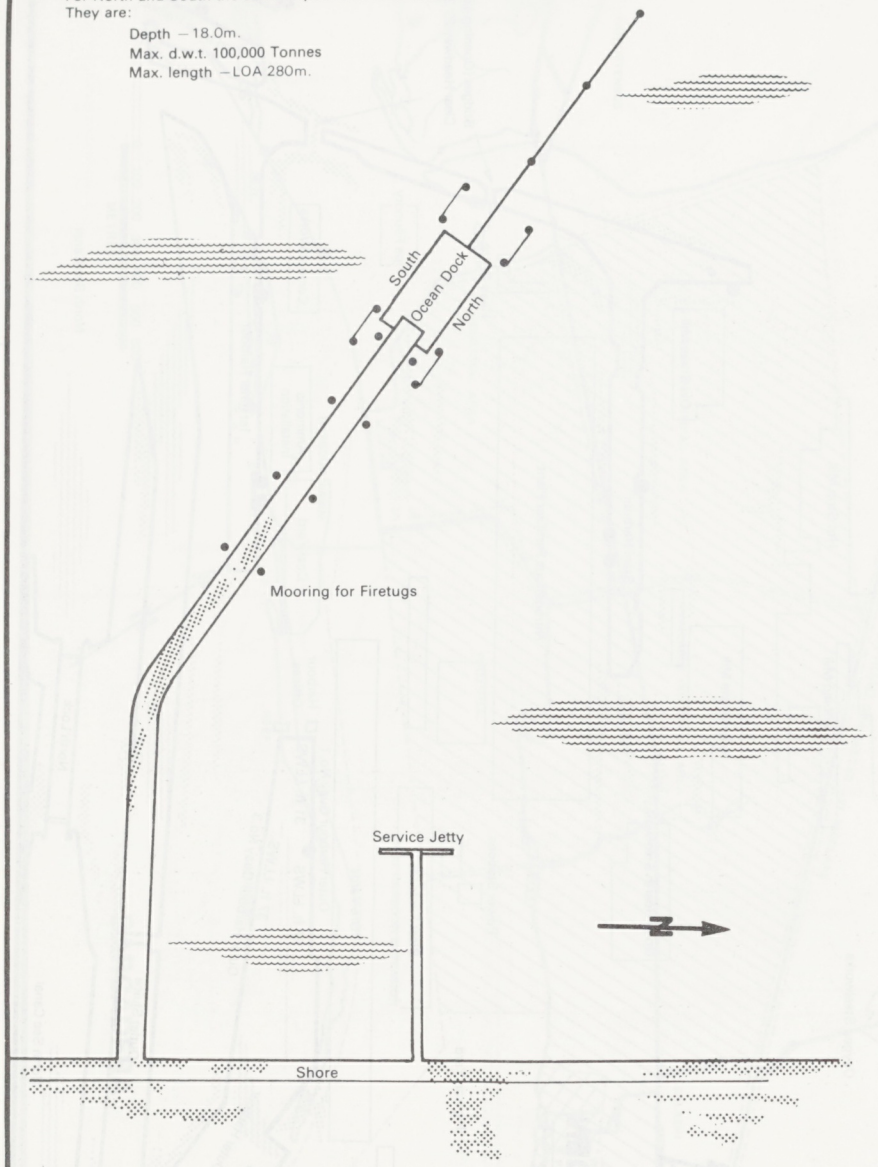

TERNEUZEN
Zijkanaal A
Stations Loskade
a
Yacht Harbour
Zijkanaal A
Oost Buiten Haven
Oost Sluis
WESTERSCHELDE
Middensluis
(under construction)
Light In Line 192.75°
Tug Pier
West Sluis
Locks 153.5°
West Buiten Haven
a
TERNEUZEN
a
Zijkanaal A
Vlooswijk Kade
Noorder Kanaalhaven
Zuider Kanaalhaven
b
Zwaaikom
(Massagoedhaven)
Oost Sluis
Midden Sluis
Ro-Ro Haven
7.50 m.
Zevenaar Haven
Wachtplaats Oostzijde
Goessche Kade
Wachtplaats Westzijde
a
b


SLUISKIL OOST
Ferry
SLUISKIL
BRUG SLUISKIL
Ro/Ro Quay
Verlenging
Zevenaar Haven
TERNEUZEN
Zijkanaal C
STROODORPE
Zijkanaal B
Kanaaleiland Van Sluiskil
Zijkanaal D
DRIEKWART


NOTE: Main Channel from Terneuzen Locks to Zelzate:-
Maximum draft 12.25m
Underkeel clearance 0.85m
Surface width 155m
Bottom width 62m
Maximum Speed 9 km/h (5 m.p.h.)
MAIN CHANNEL
TERNEUZEN
WESTDORPE
PASSLUIS
Zijkanaal F.
BRUG
SAS VAN GENT
Zijkanaal G
Zijkanaal H
Zijkanaal E.
SAS VAN GENT
NETHERLANDS
BELGIUM

For North and South the same depths and restrictions.
They are:

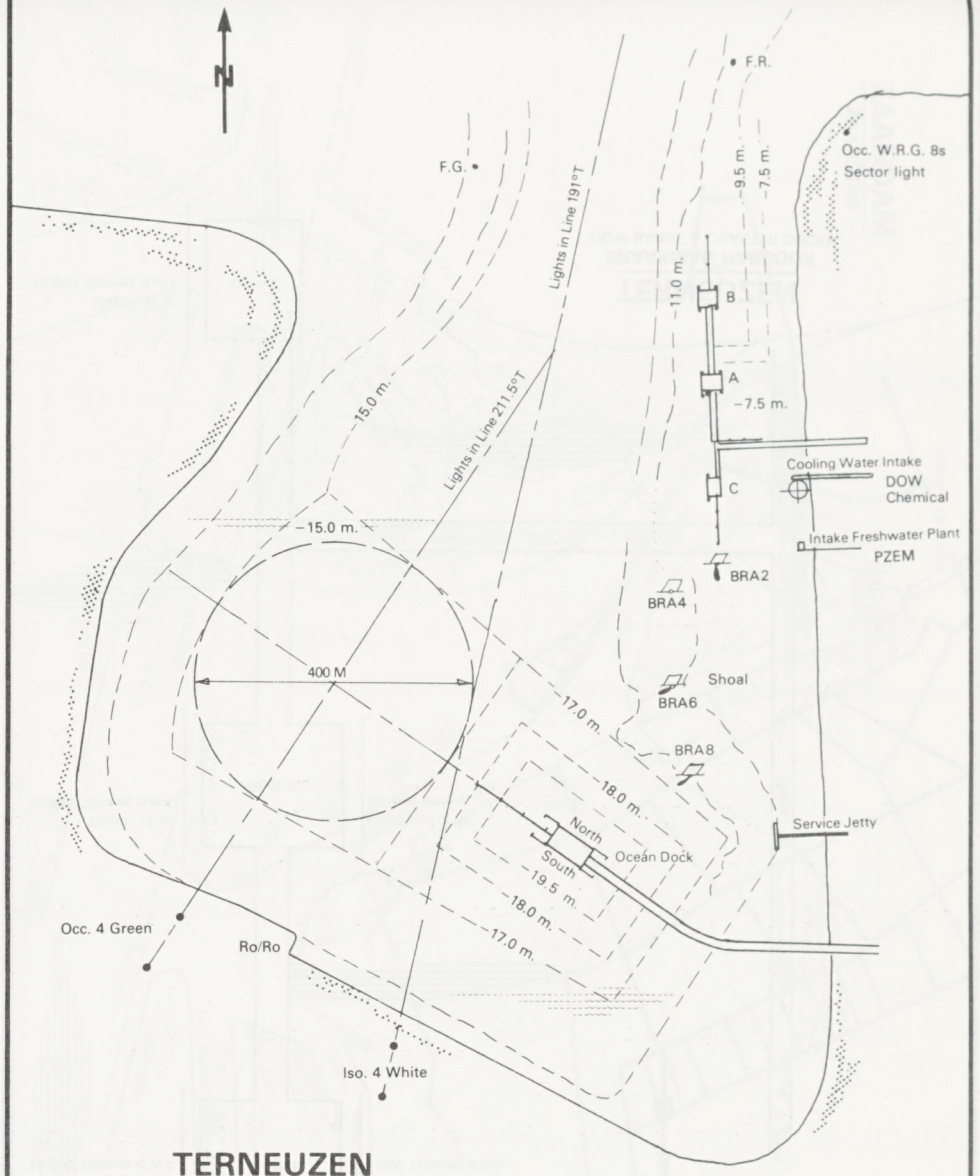
Depth – 18.0m.
Max. d.w.t. 100,000 Tonnes
Max. length – LOA 280m.



TERNEUZEN

BRAAKMAN HARBOUR

DOW OCEAN DOCK

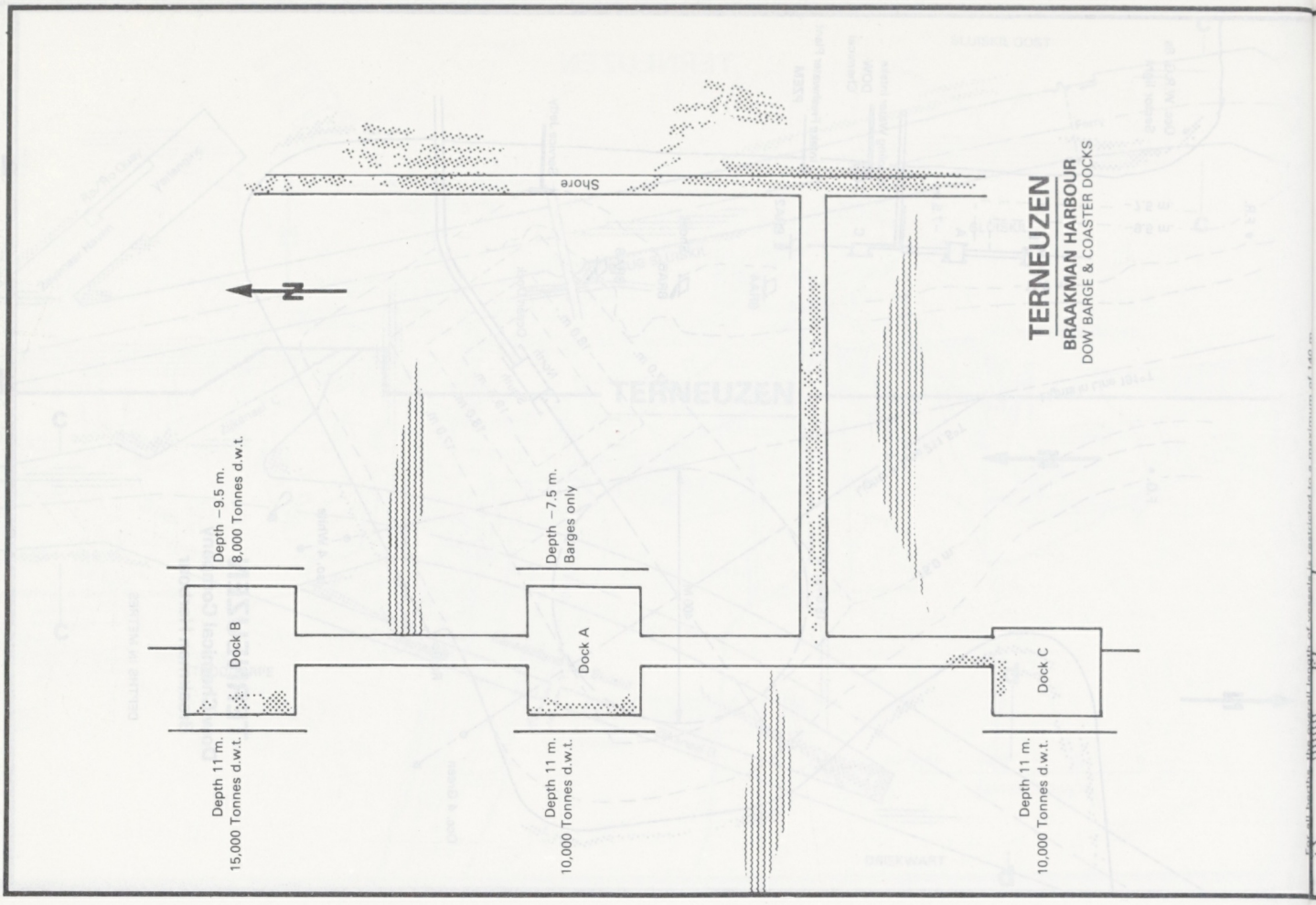


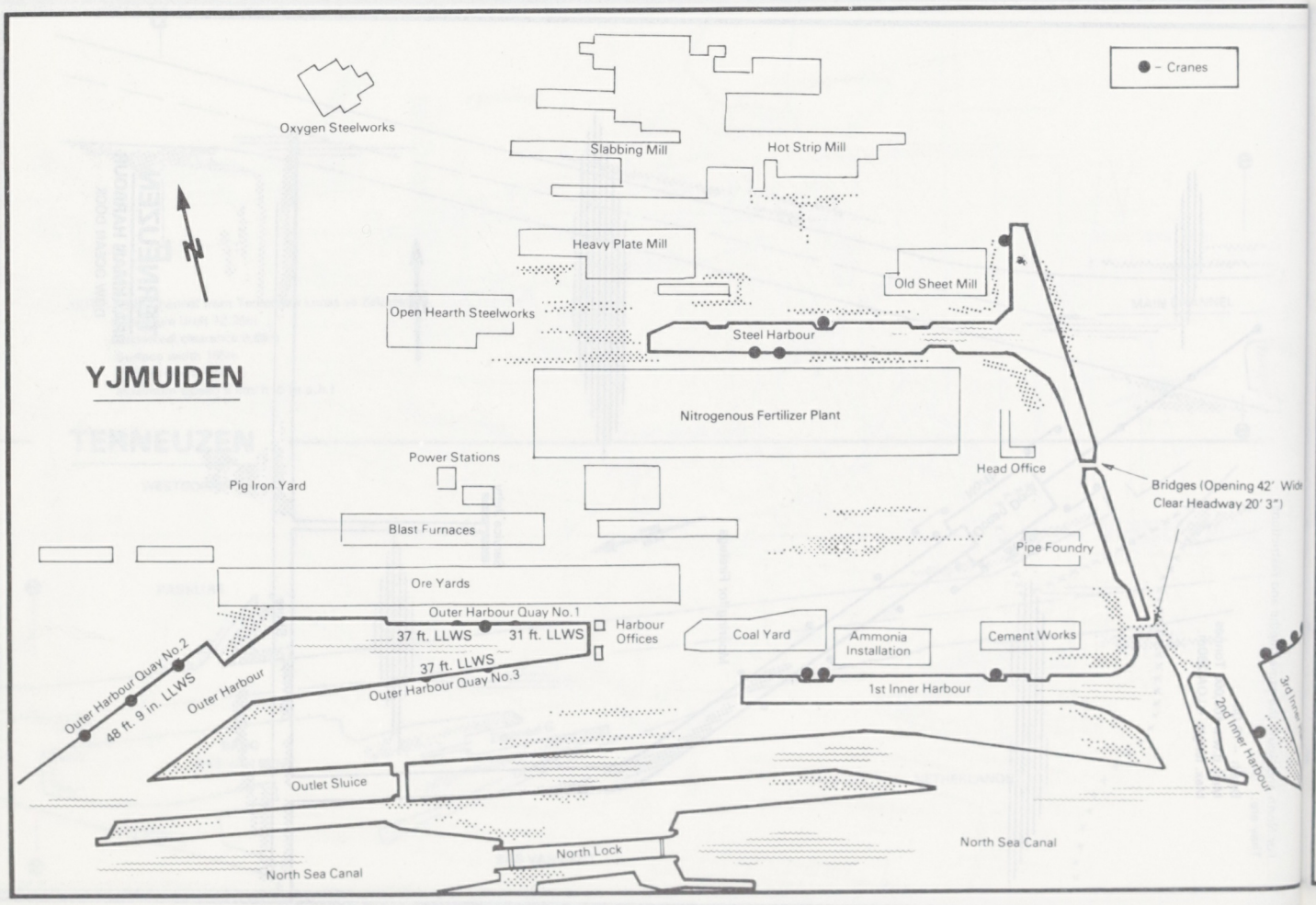
TERNEUZEN

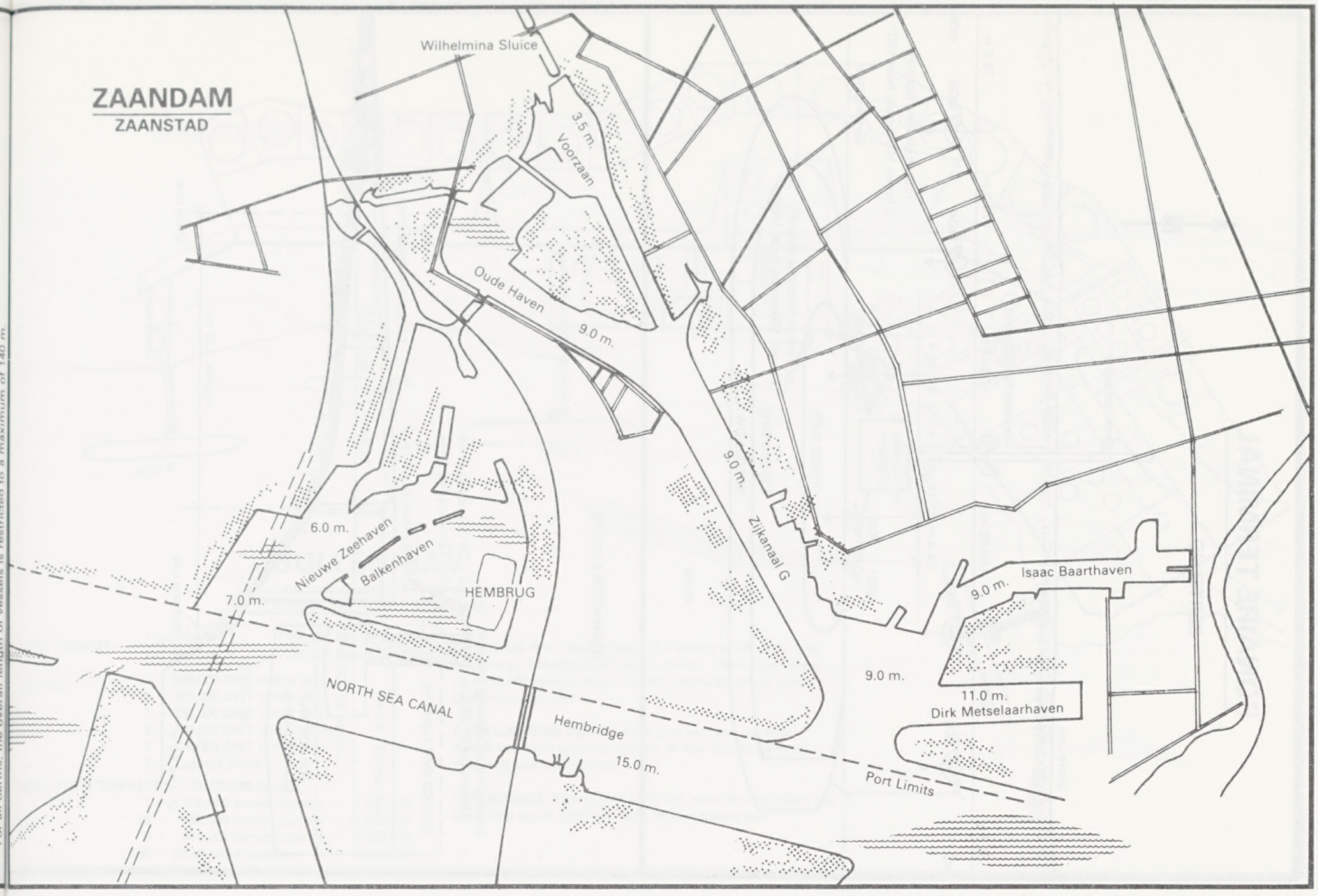
Dow Chemical Company
Braakman Harbour

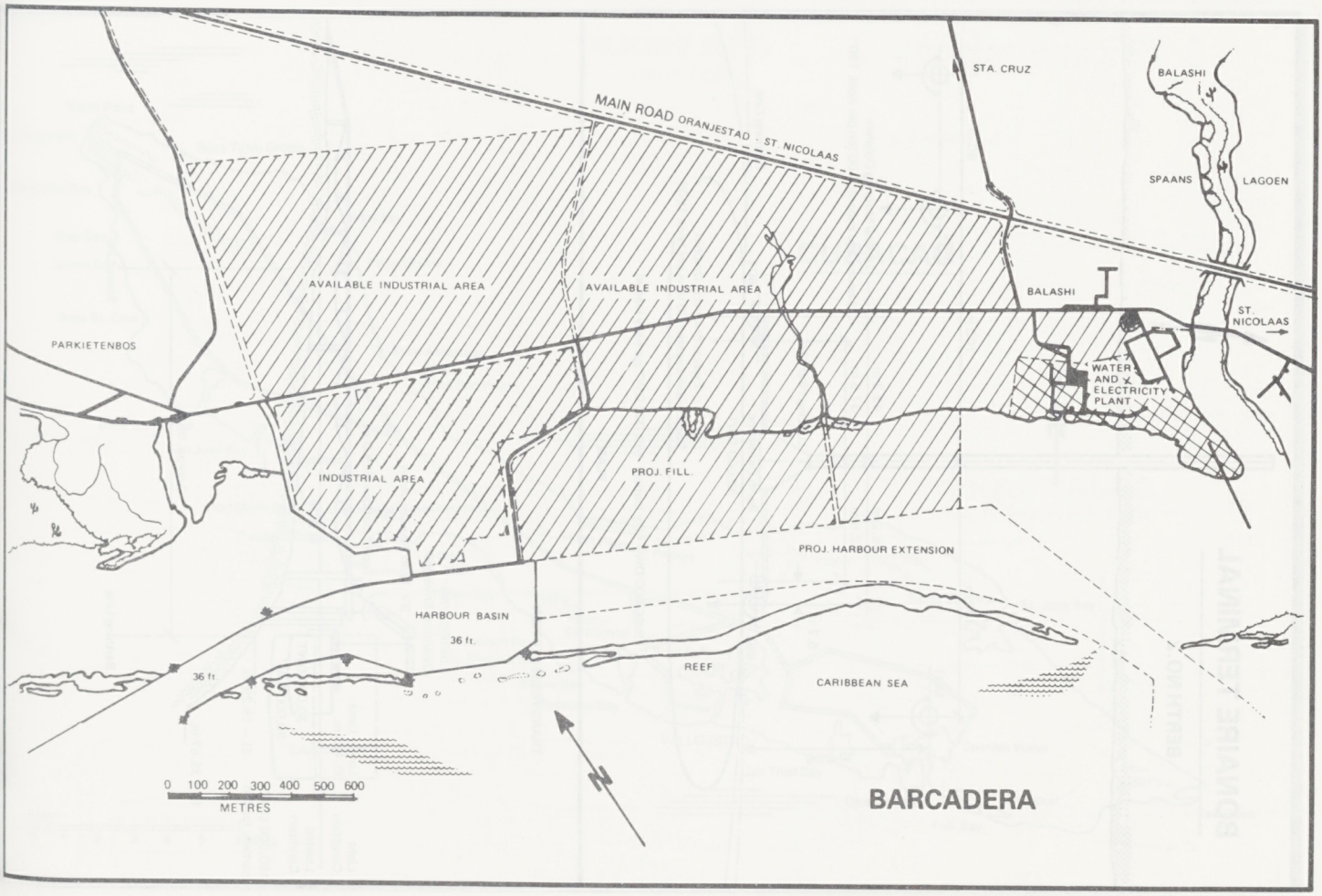
DEPTHS IN METRES

NETHERLANDS


TERNEUZEN
BRAAKMAN HARBOUR
DOW BARGE & COASTER DOCKS
Shore
N
Depth –9.5 m.
8,000 Tonnes d.w.t.
Depth –7.5 m.
Barges only
Dock B
Dock A
Dock C
Depth 11 m.
15,000 Tonnes d.w.t.
Depth 11 m.
10,000 Tonnes d.w.t.
Depth 11 m.
10,000 Tonnes d.w.t.

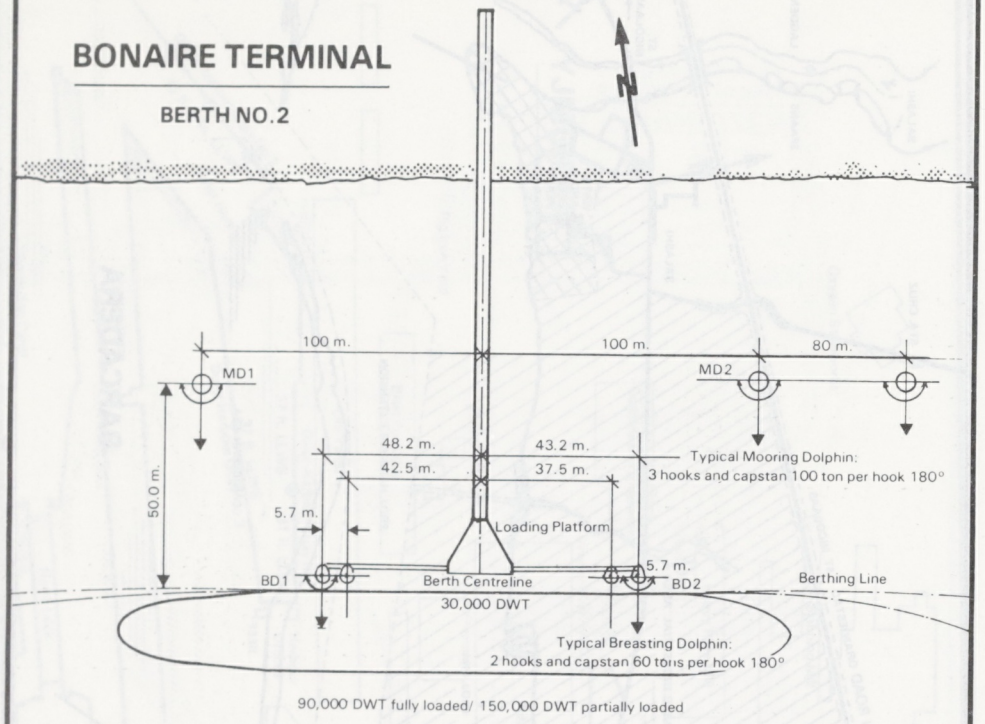

YJMUIDEN
● – Cranes
Oxygen Steelworks
Slabbing Mill
Hot Strip Mill
N
Heavy Plate Mill
Old Sheet Mill
Open Hearth Steelworks
Steel Harbour
Nitrogenous Fertilizer Plant
Power Stations
Head Office
Pig Iron Yard
Bridges (Opening 42' Wid
Clear Headway 20' 3")
Blast Furnaces
Pipe Foundry
Ore Yards
Outer Harbour Quay No.1
37 ft. LLWS
31 ft. LLWS
Harbour
Offices
Coal Yard
Ammonia
Installation
Cement Works
Outer Harbour Quay No.2
48 ft. 9 in. LLWS
Outer Harbour
37 ft. LLWS
Outer Harbour Quay No.3
1st Inner Harbour
2nd Inner Harbour
Outlet Sluice
North Lock
North Sea Canal
North Sea Canal


ZAANDAM
ZAANSTAD
Wilhelmina Sluice
3.5 m.
Voorzaan
Oude Haven
9.0 m.
9.0 m.
Zijkanaal G
6.0 m.
Nieuwe Zeehaven
Balkenhaven
HEMBRUG
7.0 m.
NORTH SEA CANAL
Hembridge
15.0 m.
9.0 m.
Isaac Baarthaven
9.0 m.
11.0 m.
Dirk Metselaarhaven
Port Limits
For all berths, the overall length of vessels is restricted to a maximum of 140 m.


STA. CRUZ
BALASHI
MAIN ROAD ORANJESTAD - ST. NICOLAAS
SPAANS LAGOEN
AVAILABLE INDUSTRIAL AREA
AVAILABLE INDUSTRIAL AREA
BALASHI
ST. NICOLAAS
PARKIETENBOS
WATER AND ELECTRICITY PLANT
INDUSTRIAL AREA
PROJ. FILL
PROJ. HARBOUR EXTENSION
HARBOUR BASIN
36 ft.
36 ft.
REEF
CARIBBEAN SEA
0 100 200 300 400 500 600
METRES
N
BARCADERA

BONAIRE TERMINAL

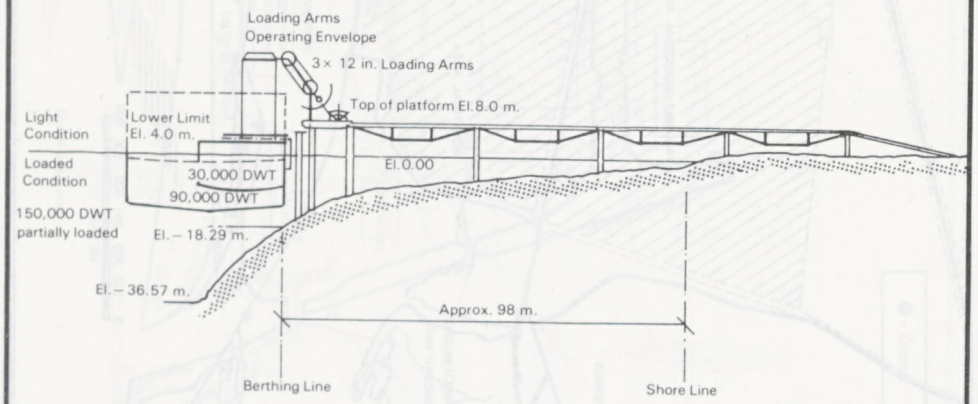
BERTH NO.2



90,000 DWT fully loaded/ 150,000 DWT partially loaded

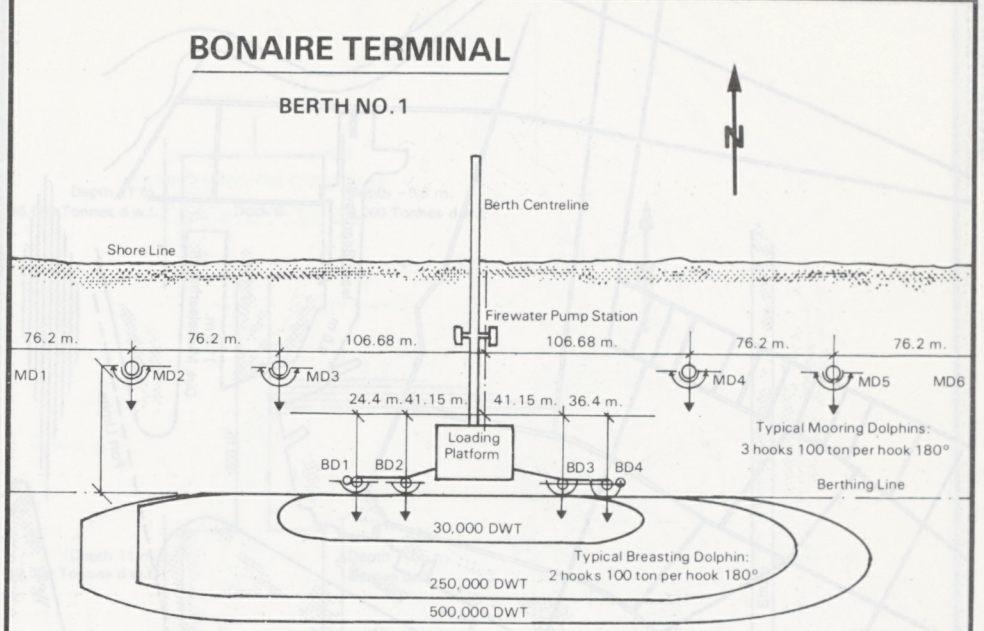
PLAN

TRANSVERSE SECTION



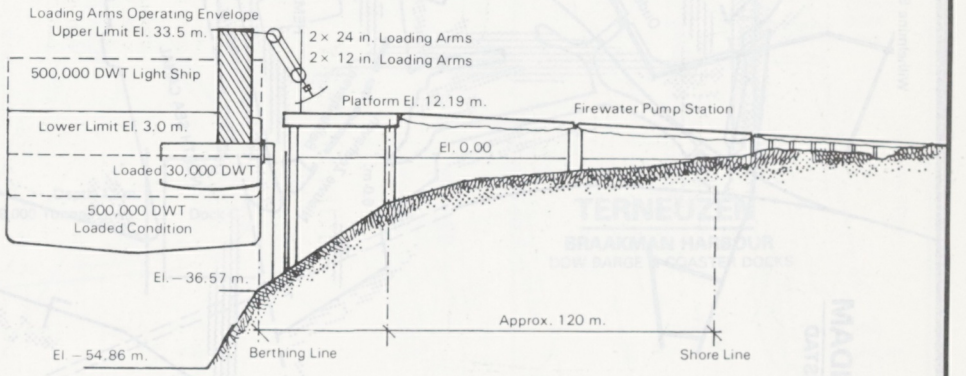
BONAIRE TERMINAL

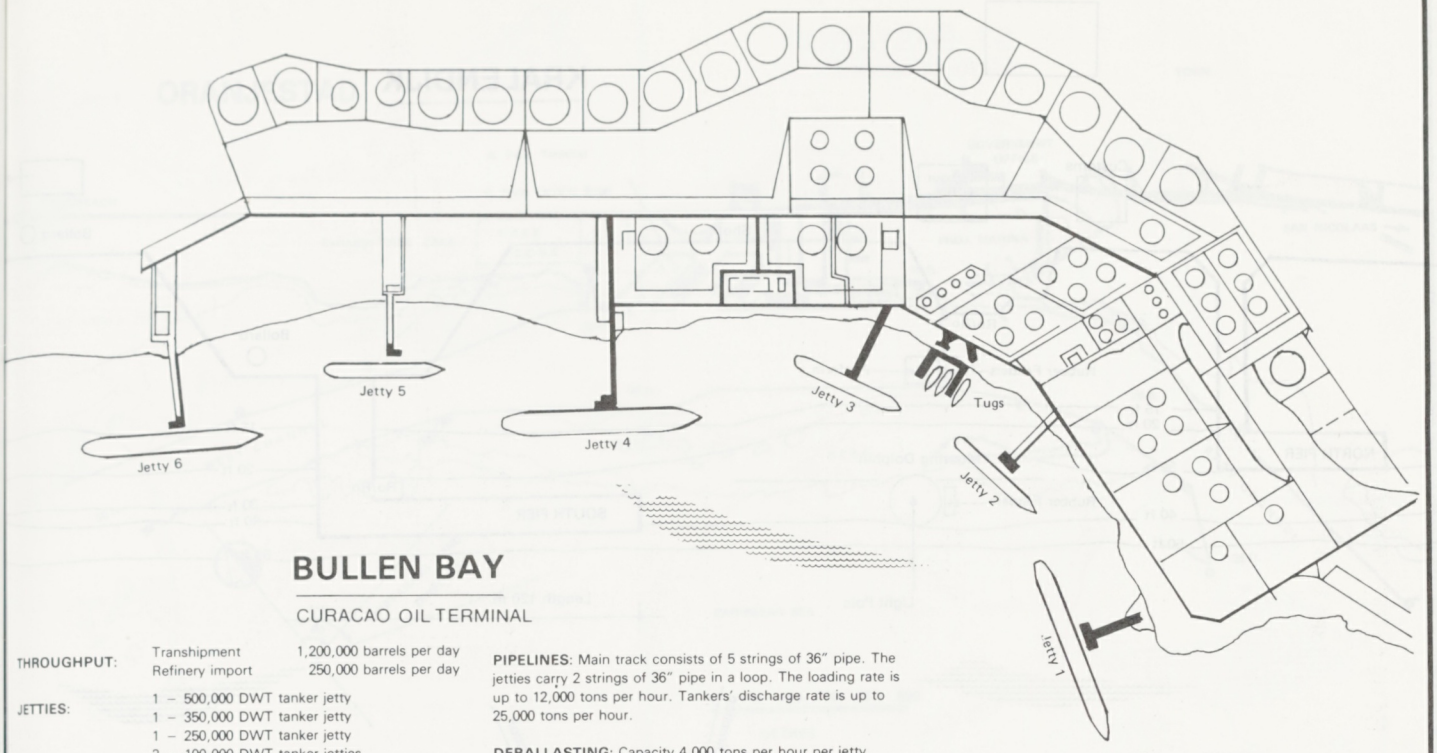
BERTH NO.1



PLAN

TRANSVERSE SECTION





BULLEN BAY

CURACAO OIL TERMINAL

THROUGHPUT:
Transhipment 1,200,000 barrels per day
Refinery import 250,000 barrels per day

JETTIES:
1 – 500,000 DWT tanker jetty
1 – 350,000 DWT tanker jetty
1 – 250,000 DWT tanker jetty
2 – 100,000 DWT tanker jetties
1 – 70,000 DWT tanker jetty
2 – Tugboat jetties

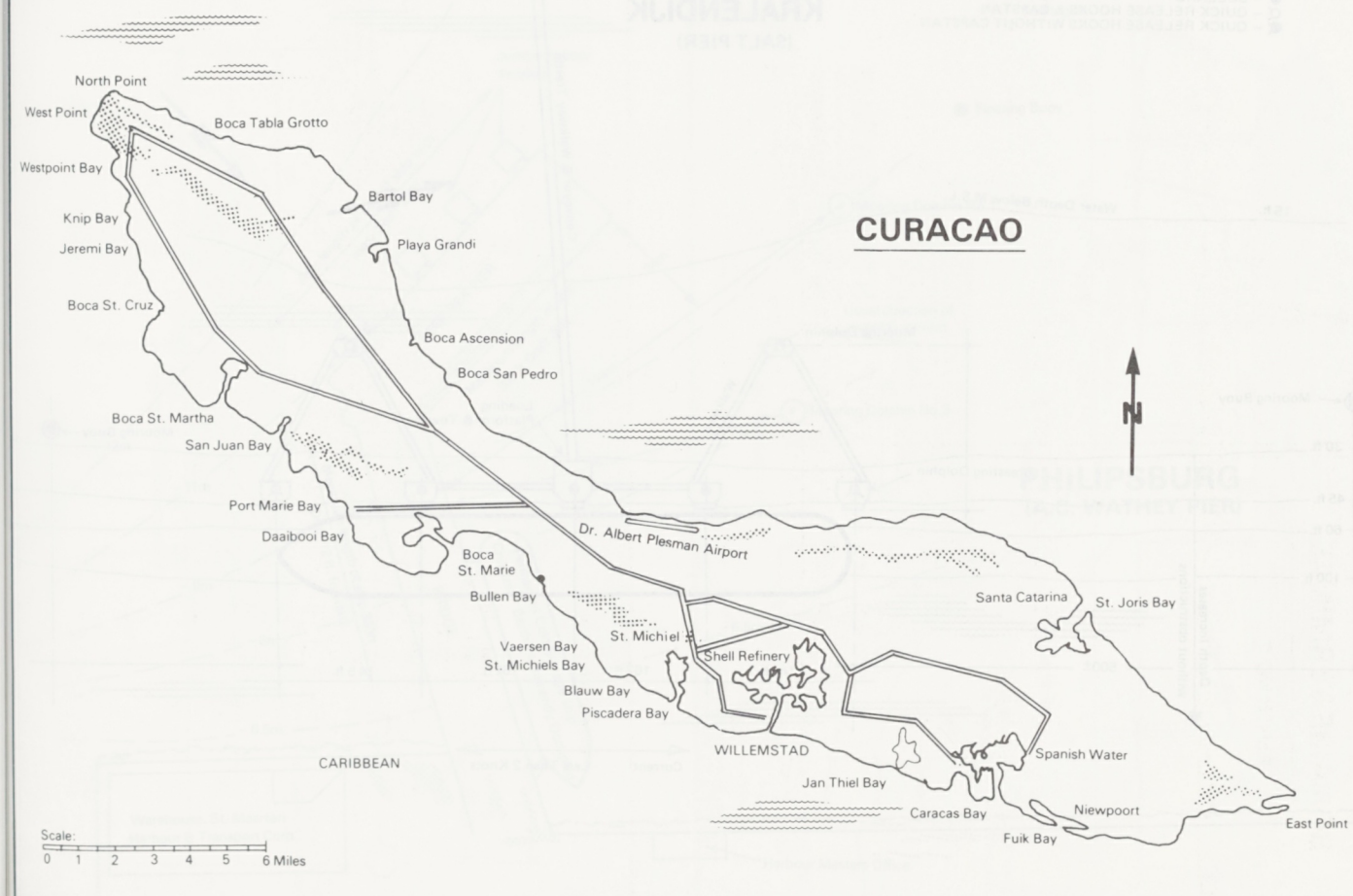
TOTAL TANK CAPACITY – 17,750,000 barrels

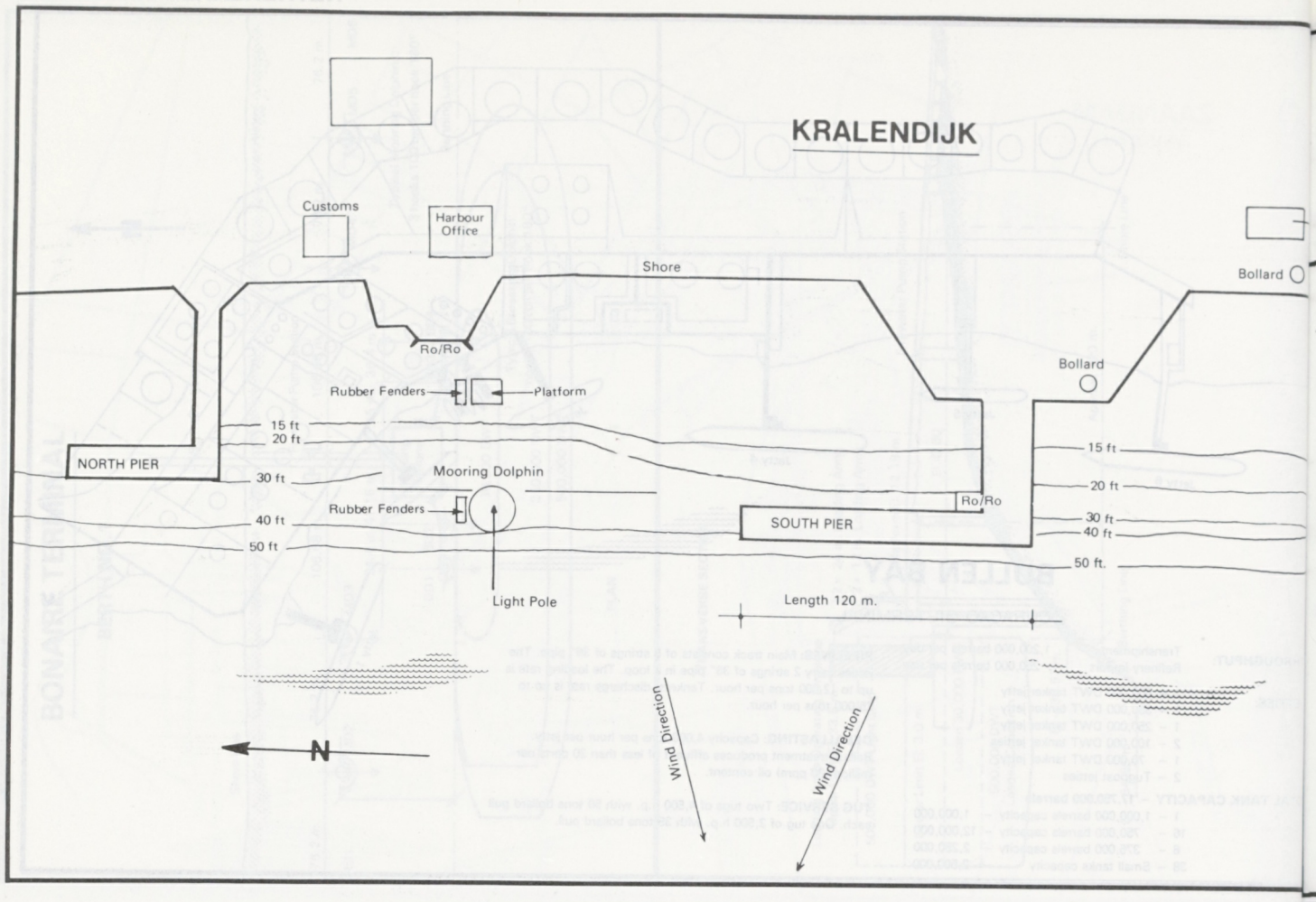
1 –	1,000,000 barrels capacity –	1,000,000
16 –	750,000 barrels capacity –	12,000,000
6 –	375,000 barrels capacity –	2,250,000
38 –	Small tanks capacity –	2,500,000

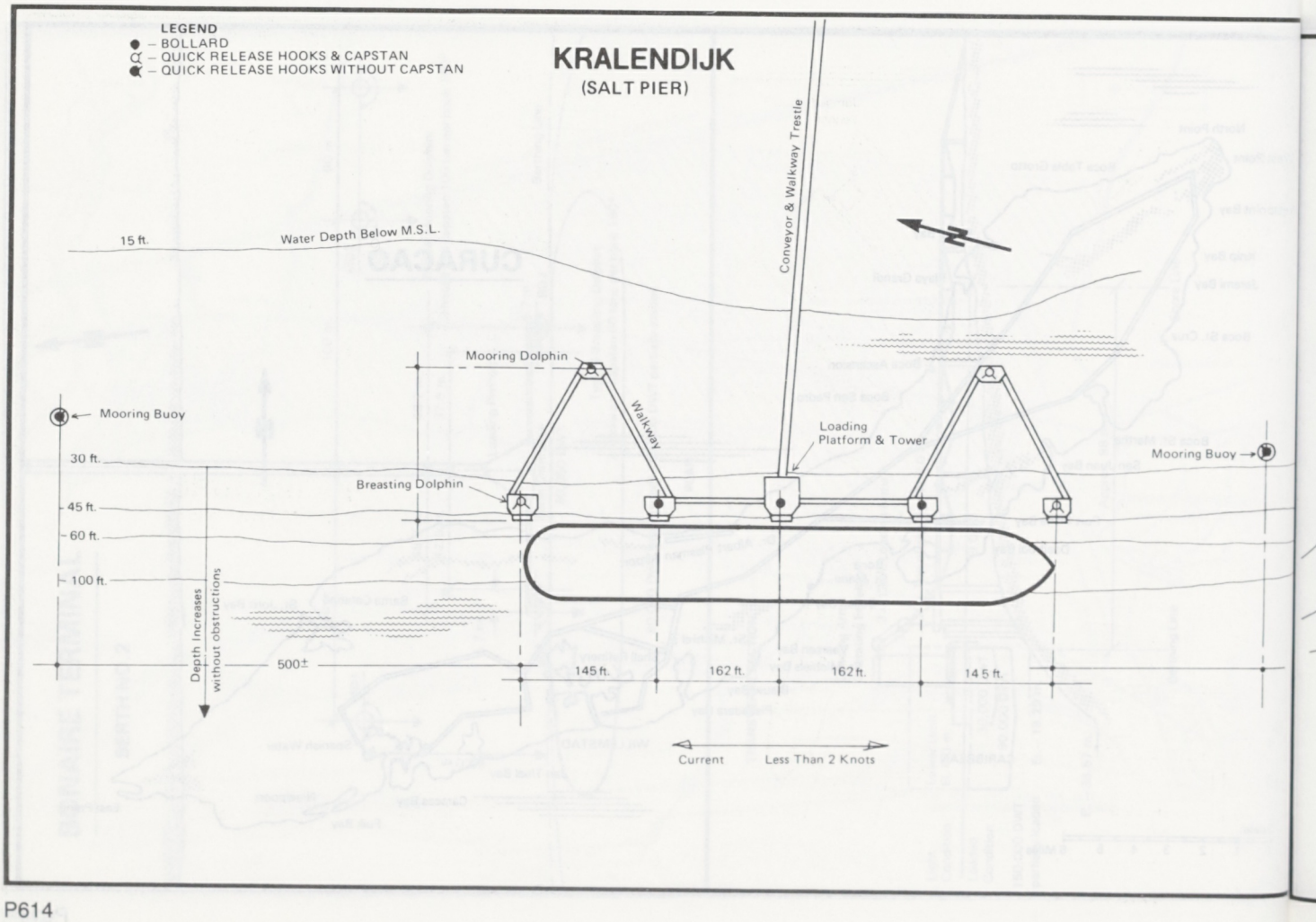
PIPELINES: Main track consists of 5 strings of 36" pipe. The jetties carry 2 strings of 36" pipe in a loop. The loading rate is up to 12,000 tons per hour. Tankers' discharge rate is up to 25,000 tons per hour.

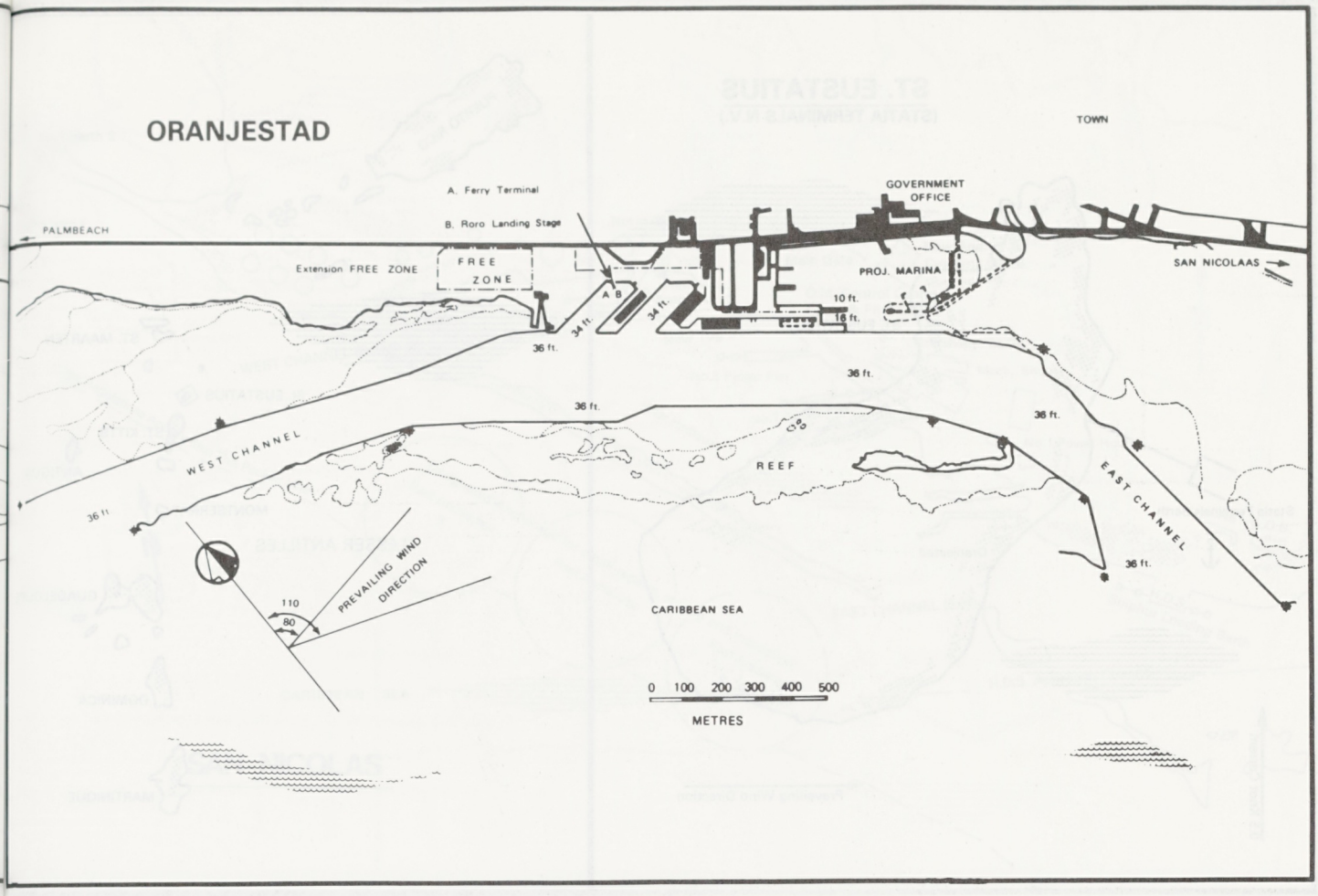
DEBALLASTING: Capacity 4,000 tons per hour per jetty. Ballast treatment produces affluent of less than 20 parts per million (20 ppm) oil content.

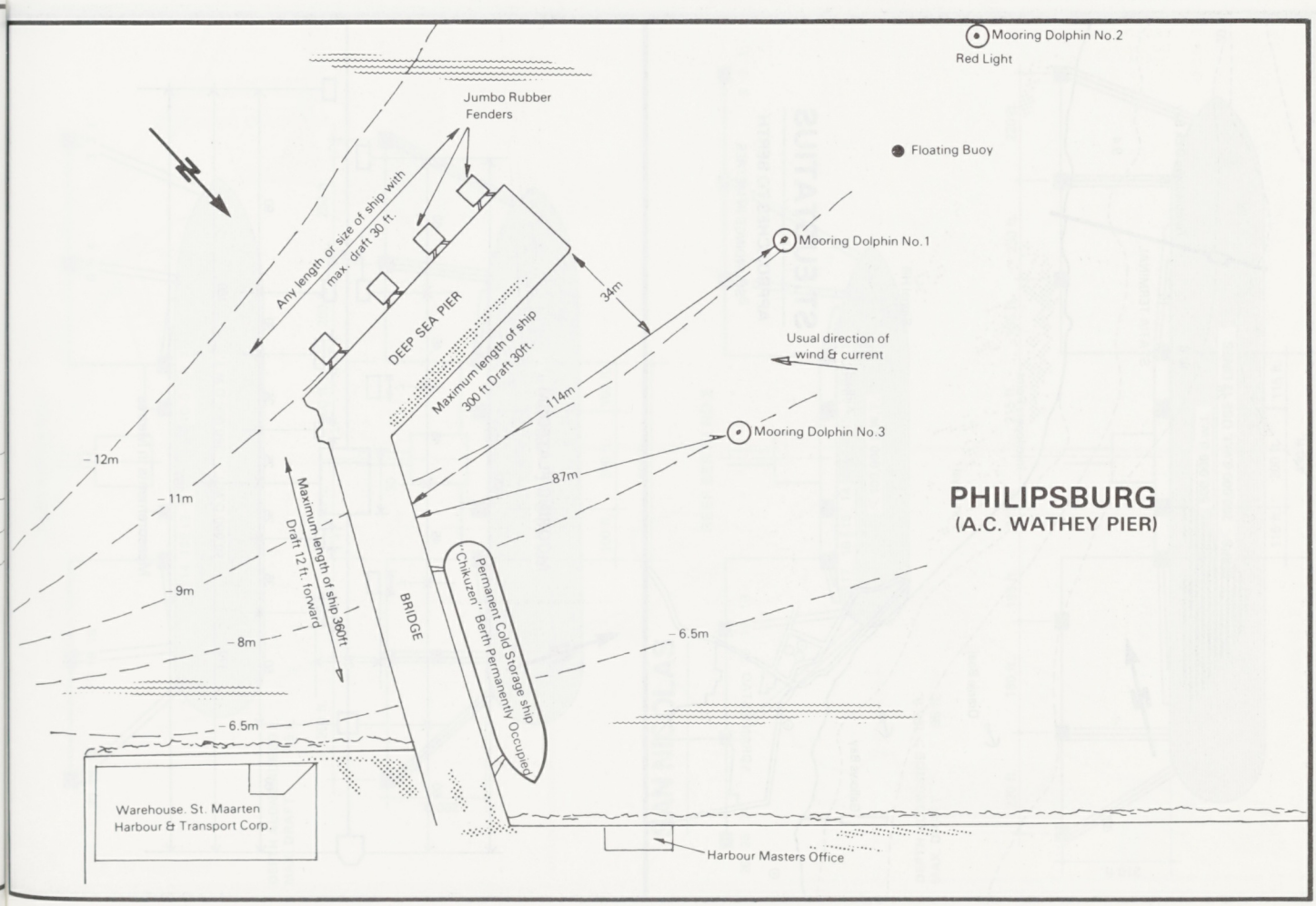
TUG SERVICE: Two tugs of 4,500 h.p. with 50 tons bollard pull each. One tug of 2,500 h.p. with 35 tons bollard pull.




KRALENDIJK
Customs
Harbour Office
Shore
Bollard
Ro/Ro
Rubber Fenders
Platform
Bollard
15 ft
20 ft
NORTH PIER
30 ft
Mooring Dolphin
Rubber Fenders
Ro/Ro
40 ft
SOUTH PIER
50 ft
15 ft
20 ft
30 ft
40 ft
50 ft.
Light Pole
Length 120 m.
N
Wind Direction
Wind Direction


LEGEND
● – BOLLARD
– QUICK RELEASE HOOKS & CAPSTAN
– QUICK RELEASE HOOKS WITHOUT CAPSTAN
KRALENDIJK
(SALT PIER)
Conveyor & Walkway Trestle
15 ft.
Water Depth Below M.S.L.
N
Mooring Dolphin
Mooring Buoy
Walkway
Loading Platform & Tower
Mooring Buoy
30 ft.
Breasting Dolphin
45 ft.
60 ft.
100 ft.
Depth Increases without obstructions
500±
145 ft.
162 ft.
162 ft.
145 ft.
Current
Less Than 2 Knots


ORANJESTAD
TOWN
A. Ferry Terminal
B. Roro Landing Stage
GOVERNMENT OFFICE
PALMBEACH
Extension FREE ZONE
FREE ZONE
PROJ. MARINA
SAN NICOLAAS
A B
34 ft.
34 ft.
10 ft.
16 ft.
36 ft.
36 ft.
36 ft.
36 ft.
36 ft.
WEST CHANNEL
REEF
EAST CHANNEL
PREVAILING WIND DIRECTION
110
80
CARIBBEAN SEA
0 100 200 300 400 500
METRES


Mooring Dolphin No.2
Red Light
Jumbo Rubber Fenders
Floating Buoy
Any length or size of ship with max. draft 30 ft.
Mooring Dolphin No.1
DEEP SEA PIER
34m
Maximum length of ship 300 ft Draft 30ft.
Usual direction of wind & current
114m
Mooring Dolphin No.3
87m
PHILIPSBURG
(A.C. WATHEY PIER)
12m
11m
9m
8m
6.5m
Maximum length of ship 360ft Draft 12 ft. forward
BRIDGE
Permanent Cold Storage ship "Chikuzen" Berth Permanently Occupied
6.5m
Warehouse. St. Maarten Harbour & Transport Corp.
Harbour Masters Office

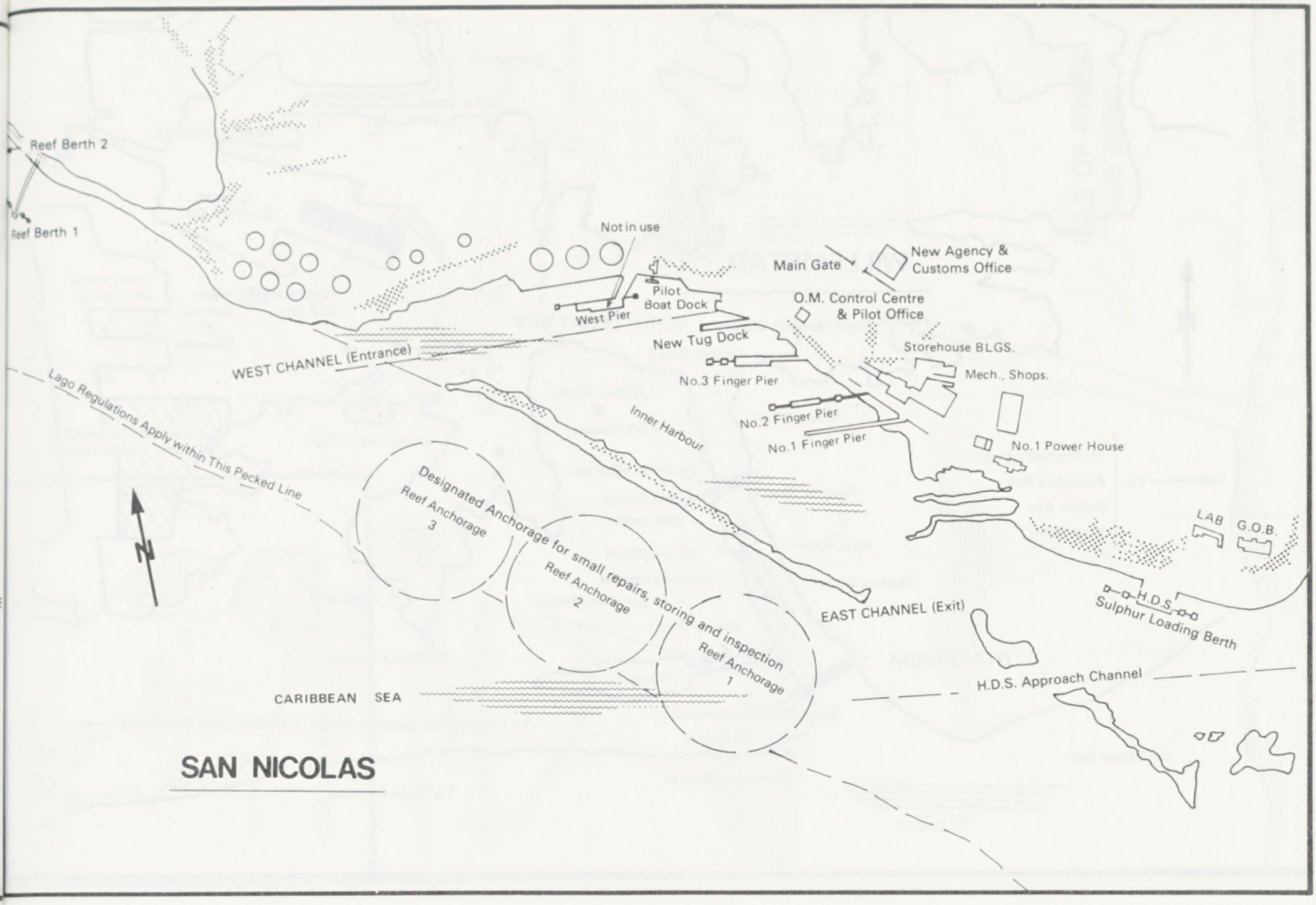
ST. EUSTATIUS
(STATIA TERMINALS N.V.)

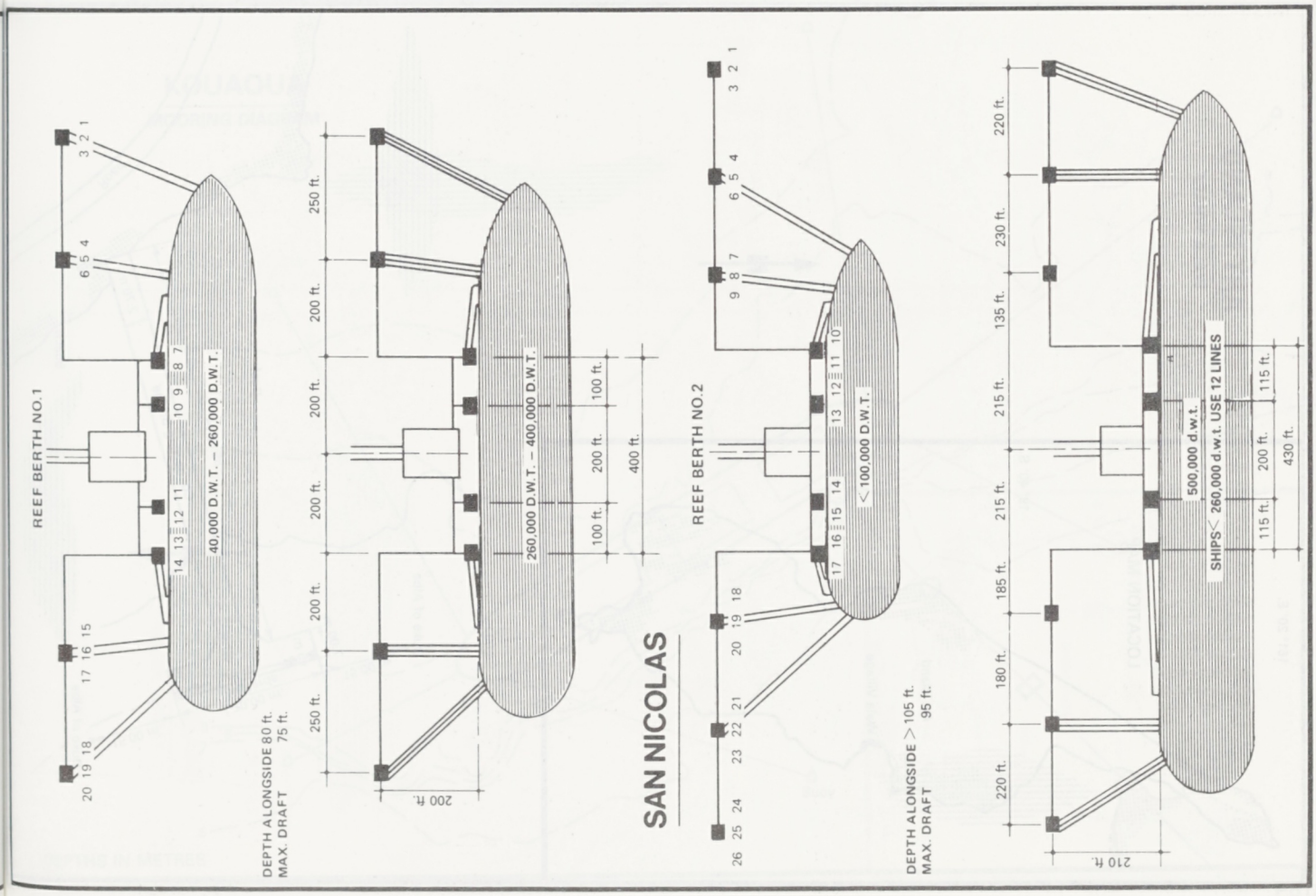
ST.EUSTATIUS

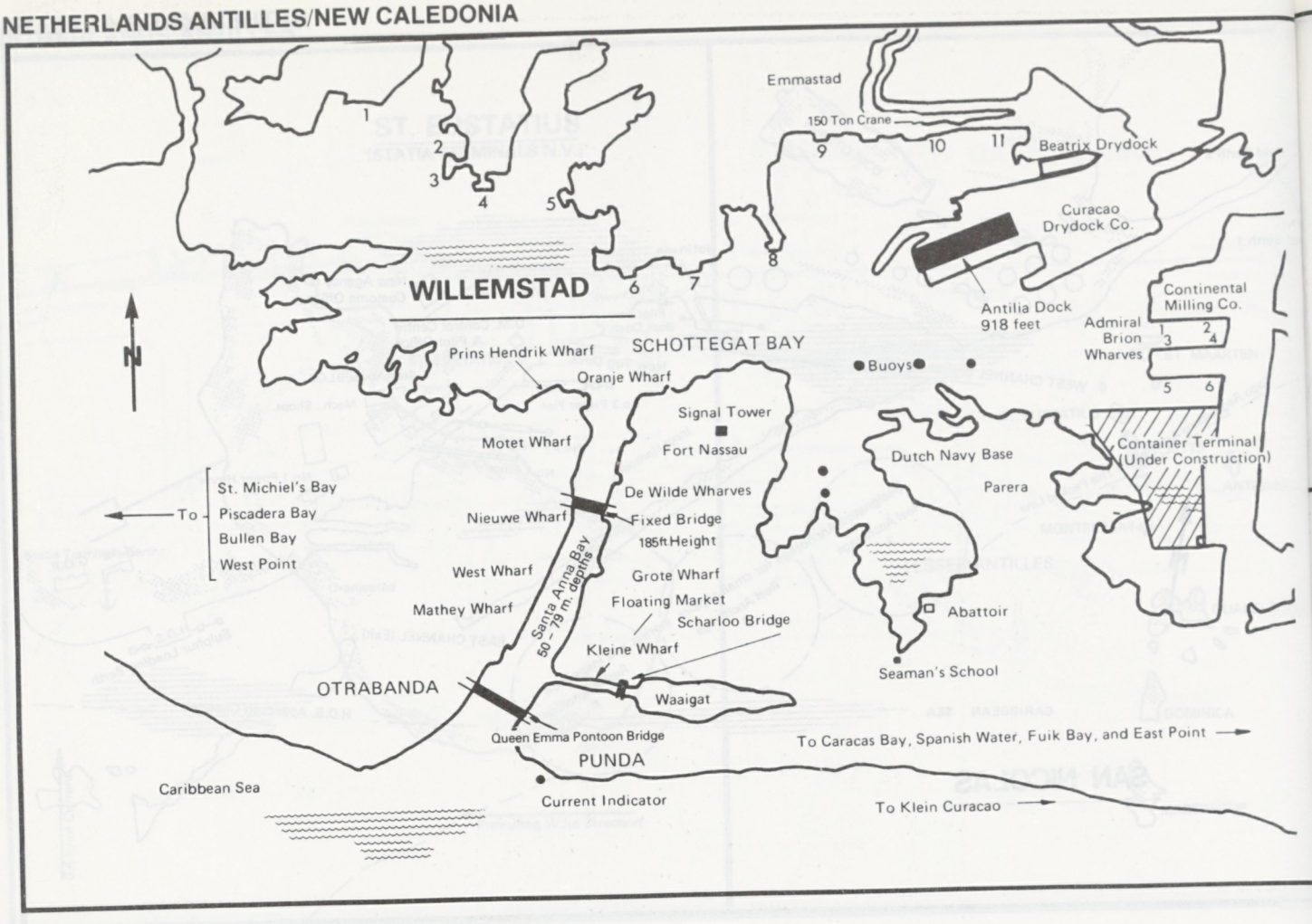
APPROACHES TO BERTH

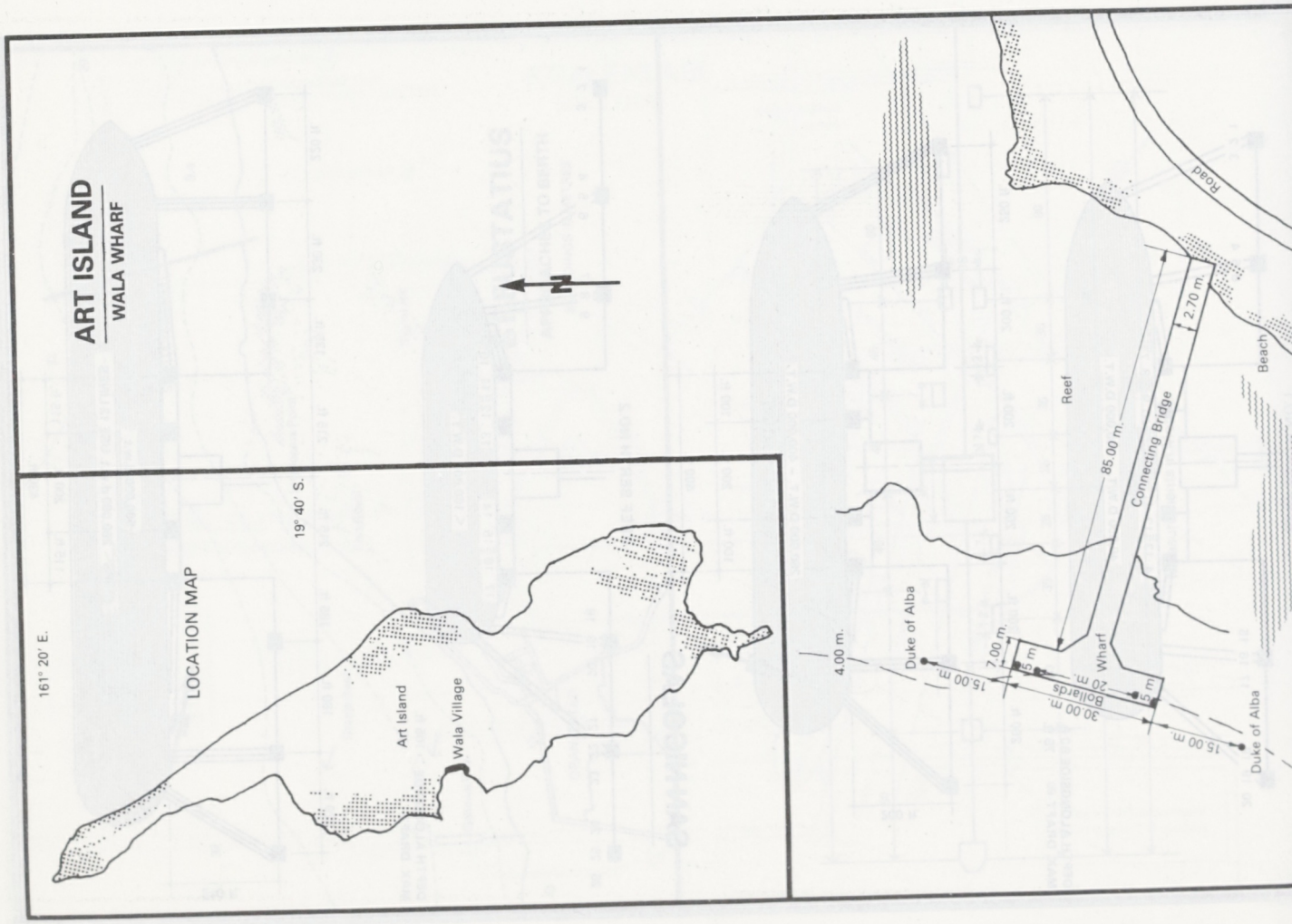
SOUNDINGS IN METRES

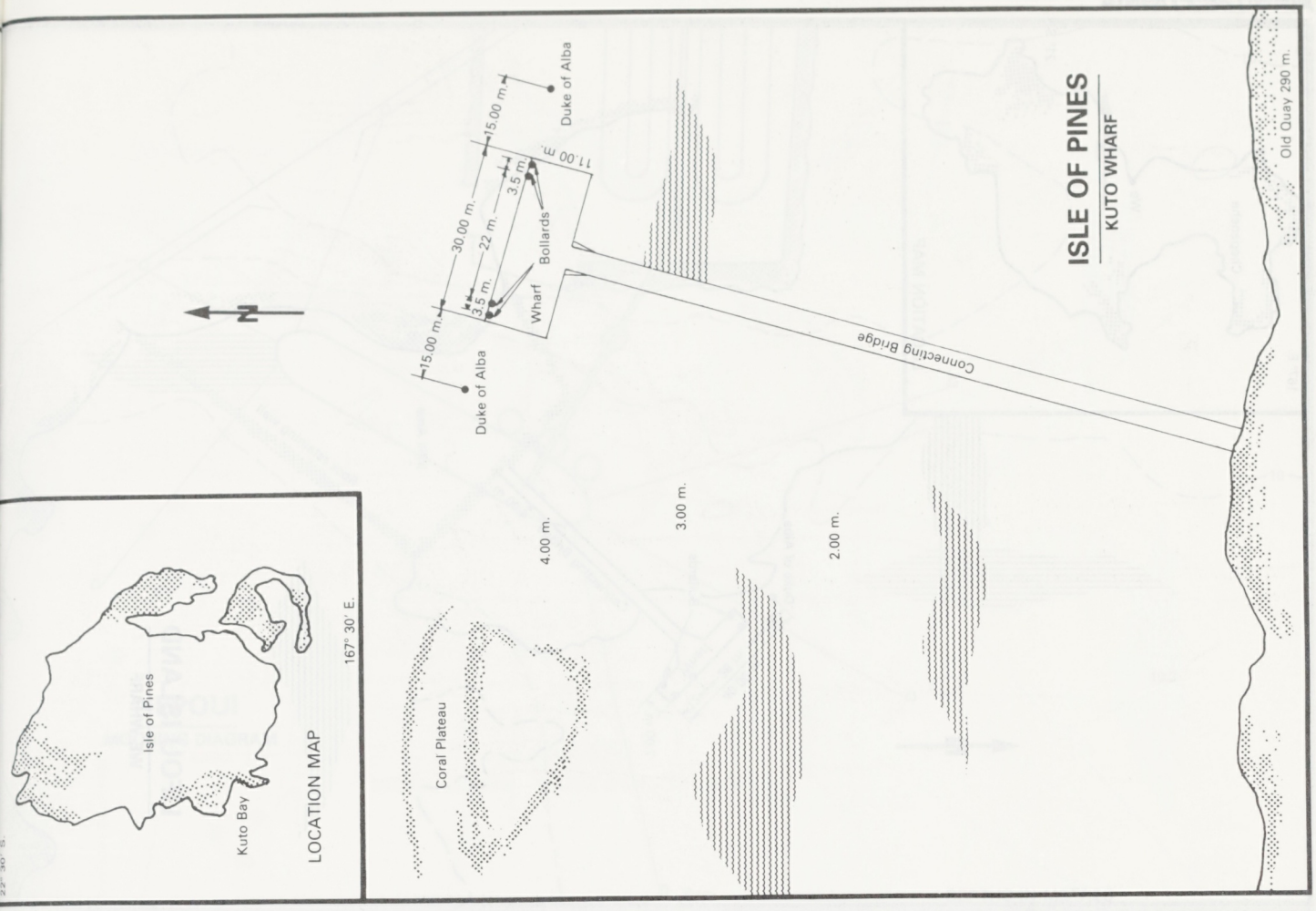
Measurements in Metres

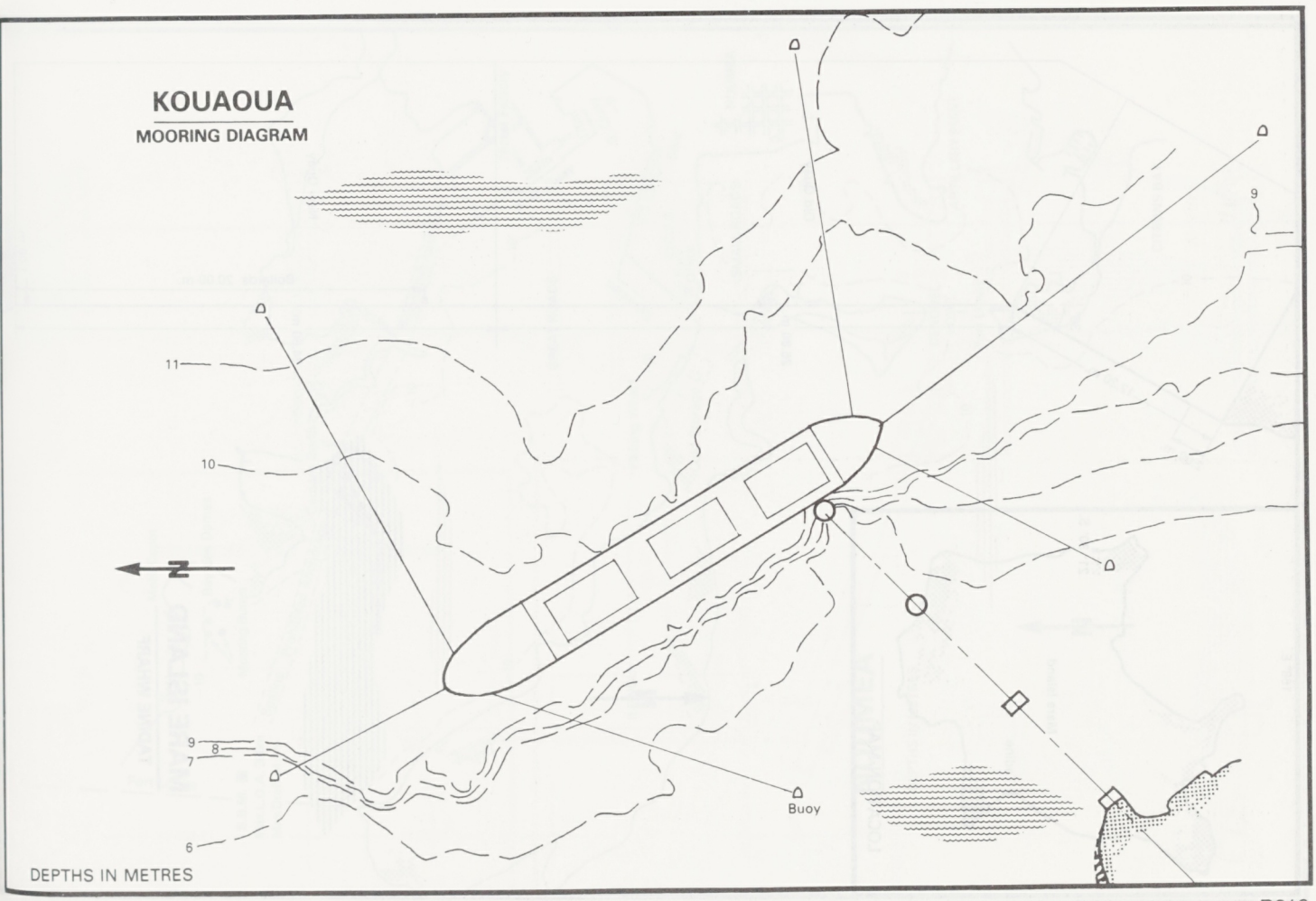

Reef Berth 2
Reef Berth 1
Not in use
West Pier
Pilot Boat Dock
Main Gate
New Agency & Customs Office
O.M. Control Centre & Pilot Office
New Tug Dock
Storehouse BLGS.
Mech., Shops.
WEST CHANNEL (Entrance)
No.3 Finger Pier
No.2 Finger Pier
No.1 Finger Pier
No.1 Power House
Inner Harbour
Lago Regulations Apply within This Pecked Line
Designated Anchorage for small repairs, storing and inspection
Reef Anchorage 3
Reef Anchorage 2
Reef Anchorage 1
LAB
G.O.B.
H.D.S.
Sulphur Loading Berth
EAST CHANNEL (Exit)
H.D.S. Approach Channel
CARIBBEAN SEA
SAN NICOLAS

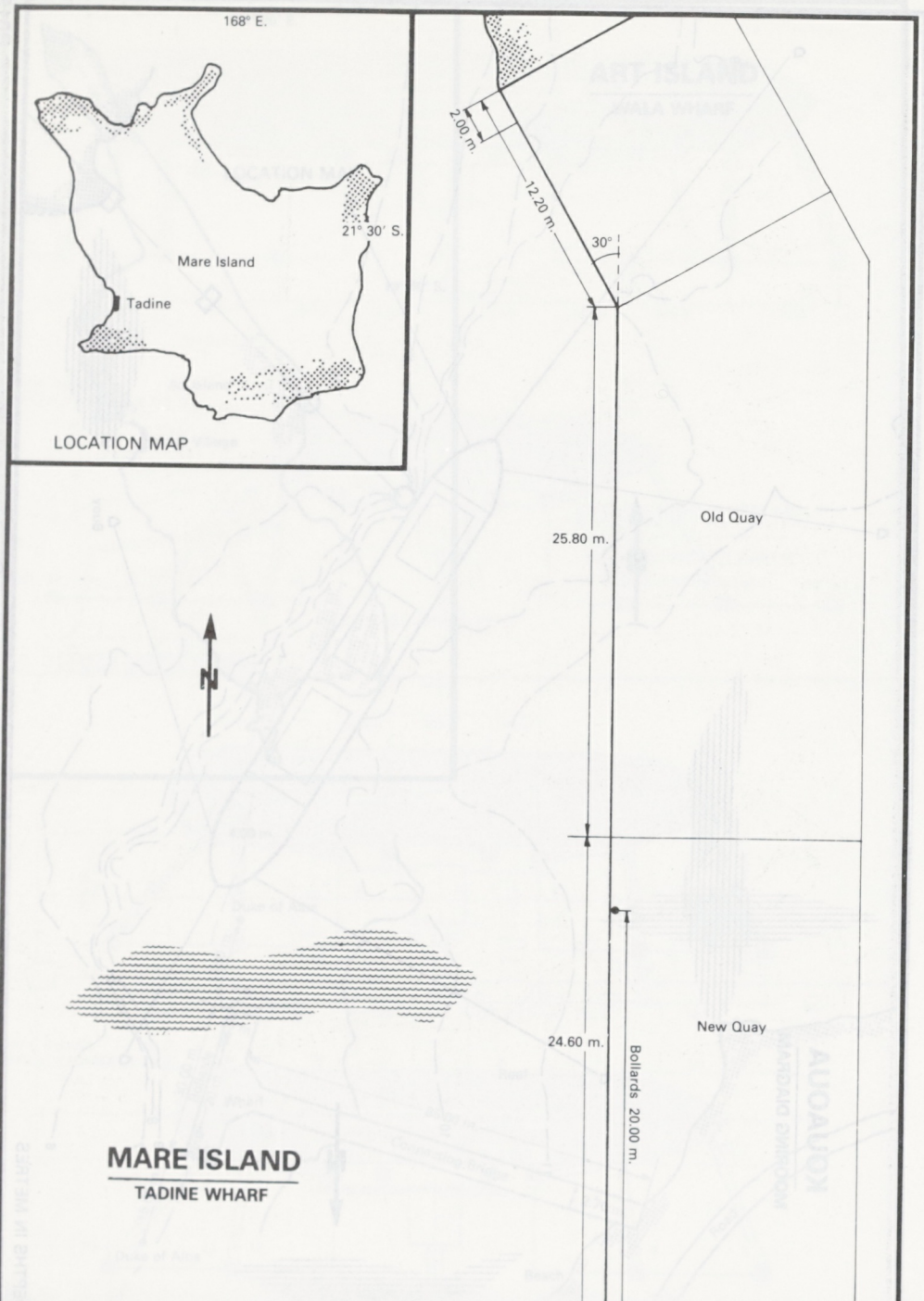

REEF BERTH NO.1
40,000 D.W.T. – 260,000 D.W.T.
260,000 D.W.T. – 400,000 D.W.T.
DEPTH ALONGSIDE 80 ft.
MAX. DRAFT 75 ft.
200 ft.
100 ft.
200 ft.
400 ft.
SAN NICOLAS
REEF BERTH NO.2
< 100,000 D.W.T.
DEPTH ALONGSIDE > 105 ft.
MAX. DRAFT 95 ft.
500,000 d.w.t.
SHIPS < 260,000 d.w.t. USE 12 LINES
210 ft.
115 ft.
200 ft.
115 ft.
430 ft.


Emmastad
150 Ton Crane
Beatrix Drydock
Curacao Drydock Co.
Antilia Dock 918 feet
Continental Milling Co.
Admiral Brion Wharves
WILLEMSTAD
SCHOTTEGAT BAY
Prins Hendrik Wharf
Oranje Wharf
Buoys
Signal Tower
Fort Nassau
Motet Wharf
Container Terminal (Under Construction)
Dutch Navy Base
Parera
De Wilde Wharves
Fixed Bridge 185ft Height
Nieuwe Wharf
St. Michiel's Bay
Piscadera Bay
Bullen Bay
West Point
To
West Wharf
Grote Wharf
Santa Anna Bay 50 – 79 m depths
Mathey Wharf
Floating Market
Scharloo Bridge
Abattoir
Kleine Wharf
Seaman's School
OTRABANDA
Waaigat
Queen Emma Pontoon Bridge
PUNDA
To Caracas Bay, Spanish Water, Fuik Bay, and East Point
Caribbean Sea
Current Indicator
To Klein Curacao

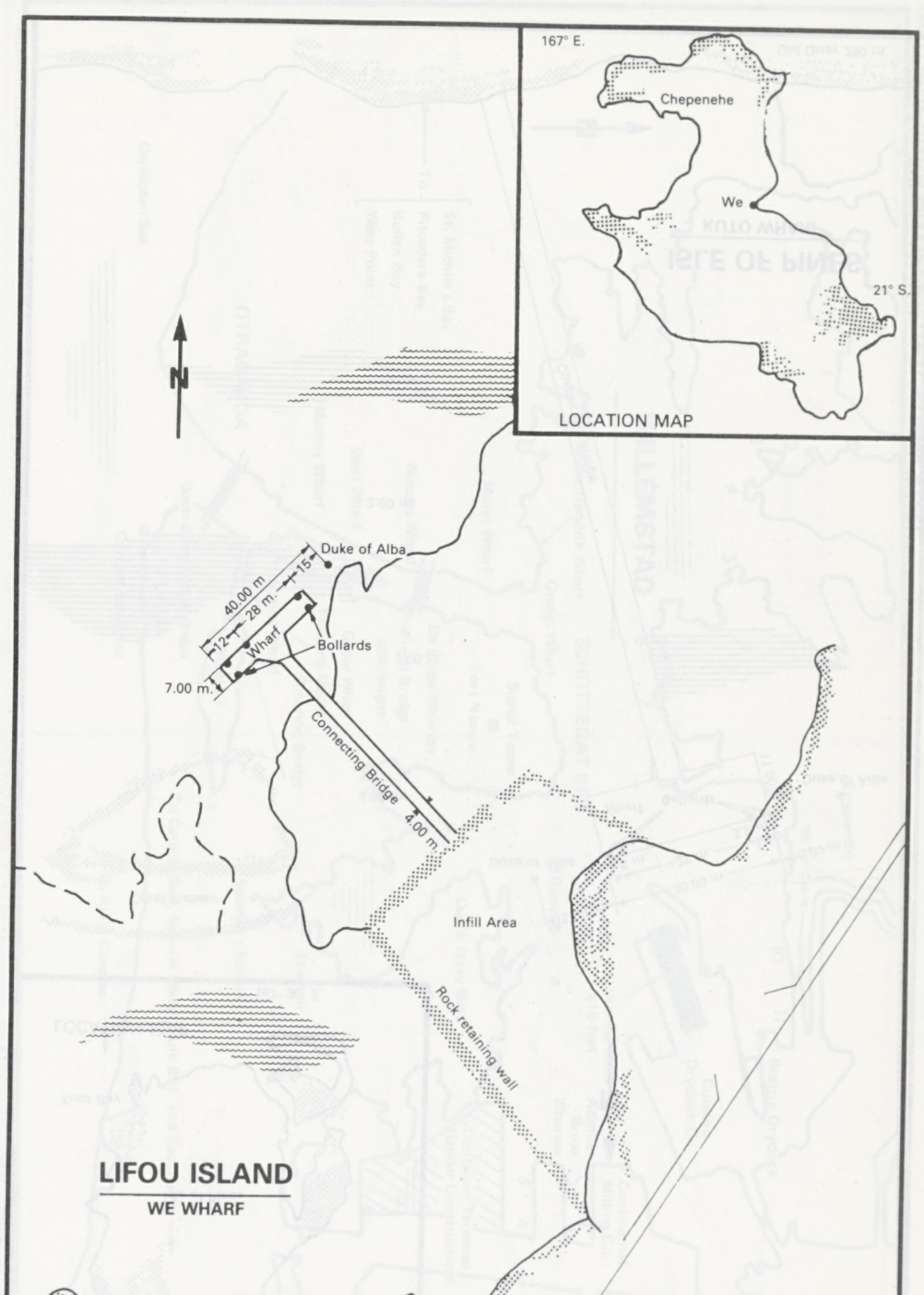

ART ISLAND
WALA WHARF
LOCATION MAP
161° 20' E.
19° 40' S.
Art Island
Wala Village
Road
Reef
Beach
2.70 m.
85.00 m.
Connecting Bridge
Duke of Alba
4.00 m.
7.00 m.
Wharf
Bollards
15.00 m.
30.00 m.
20 m.
Duke of Alba


ISLE OF PINES
KUTO WHARF
Old Quay 290 m.
Connecting Bridge
Duke of Alba
15.00 m.
11.00 m.
3.5 m.
30.00 m.
22 m.
3.5 m.
Bollards
Wharf
Duke of Alba
15.00 m.
4.00 m.
3.00 m.
2.00 m.
Coral Plateau
LOCATION MAP
Isle of Pines
Kuto Bay
167° 30' E.
22° 30' S

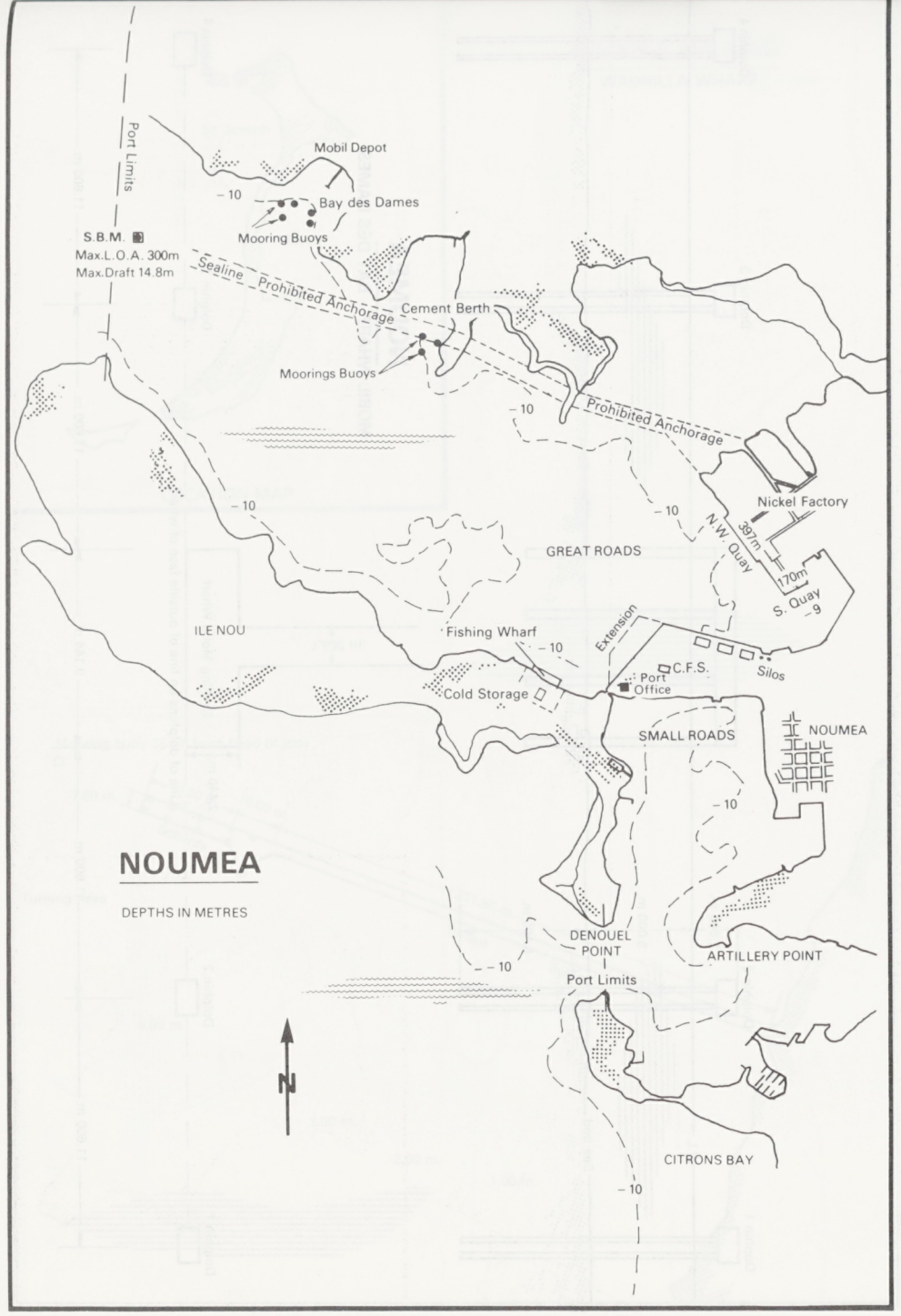

KOUAOUA
MOORING DIAGRAM
9
11
10
9
8
7
6
Buoy
DEPTHS IN METRES

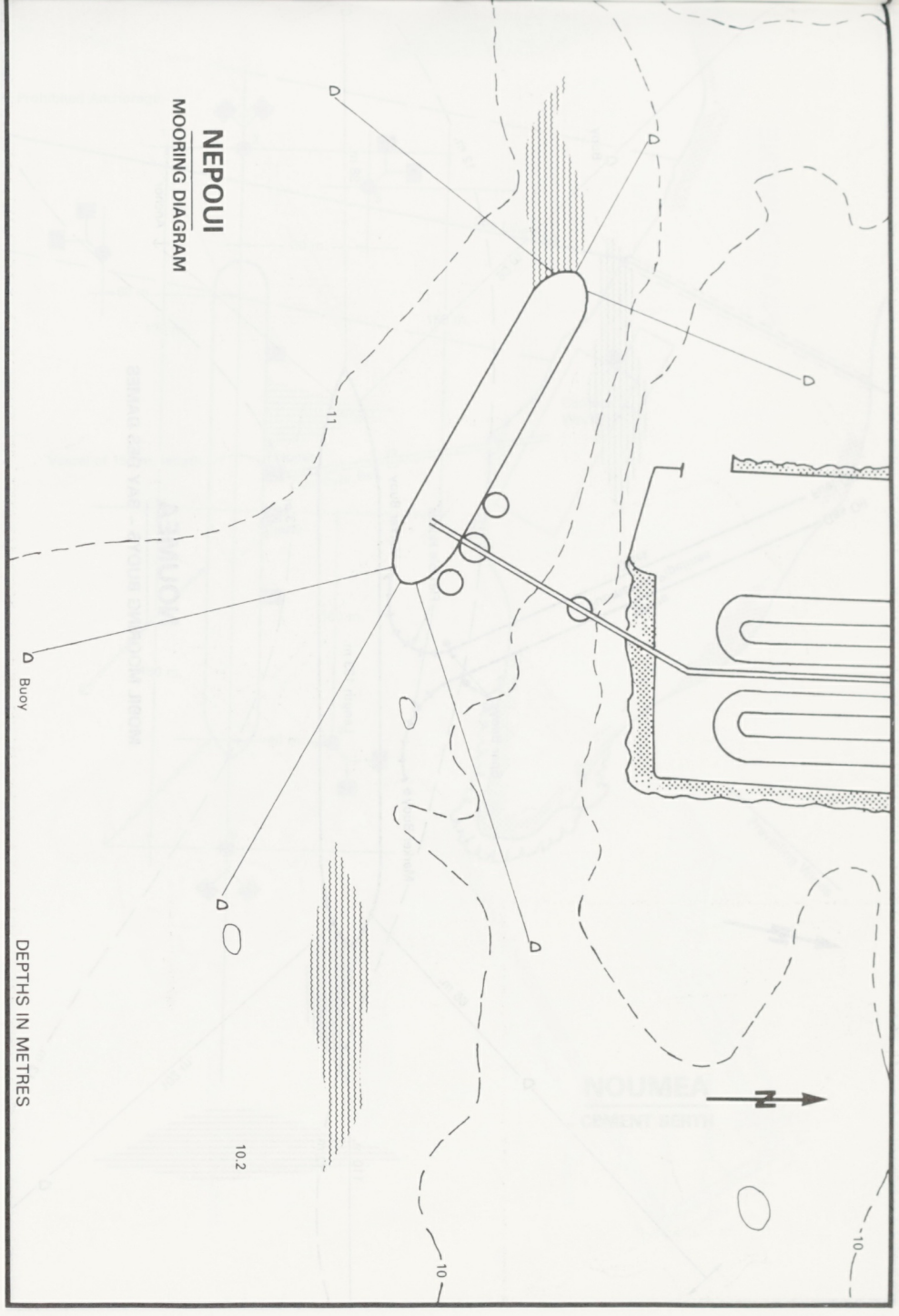


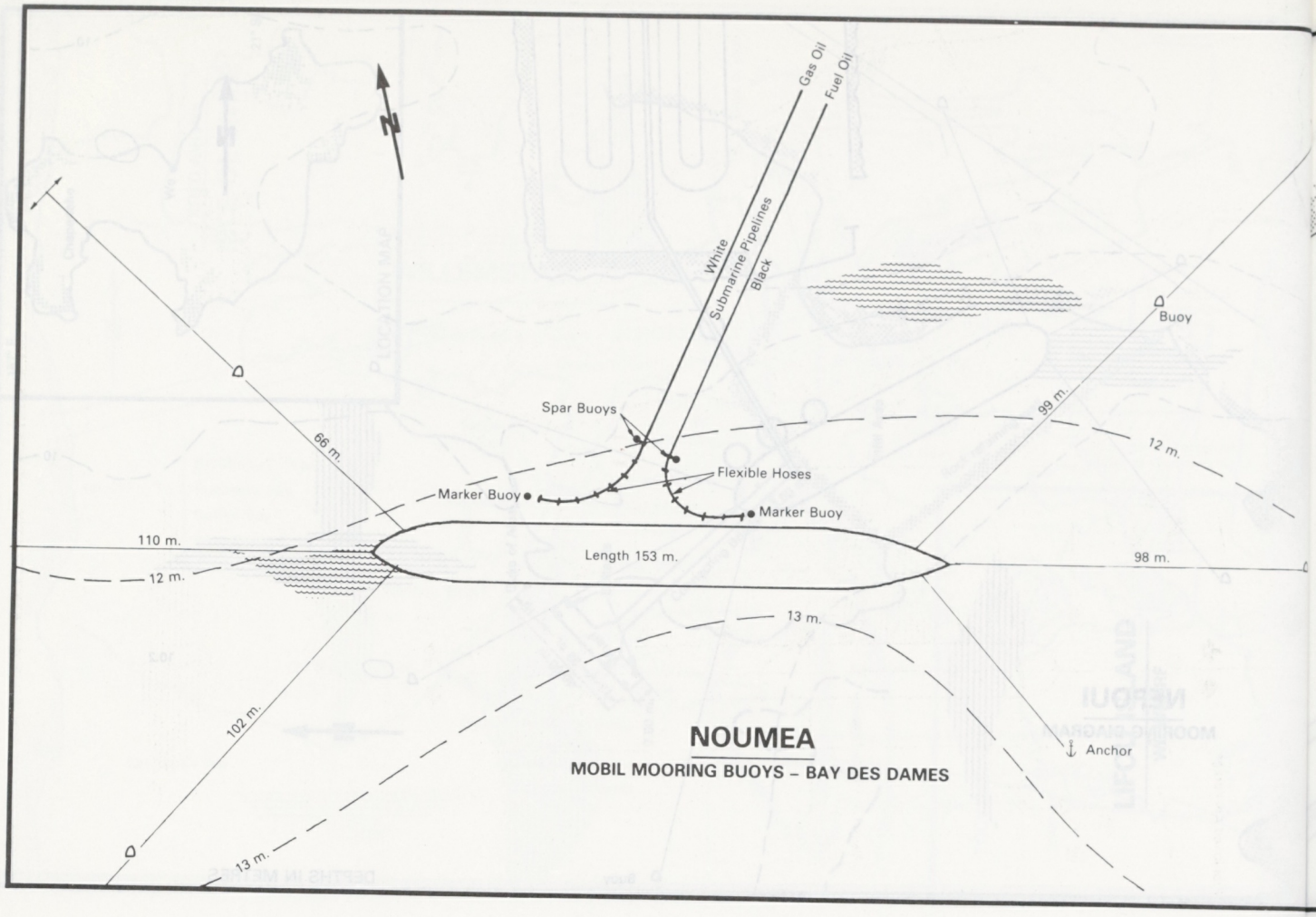
MARE ISLAND
TADINE WHARF



LIFOU ISLAND
WE WHARF

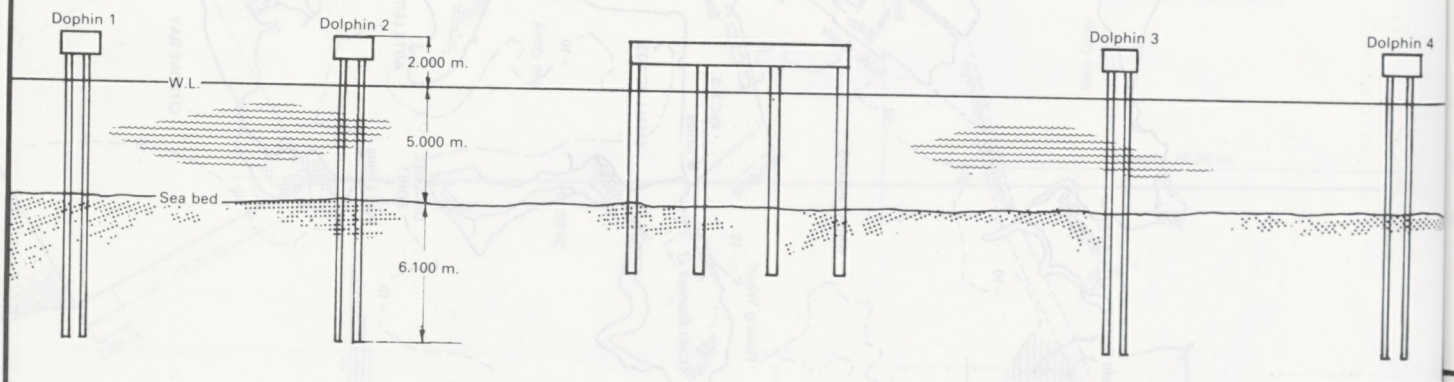

Port Limits
Mobil Depot
10
Bay des Dames
Mooring Buoys
S.B.M.
Max.L.O.A. 300m
Max.Draft 14.8m
Sealine
Prohibited Anchorage
Cement Berth
Moorings Buoys
Prohibited Anchorage
10
10
10
Nickel Factory
N.W. Quay
397m
170m
S. Quay
9
GREAT ROADS
ILE NOU
Fishing Wharf
10
Extension
C.F.S.
Port Office
Silos
Cold Storage
SMALL ROADS
NOUMEA
10
NOUMEA
DEPTHS IN METRES
DENOUEL POINT
ARTILLERY POINT
Port Limits
10
N
CITRONS BAY
10


NEPOUI
MOORING DIAGRAM
11
Buoy
DEPTHS IN METRES
10.2
10
10
N
NEW CALEDONIA



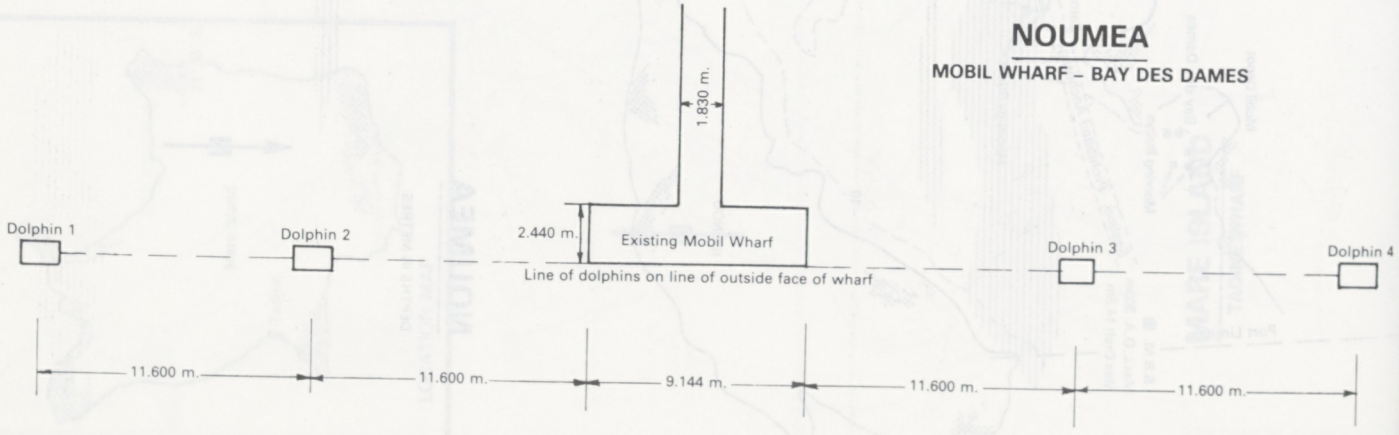
NOUMEA

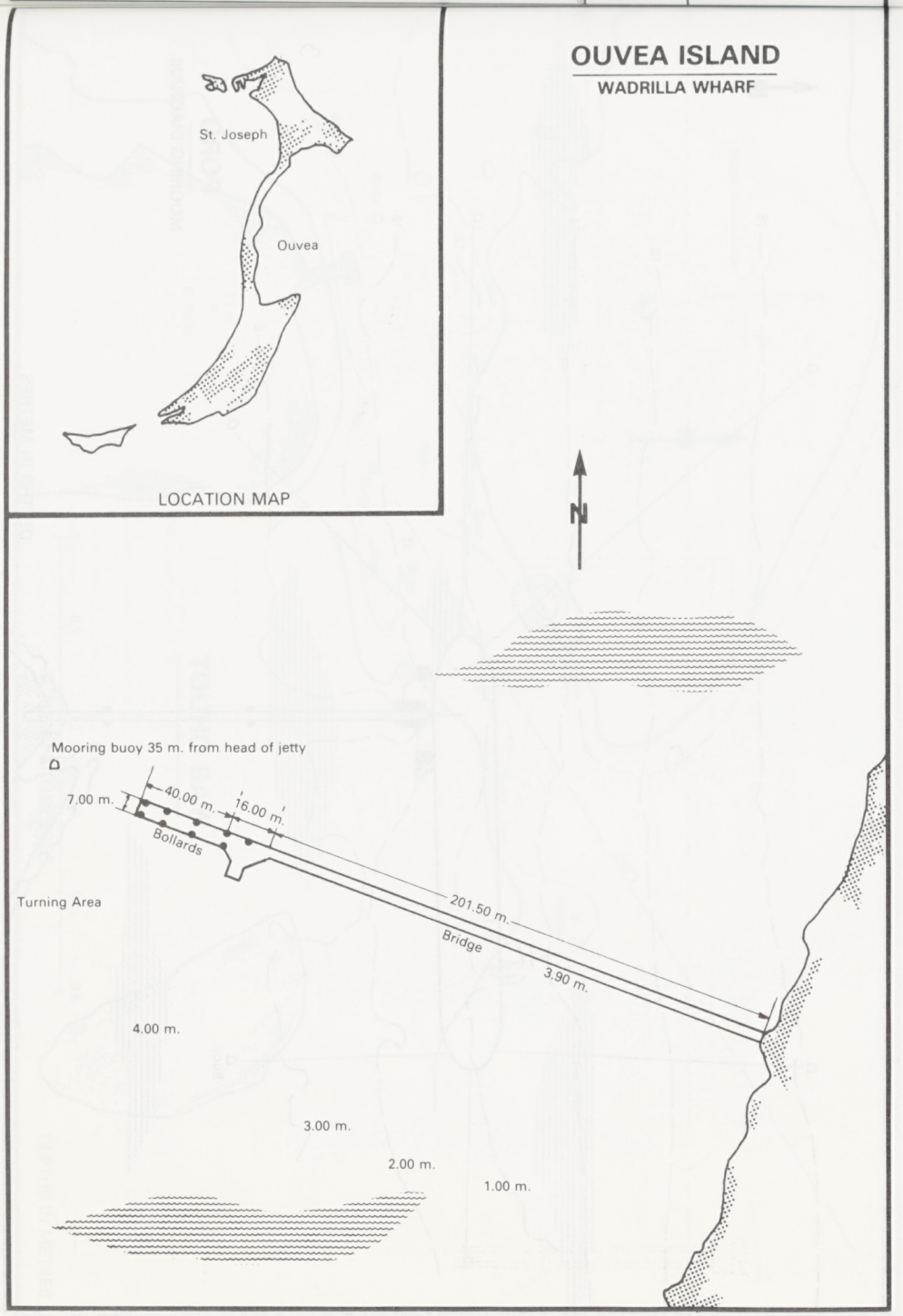
MOBIL MOORING BUOYS – BAY DES DAMES

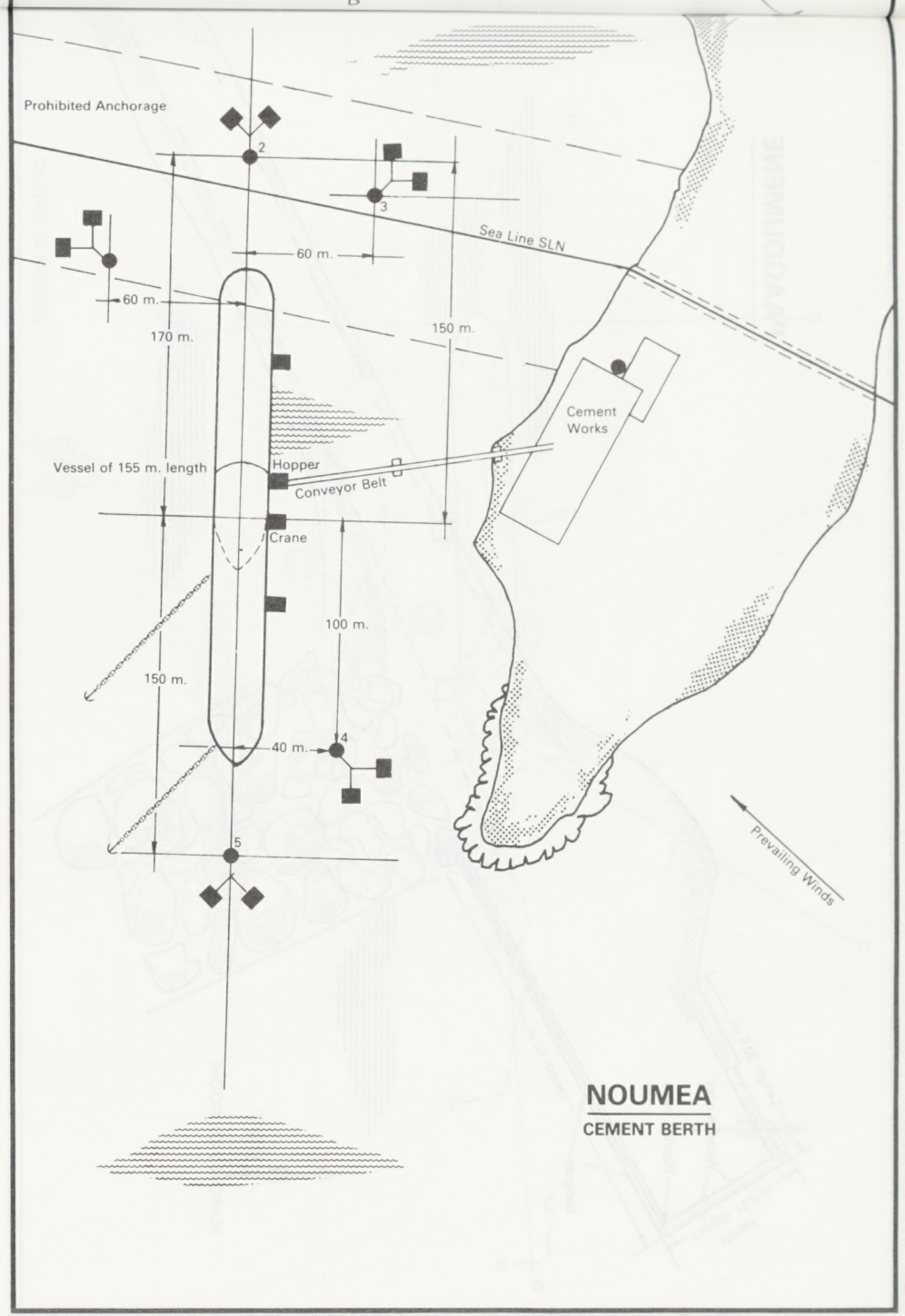


NOUMEA

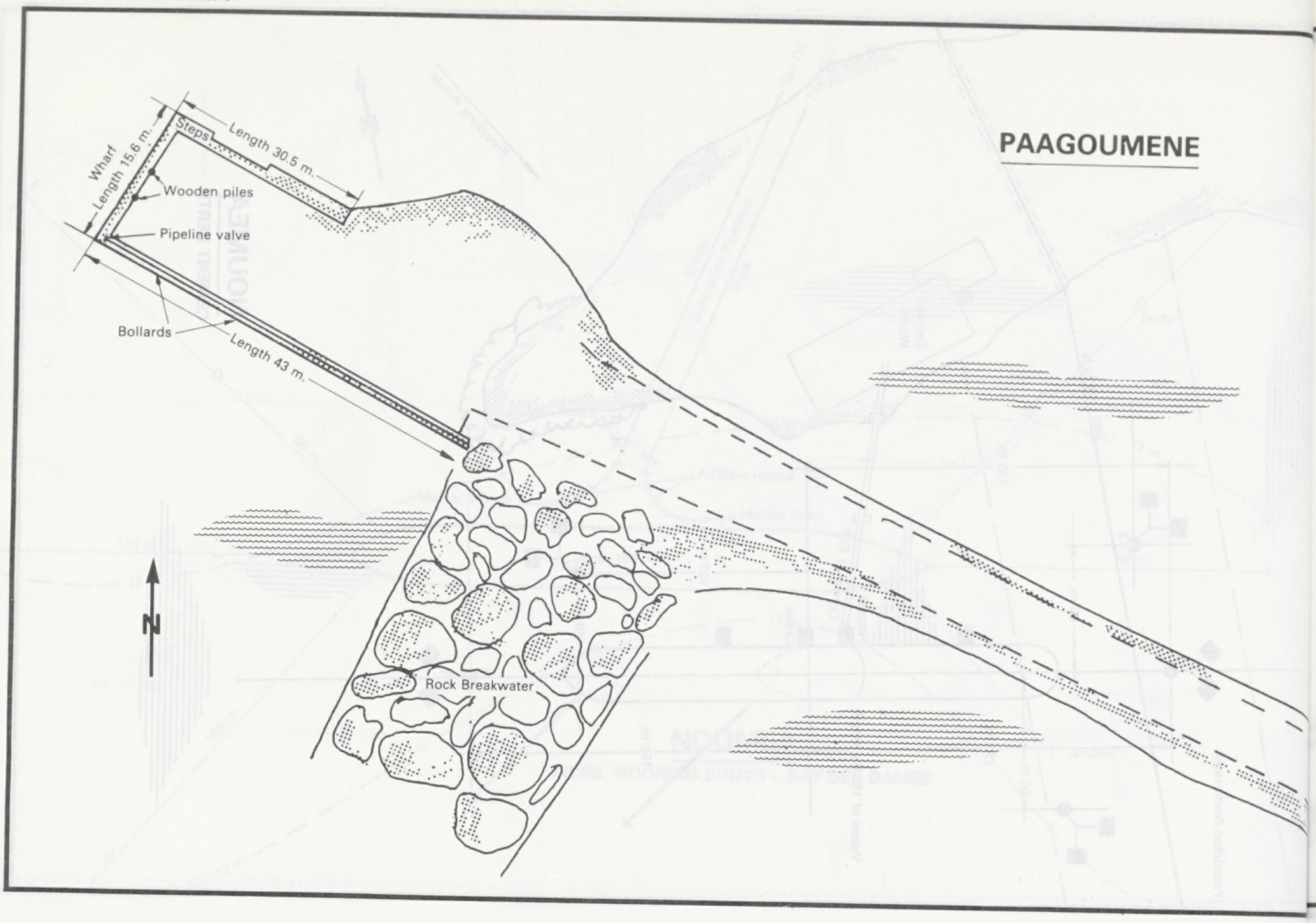
MOBIL WHARF – BAY DES DAMES

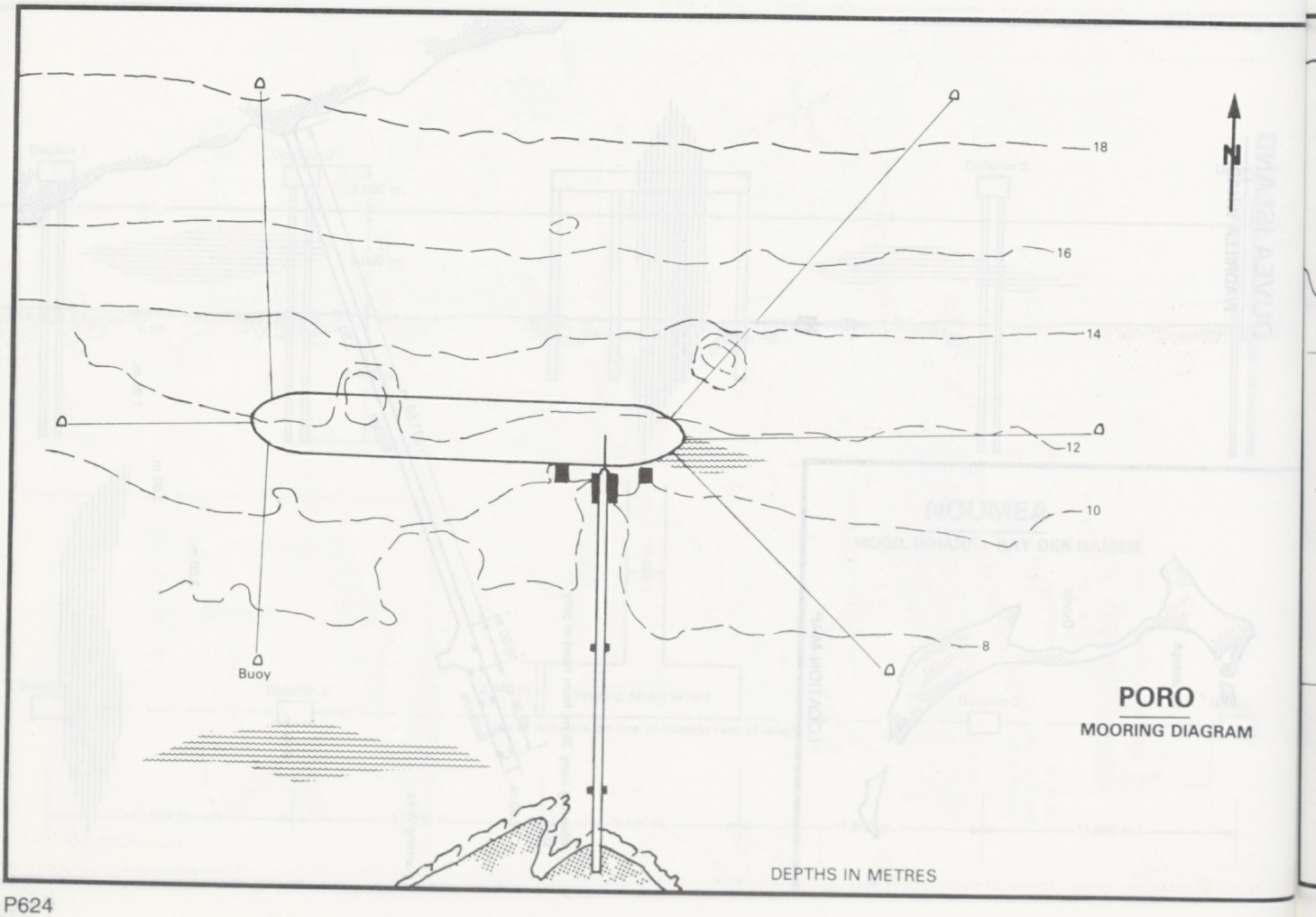


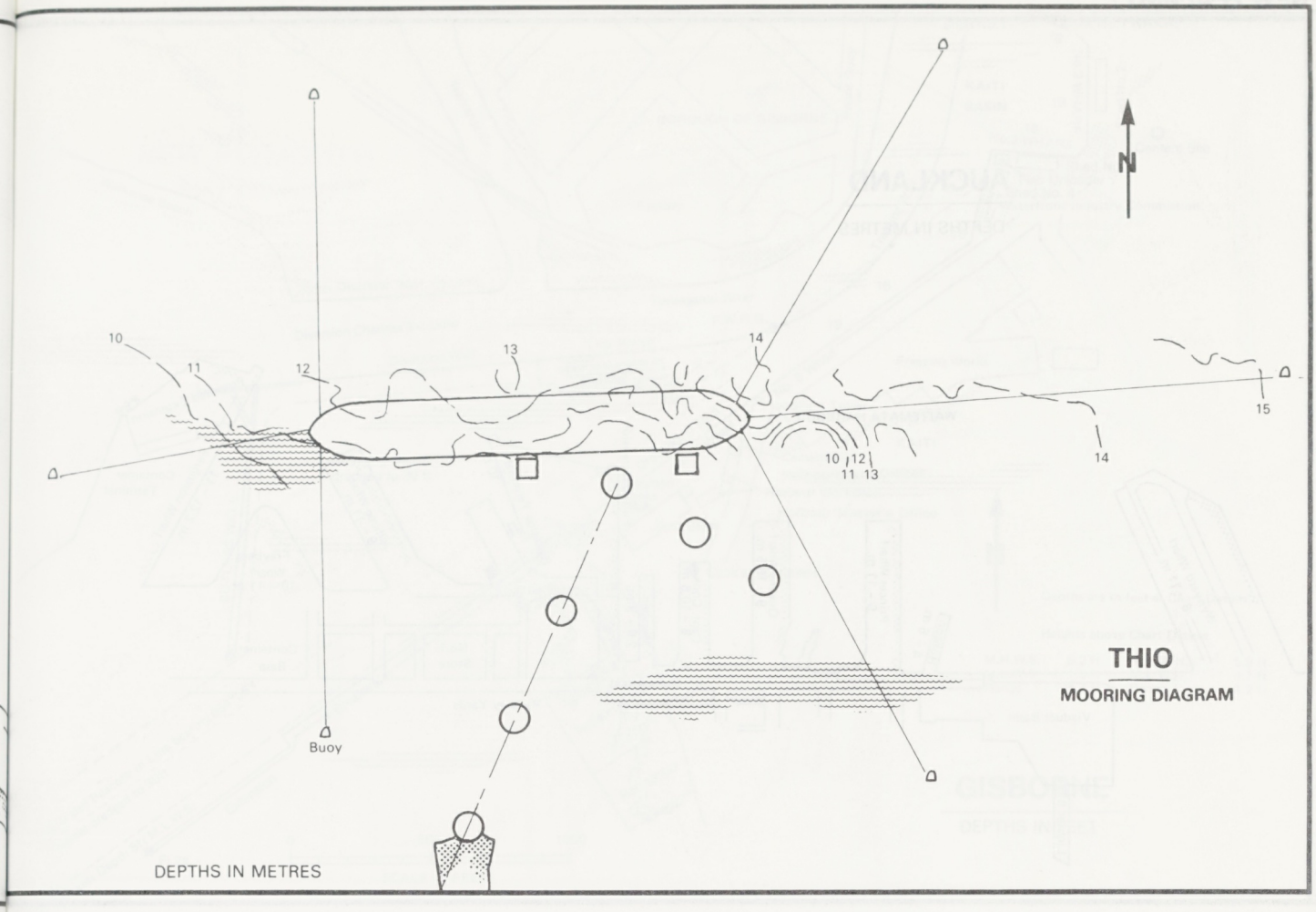




NEW CALEDONIA

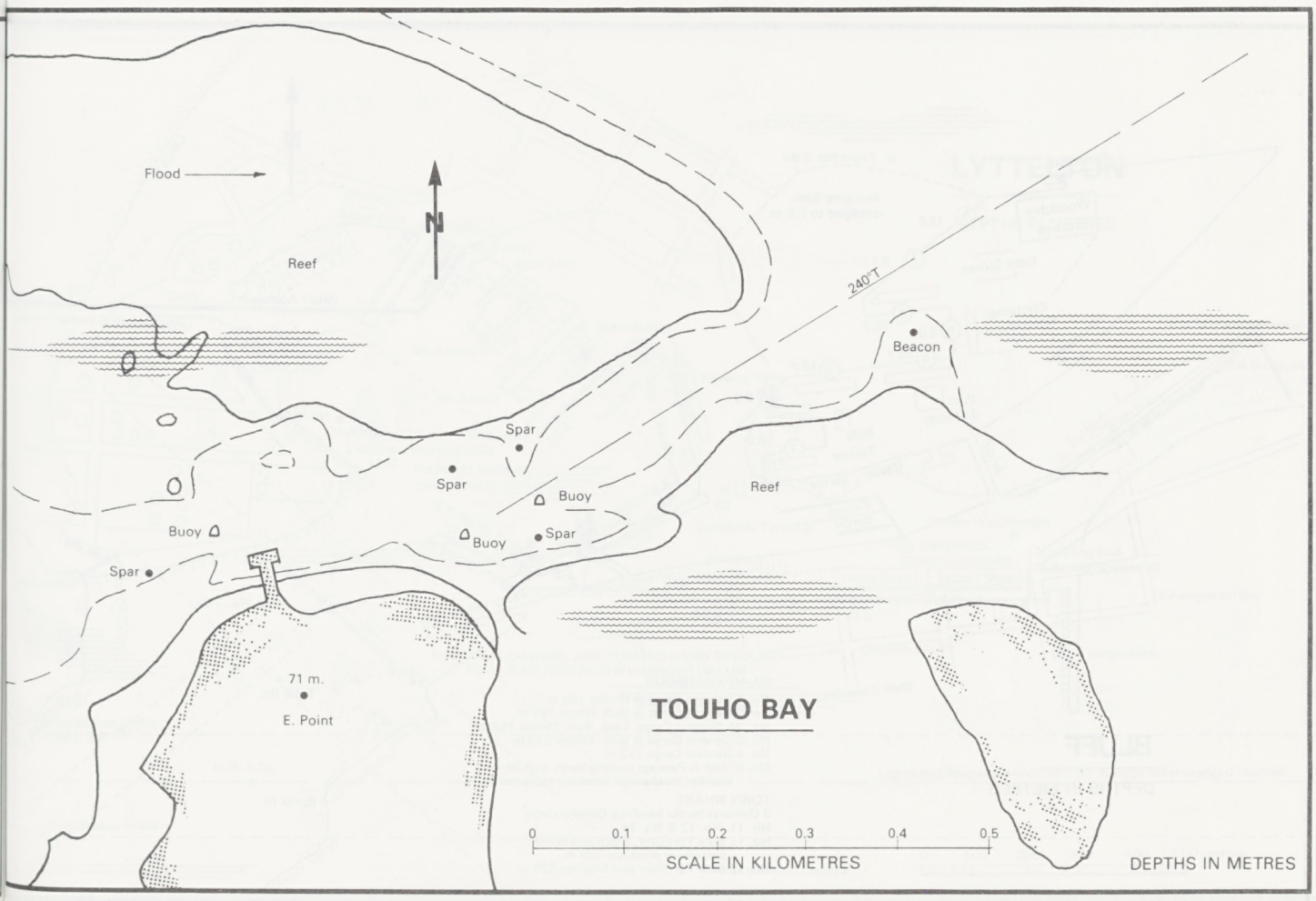

PAAGOUMENE
Wharf
Length 15.6 m.
Steps
Length 30.5 m.
Wooden piles
Pipeline valve
Bollards
Length 43 m.
N
Rock Breakwater


18
16
14
12
10
8
N
Buoy
PORO
MOORING DIAGRAM
DEPTHS IN METRES



THIO

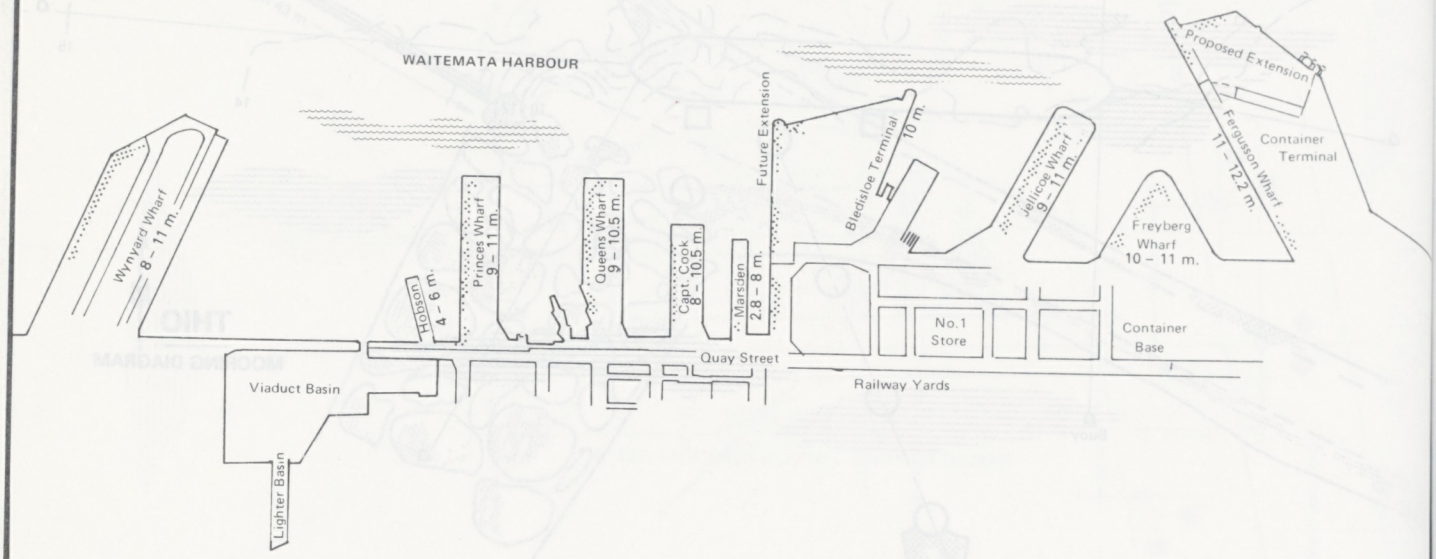
MOORING DIAGRAM



TOUHO BAY

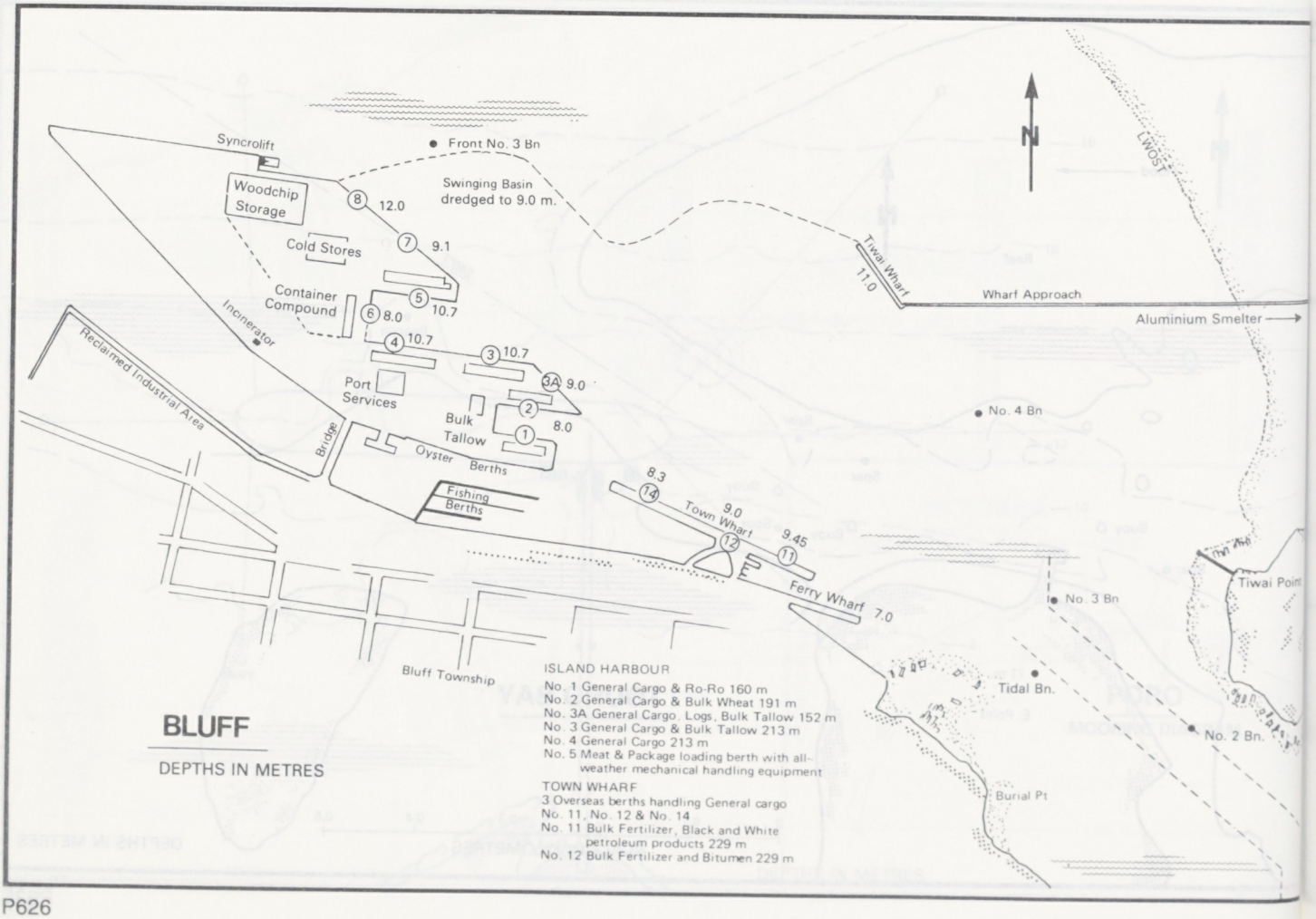
AUCKLAND

DEPTHS IN METRES



BLUFF

DEPTHS IN METRES

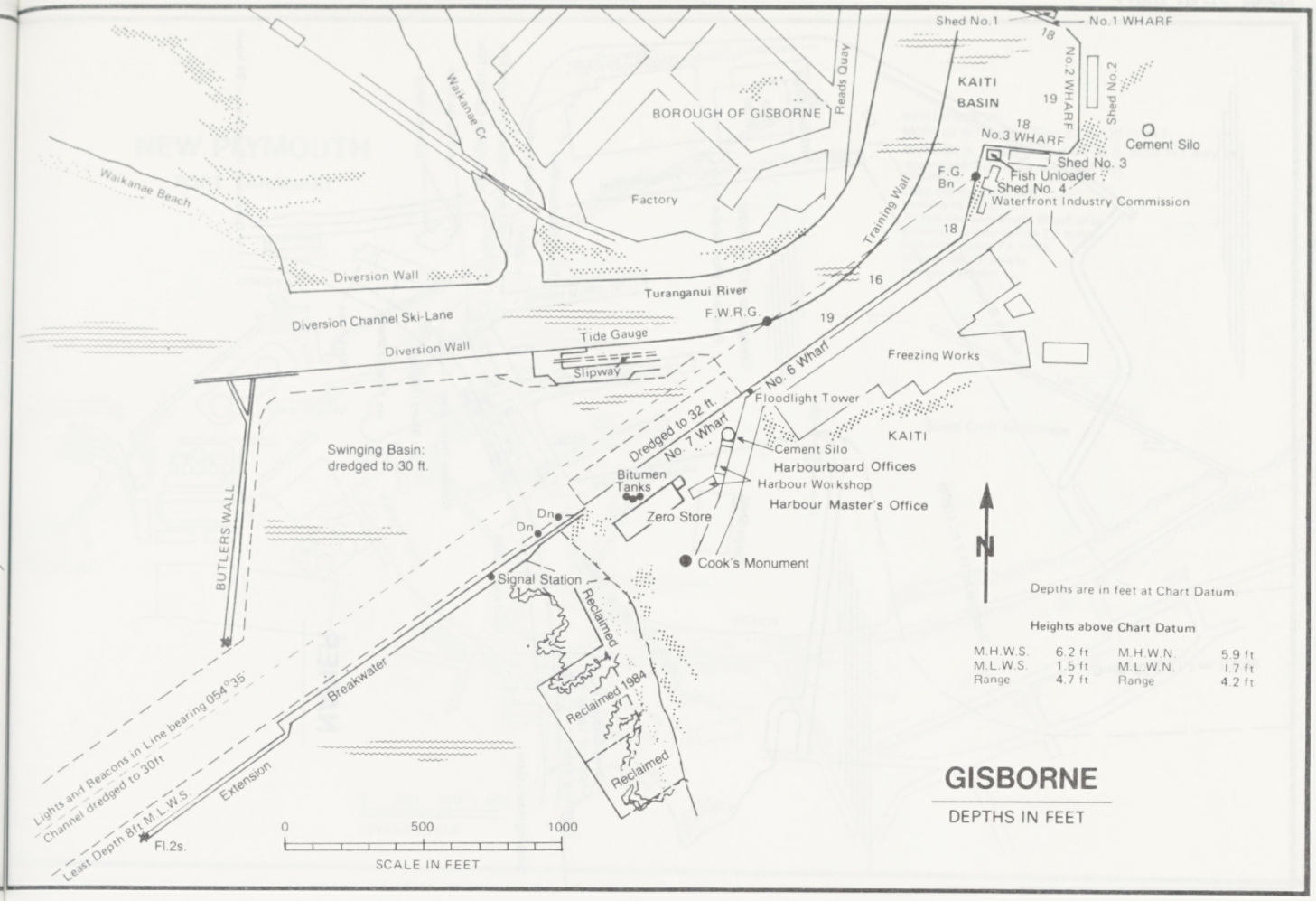


ISLAND HARBOUR

No. 1 General Cargo & Ro-Ro 160 m
No. 2 General Cargo & Bulk Wheat 191 m
No. 3A General Cargo, Logs, Bulk Tallow 152 m
No. 3 General Cargo & Bulk Tallow 213 m
No. 4 General Cargo 213 m
No. 5 Meat & Package loading berth with all-weather mechanical handling equipment

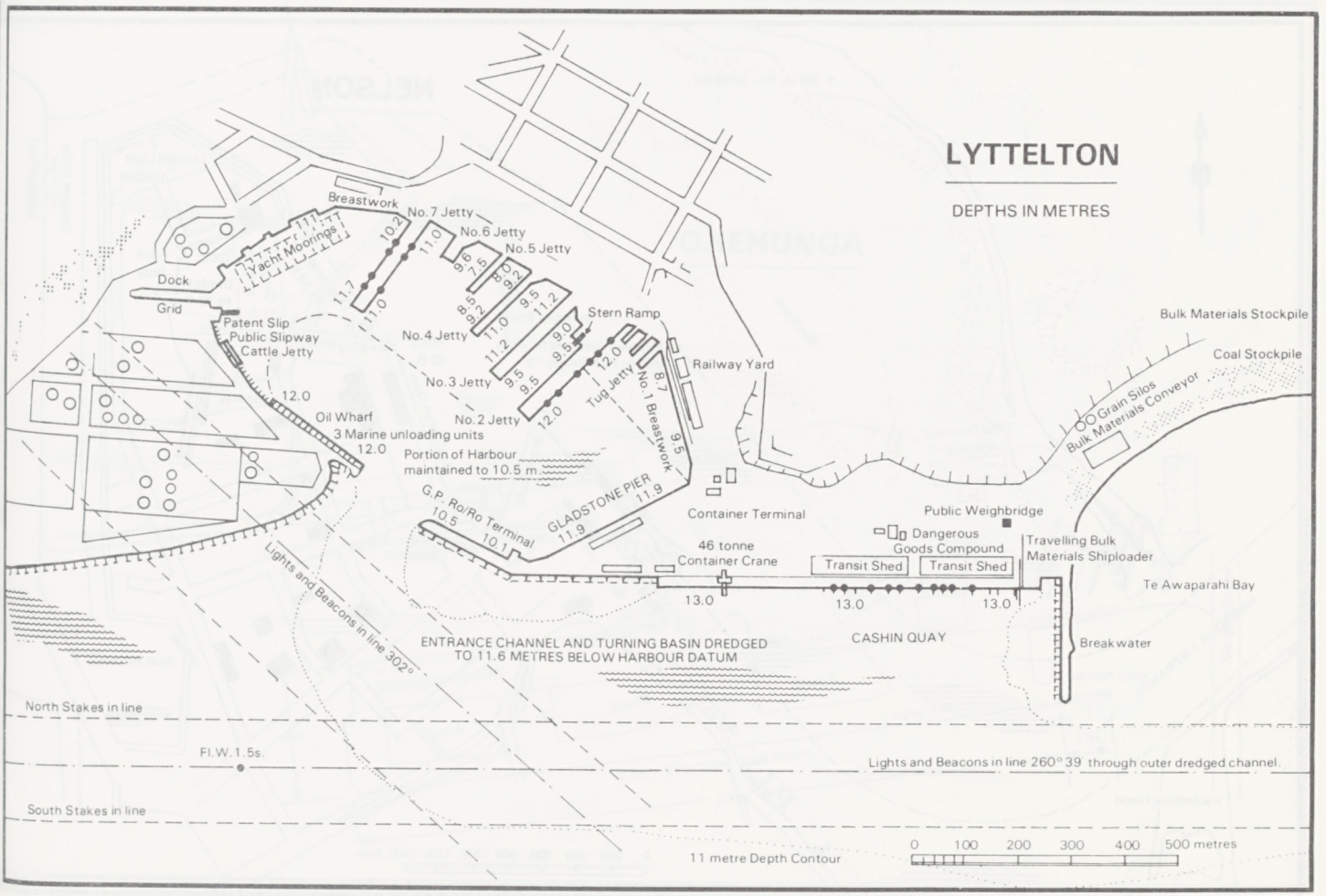
TOWN WHARF

3 Overseas berths handling General cargo
No. 11, No. 12 & No. 14
No. 11 Bulk Fertilizer, Black and White petroleum products 229 m
No. 12 Bulk Fertilizer and Bitumen 229 m



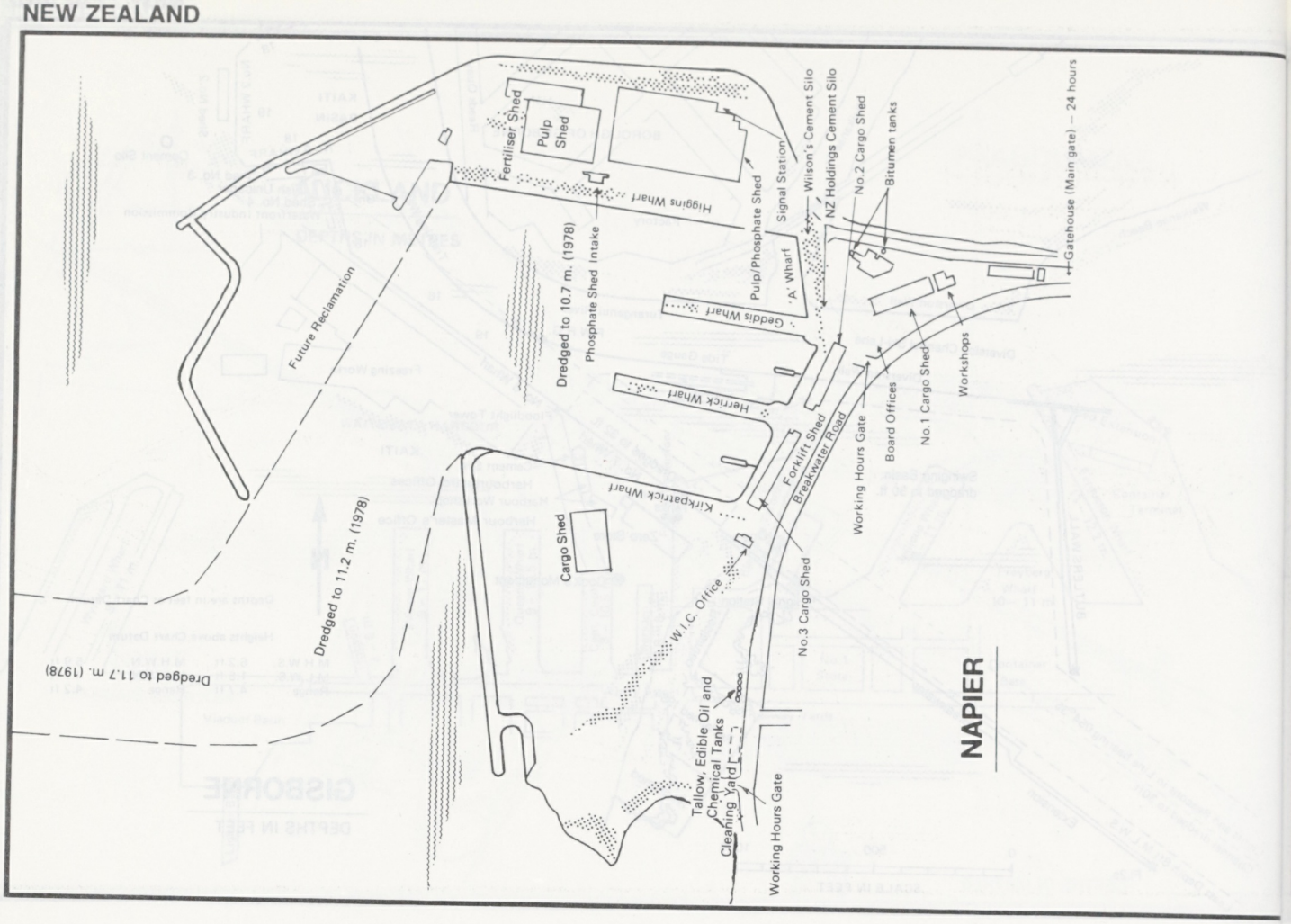
GISBORNE

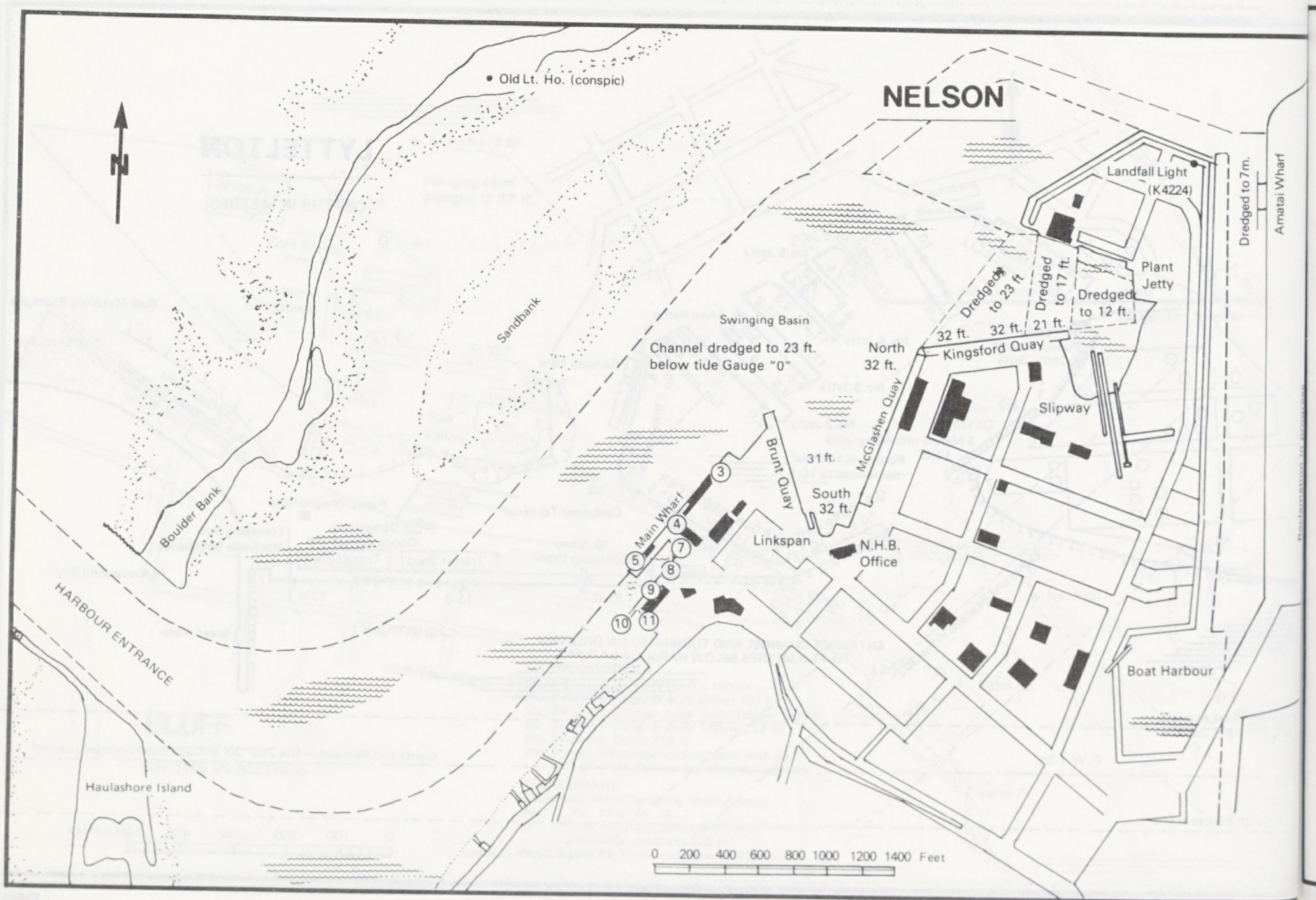
DEPTHS IN FEET



LYTTELTON

DEPTHS IN METRES

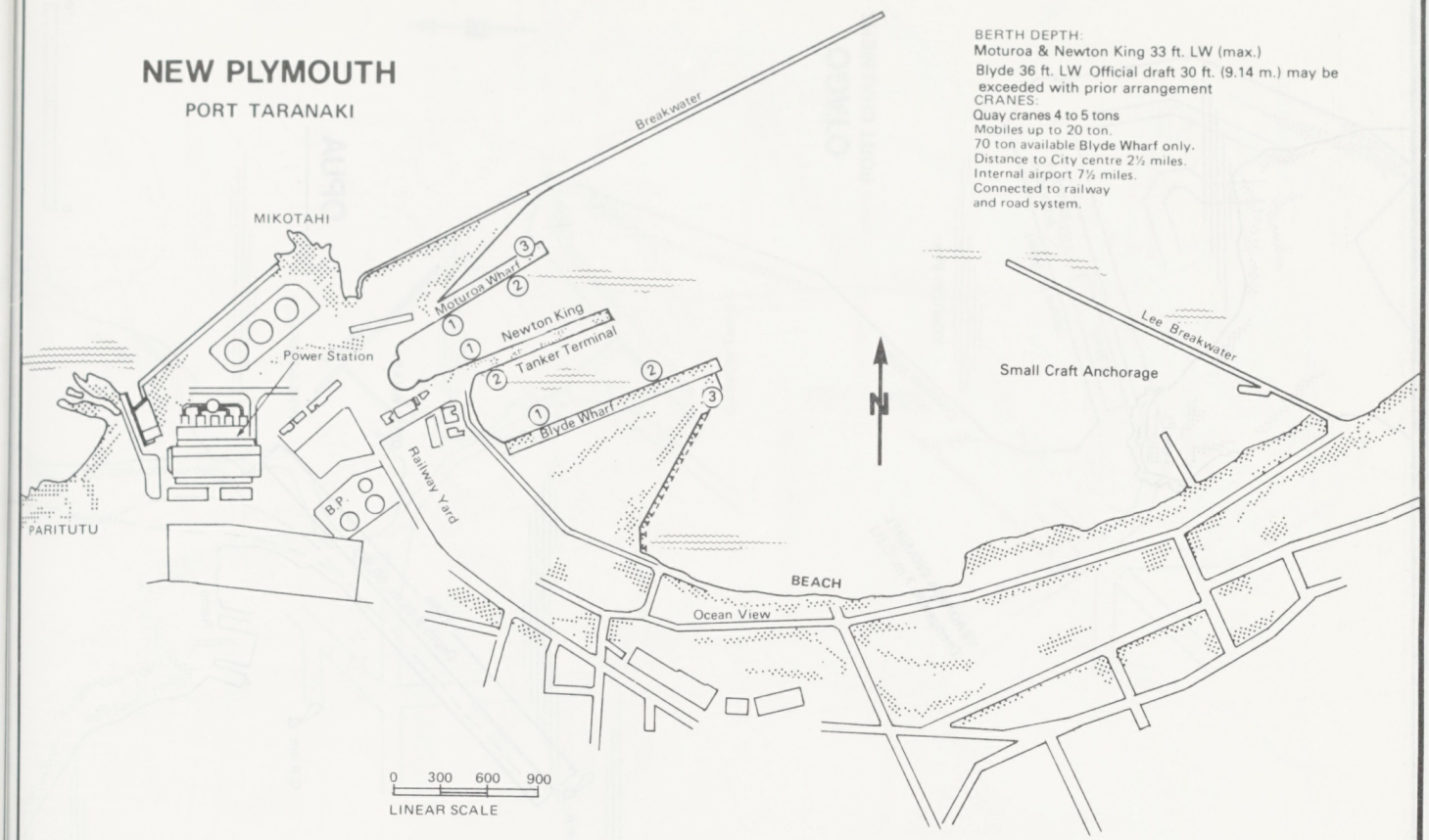

NAPIER
Fertiliser Shed
Pulp Shed
Higgins Wharf
Signal Station
Wilson's Cement Silo
NZ Holdings Cement Silo
No.2 Cargo Shed
Bitumen tanks
Gatehouse (Main gate) — 24 hours
Future Reclamation
Dredged to 10.7 m. (1978)
Phosphate Shed Intake
Pulp/Phosphate Shed
'A' Wharf
Geddis Wharf
Herrick Wharf
Kirkpatrick Wharf
Forklift Shed
Breakwater Road
Working Hours Gate
Board Offices
No.1 Cargo Shed
Workshops
Cargo Shed
Dredged to 11.2 m. (1978)
W.I.C. Office
No.3 Cargo Shed
Dredged to 11.7 m. (1978)
Tallow, Edible Oil and Chemical Tanks
Cleaning Yard
Working Hours Gate


NELSON
N
Old Lt. Ho. (conspic)
Sandbank
Boulder Bank
HARBOUR ENTRANCE
Haulashore Island
Swinging Basin
Channel dredged to 23 ft. below tide Gauge "0"
Landfall Light (K4224)
Dredged to 7m.
Amatai Wharf
Plant Jetty
Dredged to 23 ft.
Dredged to 17 ft.
Dredged to 12 ft.
32 ft.
32 ft.
21 ft.
Kingsford Quay
North 32 ft.
Slipway
McGlashen Quay
Brunt Quay
31 ft.
South 32 ft.
Main Wharf
Linkspan
N.H.B. Office
Boat Harbour
0 200 400 600 800 1000 1200 1400 Feet

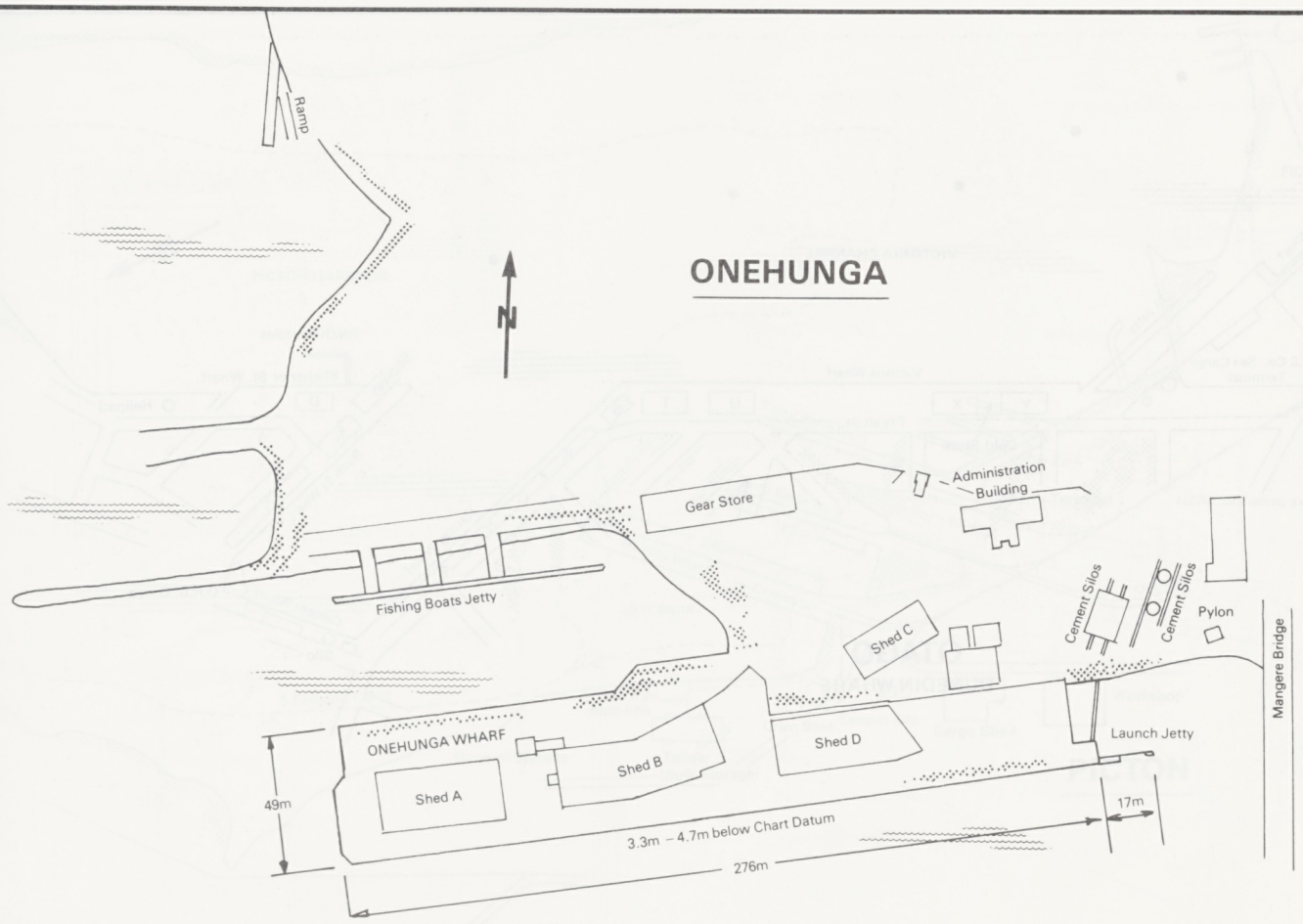
NEW PLYMOUTH

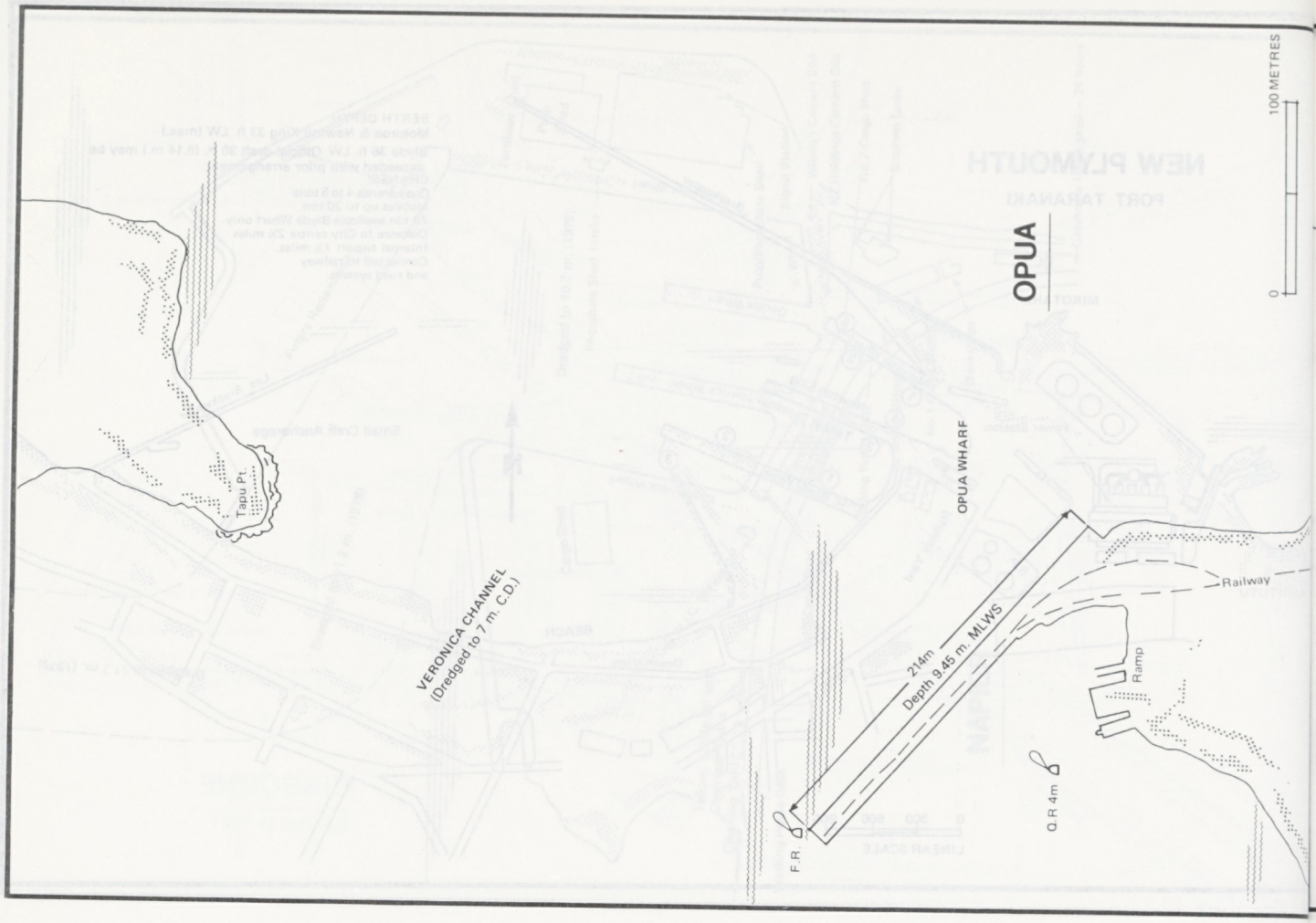
PORT TARANAKI

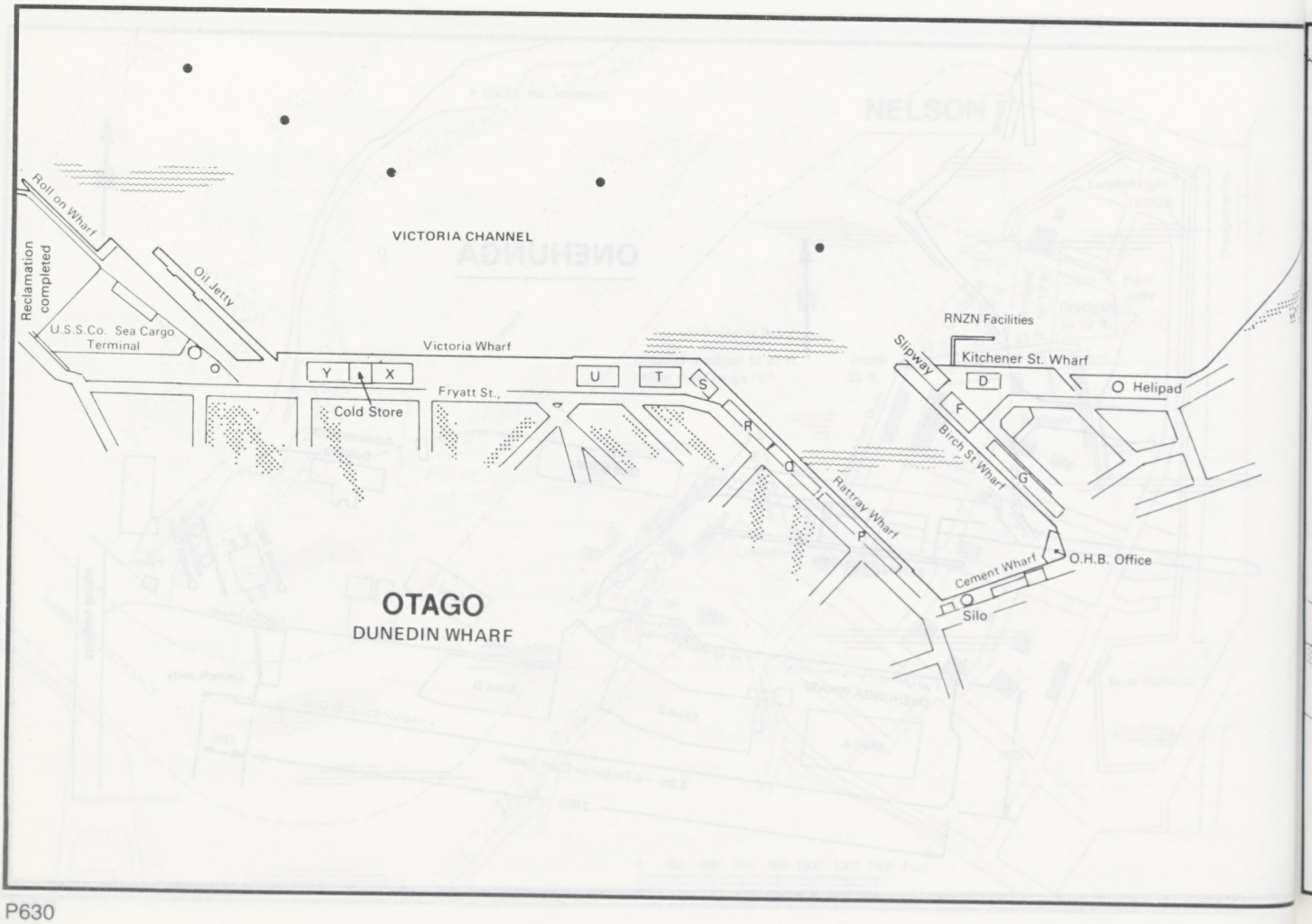
BERTH DEPTH:
Moturoa & Newton King 33 ft. LW (max.)
Blyde 36 ft. LW. Official draft 30 ft. (9.14 m.) may be exceeded with prior arrangement
CRANES:
Quay cranes 4 to 5 tons
Mobiles up to 20 ton.
70 ton available Blyde Wharf only.
Distance to City centre 2½ miles.
Internal airport 7½ miles.
Connected to railway and road system.

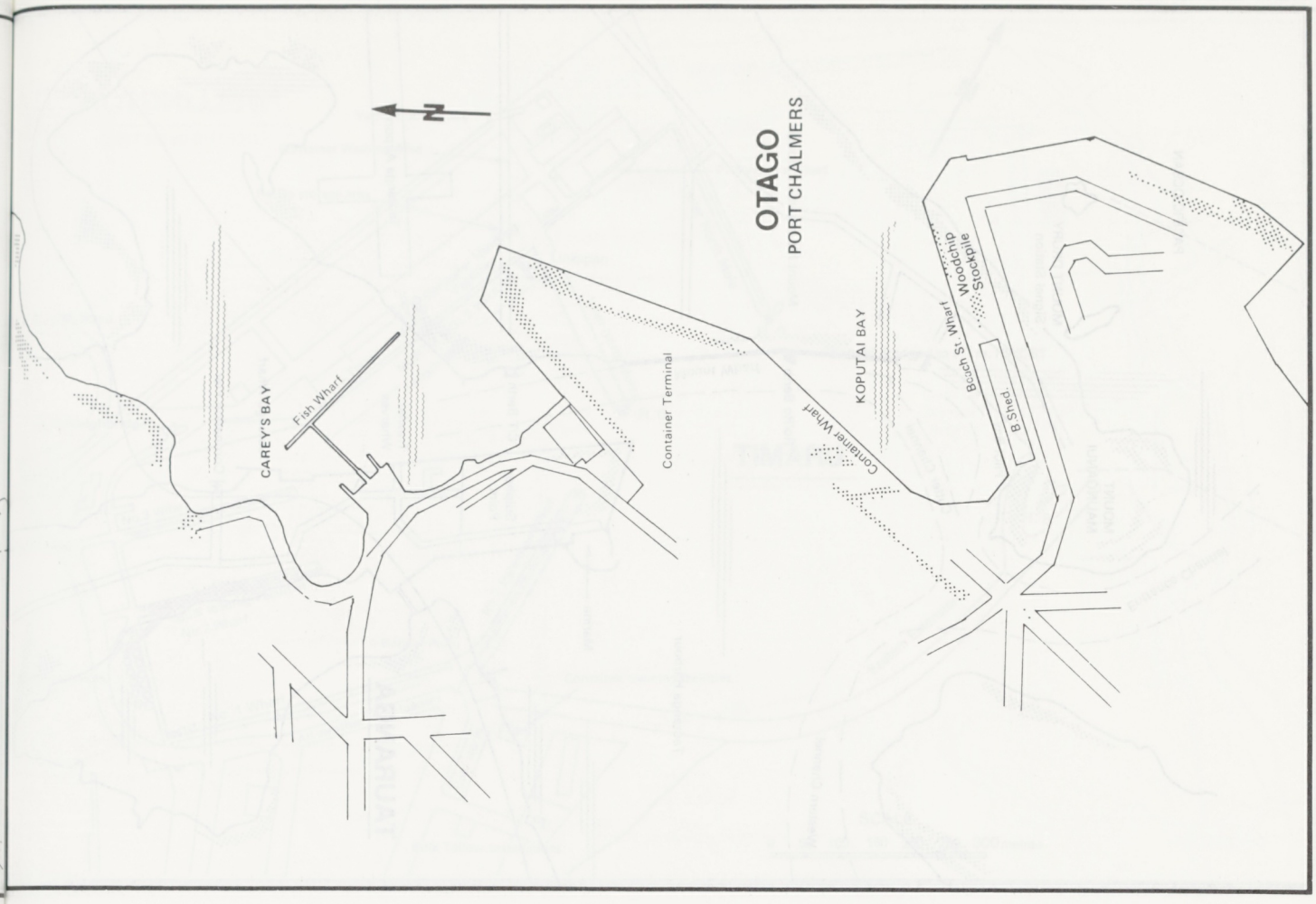


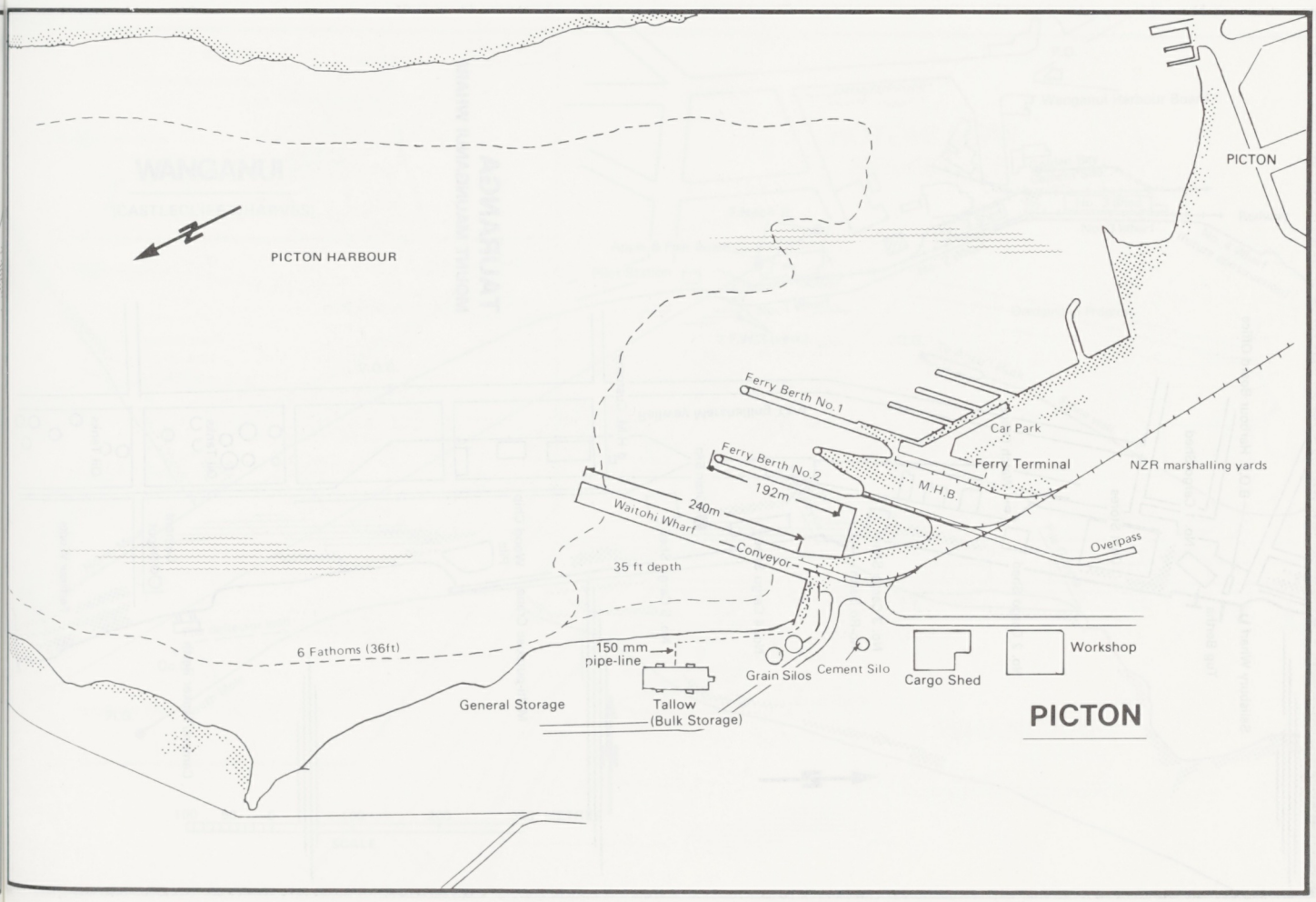
ONEHUNGA

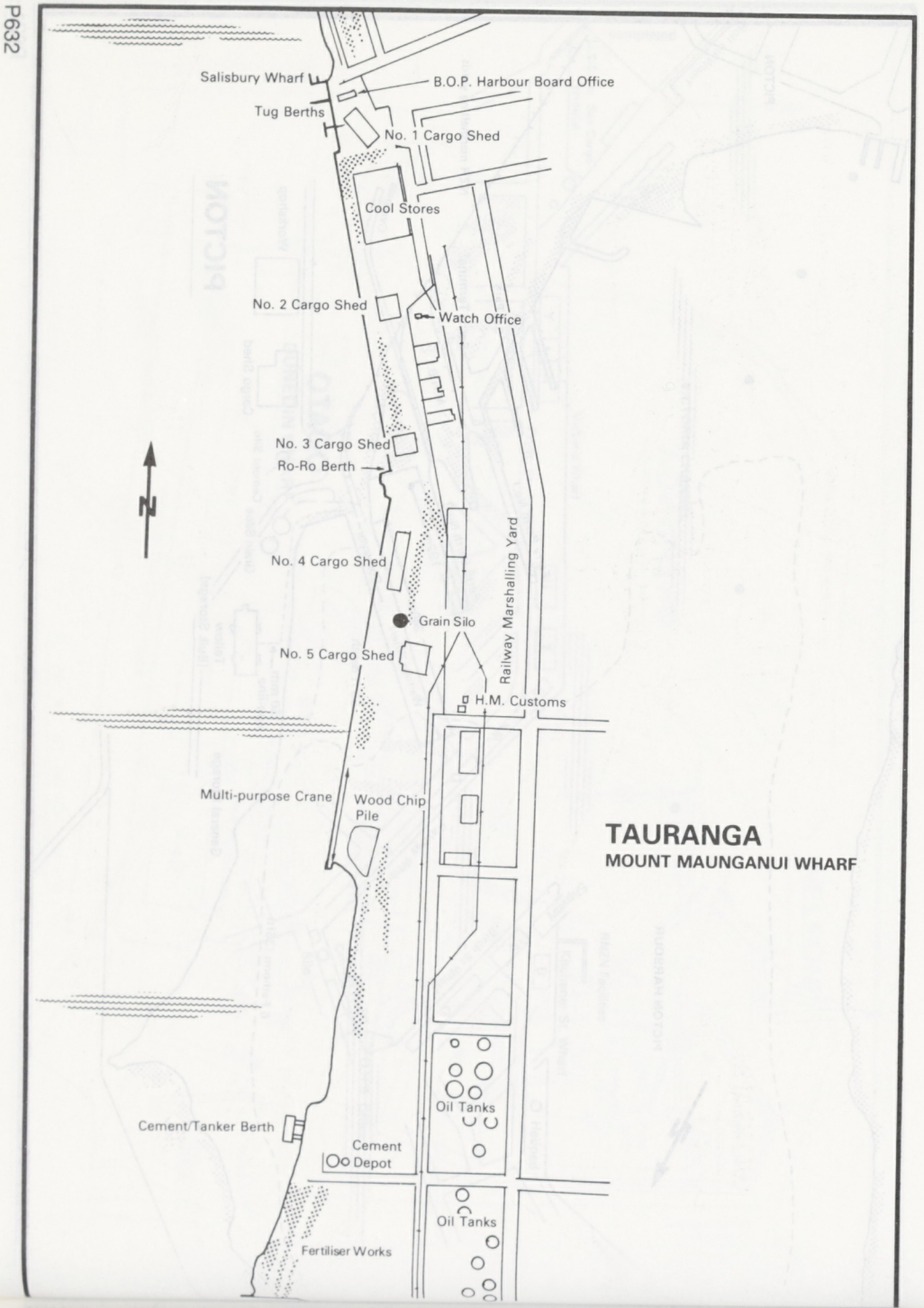



100 METRES
0
OPUA
Tapu Pt.
VERONICA CHANNEL
(Dredged to 7 m. C.D.)
OPUA WHARF
214m
Depth 9.45 m. MLWS
Railway
Ramp
Q.R 4m
F.R

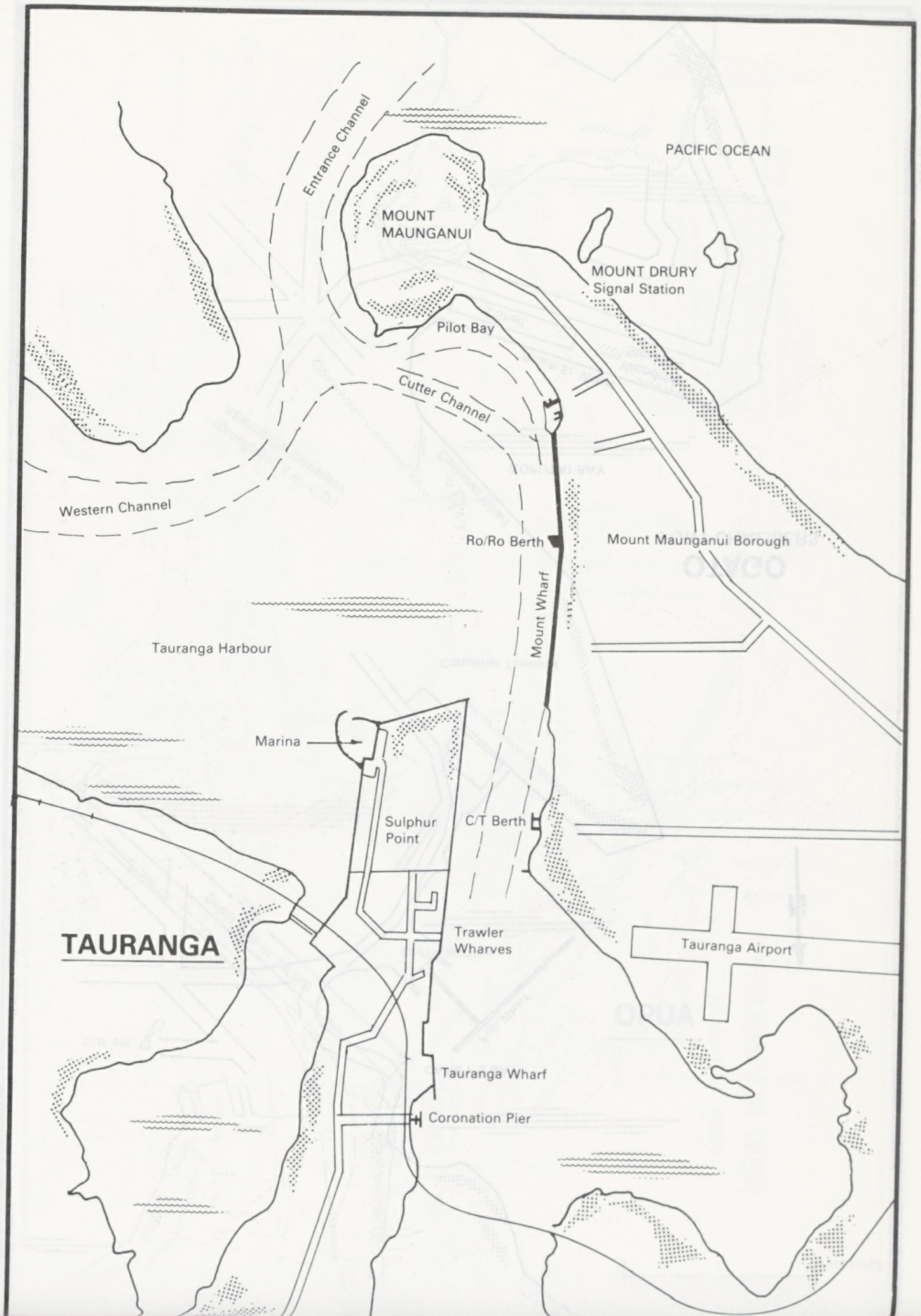

Roll on Wharf
Reclamation completed
VICTORIA CHANNEL
Oil Jetty
U.S.S.Co. Sea Cargo Terminal
Victoria Wharf
Y
X
Cold Store
Fryatt St.,
U
T
S
R
Q
P
RNZN Facilities
Slipway
Kitchener St. Wharf
D
Helipad
F
Birch St Wharf
G
Rattray Wharf
Cement Wharf
O.H.B. Office
Silo
OTAGO
DUNEDIN WHARF

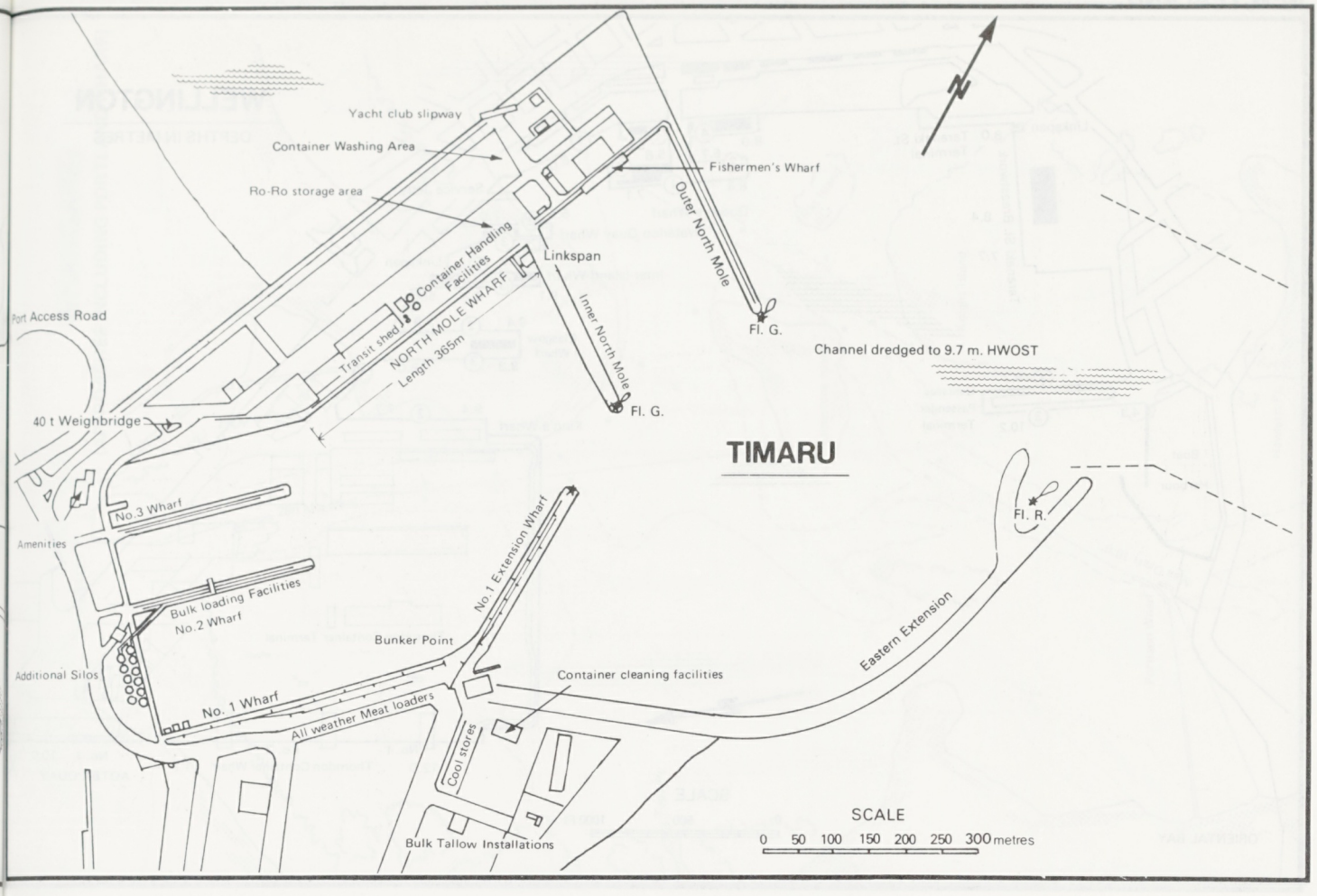

N
OTAGO
PORT CHALMERS
KOPUTAI BAY
Beach St. Wharf
Woodchip Stockpile
B Shed
Container Wharf
Container Terminal
Fish Wharf
CAREY'S BAY

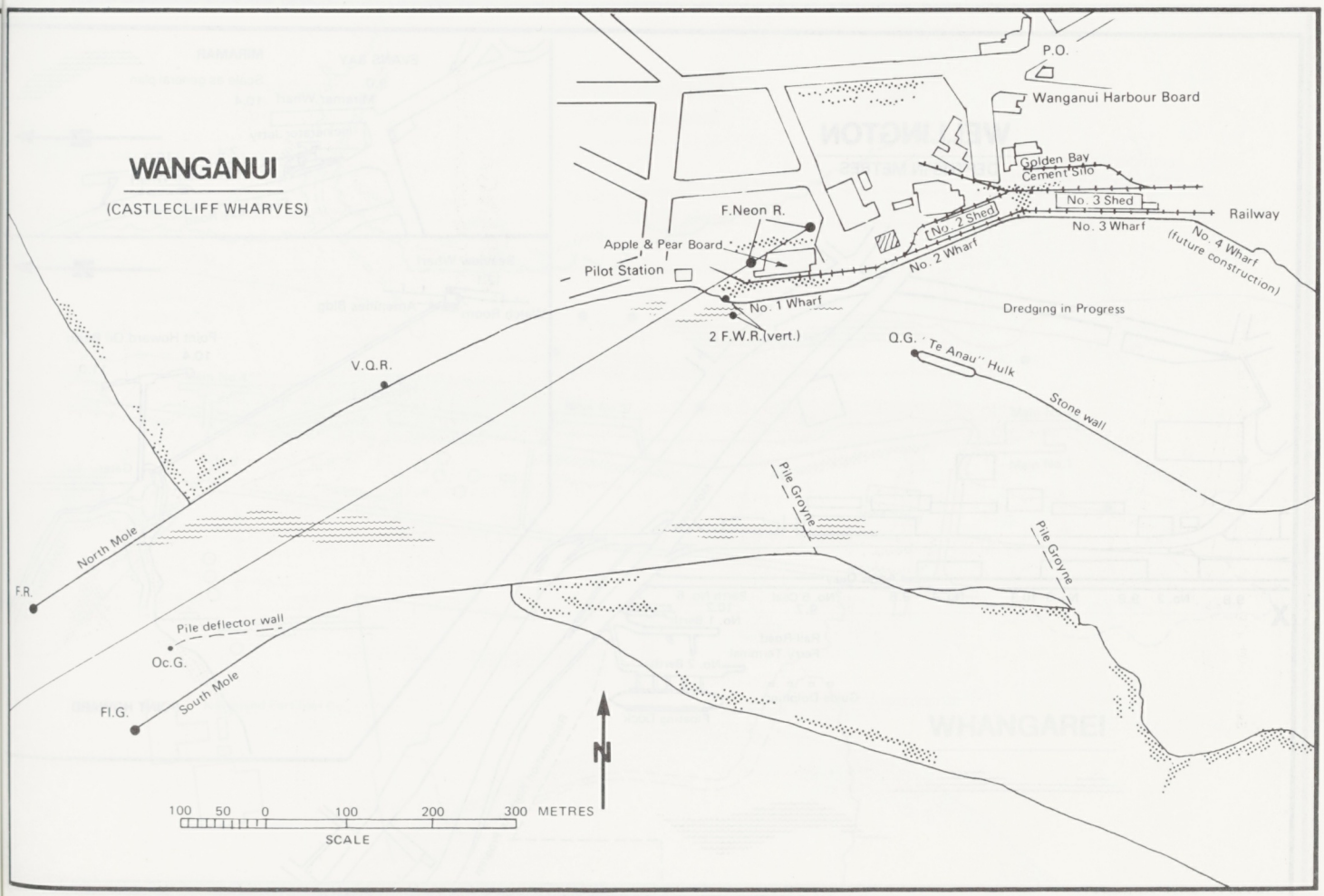

N
PICTON HARBOUR
PICTON
Ferry Berth No.1
Car Park
Ferry Berth No.2
Ferry Terminal
NZR marshalling yards
M.H.B.
192m
240m
Waitohi Wharf
Conveyor
Overpass
35 ft depth
6 Fathoms (36ft)
150 mm pipe-line
Grain Silos
Cement Silo
Cargo Shed
Workshop
General Storage
Tallow (Bulk Storage)
PICTON

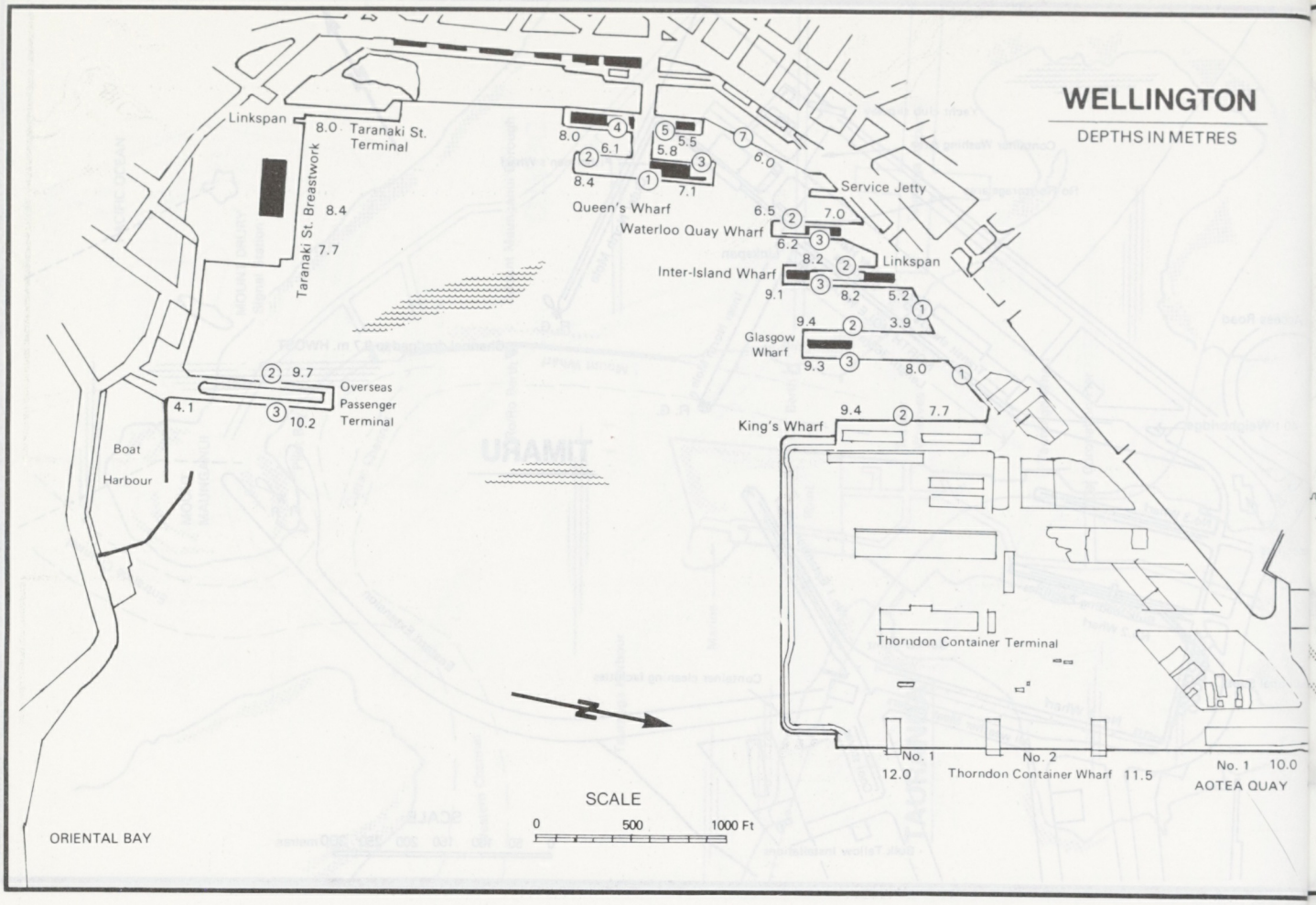


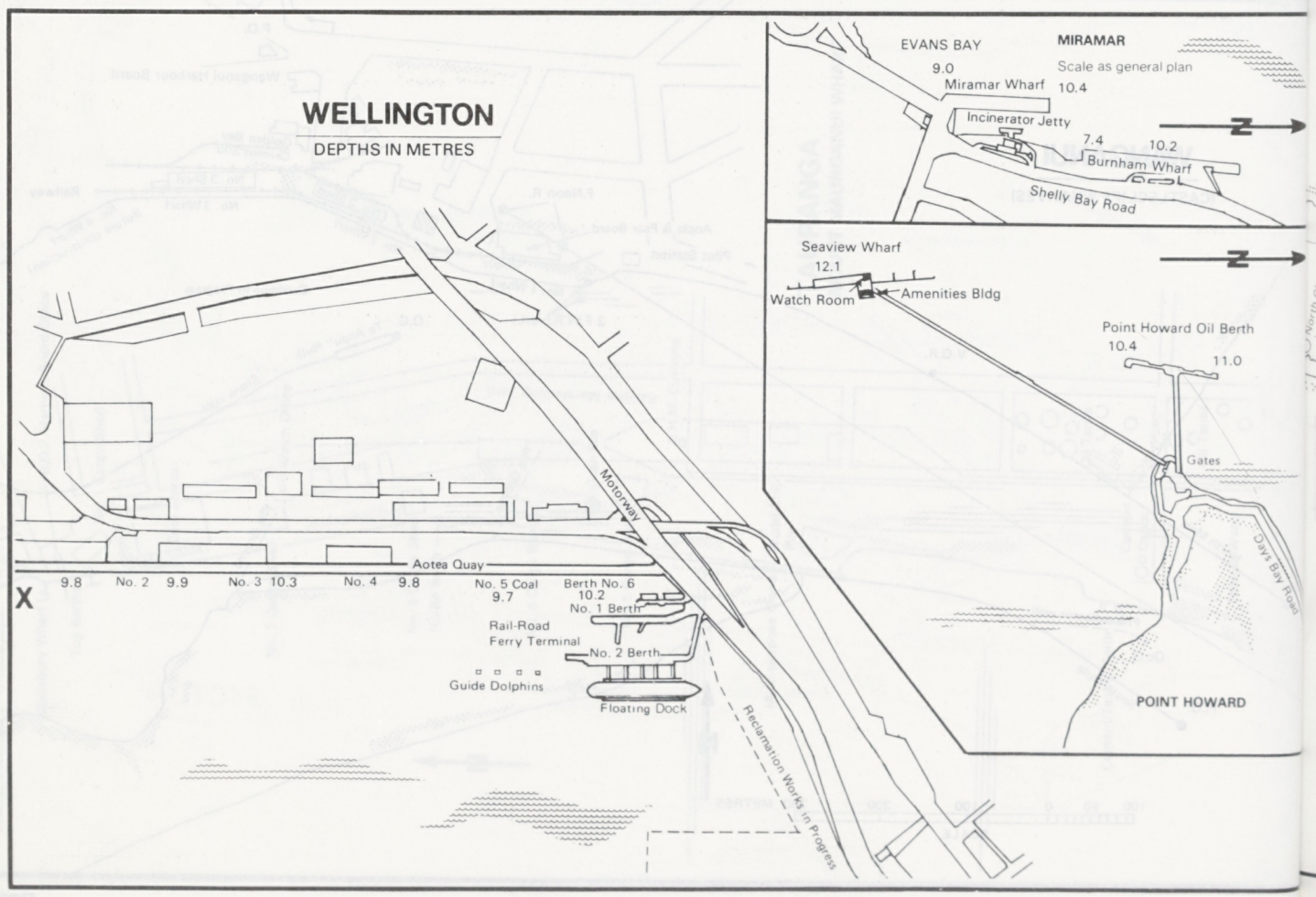
TAURANGA
MOUNT MAUNGANUI WHARF

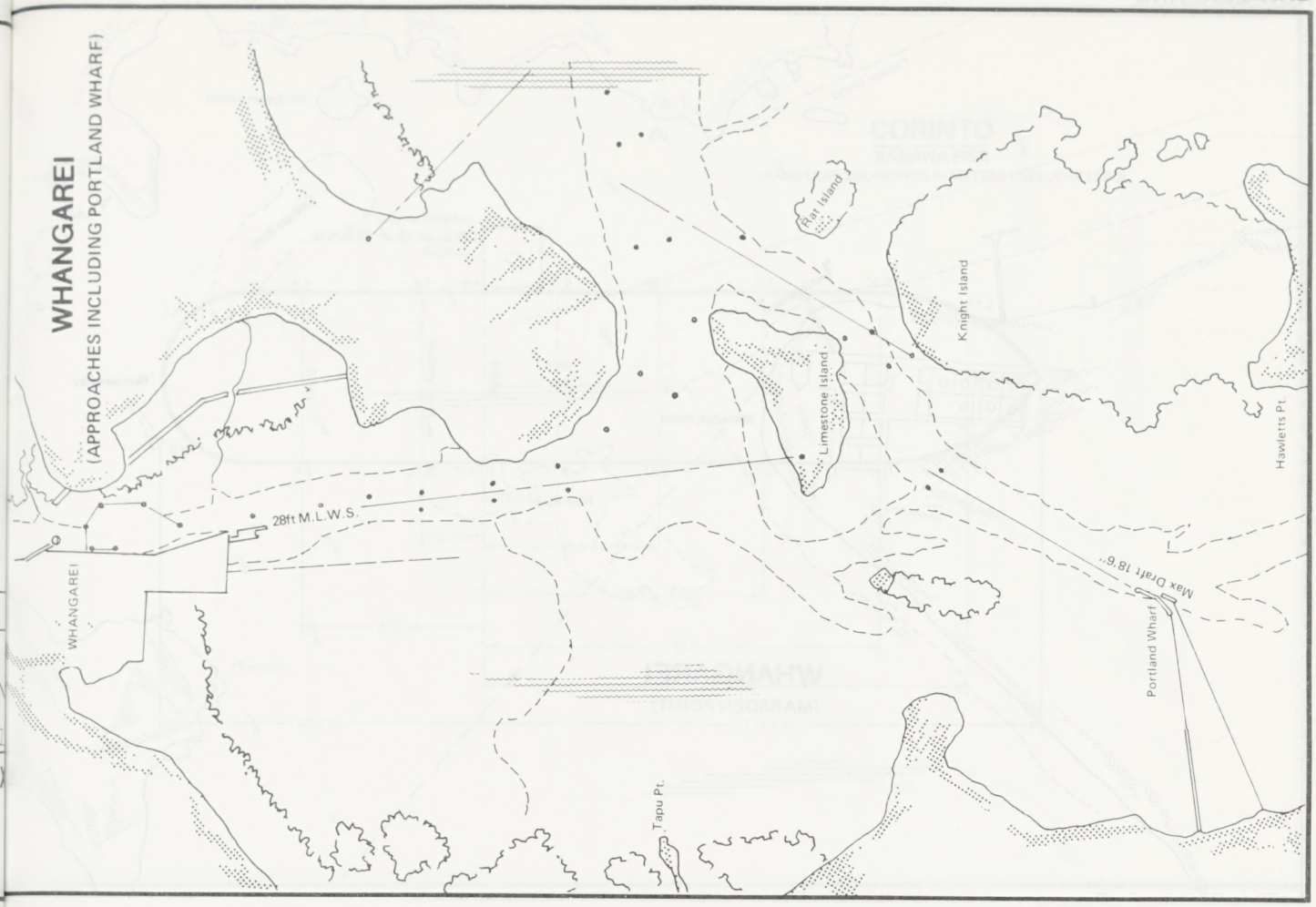


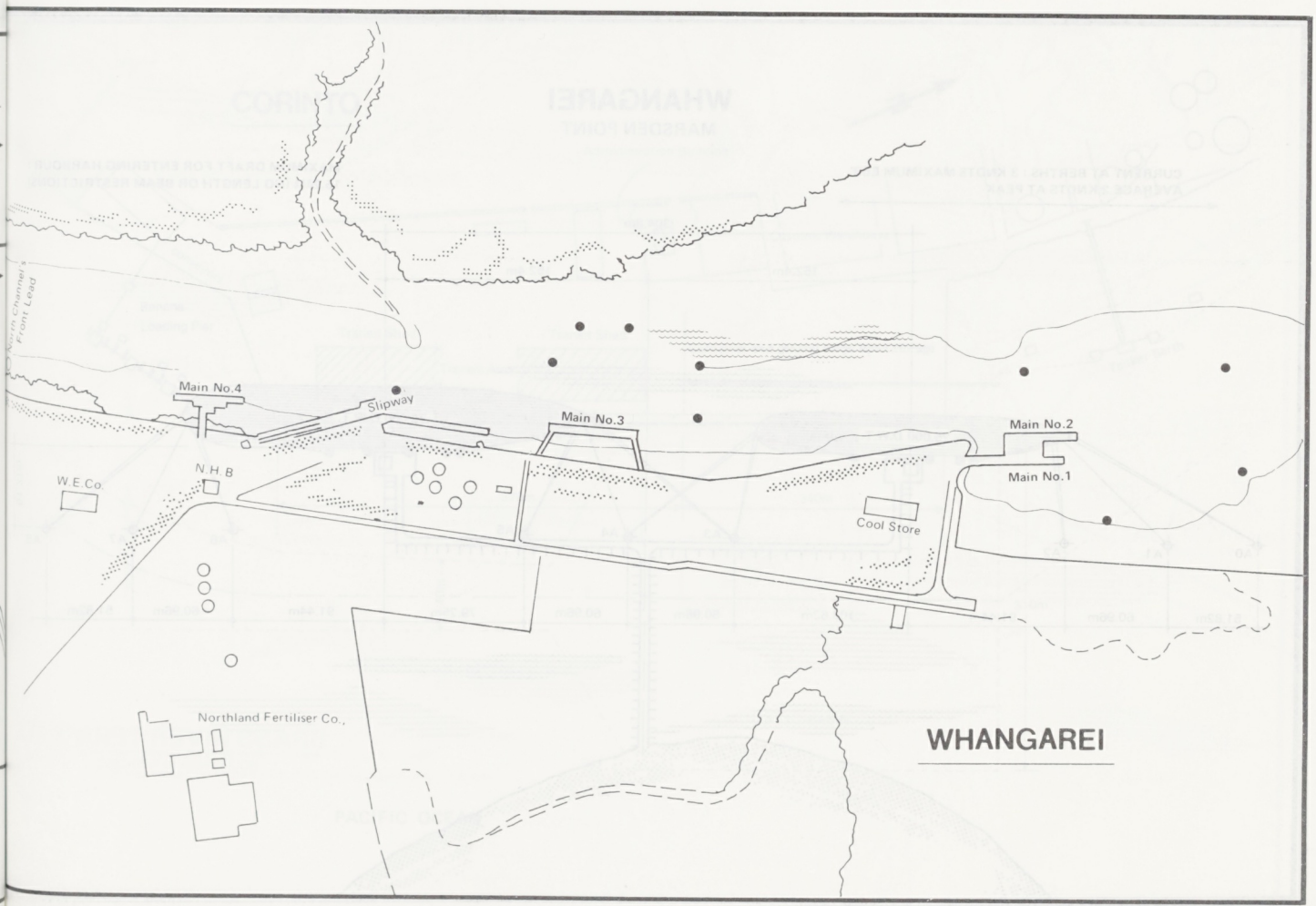

Yacht club slipway
Container Washing Area
Ro-Ro storage area
Fishermen's Wharf
Outer North Mole
Linkspan
Container Handling Facilities
Transit shed
NORTH MOLE WHARF
Length 365m
Inner North Mole
Fl. G.
Port Access Road
Channel dredged to 9.7 m. HWOST
40 t Weighbridge
TIMARU
No.3 Wharf
Amenities
Bulk loading Facilities
No.2 Wharf
No.1 Extension Wharf
Fl. R.
Bunker Point
Additional Silos
Container cleaning facilities
Eastern Extension
No. 1 Wharf
All weather Meat loaders
Cool stores
Bulk Tallow Installations
SCALE
0 50 100 150 200 250 300 metres

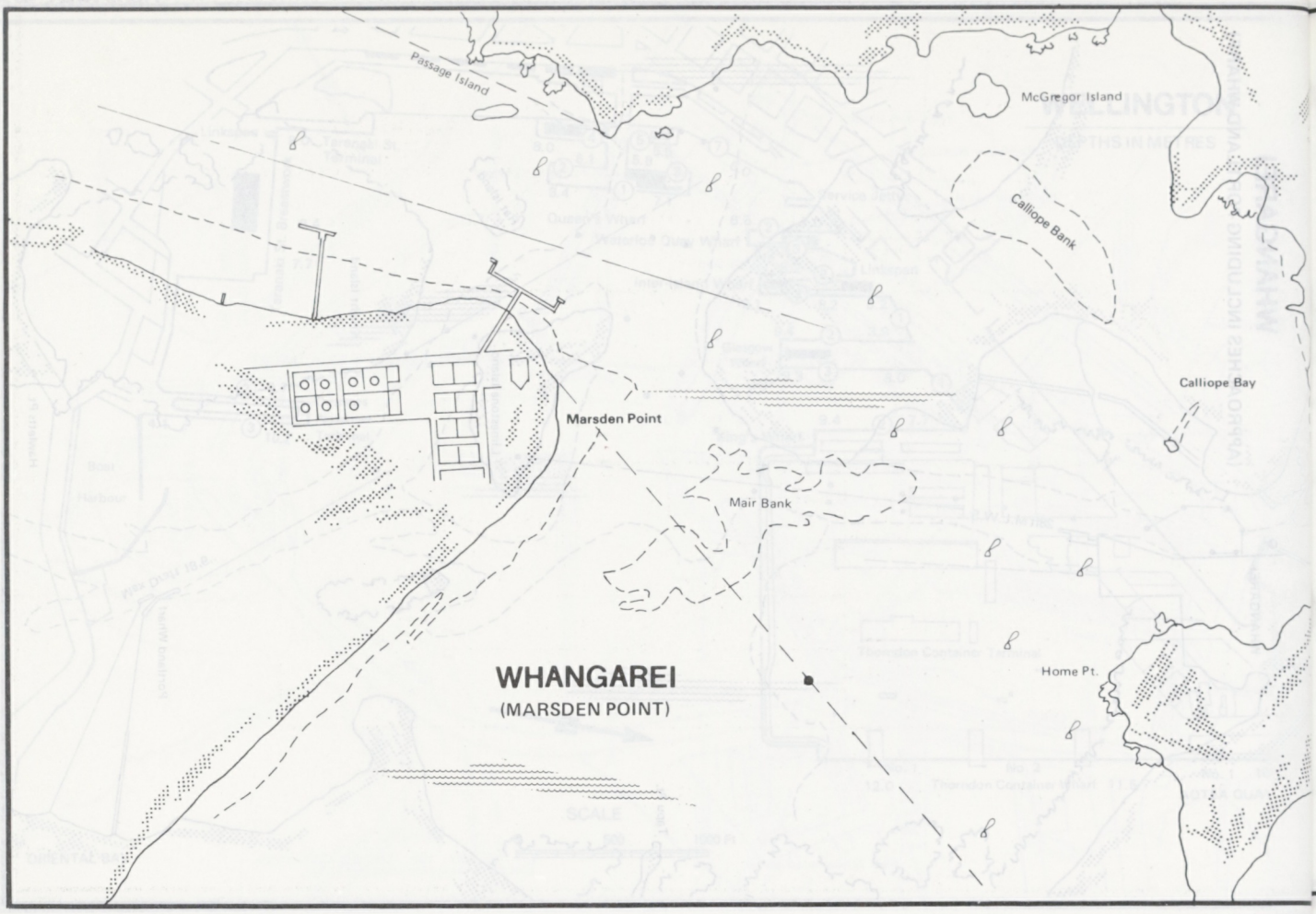

WANGANUI
(CASTLECLIFF WHARVES)
P.O.
Wanganui Harbour Board
Golden Bay Cement Silo
No. 3 Shed
No. 2 Shed
F.Neon R.
Railway
No. 3 Wharf
No. 4 Wharf (future construction)
Apple & Pear Board
Pilot Station
No. 2 Wharf
No. 1 Wharf
Dredging in Progress
2 F.W.R.(vert.)
Q.G. "Te Anau" Hulk
V.Q.R.
Stone wall
Pile Groyne
Pile Groyne
North Mole
F.R.
Pile deflector wall
Oc.G.
South Mole
Fl.G.
N
100 50 0 100 200 300 METRES
SCALE


WELLINGTON
DEPTHS IN METRES
Linkspan
8.0 Taranaki St. Terminal
Taranaki St. Breastwork
8.4
7.7
8.0
6.1
8.4
5.5
5.8
7.1
6.0
Queen's Wharf
Service Jetty
6.5
7.0
6.2
Waterloo Quay Wharf
8.2
Linkspan
Inter-Island Wharf
9.1
8.2
5.2
9.4
3.9
Glasgow Wharf
9.3
8.0
9.7
Overseas Passenger Terminal
4.1
10.2
Boat Harbour
9.4
7.7
King's Wharf
Thorndon Container Terminal
No. 1
12.0
No. 2
Thorndon Container Wharf
11.5
No. 1
10.0
AOTEA QUAY
SCALE
0
500
1000 Ft
ORIENTAL BAY


WELLINGTON
DEPTHS IN METRES
EVANS BAY
MIRAMAR
Scale as general plan
9.0
Miramar Wharf
10.4
Incinerator Jetty
7.4
10.2
Burnham Wharf
Shelly Bay Road
Seaview Wharf
12.1
Watch Room
Amenities Bldg
Point Howard Oil Berth
10.4
11.0
Gates
Days Bay Road
POINT HOWARD
Motorway
Aotea Quay
9.8
No. 2
9.9
No. 3
10.3
No. 4
9.8
No. 5 Coal
9.7
Berth No. 6
10.2
No. 1 Berth
Rail-Road Ferry Terminal
No. 2 Berth
Guide Dolphins
Floating Dock
Reclamation Works in Progress
X


WHANGAREI
(APPROACHES INCLUDING PORTLAND WHARF)
Flat Island
Knight Island
Limestone Island
Hawletts Pt.
28ft M.L.W.S.
WHANGAREI
Max Draft 18'6"
Portland Wharf
Tapu Pt.

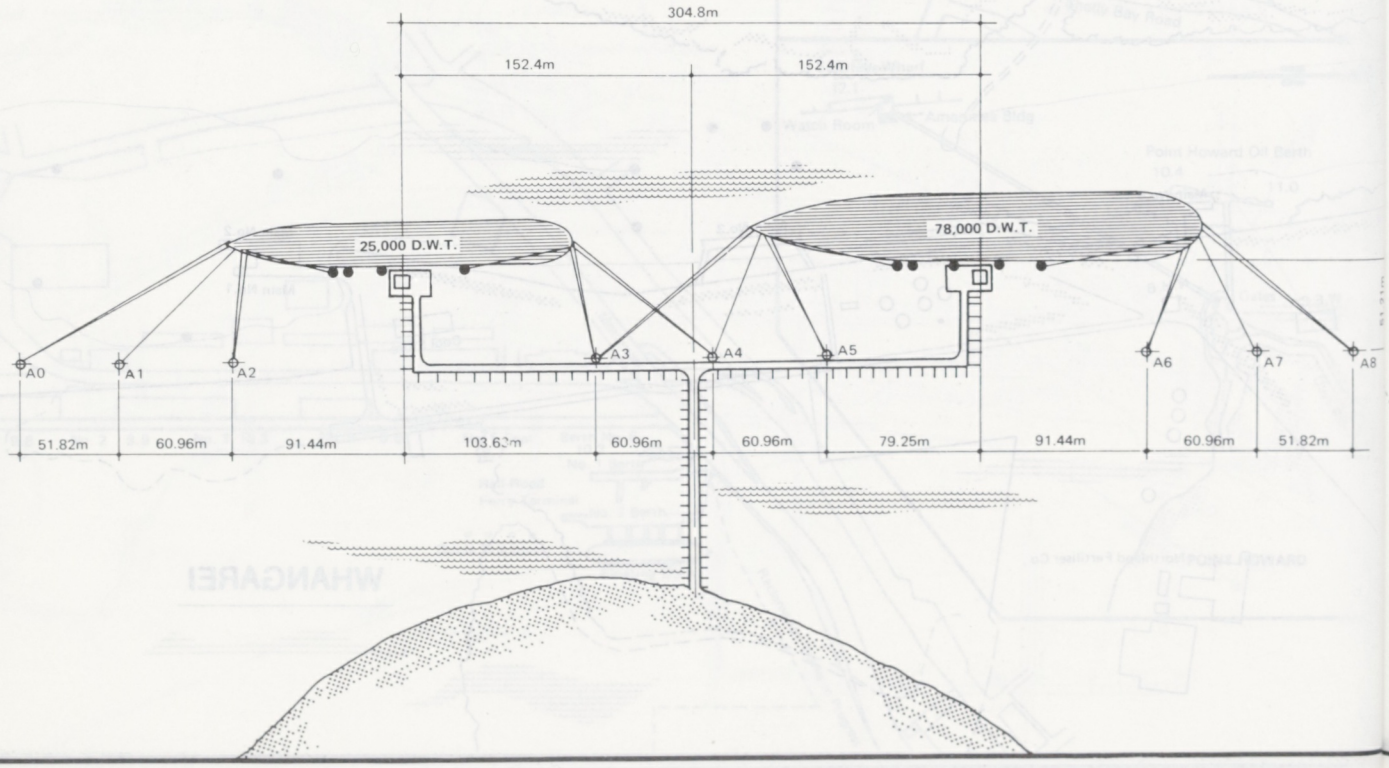

North Channel Front Lead
Main No.4
Slipway
Main No.3
Main No.2
Main No.1
W.E.Co.
N.H.B
Cool Store
Northland Fertiliser Co.,
WHANGAREI



WHANGAREI
MARSDEN POINT

CURRENT AT BERTHS : 3 KNOTS MAXIMUM EBB
AVERAGE 2 KNOTS AT PEAK

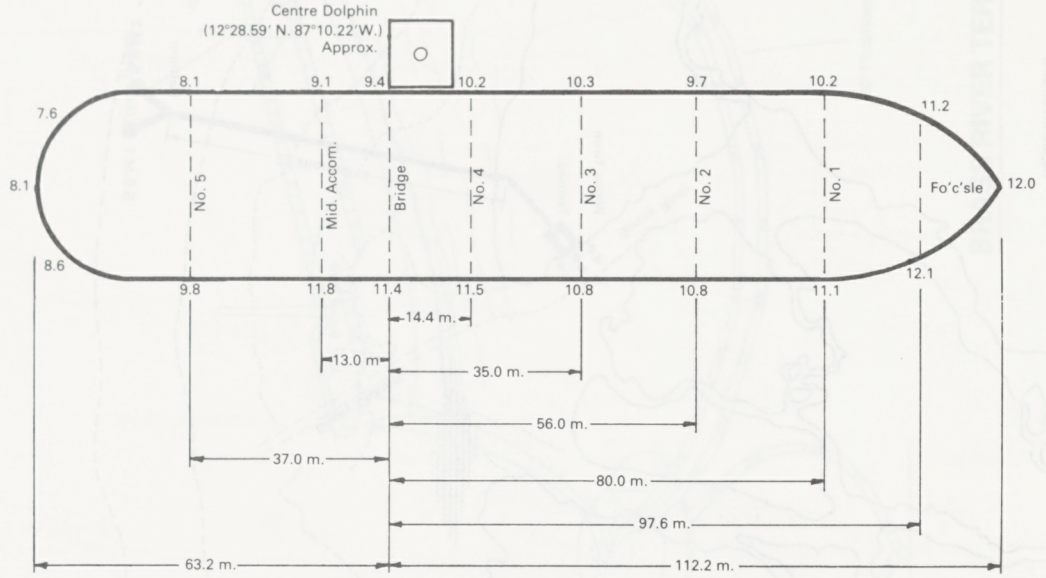
MAXIMUM DRAFT FOR ENTERING HARBOUR :
15.24M (NO LENGTH OR BEAM RESTRICTIONS)



CORINTO

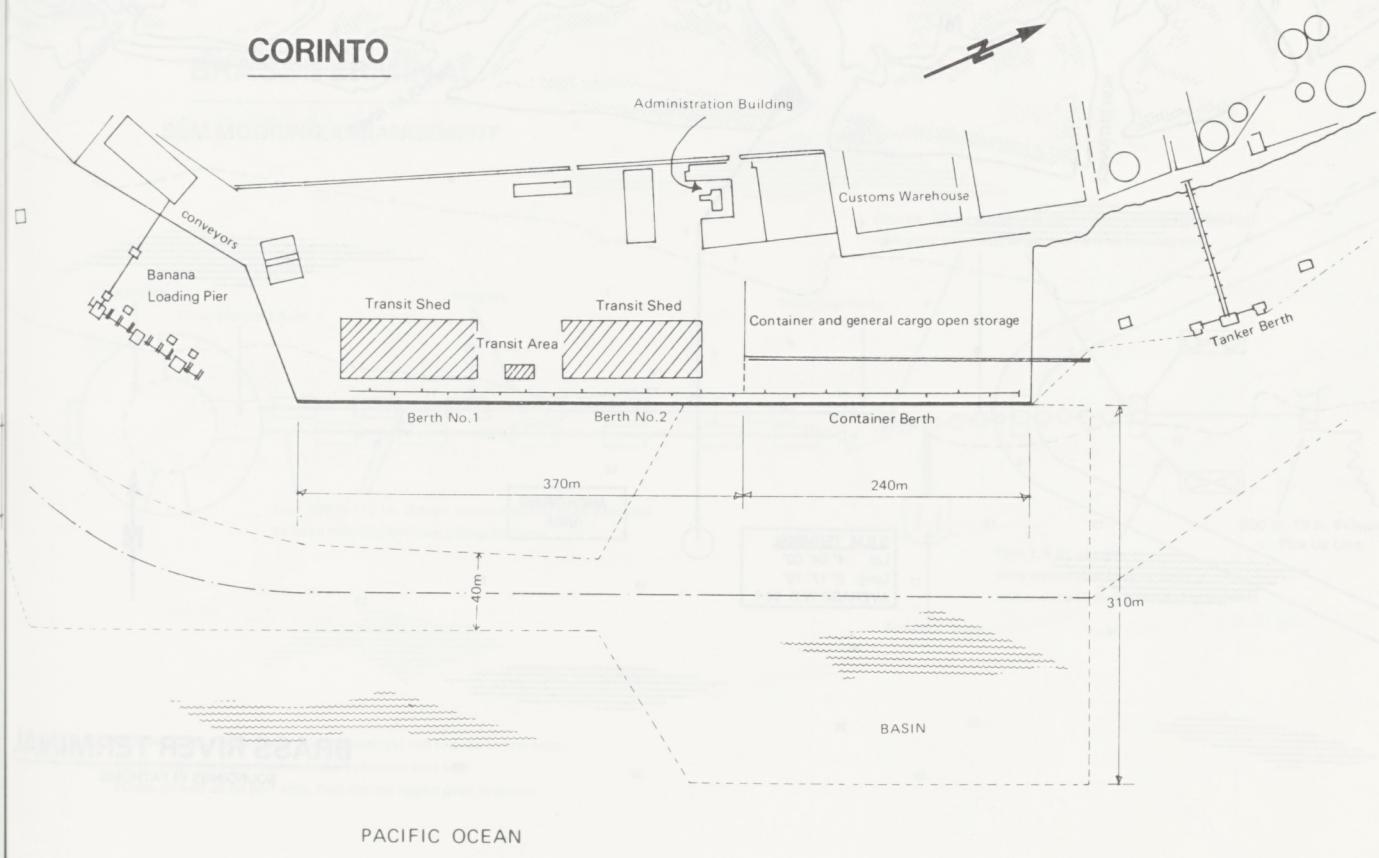
BANANA PIER

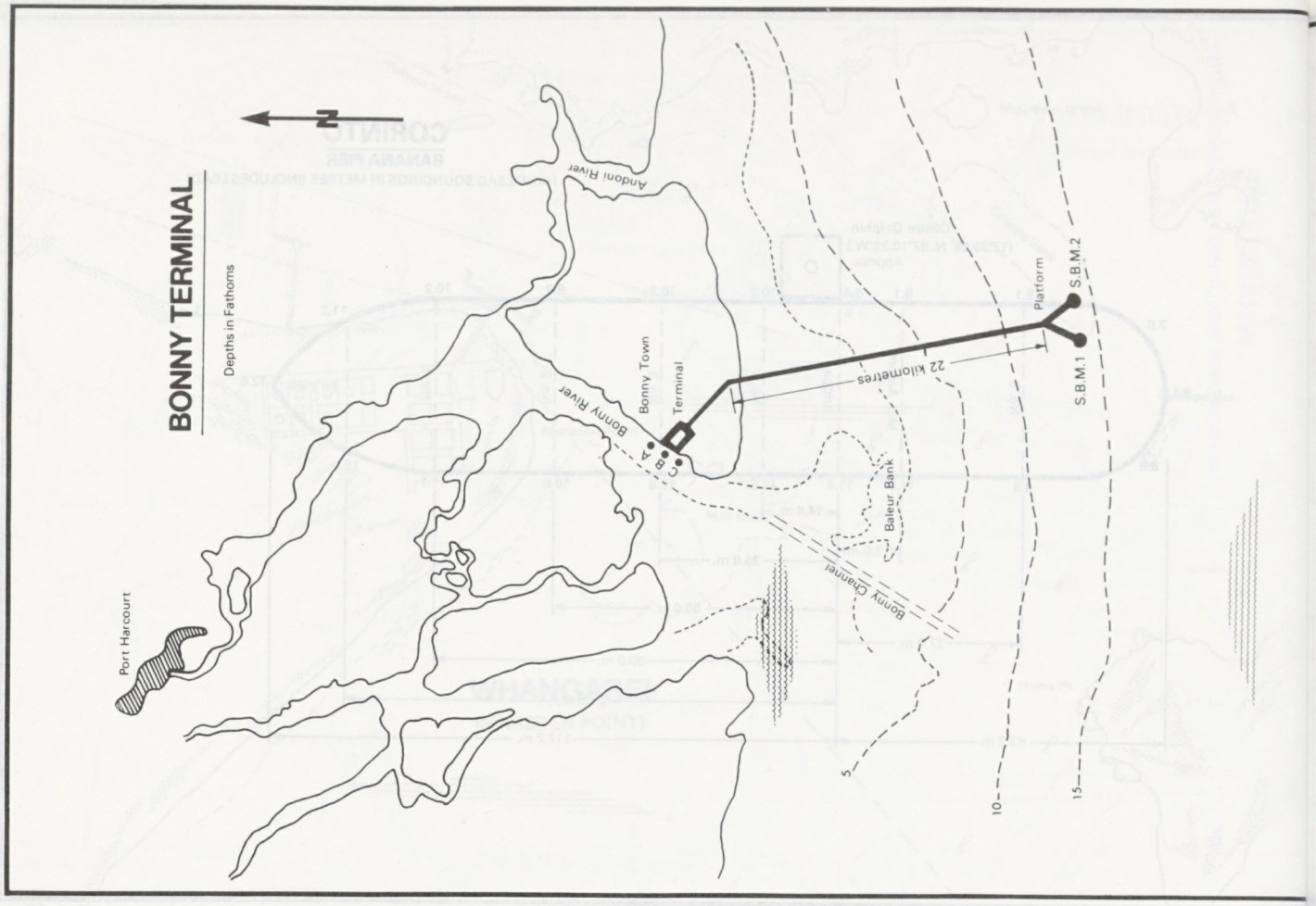
HAND LEAD SOUNDINGS IN METRES (INCLUDES LEAD)

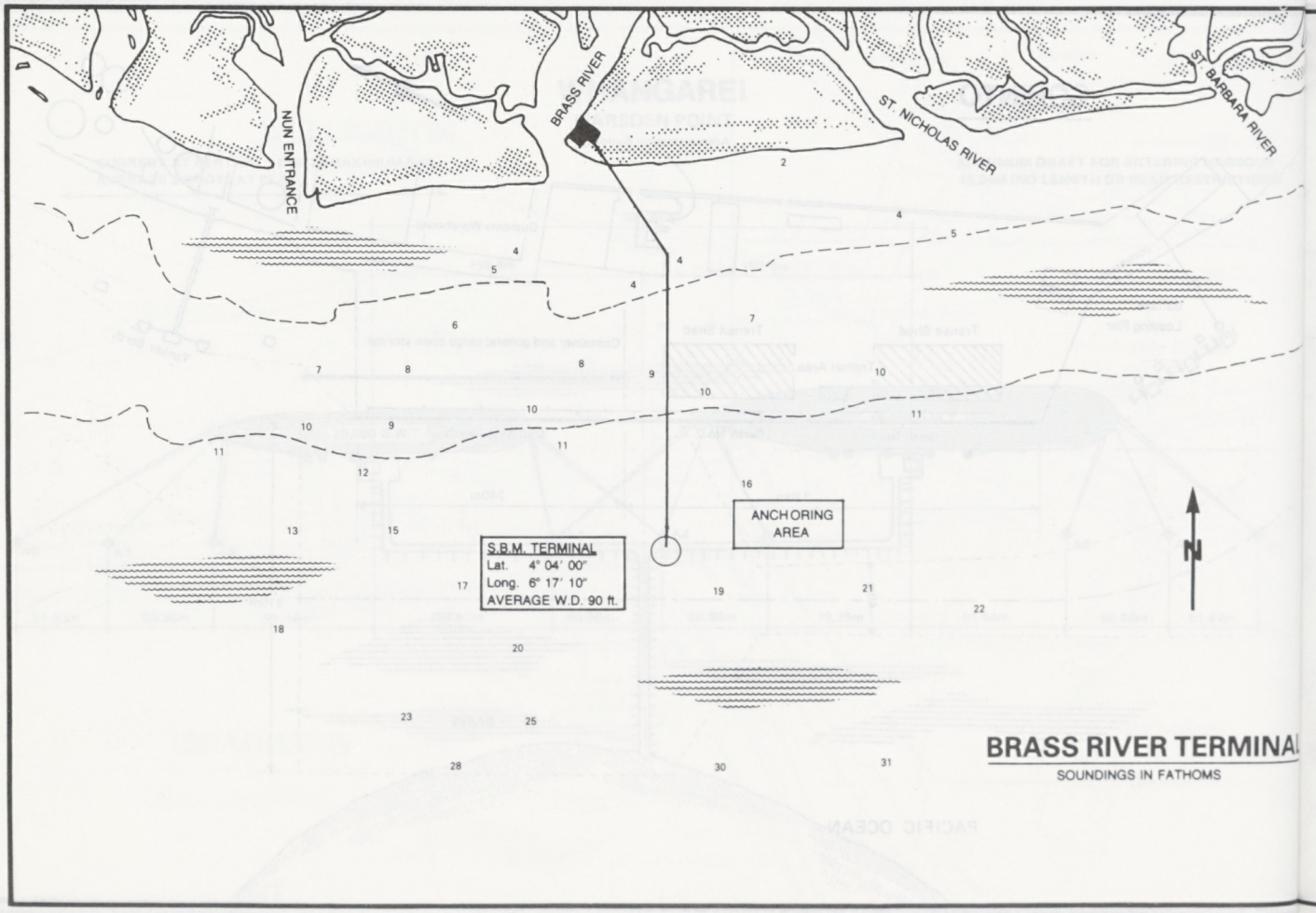


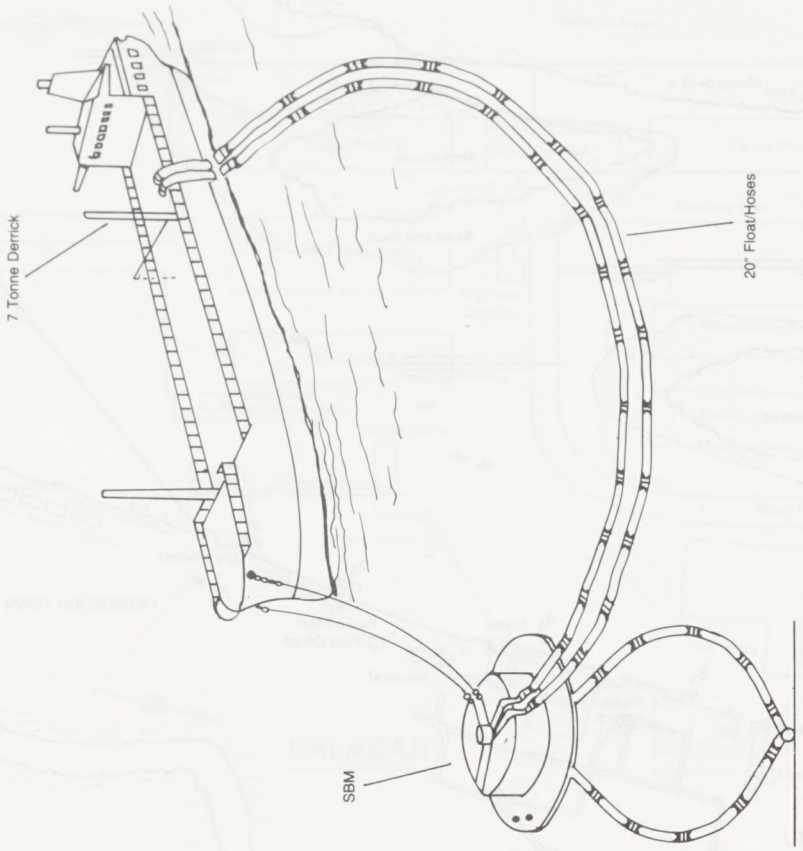
Plan Supplied by Ship's Officers

CORINTO




BONNY TERMINAL
Depths in Fathoms
N
Andoni River
Bonny River
Bonny Town
Terminal
A
B
C
22 kilometres
Platform
S.B.M.2
S.B.M.1
Baleur Bank
Bonny Channel
Port Harcourt
5
10
15

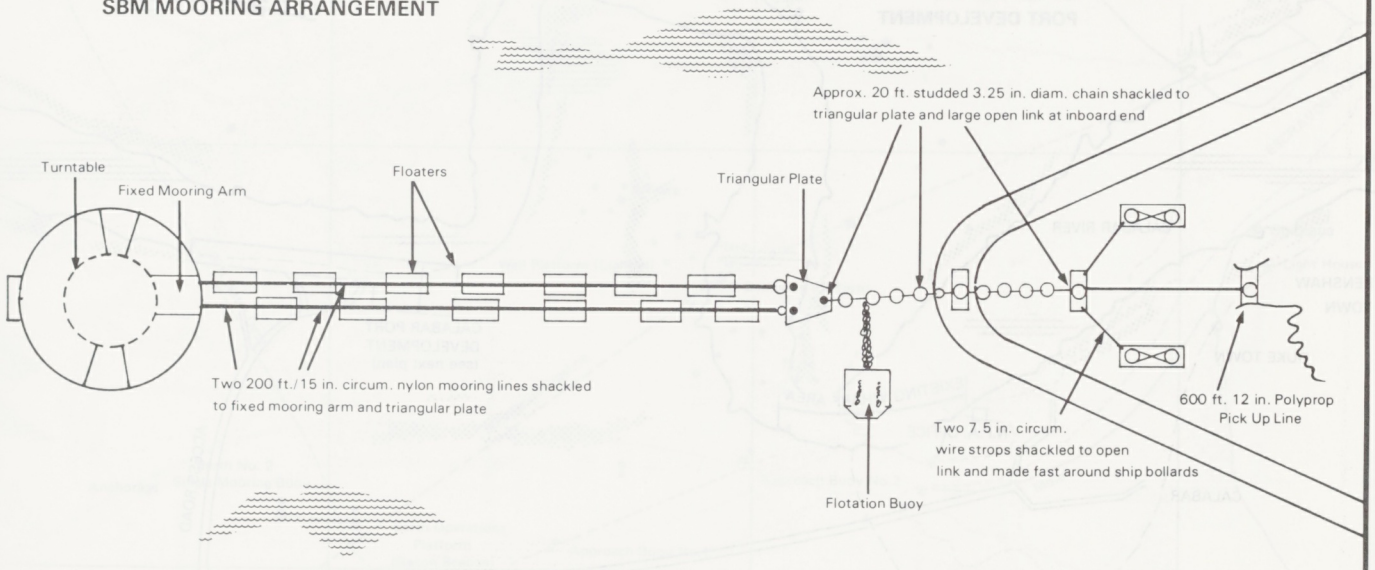

NUN ENTRANCE
BRASS RIVER
ST. NICHOLAS RIVER
ST. BARBARA RIVER
S.B.M. TERMINAL
Lat. 4° 04′ 00″
Long. 6° 17′ 10″
AVERAGE W.D. 90 ft.
ANCHORING AREA
N
BRASS RIVER TERMINAL
SOUNDINGS IN FATHOMS



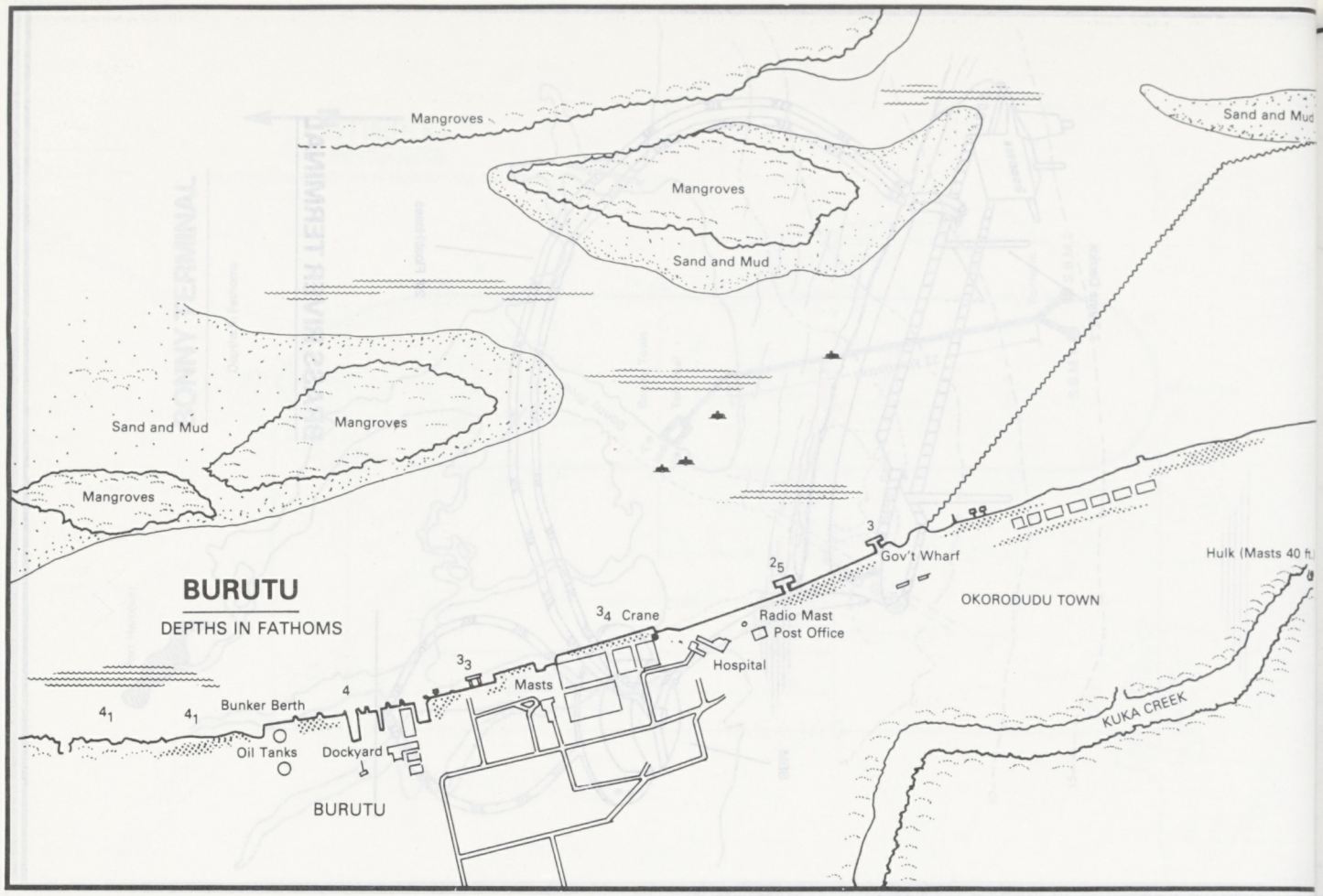
BRASS RIVER TERMINAL

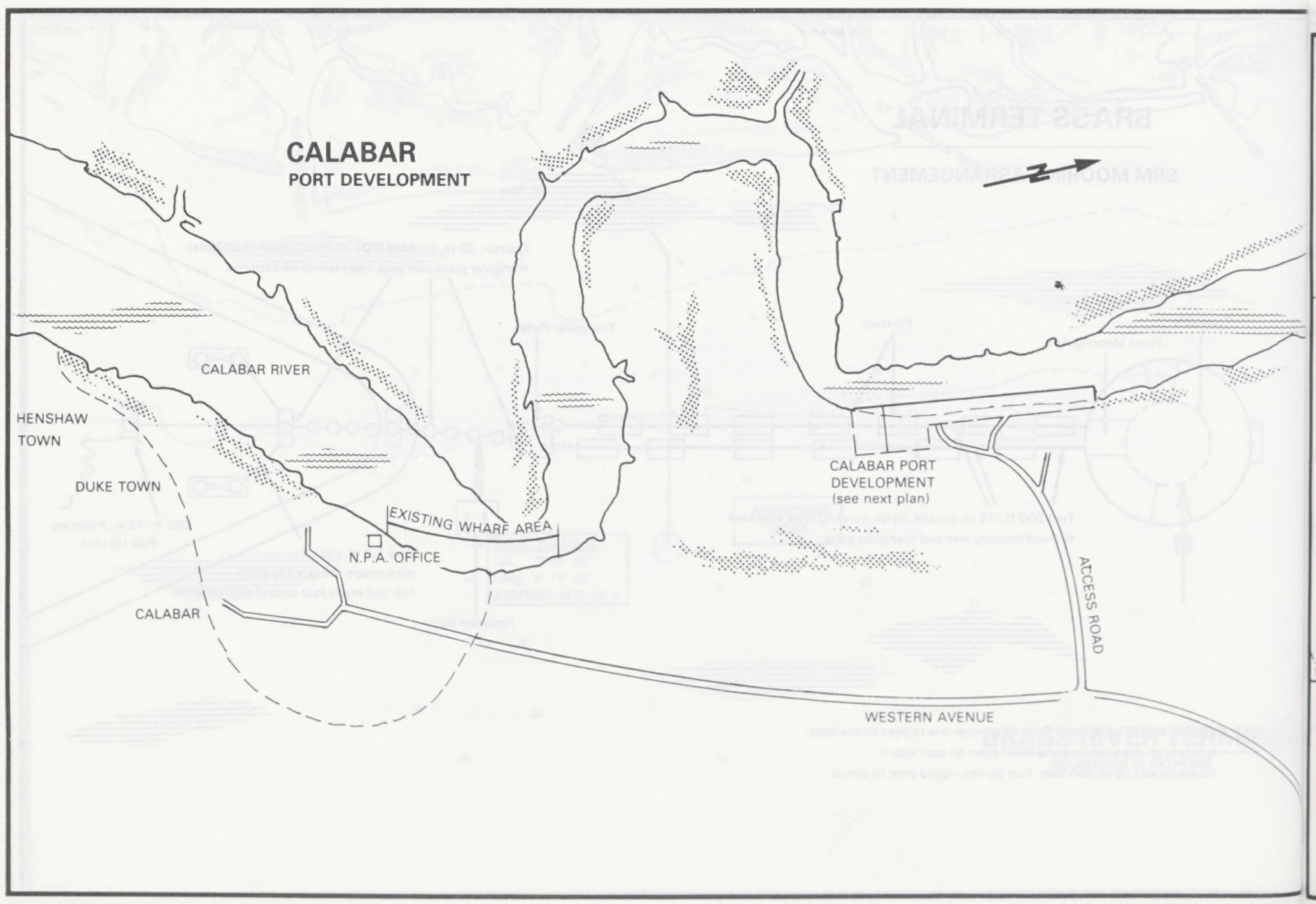
BRASS TERMINAL

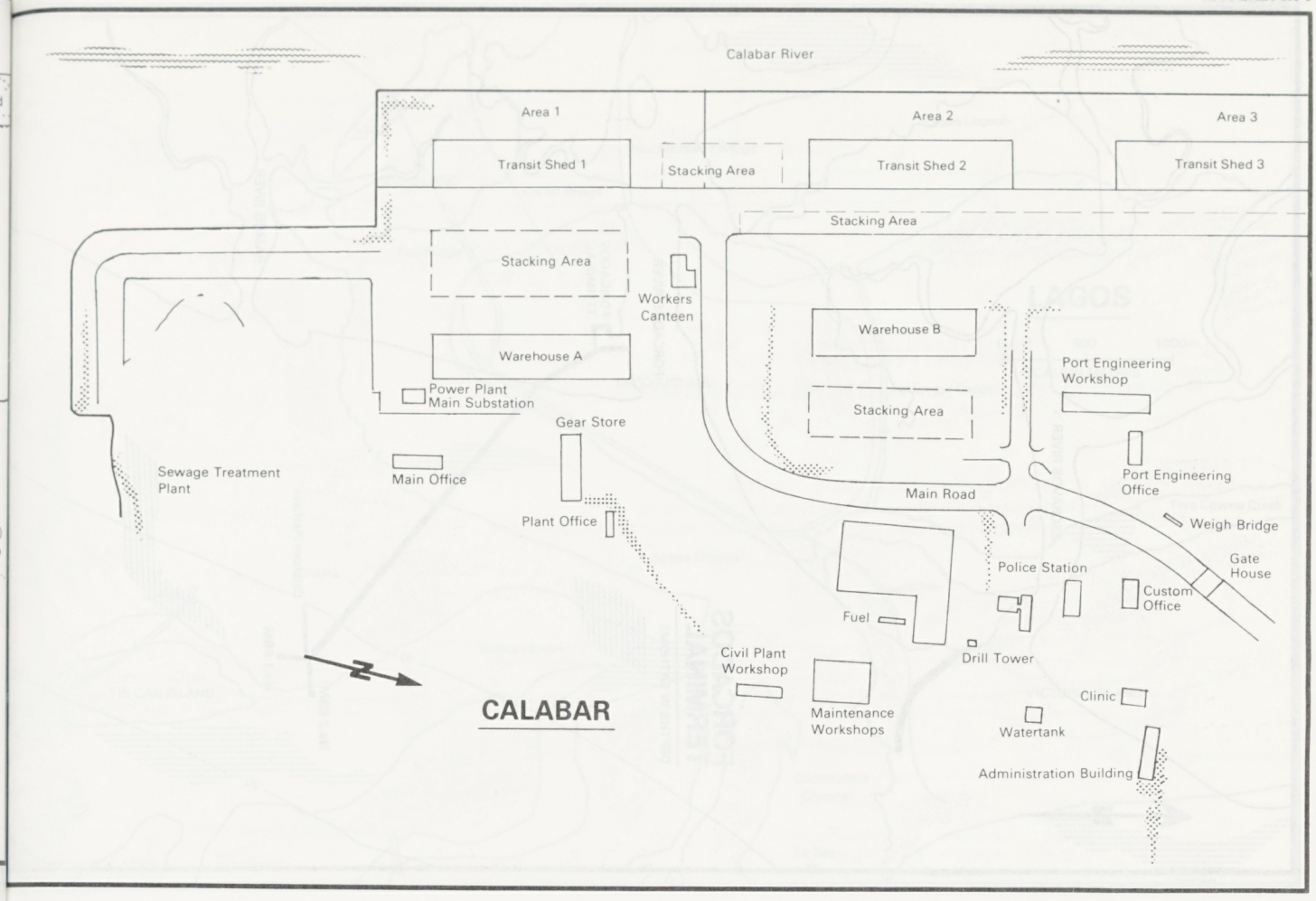
SBM MOORING ARRANGEMENT

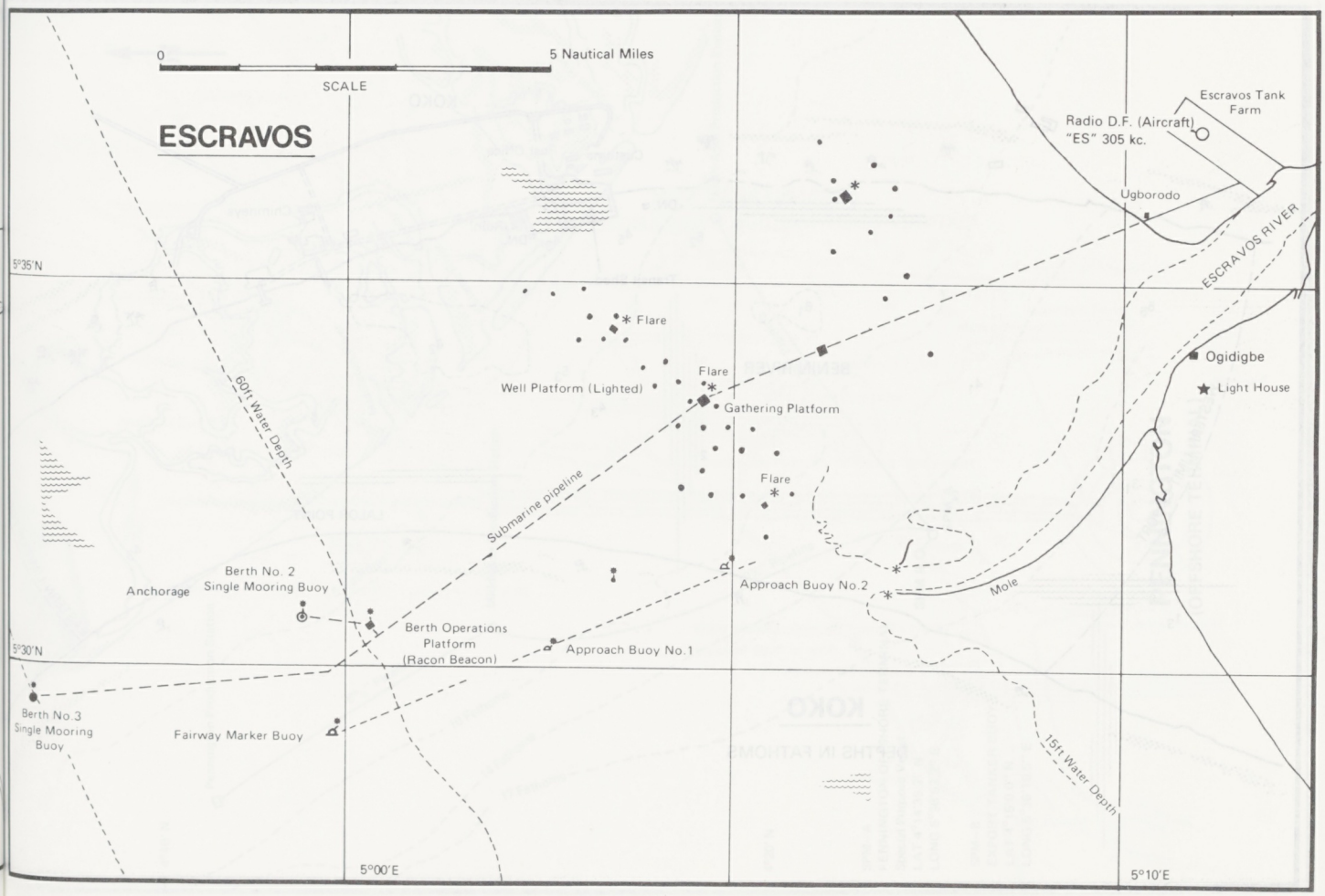


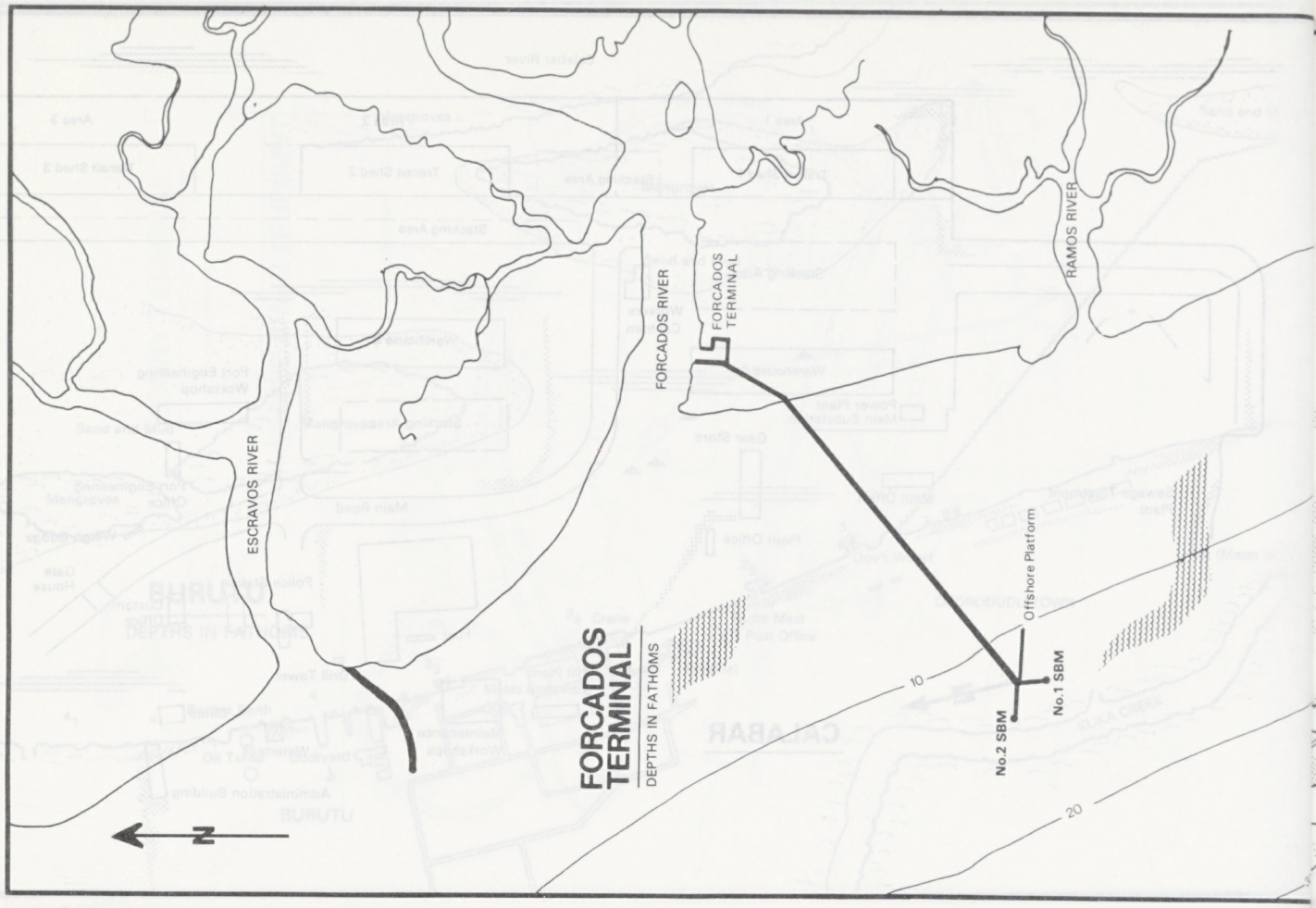
Vessels should have ready 3 in. messenger line to pass to line boat, led through the boat lead and abaft stem on port side.
Hoses picked up on port side. Port derrick rigged prior to arrival.

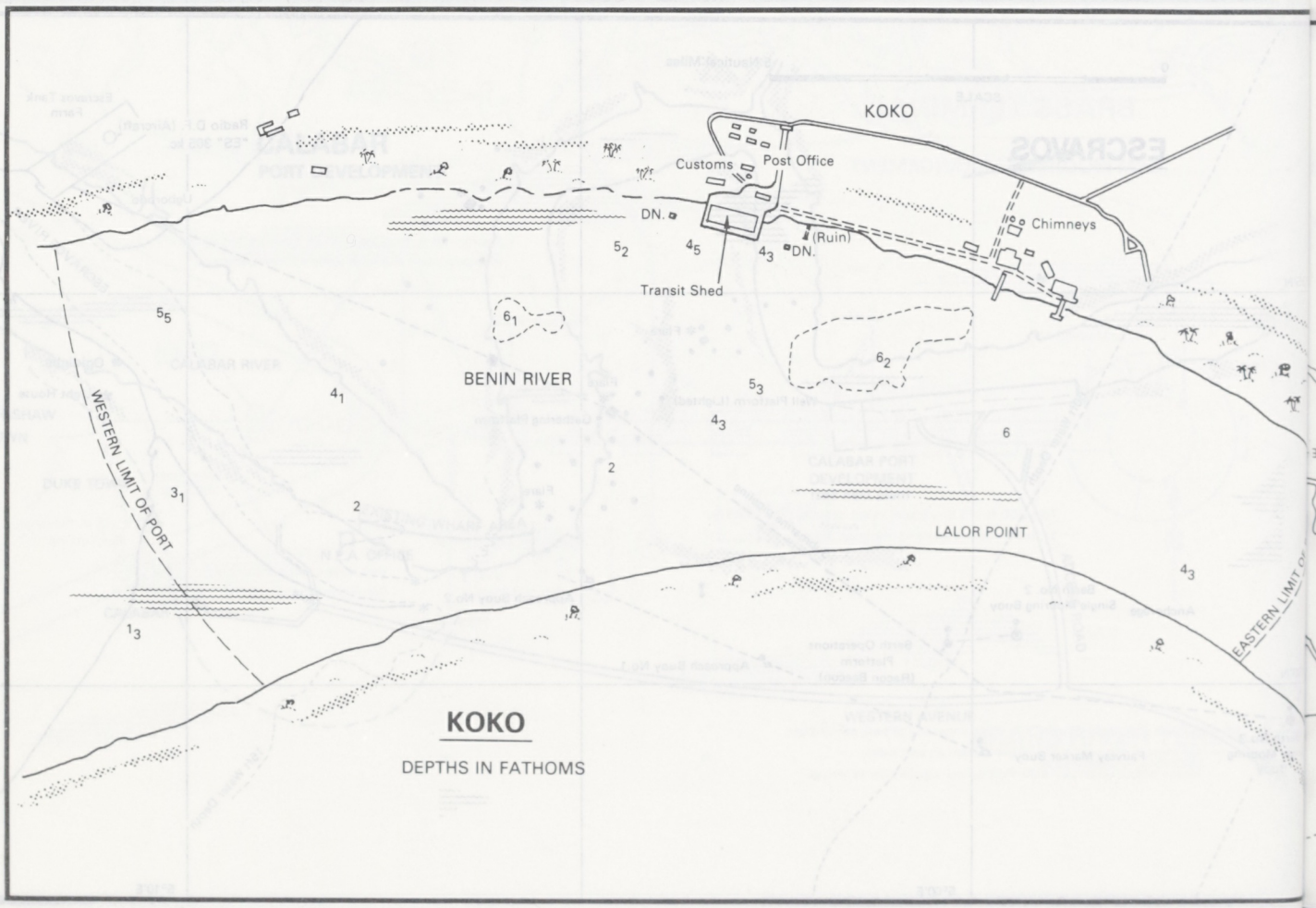

Mangroves
Sand and Mud
Mangroves
Sand and Mud
Sand and Mud
Mangroves
Mangroves
BURUTU
DEPTHS IN FATHOMS
Gov't Wharf
Hulk (Masts 40 ft)
OKORODUDU TOWN
Crane
Radio Mast
Post Office
Hospital
Masts
Bunker Berth
Oil Tanks
Dockyard
BURUTU
KUKA CREEK

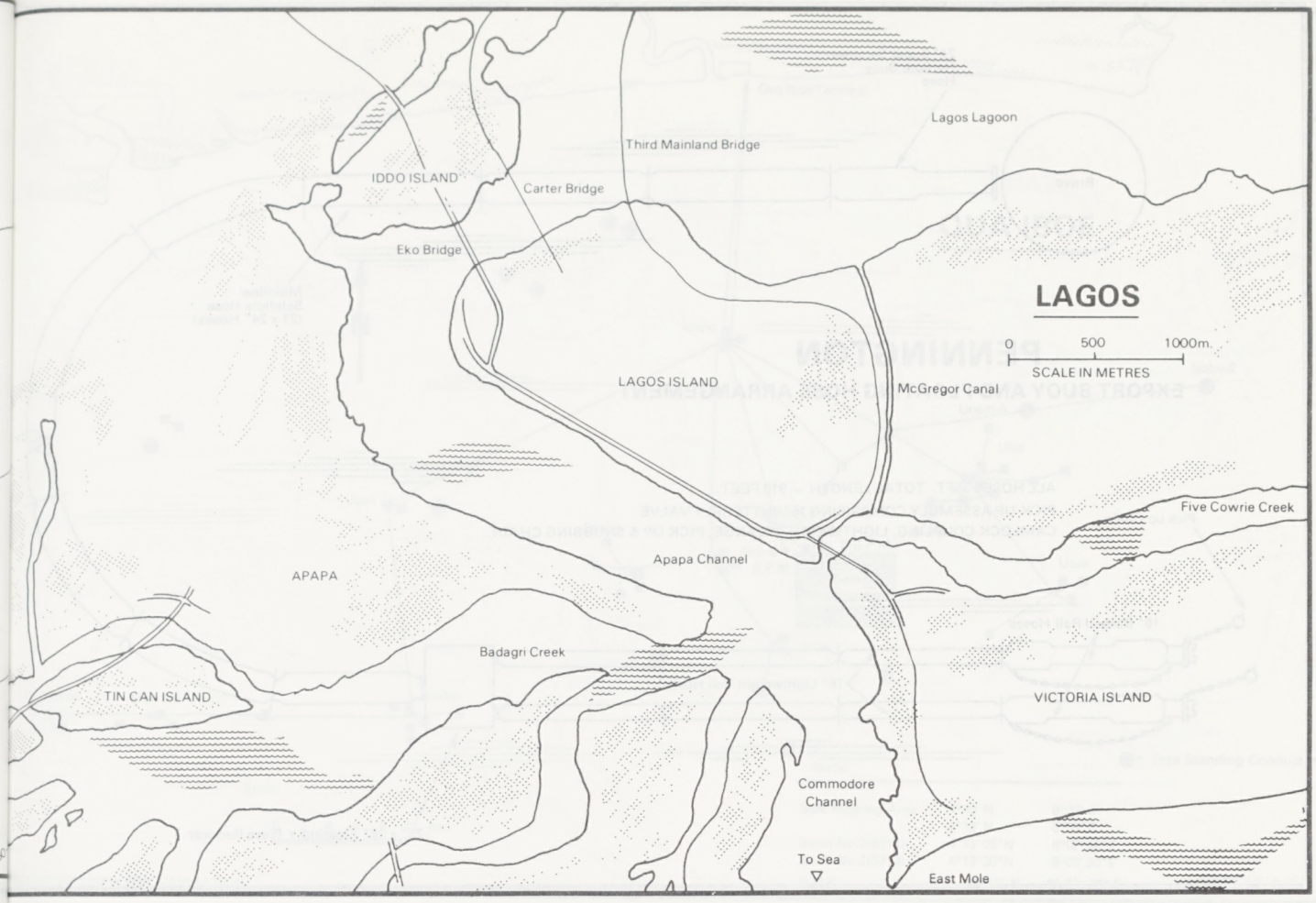

CALABAR
PORT DEVELOPMENT
CALABAR RIVER
HENSHAW TOWN
DUKE TOWN
EXISTING WHARF AREA
N.P.A. OFFICE
CALABAR
CALABAR PORT DEVELOPMENT
(see next plan)
ACCESS ROAD
WESTERN AVENUE

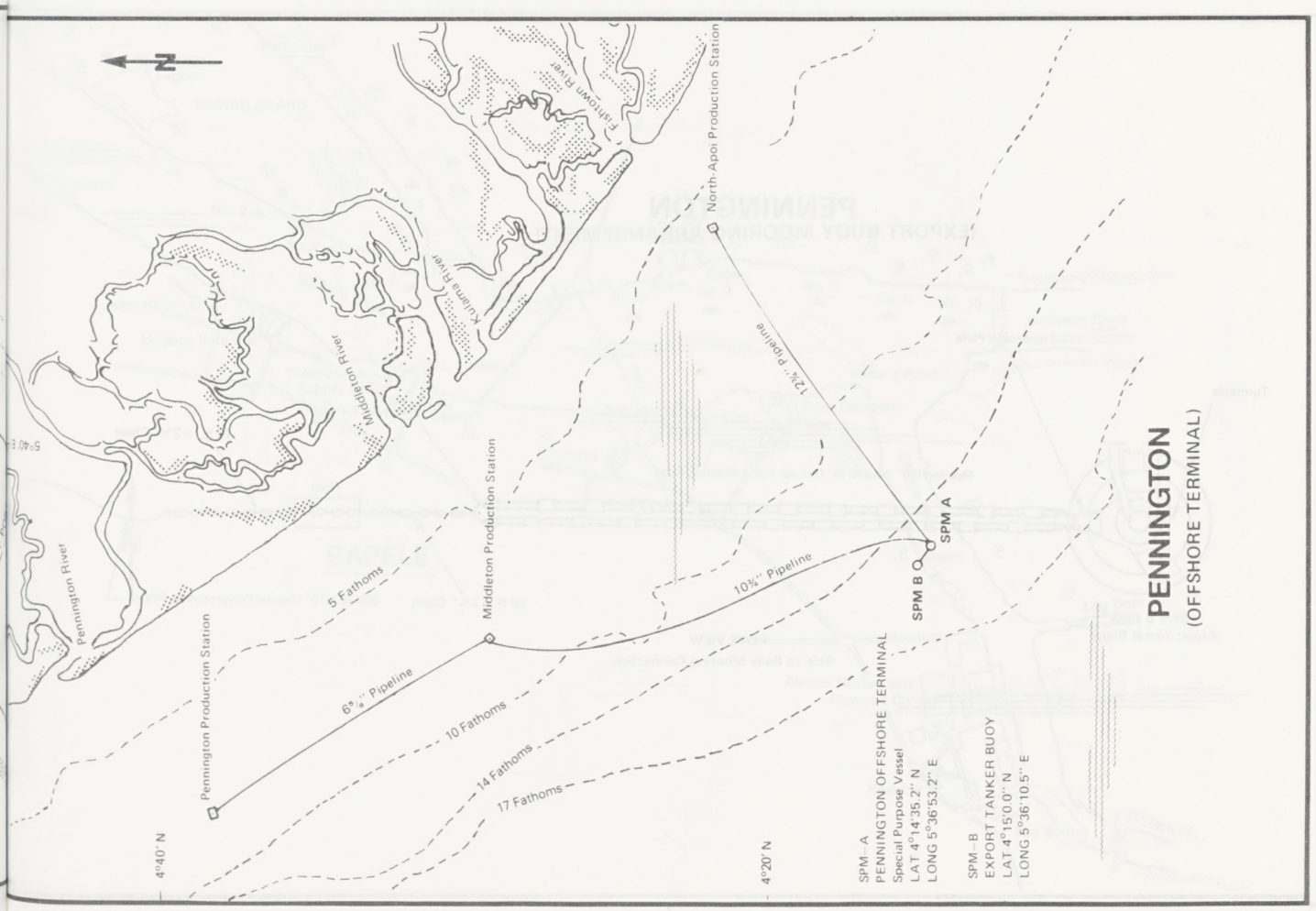

Calabar River
Area 1
Area 2
Area 3
Transit Shed 1
Stacking Area
Transit Shed 2
Transit Shed 3
Stacking Area
Stacking Area
Workers Canteen
Warehouse B
Warehouse A
Port Engineering Workshop
Power Plant
Main Substation
Stacking Area
Gear Store
Sewage Treatment Plant
Main Office
Port Engineering Office
Main Road
Plant Office
Weigh Bridge
Police Station
Gate House
Custom Office
Fuel
Drill Tower
Civil Plant Workshop
CALABAR
Maintenance Workshops
Clinic
Watertank
Administration Building

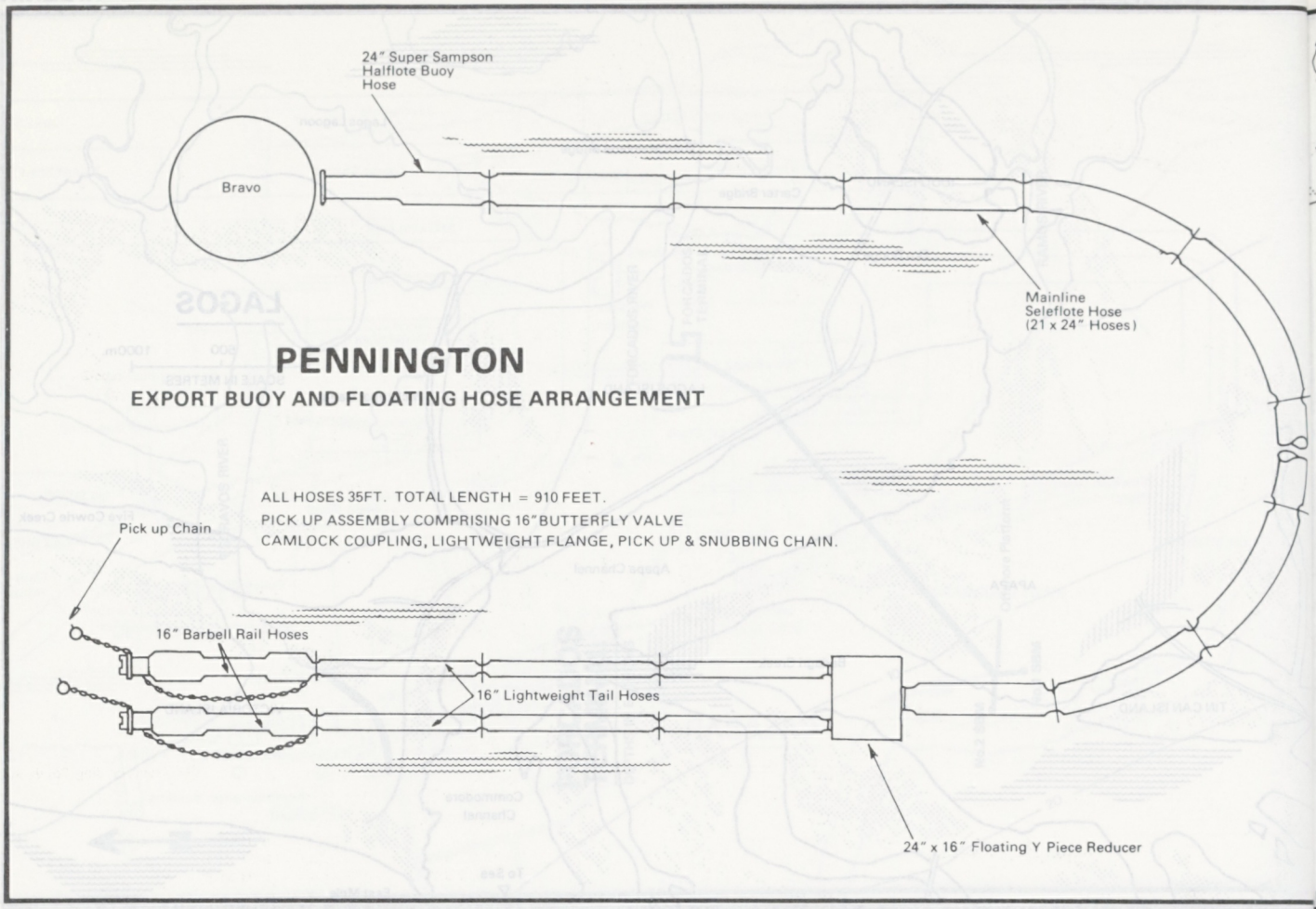

0
5 Nautical Miles
SCALE
ESCRAVOS
Escravos Tank Farm
Radio D.F. (Aircraft) "ES" 305 kc.
Ugborodo
ESCRAVOS RIVER
5°35'N
Flare
Flare
Well Platform (Lighted)
Gathering Platform
Ogidigbe
Light House
60ft Water Depth
Submarine pipeline
Flare
Berth No. 2 Single Mooring Buoy
Anchorage
Approach Buoy No.2
Mole
Berth Operations Platform (Racon Beacon)
Approach Buoy No.1
5°30'N
Berth No.3 Single Mooring Buoy
Fairway Marker Buoy
15ft Water Depth
5°00'E
5°10'E


ESCRAVOS RIVER
FORCADOS RIVER
FORCADOS TERMINAL
RAMOS RIVER
FORCADOS TERMINAL
DEPTHS IN FATHOMS
Offshore Platform
No.1 SBM
No.2 SBM
10
20
N


KOKO
Customs
Post Office
DN.
Chimneys
(Ruin)
DN.
Transit Shed
BENIN RIVER
WESTERN LIMIT OF PORT
LALOR POINT
EASTERN LIMIT OF
KOKO
DEPTHS IN FATHOMS

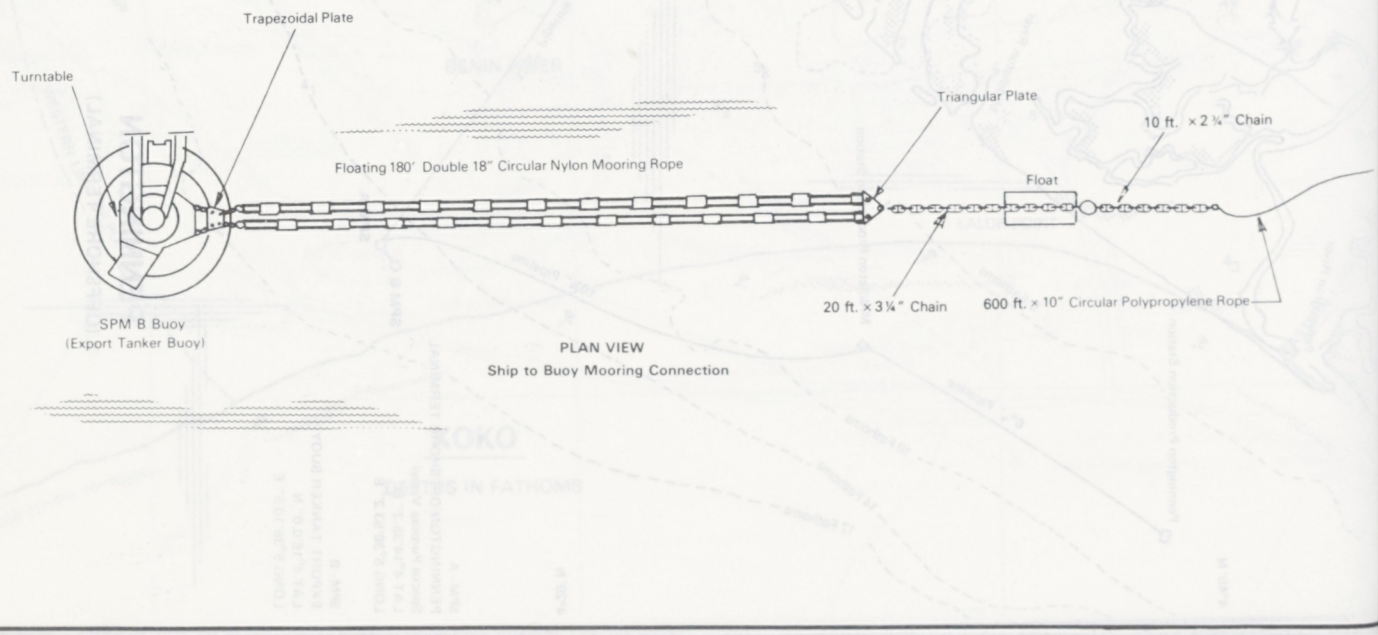

Lagos Lagoon
Third Mainland Bridge
IDDO ISLAND
Carter Bridge
Eko Bridge
LAGOS
0 500 1000m.
SCALE IN METRES
LAGOS ISLAND
McGregor Canal
Five Cowrie Creek
Apapa Channel
APAPA
Badagri Creek
TIN CAN ISLAND
VICTORIA ISLAND
Commodore Channel
To Sea
East Mole


N
Fishtown River
North-Apoi Production Station
Kulama River
Middleton River
12¾" pipeline
Pennington River
5 Fathoms
Middleton Production Station
SPM A
SPM B
10¾" Pipeline
6⅝" Pipeline
10 Fathoms
14 Fathoms
17 Fathoms
Pennington Production Station
4°40' N
4°20' N
SPM – A
PENNINGTON OFFSHORE TERMINAL
Special Purpose Vessel
LAT 4°14'35.2" N
LONG 5°36'53.2" E
SPM – B
EXPORT TANKER BUOY
LAT 4°15'0.0" N
LONG 5°36'10.5" E
PENNINGTON
(OFFSHORE TERMINAL)



PENNINGTON

EXPORT BUOY AND FLOATING HOSE ARRANGEMENT

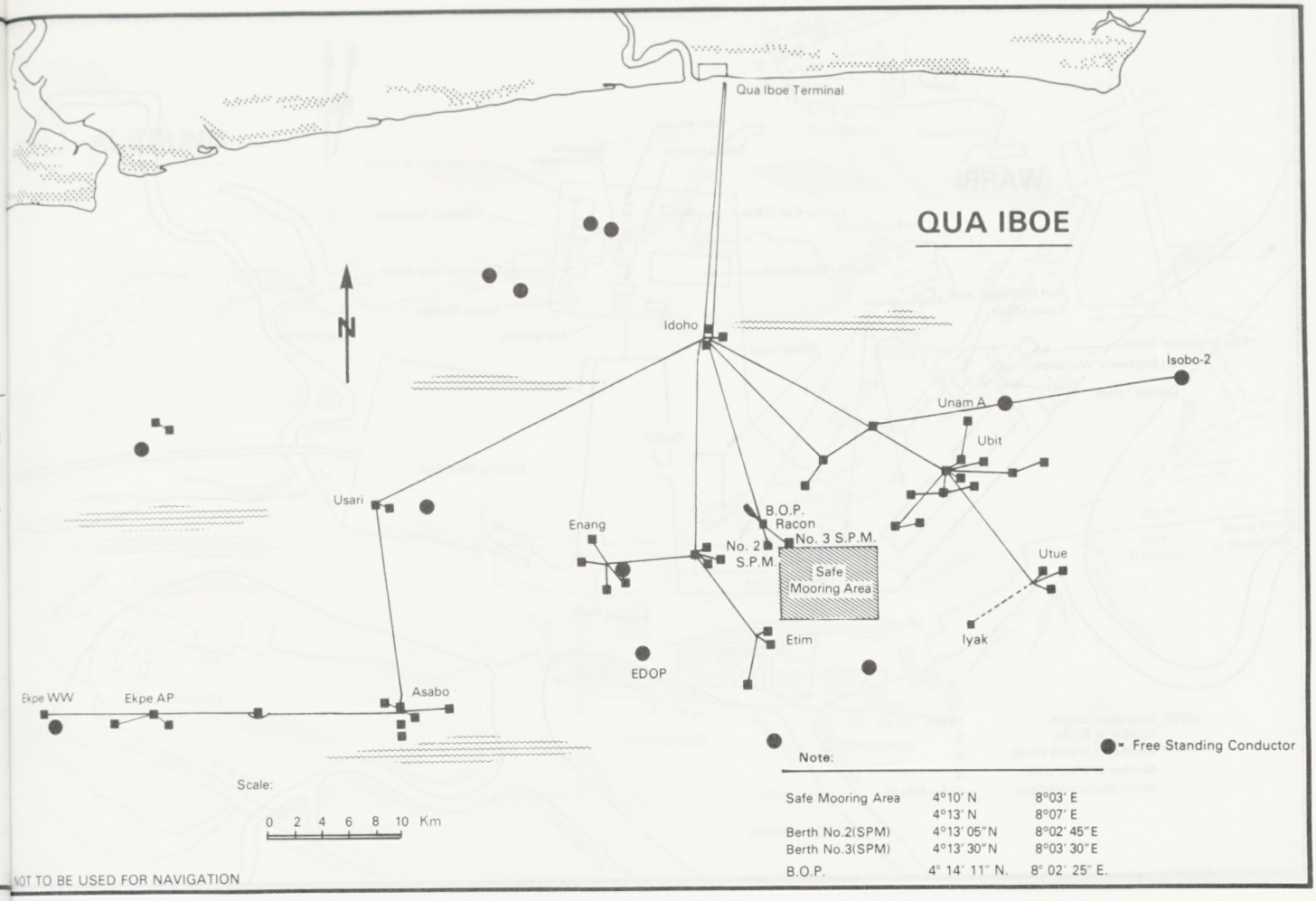


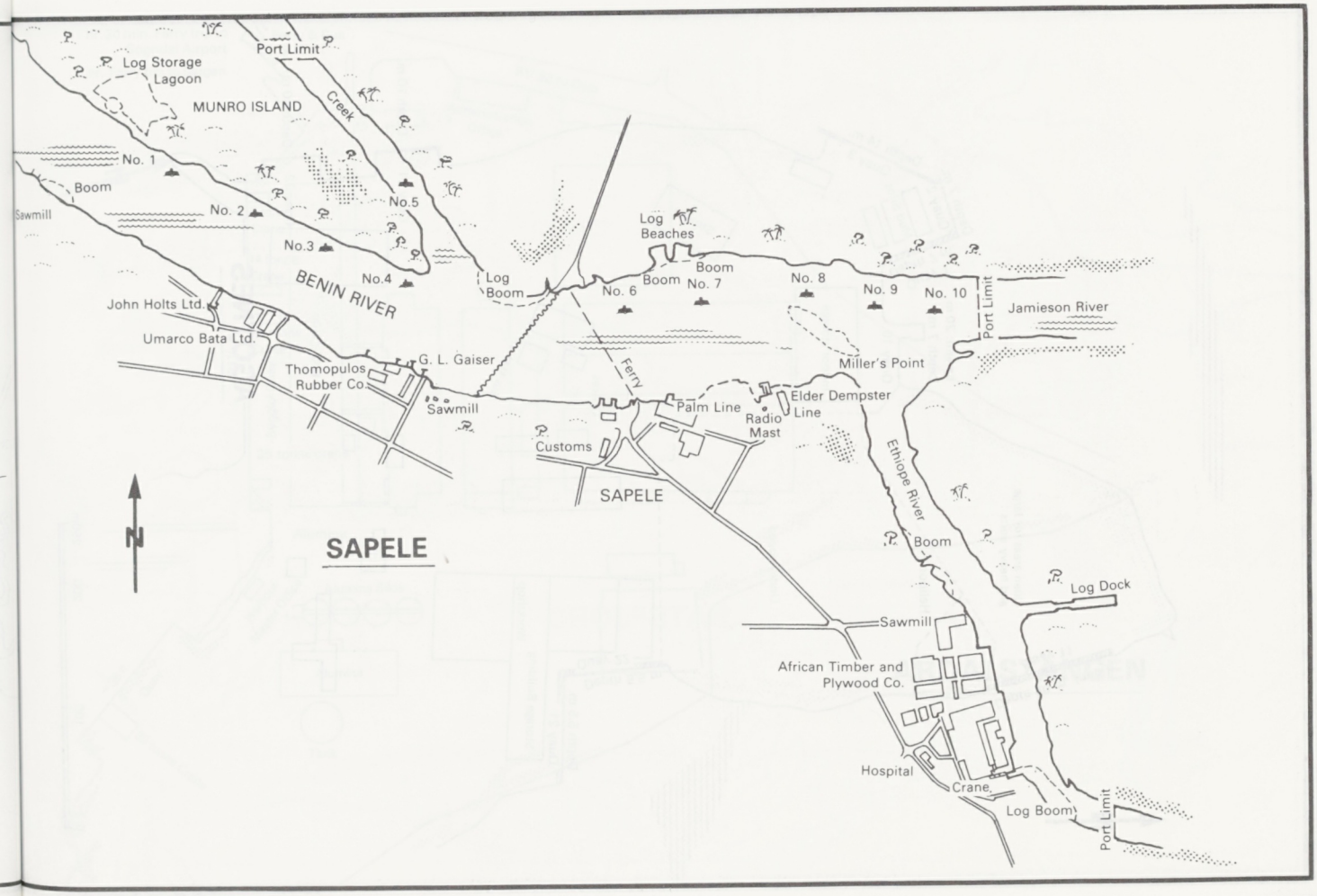
PENNINGTON

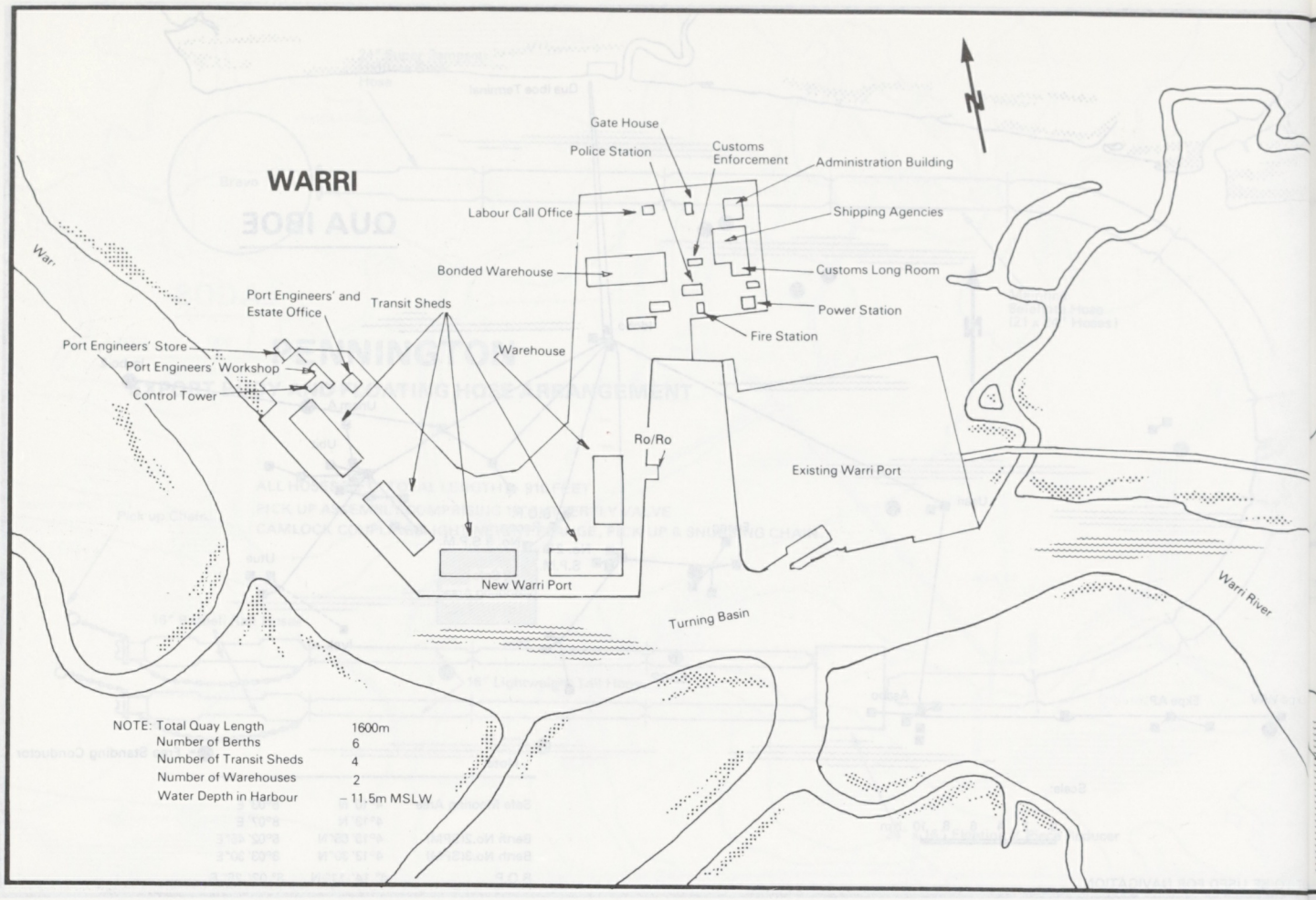
(EXPORT BUOY MOORING ARRANGEMENT)

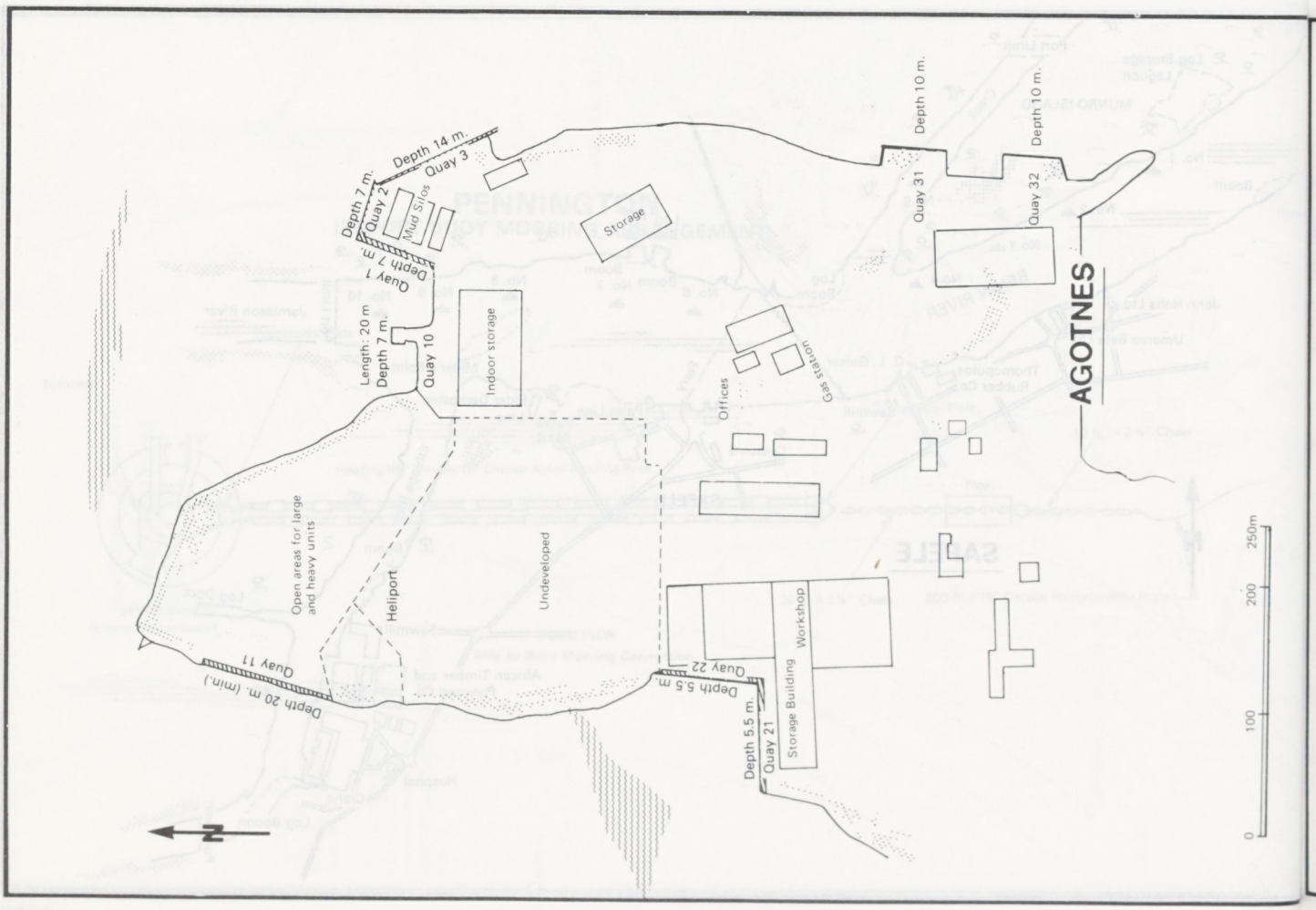
PLAN VIEW

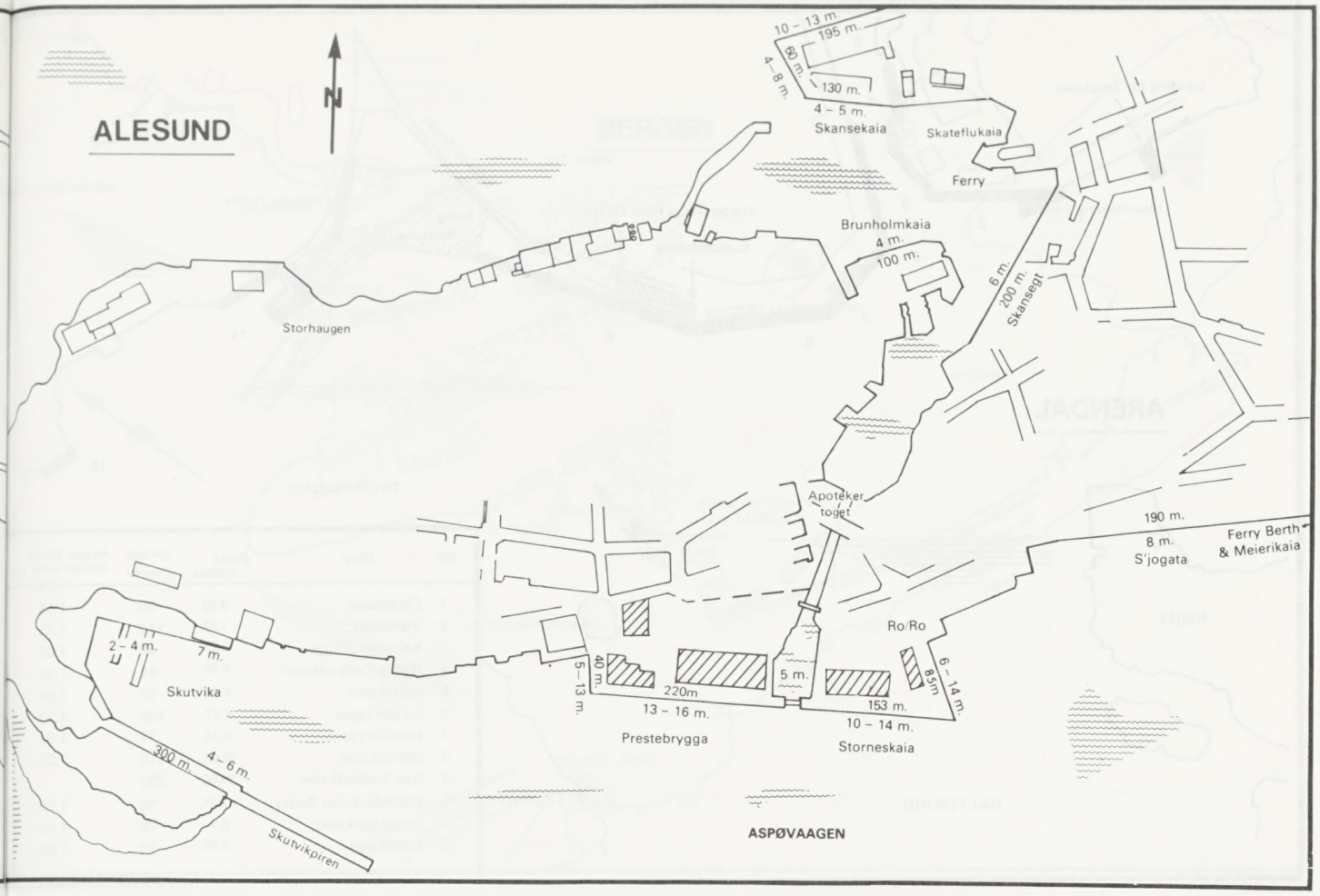
Ship to Buoy Mooring Connection

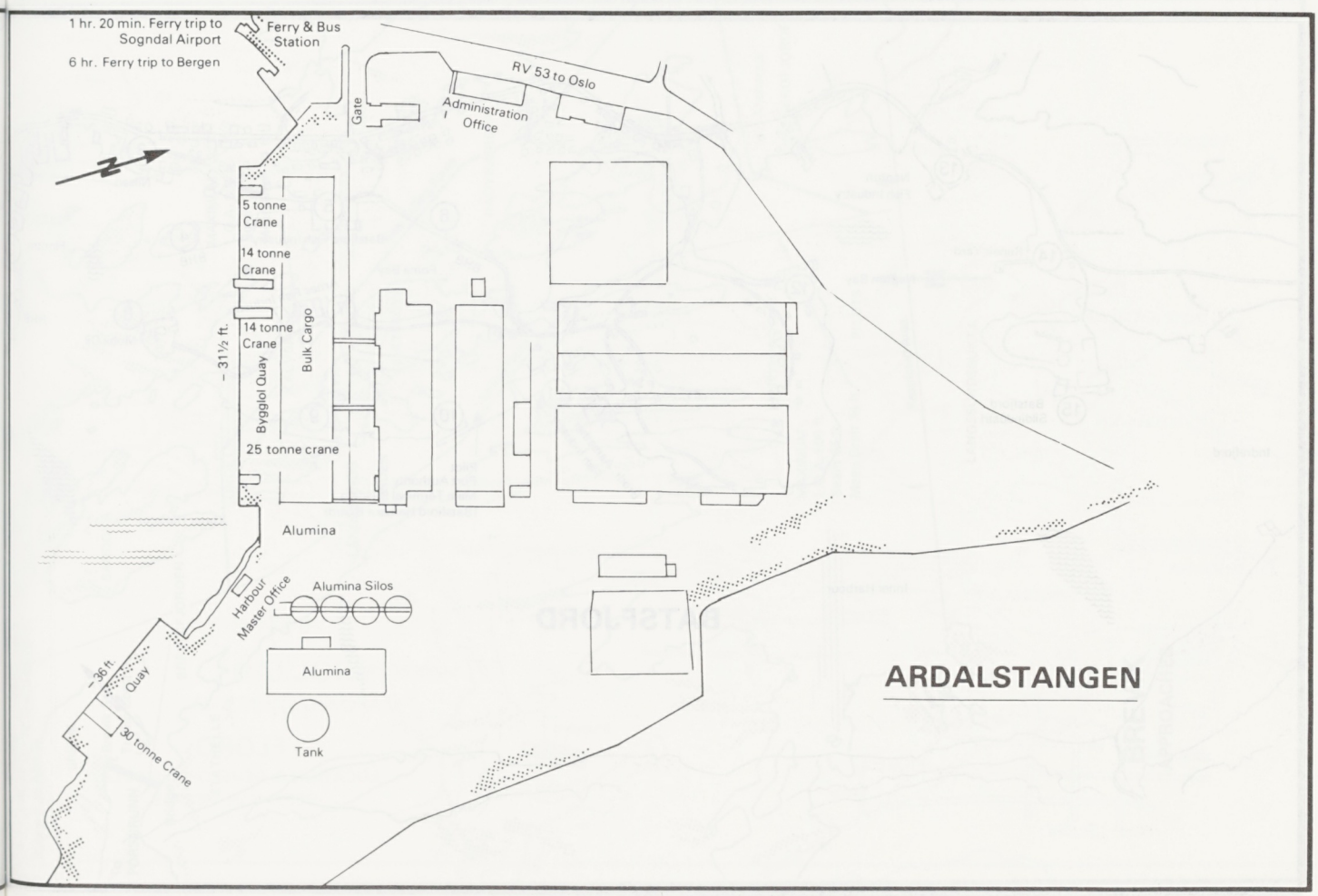

Qua Iboe Terminal
QUA IBOE
N
Idoho
Isobo-2
Unam A
Ubit
Usari
Enang
B.O.P.
Racon
No. 2
S.P.M.
No. 3 S.P.M.
Safe
Mooring Area
Utue
Etim
Iyak
EDOP
Ekpe WW
Ekpe AP
Asabo
Free Standing Conductor
Note:
Safe Mooring Area 4°10' N 8°03' E
4°13' N 8°07' E
Berth No.2(SPM) 4°13' 05"N 8°02' 45"E
Berth No.3(SPM) 4°13' 30"N 8°03' 30"E
B.O.P. 4° 14' 11" N. 8° 02' 25" E.
Scale:
0 2 4 6 8 10 Km
NOT TO BE USED FOR NAVIGATION

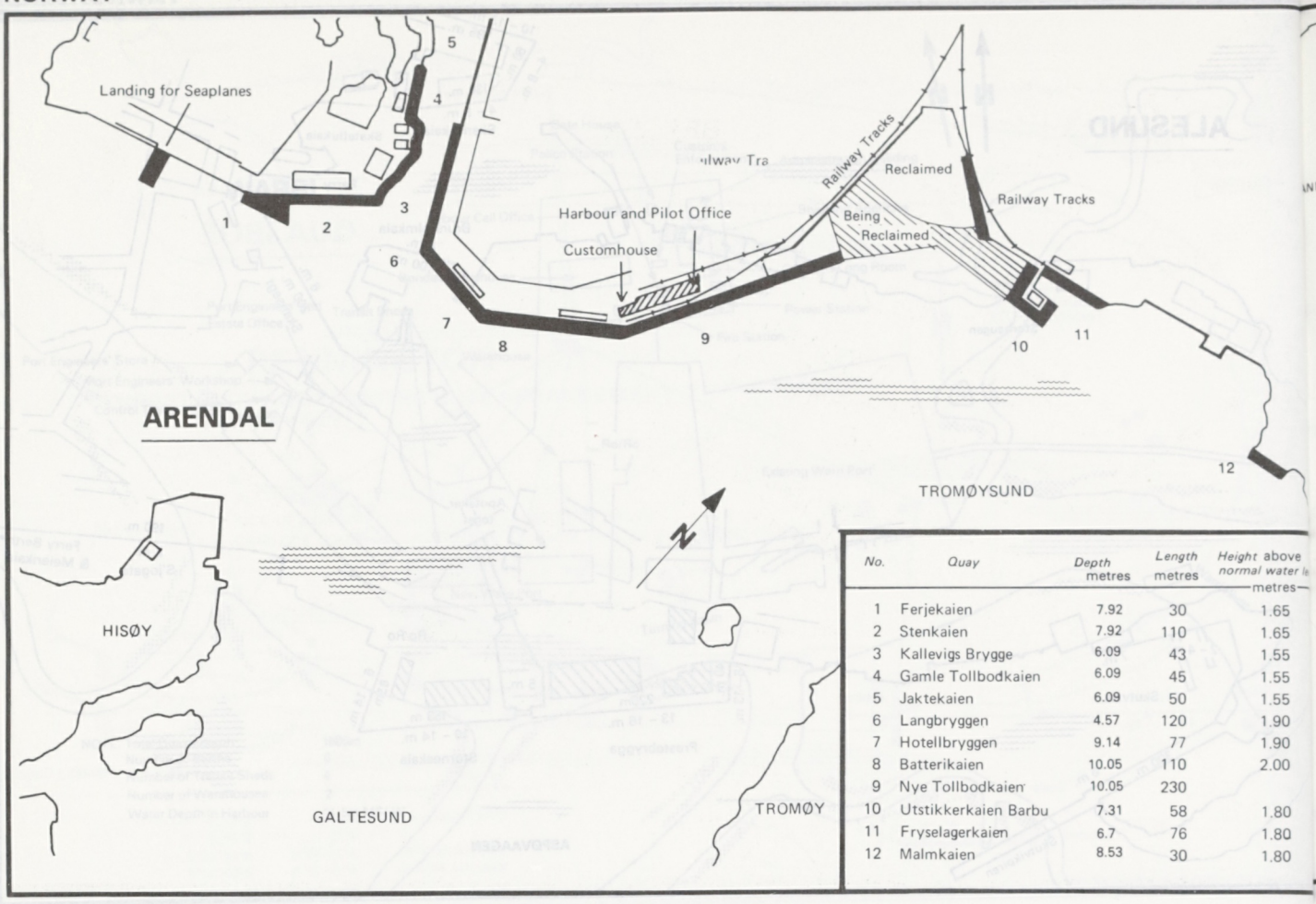

Port Limit
Log Storage
Lagoon
MUNRO ISLAND
Creek
No. 1
Boom
Sawmill
No. 2
No.5
No.3
No.4
BENIN RIVER
Log
Boom
Log
Beaches
Boom
Boom
No. 6
No. 7
No. 8
No. 9
No. 10
Port Limit
Jamieson River
John Holts Ltd.
Umarco Bata Ltd.
Thomopulos
Rubber Co.
G. L. Gaiser
Ferry
Miller's Point
Sawmill
Palm Line
Elder Dempster
Line
Radio
Mast
Customs
SAPELE
N
SAPELE
Ethiope River
Boom
Log Dock
Sawmill
African Timber and
Plywood Co.
Hospital
Crane
Log Boom
Port Limit


WARRI
Gate House
Police Station
Customs Enforcement
Administration Building
Labour Call Office
Shipping Agencies
Bonded Warehouse
Customs Long Room
Port Engineers' and Estate Office
Transit Sheds
Power Station
Fire Station
Port Engineers' Store
Warehouse
Port Engineers' Workshop
Control Tower
Ro/Ro
Existing Warri Port
New Warri Port
Turning Basin
Warri River
NOTE: Total Quay Length 1600m
Number of Berths 6
Number of Transit Sheds 4
Number of Warehouses 2
Water Depth in Harbour – 11.5m MSLW

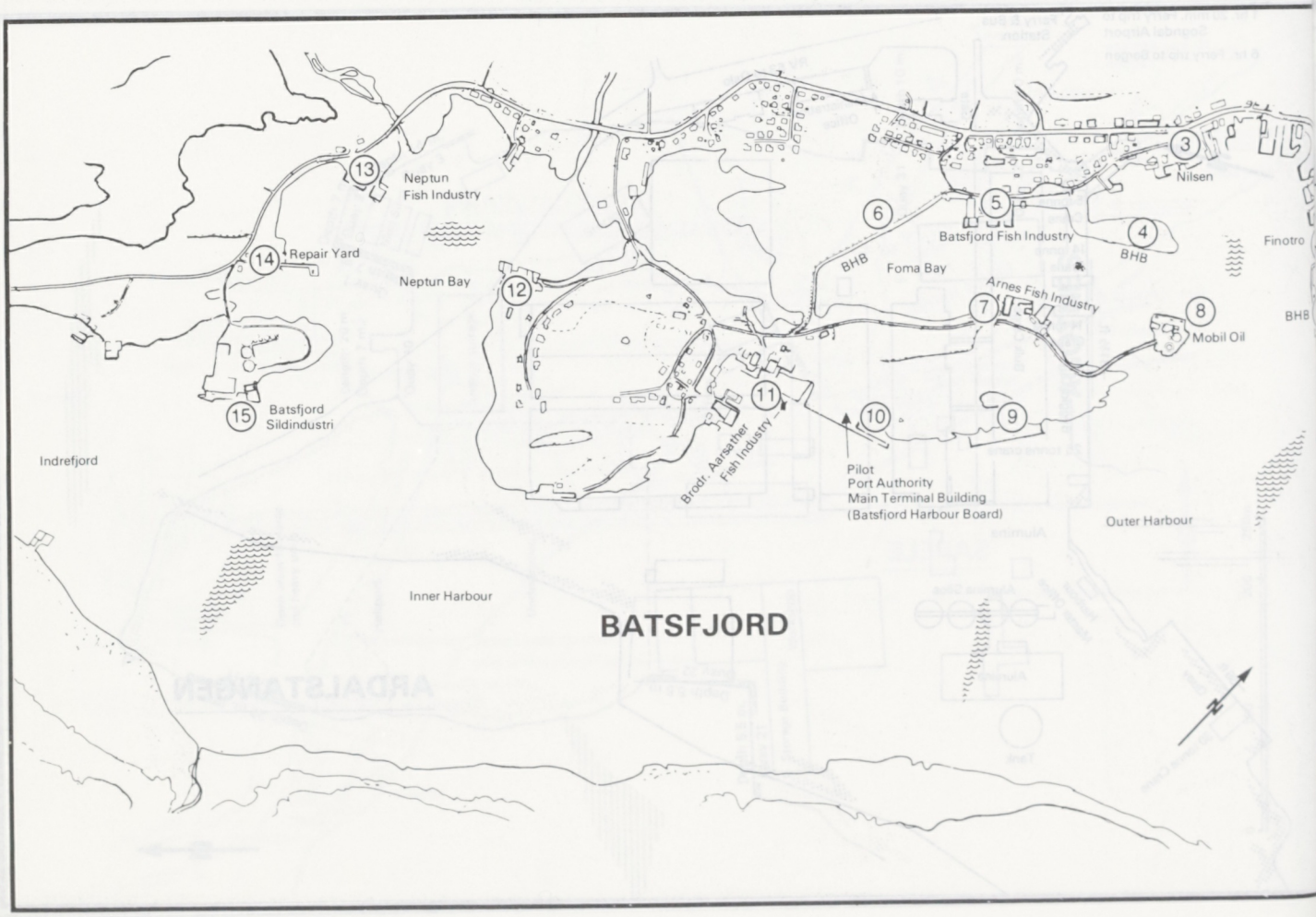

AGOTNES
Depth 14 m.
Quay 3
Depth 7 m.
Quay 2
Mud Silos
Depth 7 m.
Quay 1
Length: 20 m
Depth 7 m.
Quay 10
Indoor storage
Storage
Depth 10 m.
Quay 31
Depth 10 m.
Quay 32
Offices
Gas station
Open areas for large and heavy units
Heliport
Undeveloped
Quay 11
Depth 20 m. (min.)
Quay 22
Depth 5.5 m.
Depth 5.5 m.
Quay 21
Storage Building
Workshop
0
100
200
250m

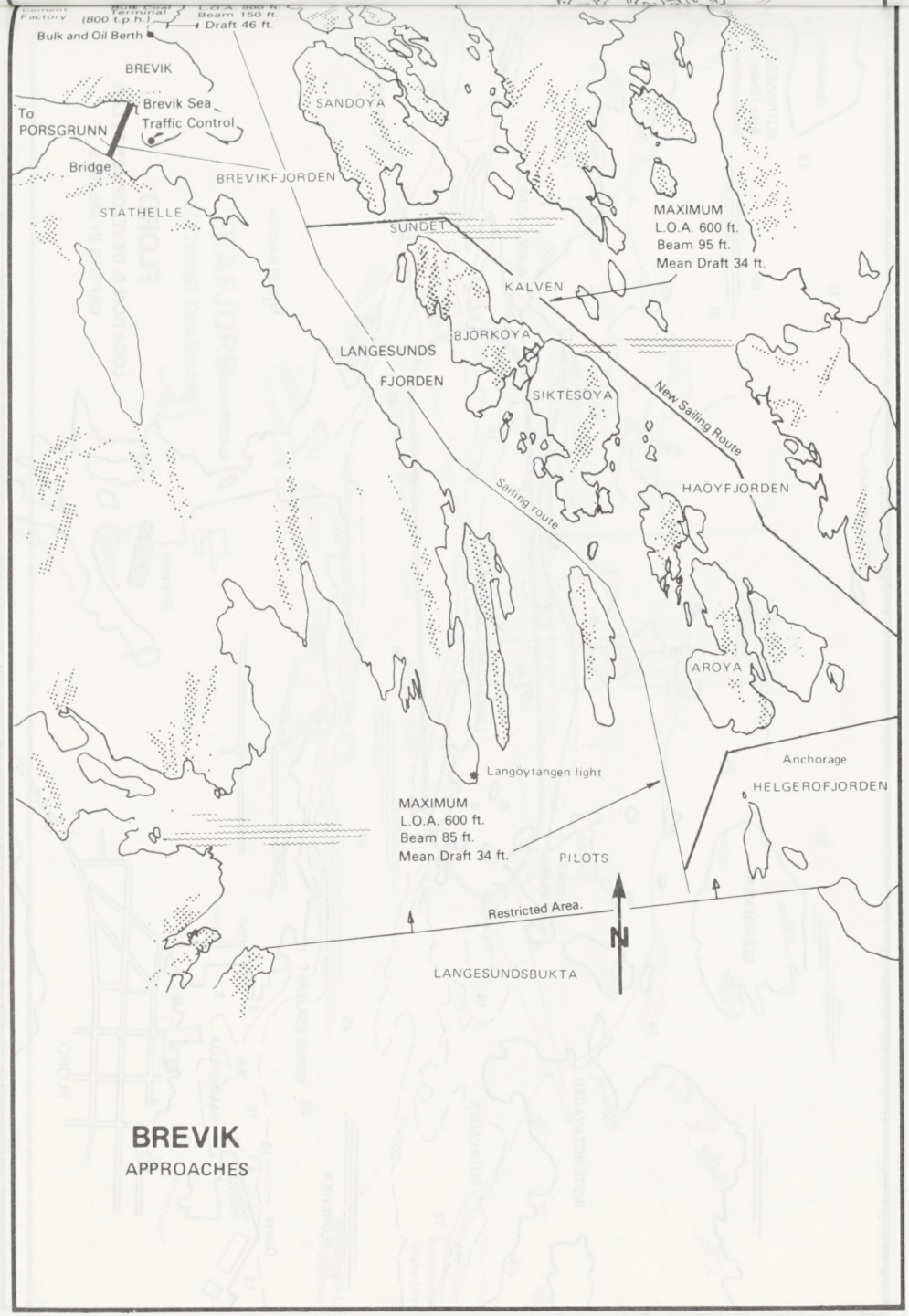

ALESUND
N
10 – 13 m.
195 m.
60 m.
4 – 8 m.
130 m.
4 – 5 m.
Skansekaia
Skateflukaia
Ferry
Brunholmkaia
4 m.
100 m.
6 m.
200 m.
Skansegt
Storhaugen
Apoteker toget
190 m.
8 m.
S'jogata
Ferry Berth & Meierikaia
Ro/Ro
2 – 4 m.
7 m.
Skutvika
5 – 13 m.
40 m.
220m
13 – 16 m.
Prestebrygga
5 m.
153 m.
10 – 14 m.
Storneskaia
6 – 14 m.
85m
300 m.
4 – 6 m.
Skutvikpiren
ASPØVAAGEN


1 hr. 20 min. Ferry trip to Sogndal Airport
6 hr. Ferry trip to Bergen
Ferry & Bus Station
RV 53 to Oslo
Gate
Administration Office
N
5 tonne Crane
14 tonne Crane
14 tonne Crane
– 31½ ft.
Bygglol Quay
Bulk Cargo
25 tonne crane
Alumina
Harbour Master Office
Alumina Silos
Alumina
Tank
– 36 ft.
Quay
30 tonne Crane
ARDALSTANGEN

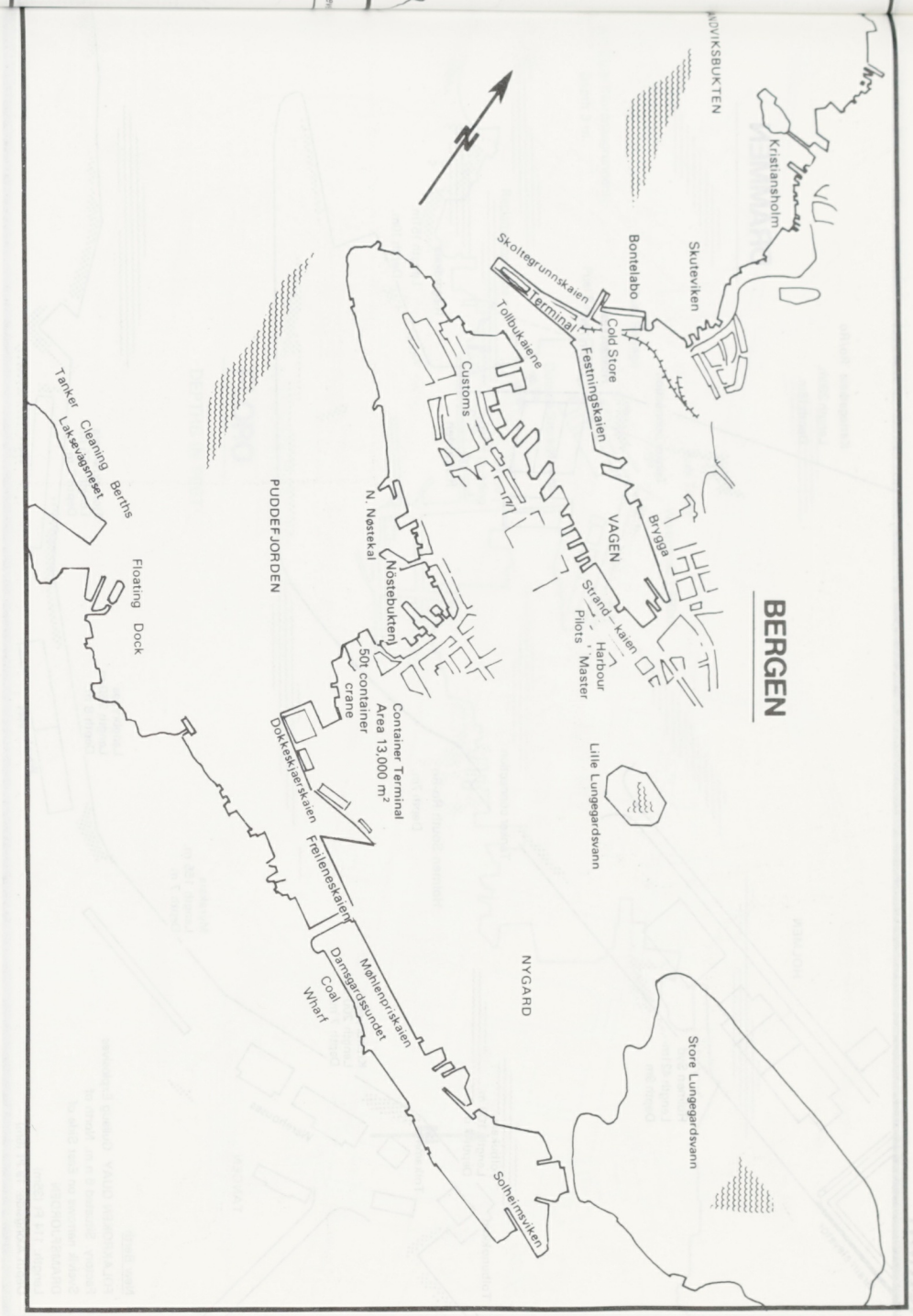


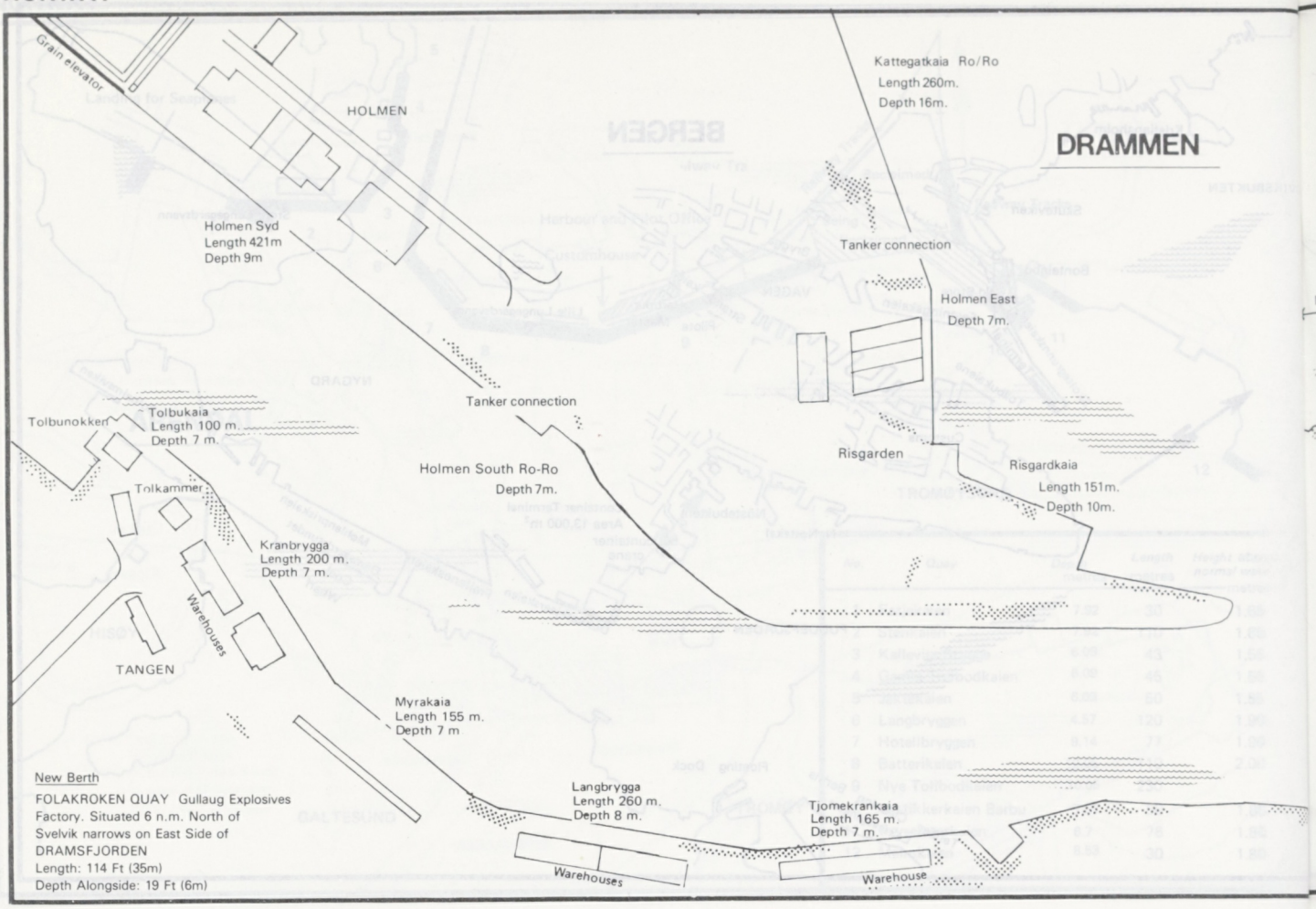
No.	Quay	Depth metres	Length metres	Height above normal water level metres
1	Ferjekaien	7.92	30	1.65
2	Stenkaien	7.92	110	1.65
3	Kallevigs Brygge	6.09	43	1.55
4	Gamle Tollbodkaien	6.09	45	1.55
5	Jaktekaien	6.09	50	1.55
6	Langbryggen	4.57	120	1.90
7	Hotellbryggen	9.14	77	1.90
8	Batterikaien	10.05	110	2.00
9	Nye Tollbodkaien	10.05	230	
10	Utstikkerkaien Barbu	7.31	58	1.80
11	Fryselagerkaien	6.7	76	1.80
12	Malmkaien	8.53	30	1.80

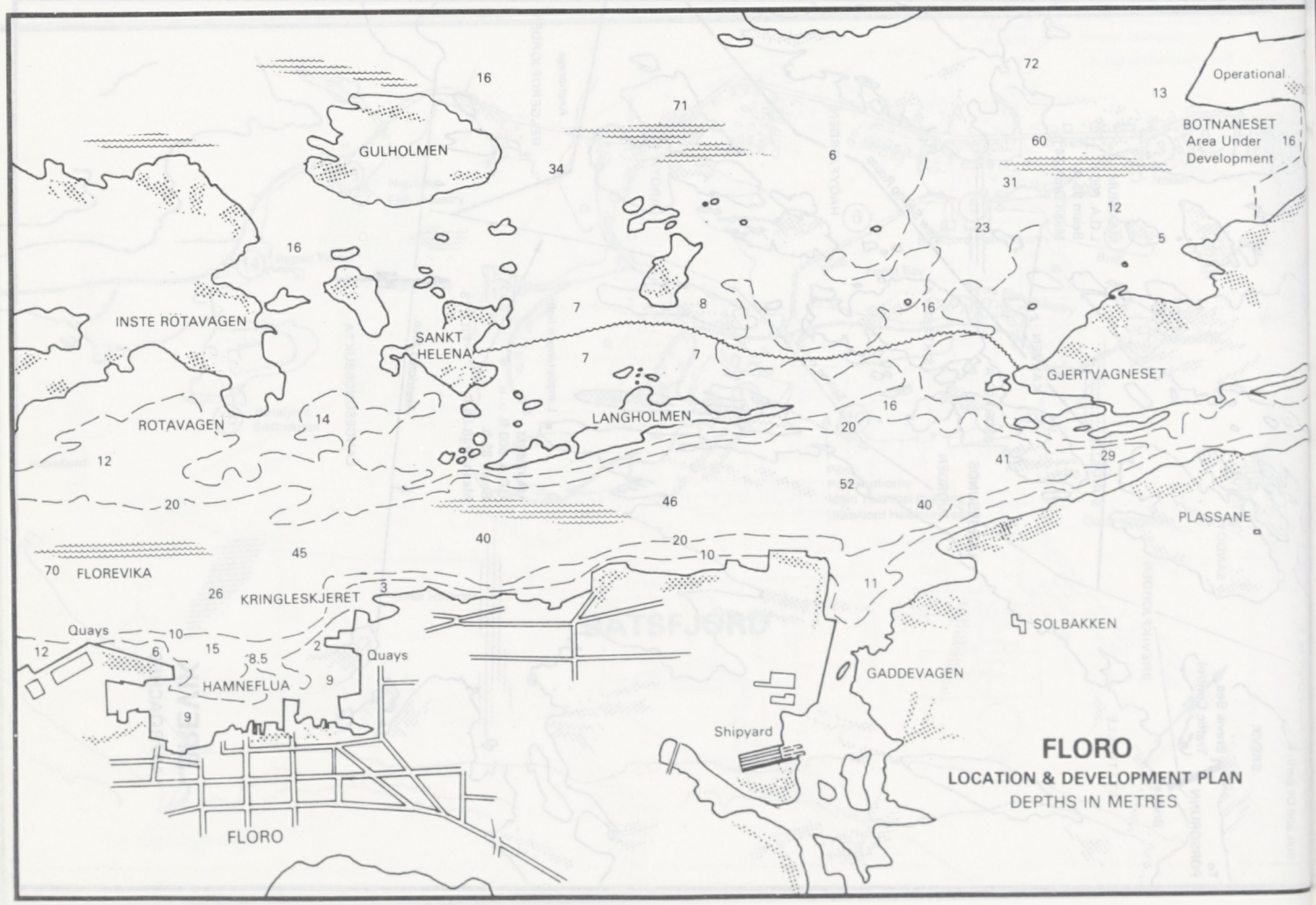


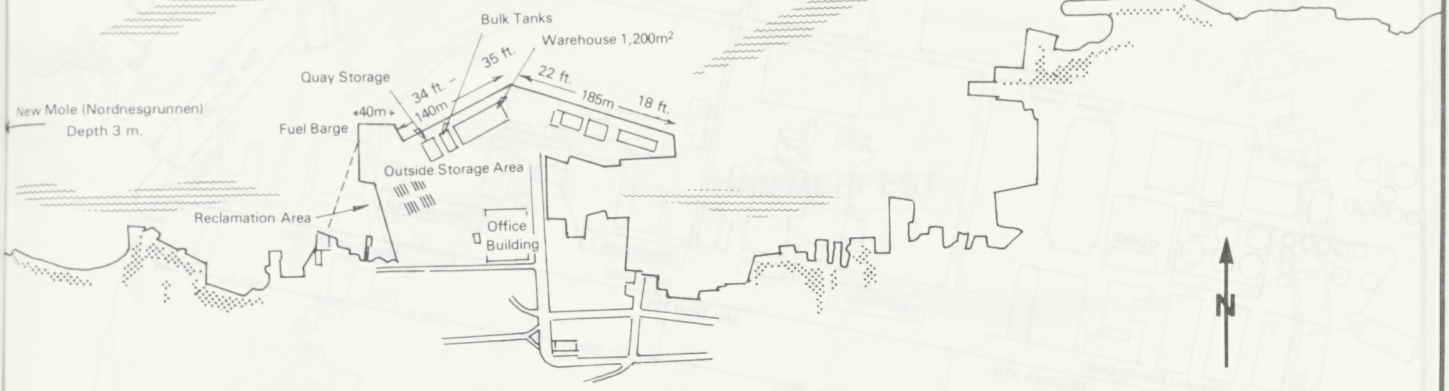


BREVIK
APPROACHES



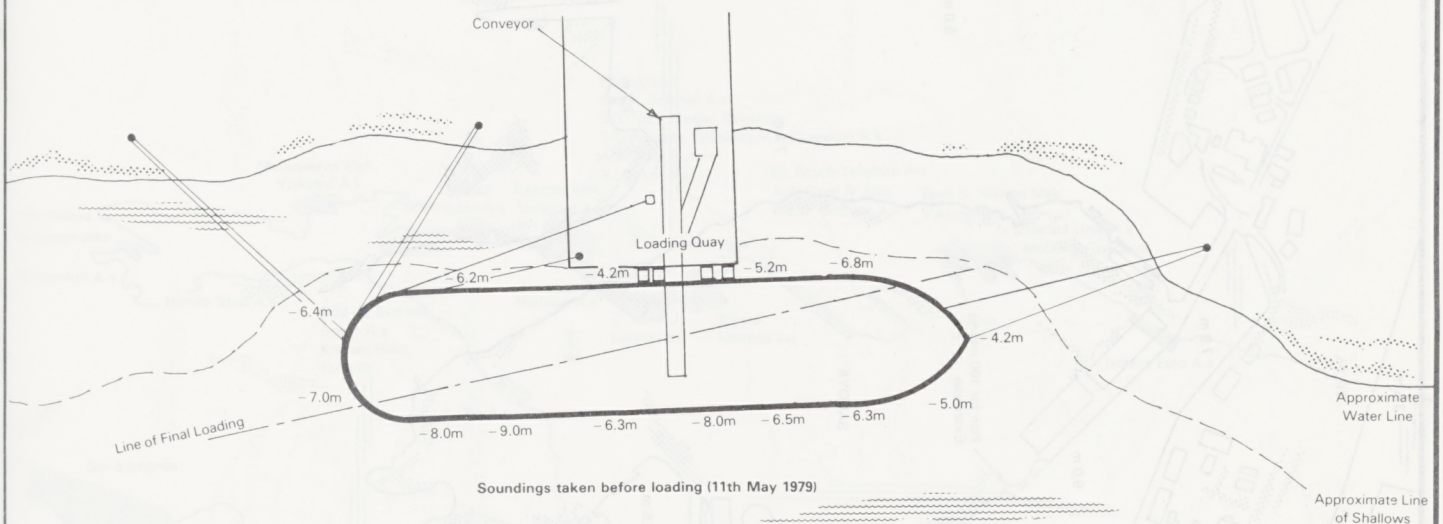

DRAMMEN
Grain elevator
HOLMEN
Holmen Syd
Length 421m
Depth 9m
Kattegatkaia Ro/Ro
Length 260m.
Depth 16m.
Tanker connection
Holmen East
Depth 7m.
Tanker connection
Tolbunokken
Tolbukaia
Length 100 m.
Depth 7 m.
Holmen South Ro-Ro
Depth 7m.
Risgarden
Risgardkaia
Length 151m.
Depth 10m.
Tolkammer
Kranbrygga
Length 200 m.
Depth 7 m.
Warehouses
TANGEN
Myrakaia
Length 155 m.
Depth 7 m
New Berth
FOLAKROKEN QUAY Gullaug Explosives Factory. Situated 6 n.m. North of Svelvik narrows on East Side of DRAMSFJORDEN
Length: 114 Ft (35m)
Depth Alongside: 19 Ft (6m)
Langbrygga
Length 260 m.
Depth 8 m.
Tjomekrankaia
Length 165 m.
Depth 7 m.
Warehouses
Warehouse


GULHOLMEN
Operational
BOTNANESET
Area Under
Development
INSTE ROTAVAGEN
SANKT
HELENA
GJERTVAGNESET
ROTAVAGEN
LANGHOLMEN
PLASSANE
FLOREVIKA
KRINGLESKJERET
SOLBAKKEN
Quays
Quays
HAMNEFLUA
GADDEVAGEN
Shipyard
FLORO
FLORO
LOCATION & DEVELOPMENT PLAN
DEPTHS IN METRES



FLORO

DEPTHS IN FEET

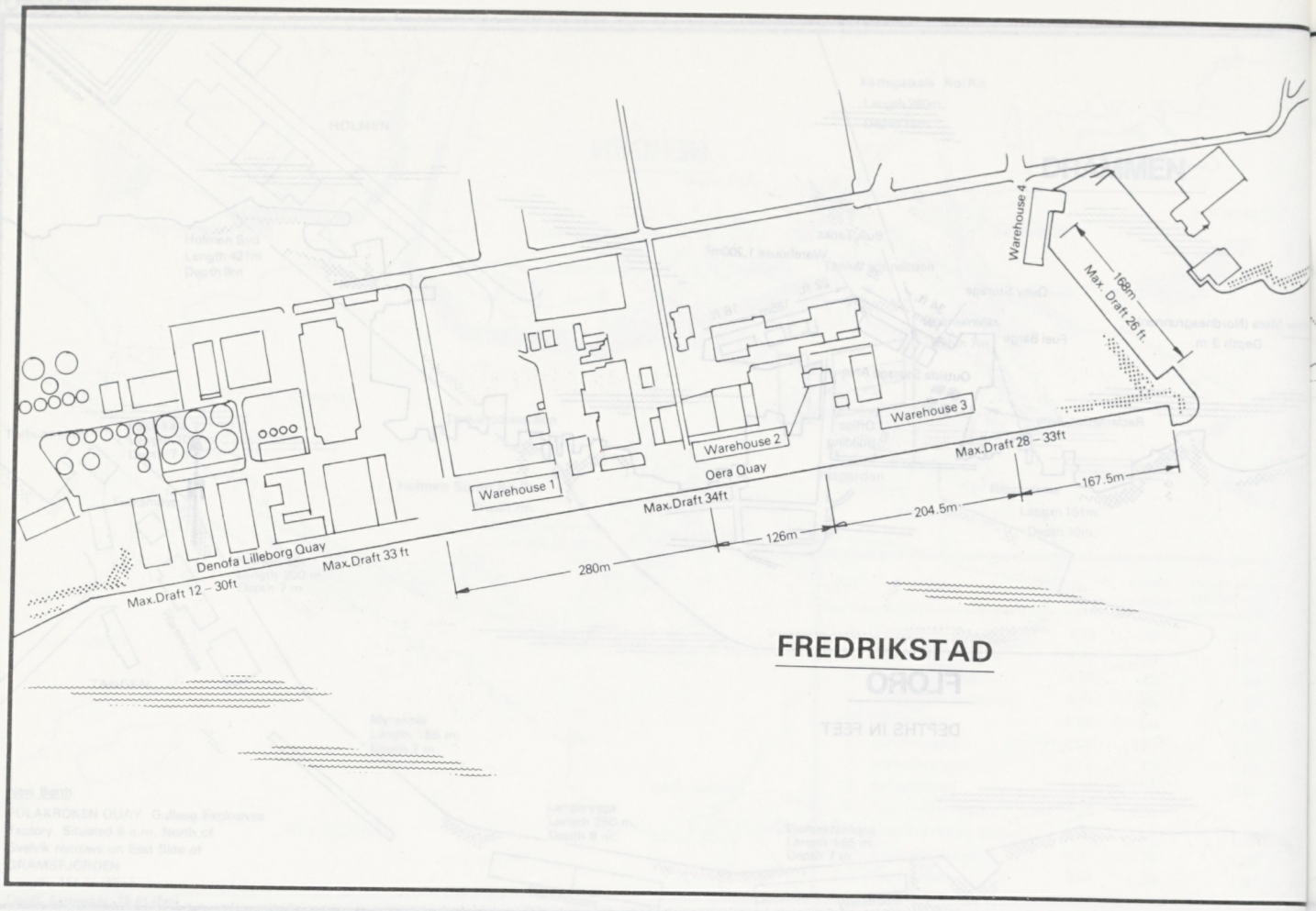


Soundings taken before loading (11th May 1979)

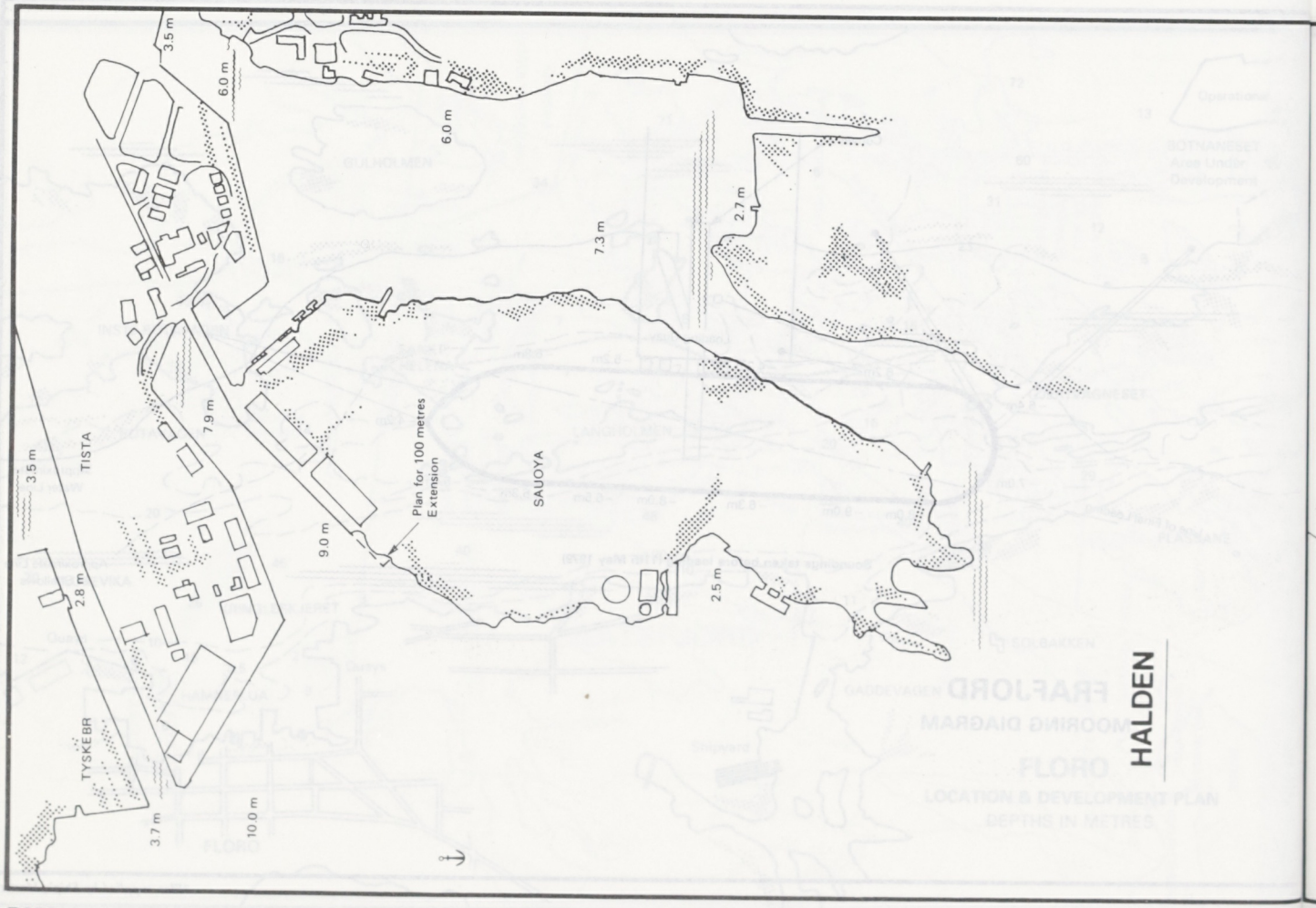
FRAFJORD

MOORING DIAGRAM

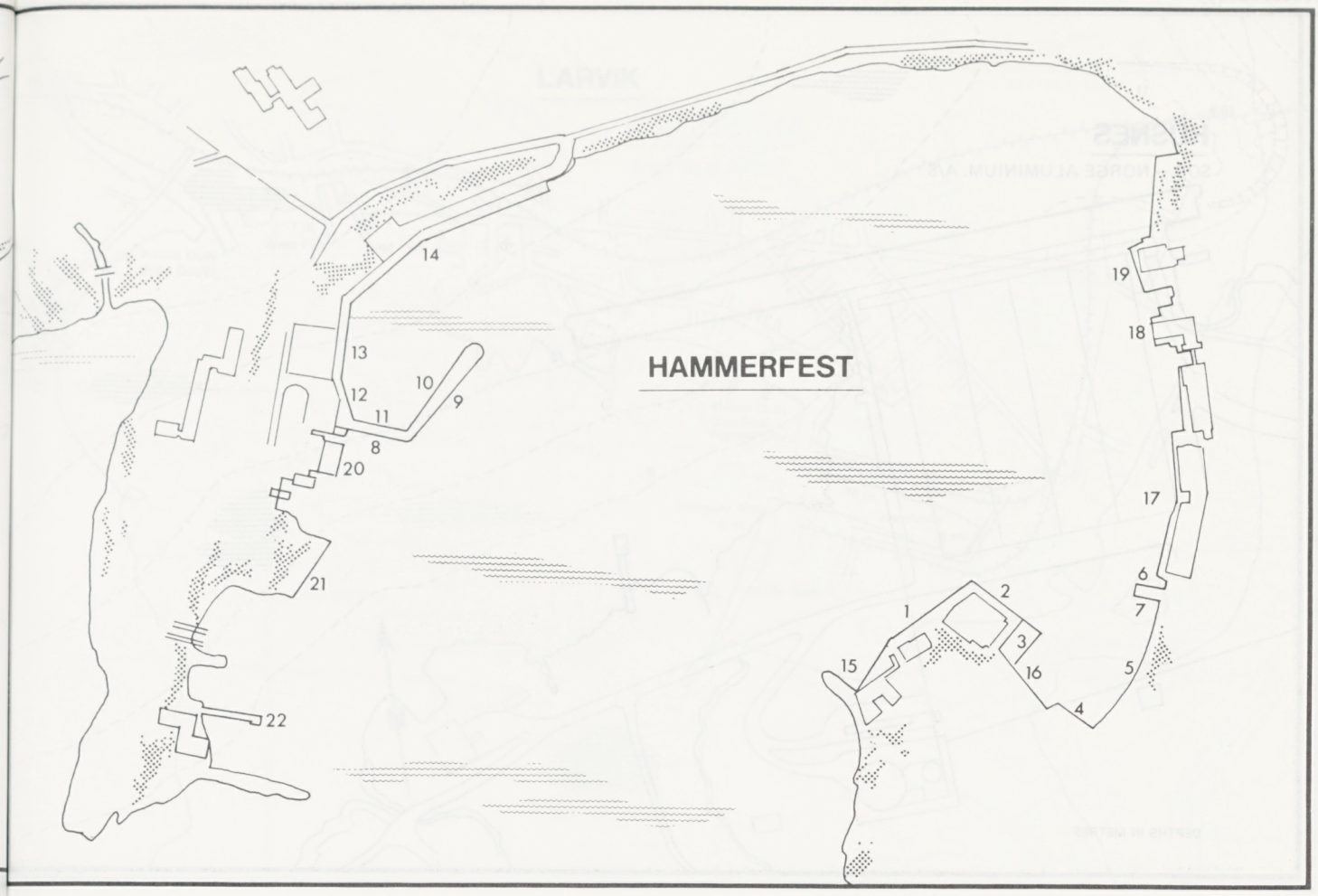
"Plan supplied by Ship's Master"

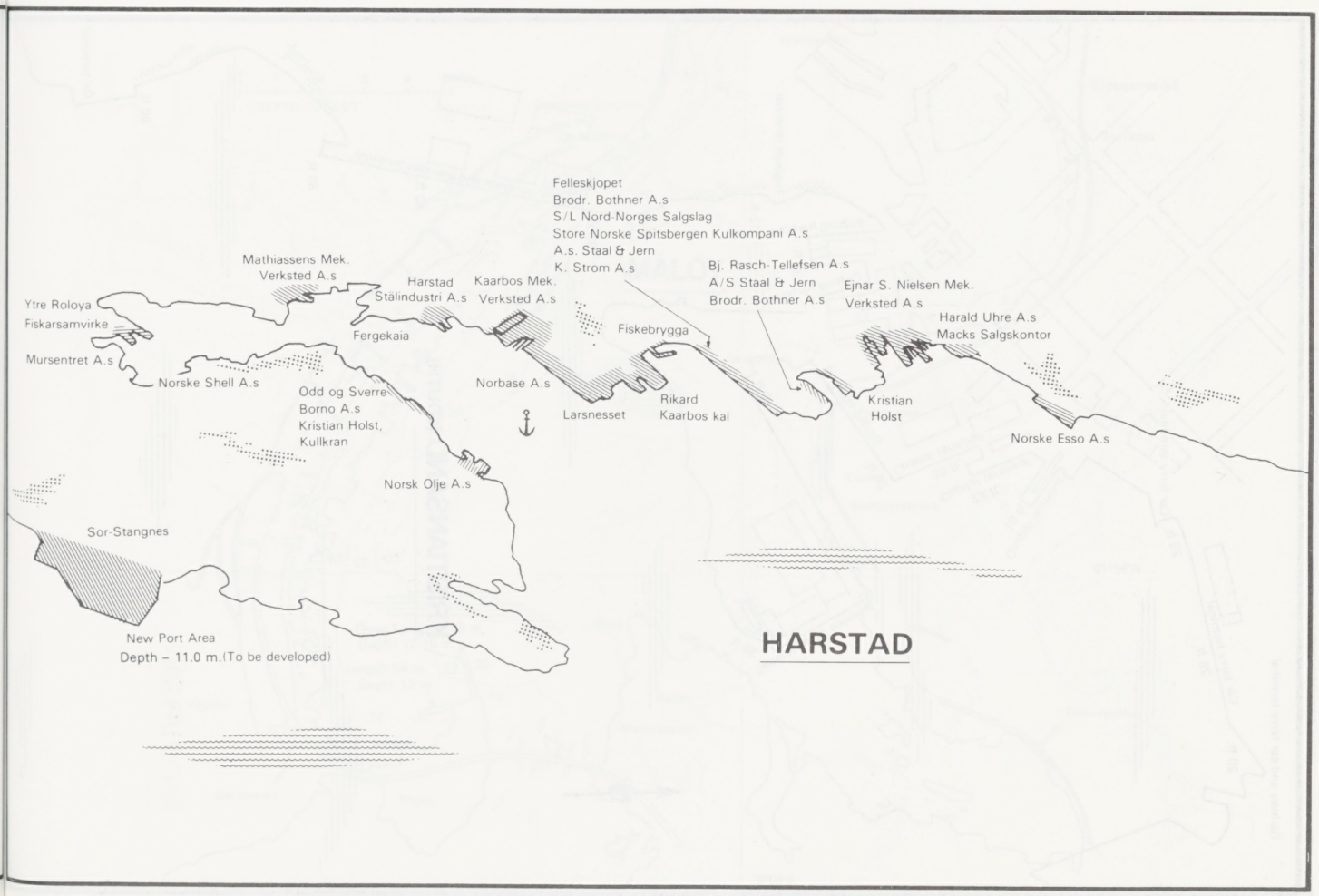


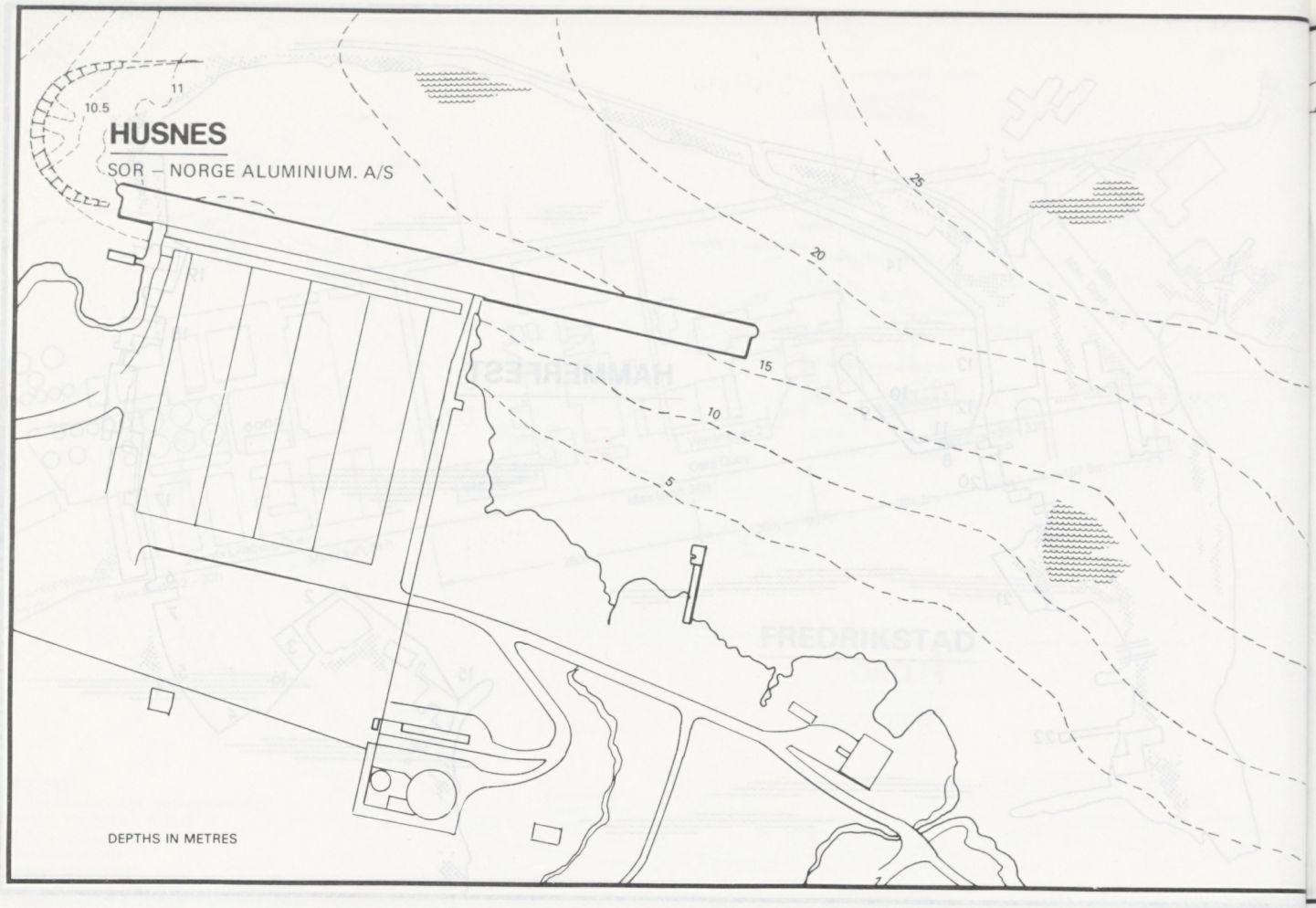
FREDRIKSTAD

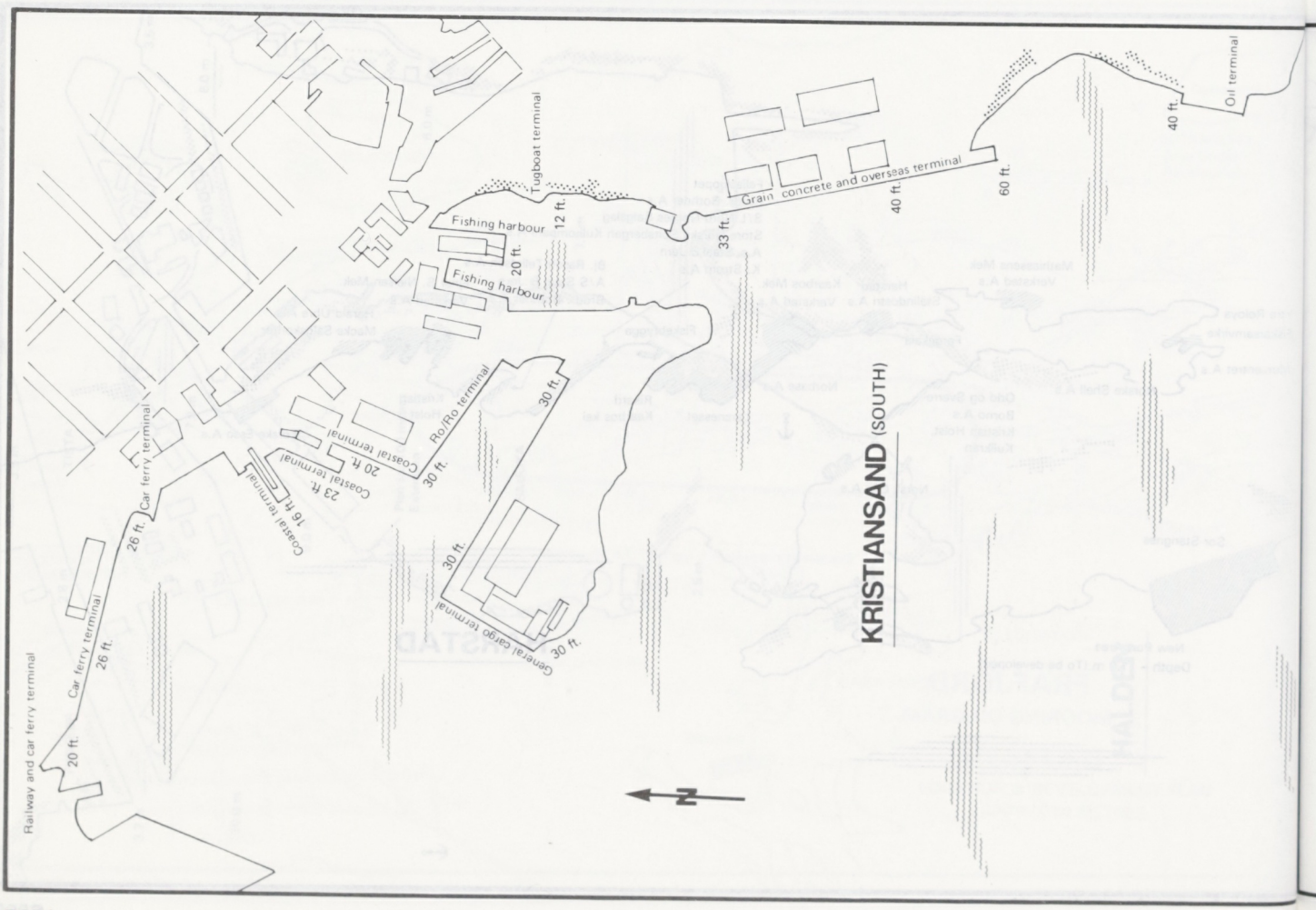


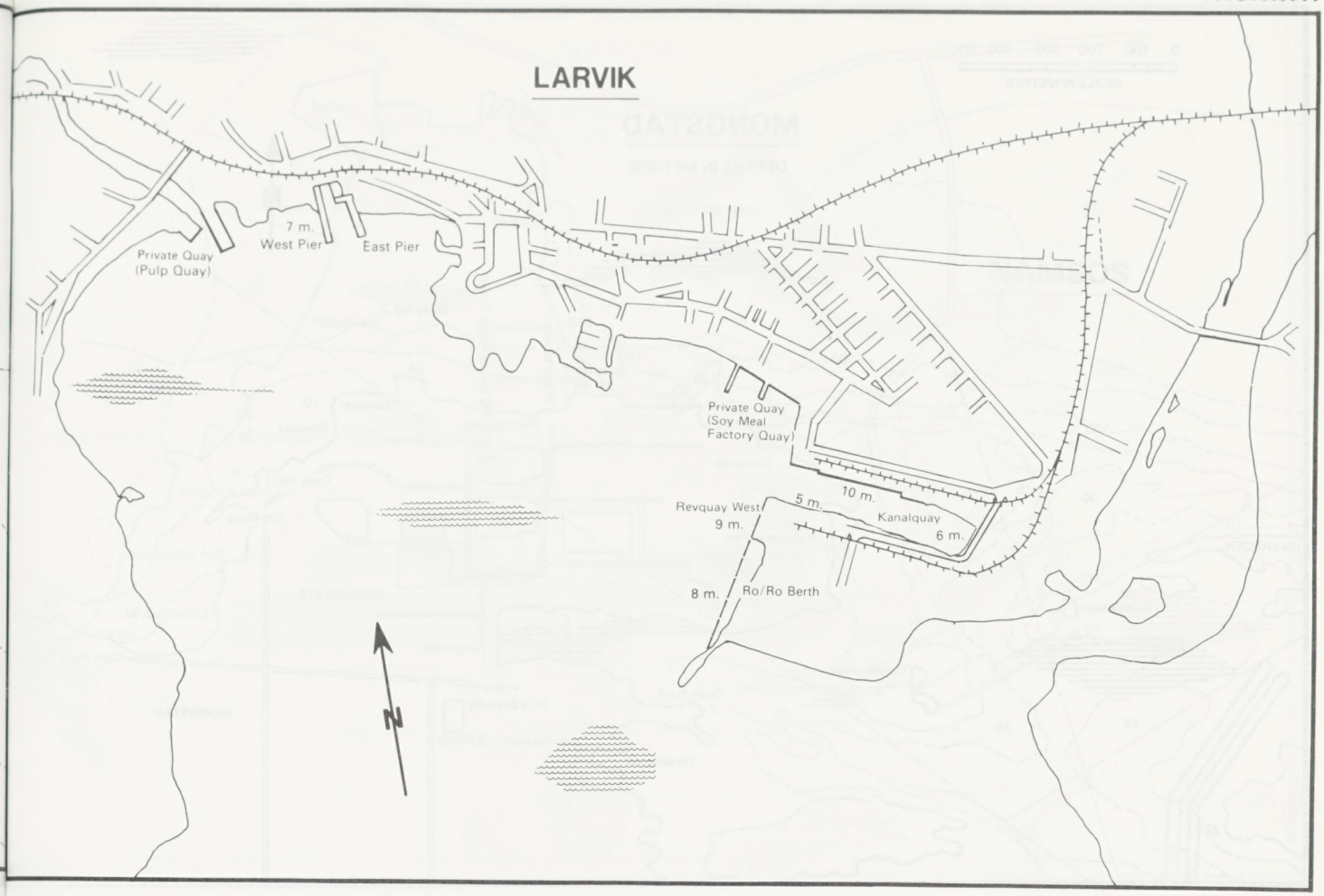
HALDEN

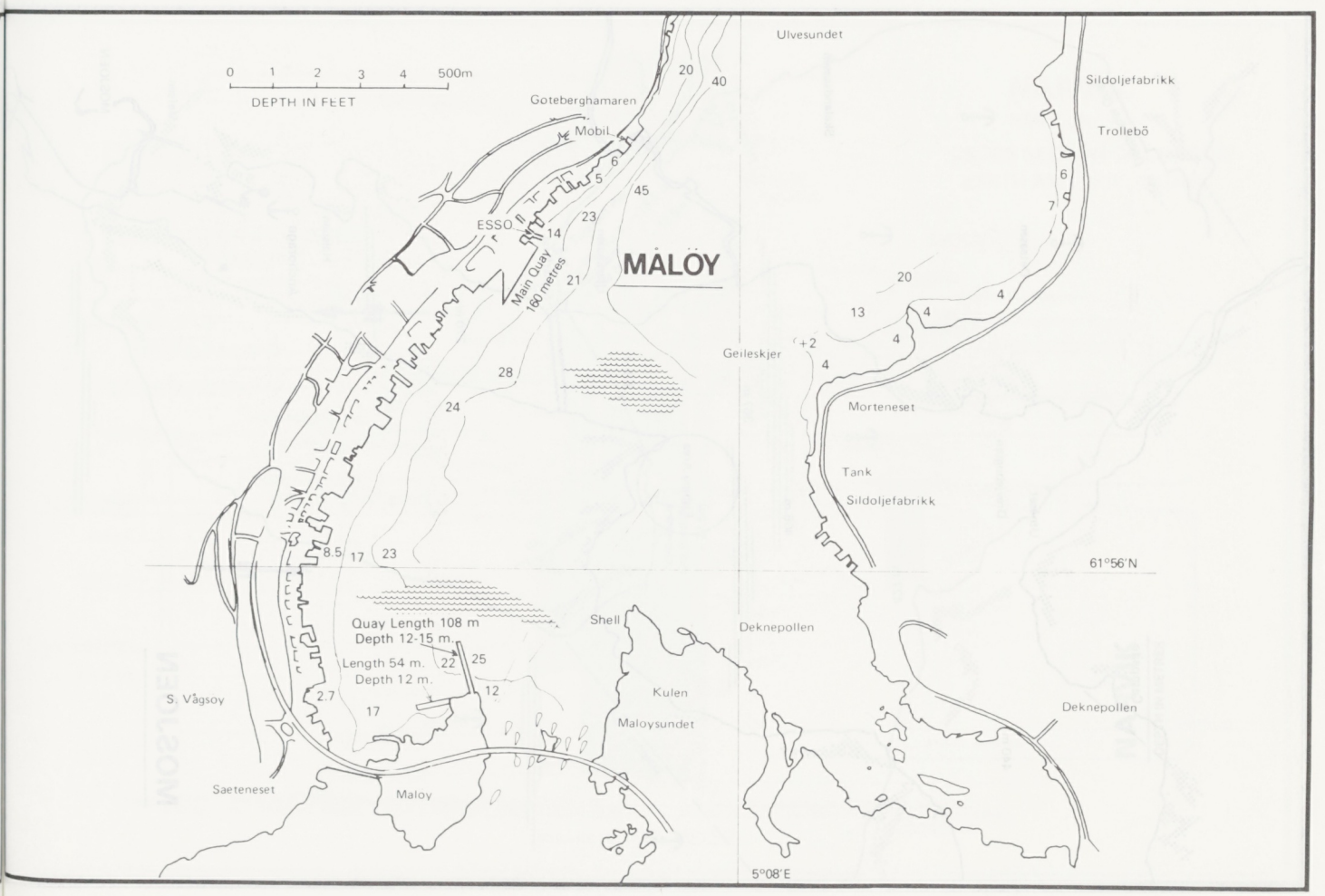

HAMMERFEST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

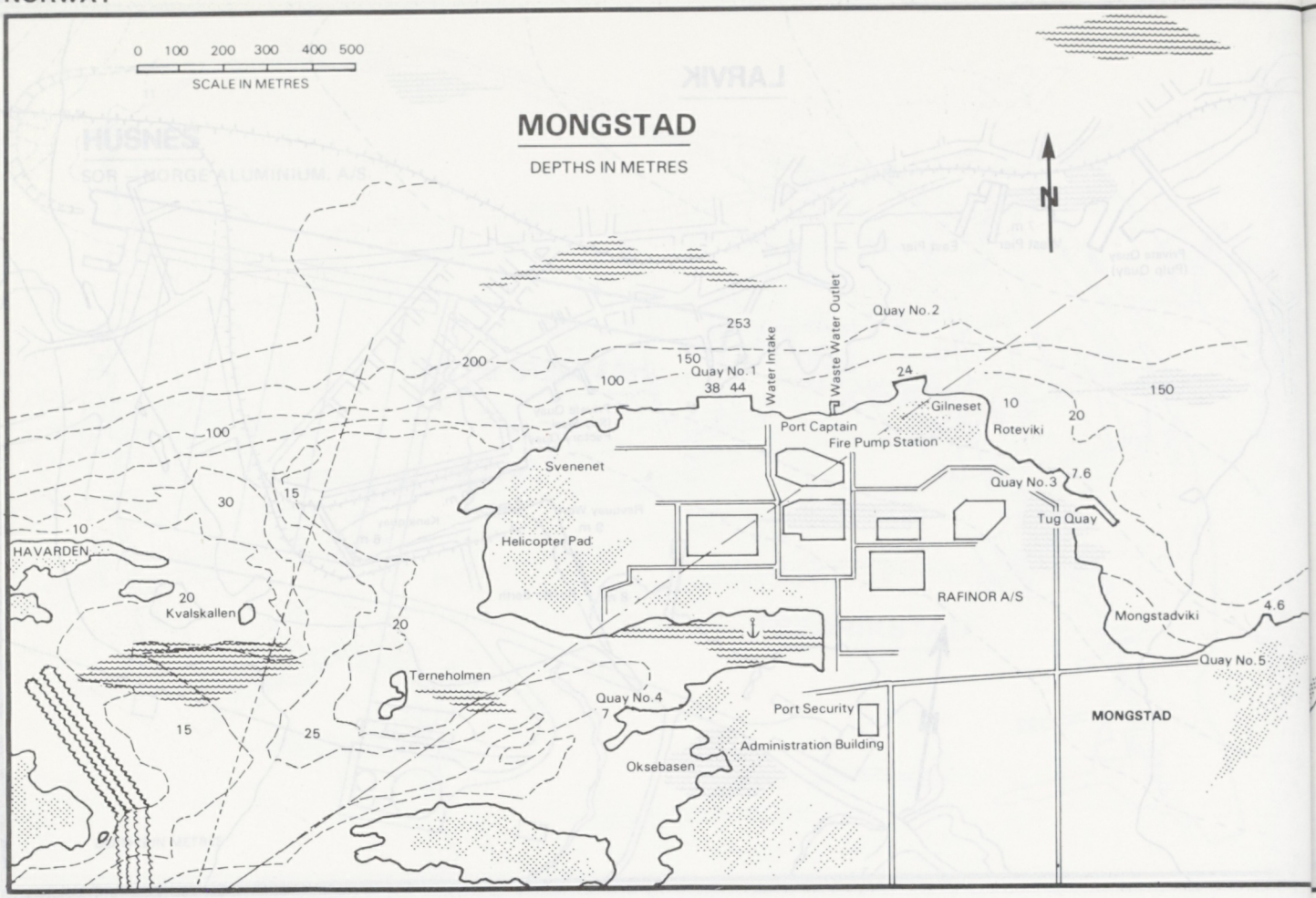

Felleskjopet
Brodr. Bothner A.s
S/L Nord-Norges Salgslag
Store Norske Spitsbergen Kulkompani A.s
A.s. Staal & Jern
K. Strom A.s
Mathiassens Mek. Verksted A.s
Harstad Stålindustri A.s
Kaarbos Mek. Verksted A.s
Bj. Rasch-Tellefsen A.s
A/S Staal & Jern
Brodr. Bothner A.s
Ejnar S. Nielsen Mek. Verksted A.s
Harald Uhre A.s
Macks Salgskontor
Ytre Roloya
Fiskarsamvirke
Fergekaia
Fiskebrygga
Mursentret A.s
Norske Shell A.s
Odd og Sverre Borno A.s
Kristian Holst, Kullkran
Norbase A.s
Larsnesset
Rikard Kaarbos kai
Kristian Holst
Norske Esso A.s
Norsk Olje A.s
Sor-Stangnes
New Port Area
Depth – 11.0 m.(To be developed)
HARSTAD

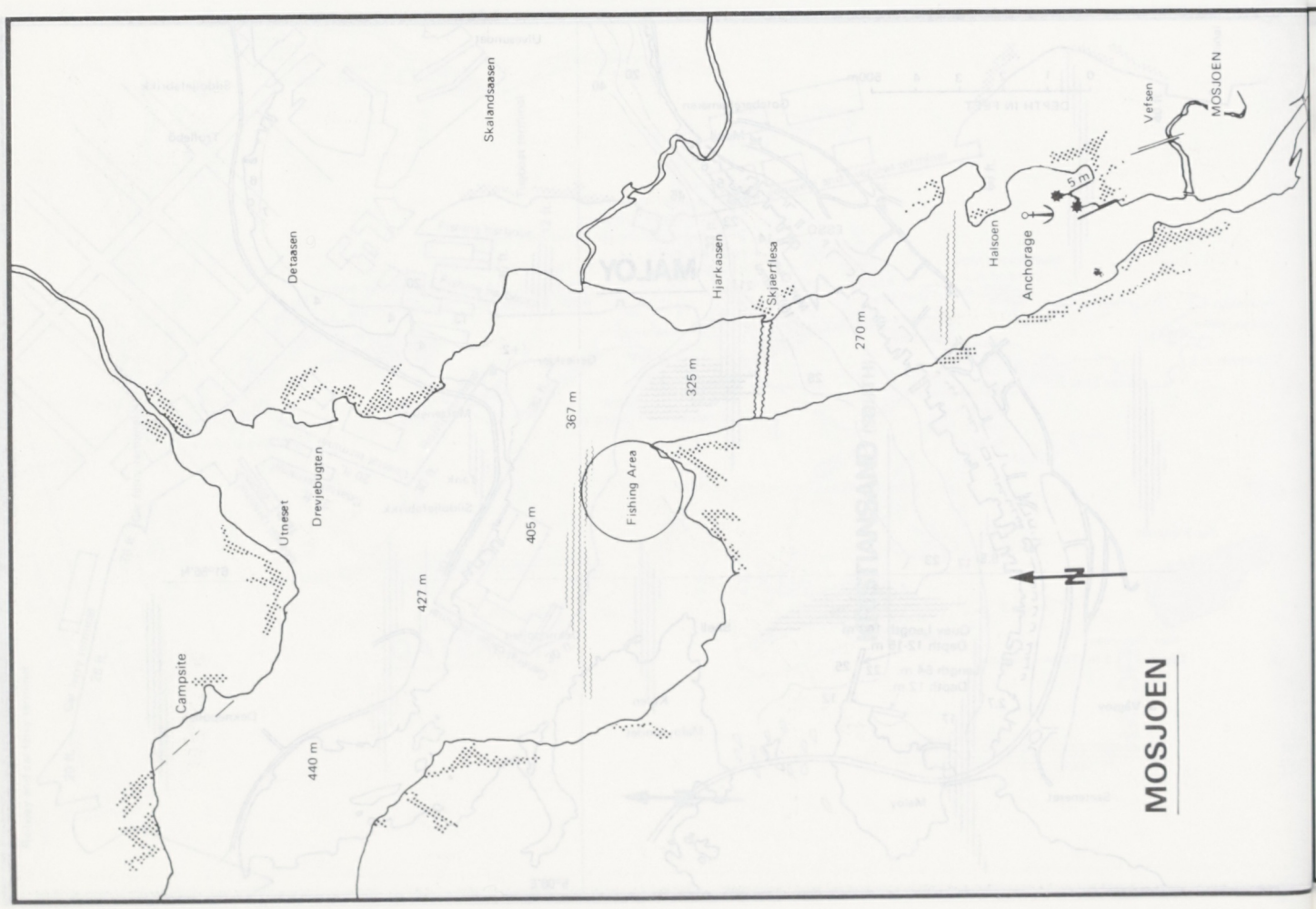

HUSNES
SOR – NORGE ALUMINIUM. A/S
11
10.5
20
15
10
5
DEPTHS IN METRES

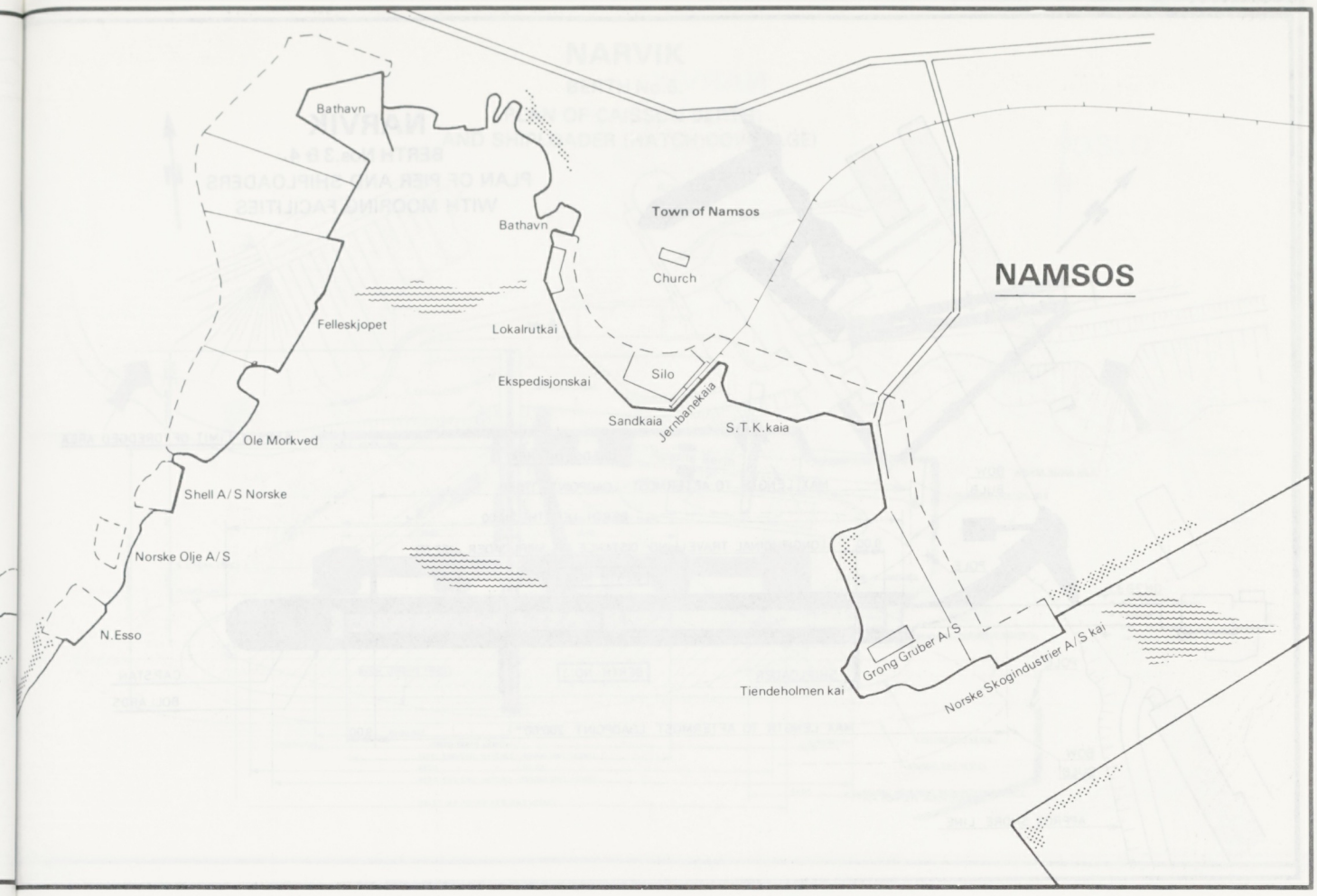

KRISTIANSAND (SOUTH)
Railway and car ferry terminal
Car ferry terminal
26 ft.
20 ft.
Car ferry terminal
26 ft.
Coastal terminal
16 ft.
Coastal terminal
23 ft.
Coastal terminal
20 ft.
Ro/Ro terminal
30 ft.
General cargo terminal
30 ft.
30 ft.
Fishing harbour
20 ft.
Fishing harbour
Tugboat terminal
12 ft.
Grain concrete and overseas terminal
33 ft.
40 ft.
60 ft.
40 ft.
Oil terminal
N

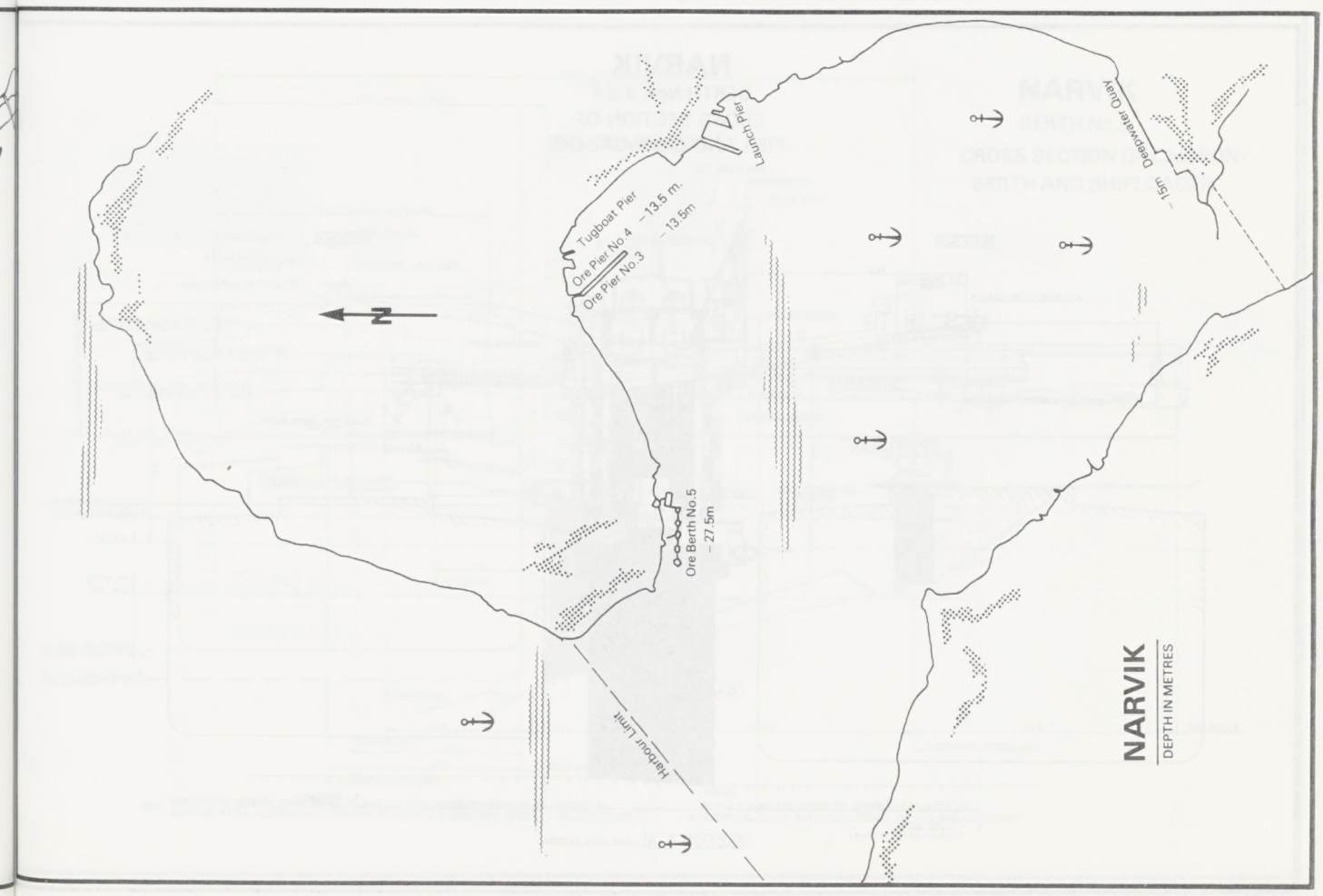

LARVIK
7 m.
West Pier
East Pier
Private Quay
(Pulp Quay)
Private Quay
(Soy Meal
Factory Quay)
10 m.
5 m.
Revquay West
9 m.
Kanalquay
6 m.
8 m.
Ro/Ro Berth
N


0 1 2 3 4 500m
DEPTH IN FEET
Ulvesundet
Goteberghamaren
Mobil
ESSO
Main Quay
160 metres
MÅLØY
Sildoljefabrikk
Trollebö
Geileskjer
+2
Morteneset
Tank
Sildoljefabrikk
61°56'N
Quay Length 108 m
Depth 12-15 m.
Length 54 m.
Depth 12 m.
Shell
Deknepollen
Kulen
Maloysundet
S. Vågsoy
Saeteneset
Maloy
Deknepollen
5°08'E


0 100 200 300 400 500
SCALE IN METRES
MONGSTAD
DEPTHS IN METRES
N
Quay No.2
Waste Water Outlet
Water Intake
253
200
150
100
Quay No.1
38 44
24
Gilneset
10
20
150
Port Captain
Fire Pump Station
Roteviki
100
Svenenet
Quay No.3
7.6
Tug Quay
30
15
10
HAVARDEN
Helicopter Pad
RAFINOR A/S
20
Kvalskallen
20
Mongstadviki
4.6
Quay No.5
Terneholmen
Quay No.4
7
Port Security
MONGSTAD
15
25
Administration Building
Oksebasen


Skalandsaasen
Detaasen
Hjarkaasen
Skjaerflesa
Halsoen
Anchorage
5 m
Vefsen
MOSJOEN
270 m
325 m
367 m
Fishing Area
Utneset
Dreyjebugten
405 m
427 m
Campsite
440 m
N
MOSJOEN

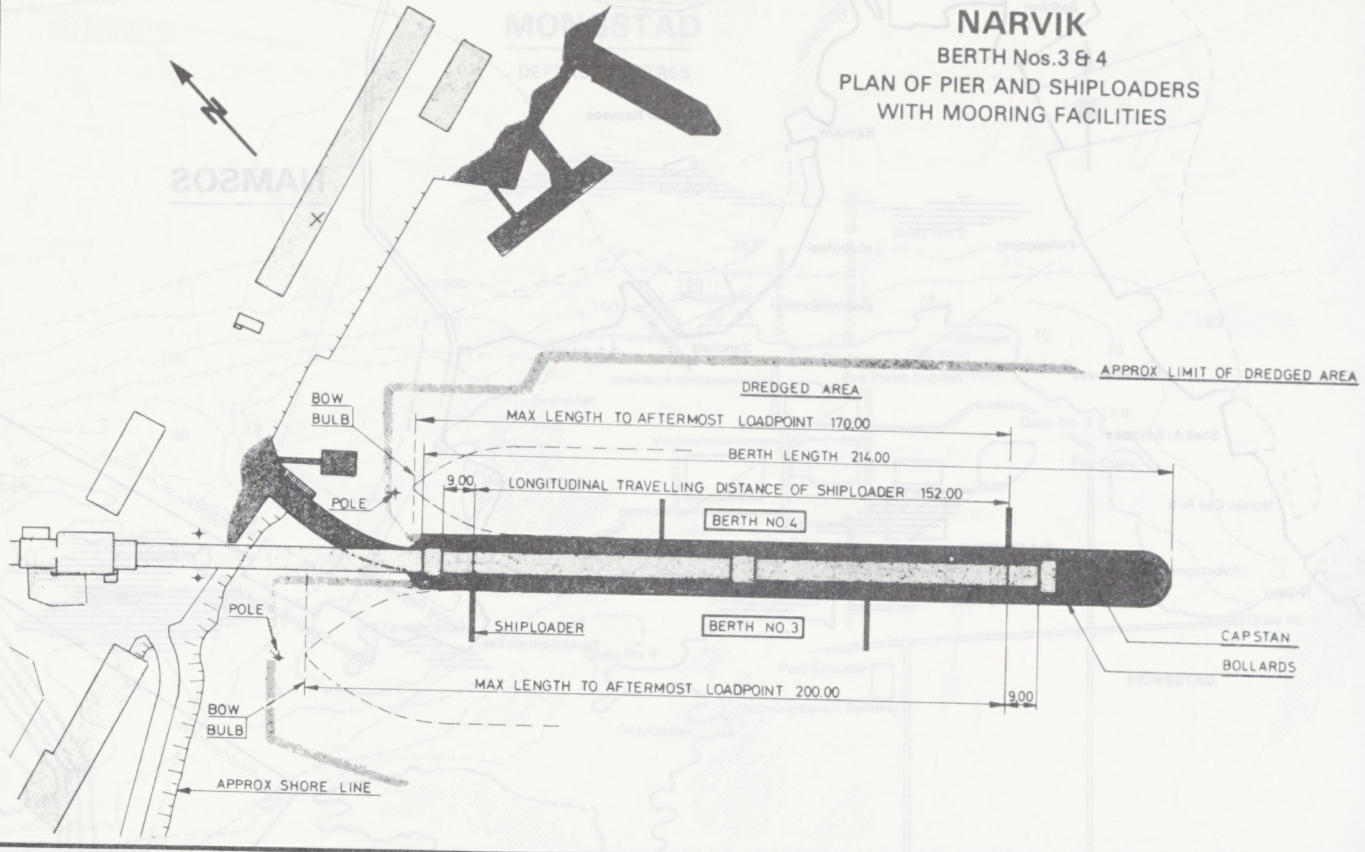

NAMSOS
Bathavn
Bathavn
Town of Namsos
Church
Felleskjopet
Lokalrutkai
Ekspedisjonskai
Silo
Sandkaia
Jernbanekaia
S.T.K.kaia
Ole Morkved
Shell A/S Norske
Norske Olje A/S
N.Esso
Grong Gruber A/S
Tiendeholmen kai
Norske Skogindustrier A/S kai


NARVIK
DEPTH IN METRES
N
Launch Pier
Tugboat Pier
Ore Pier No.4
Ore Pier No.3
– 13.5 m.
– 13.5m
Deepwater Quay
– 19m
Ore Berth No.5
– 27.5m
Harbour Limit

NARVIK

BERTH Nos.3 & 4

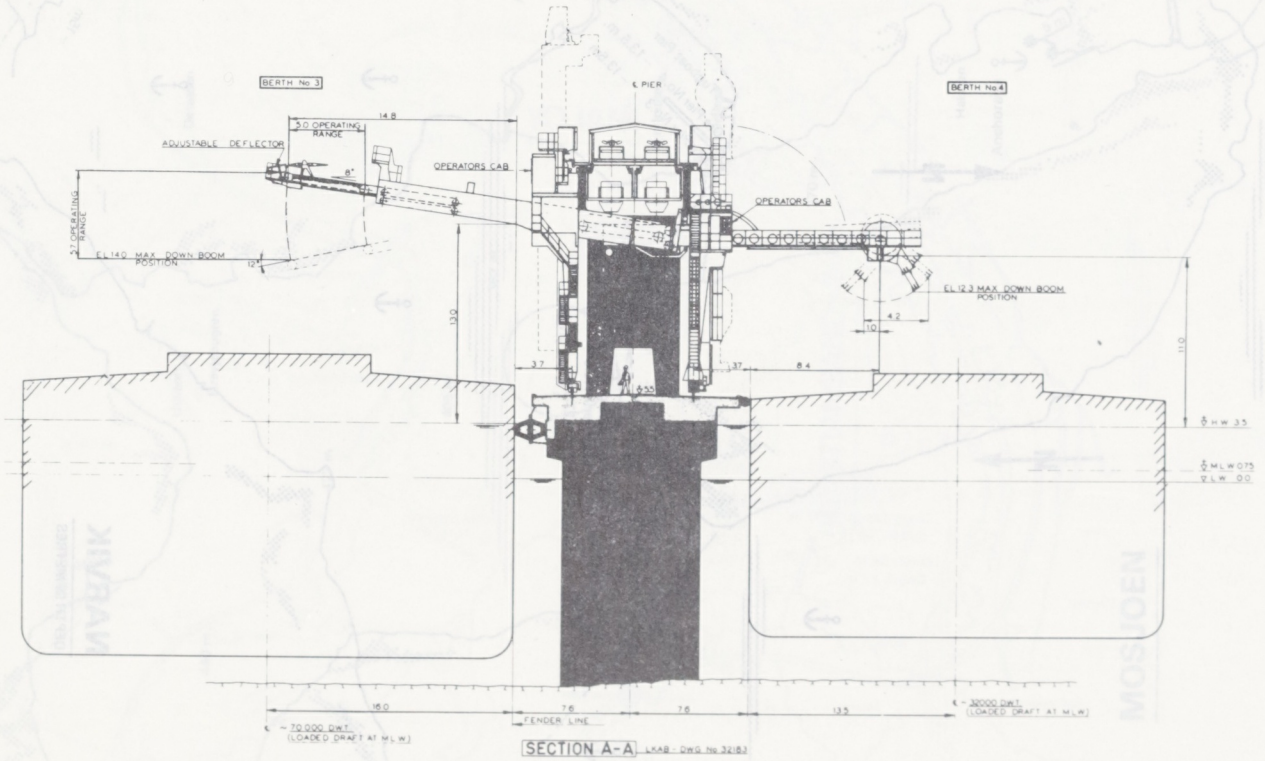
PLAN OF PIER AND SHIPLOADERS
WITH MOORING FACILITIES



NARVIK

BERTH Nos. 3 & 4

CROSS SECTION OF
PIER AND SHIPLOADERS

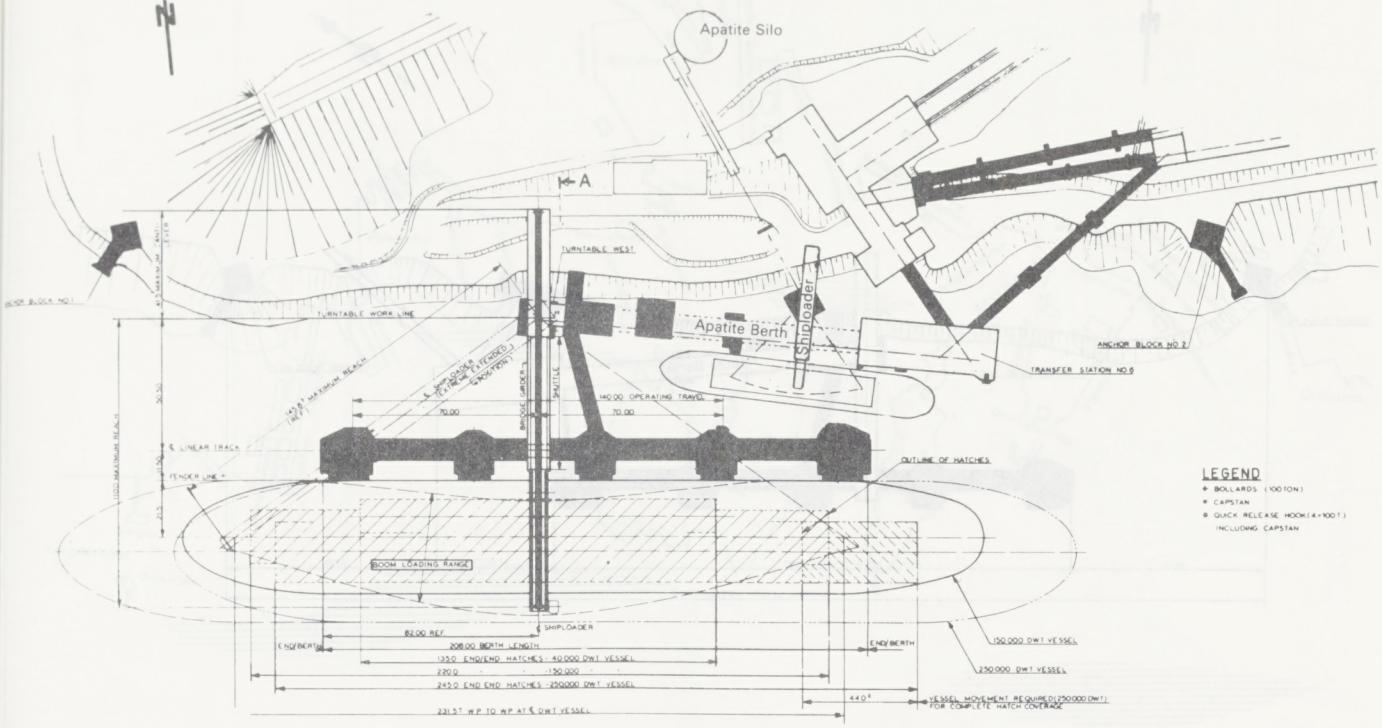


SECTION A-A

NARVIK

BERTH No.5.

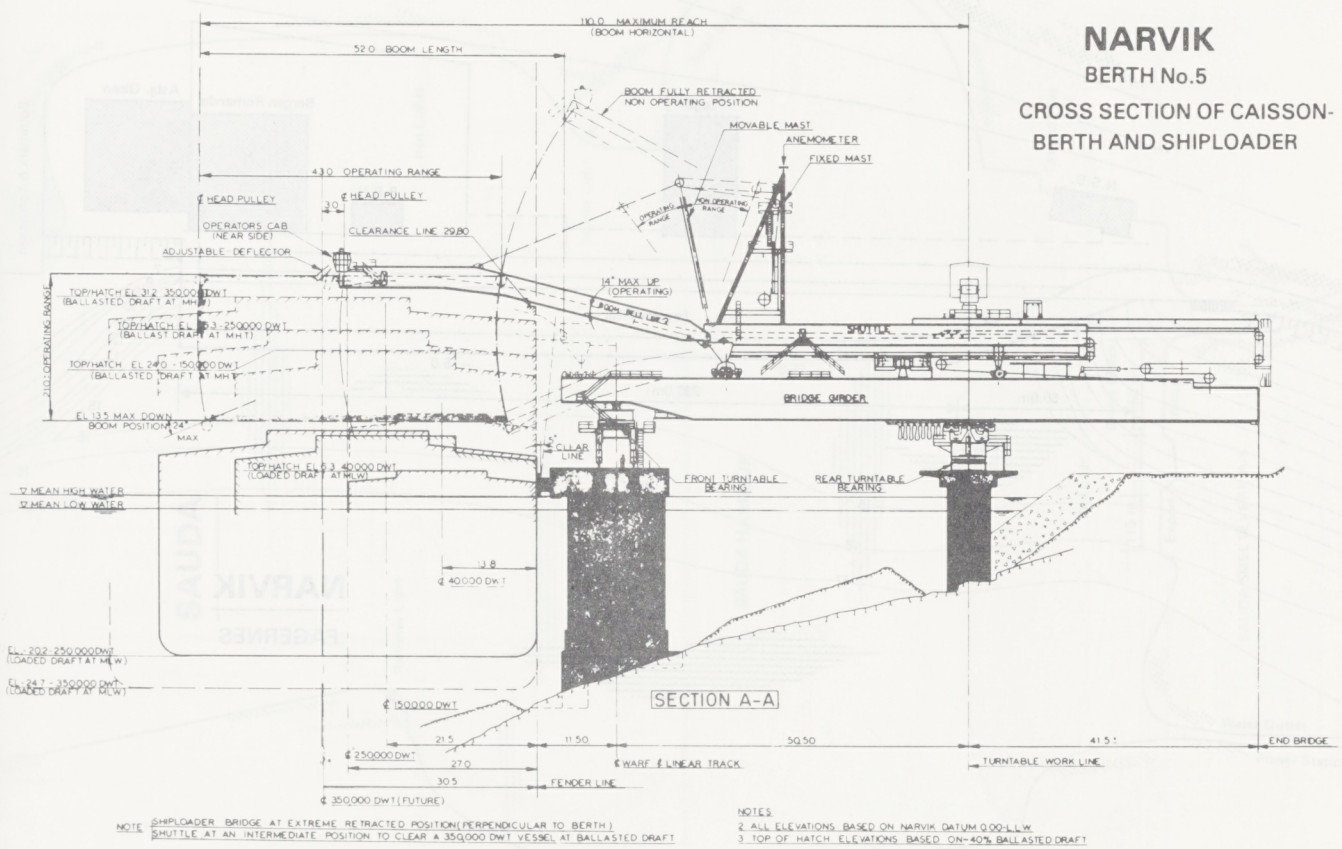
PLAN OF CAISSON BERTH AND SHIPLOADER (HATCH COVERAGE)



NARVIK

BERTH No.5

CROSS SECTION OF CAISSON-BERTH AND SHIPLOADER

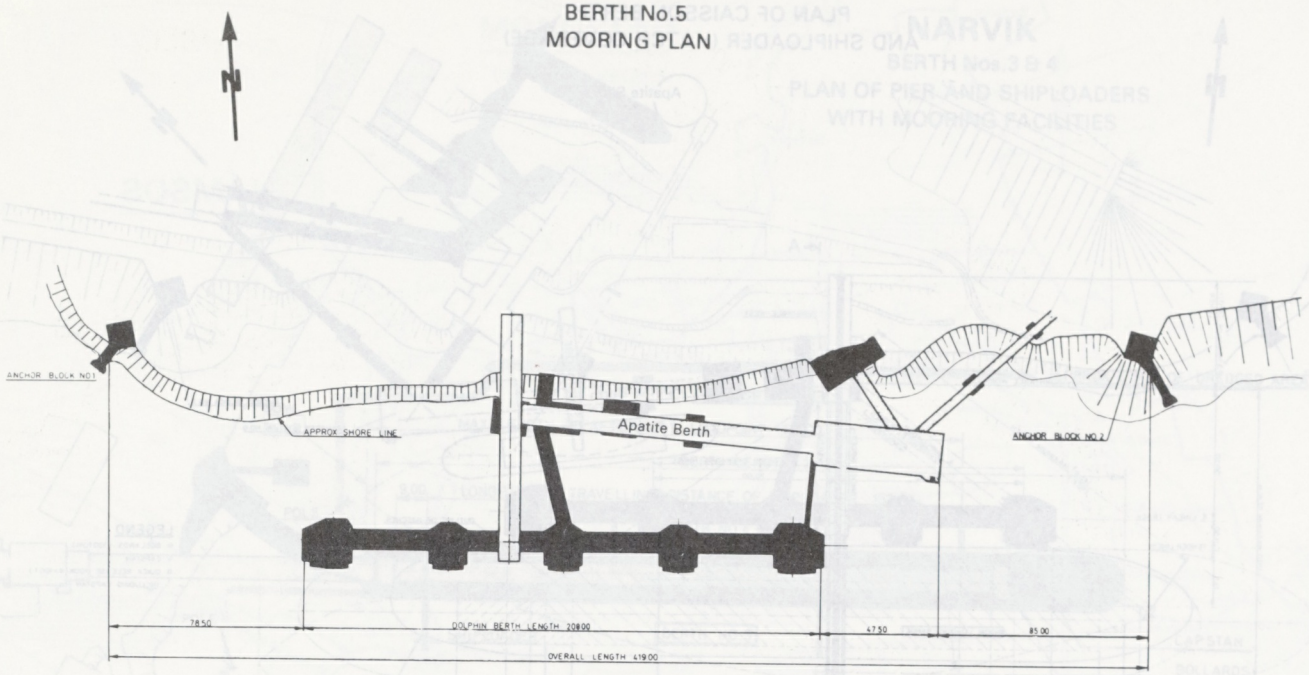


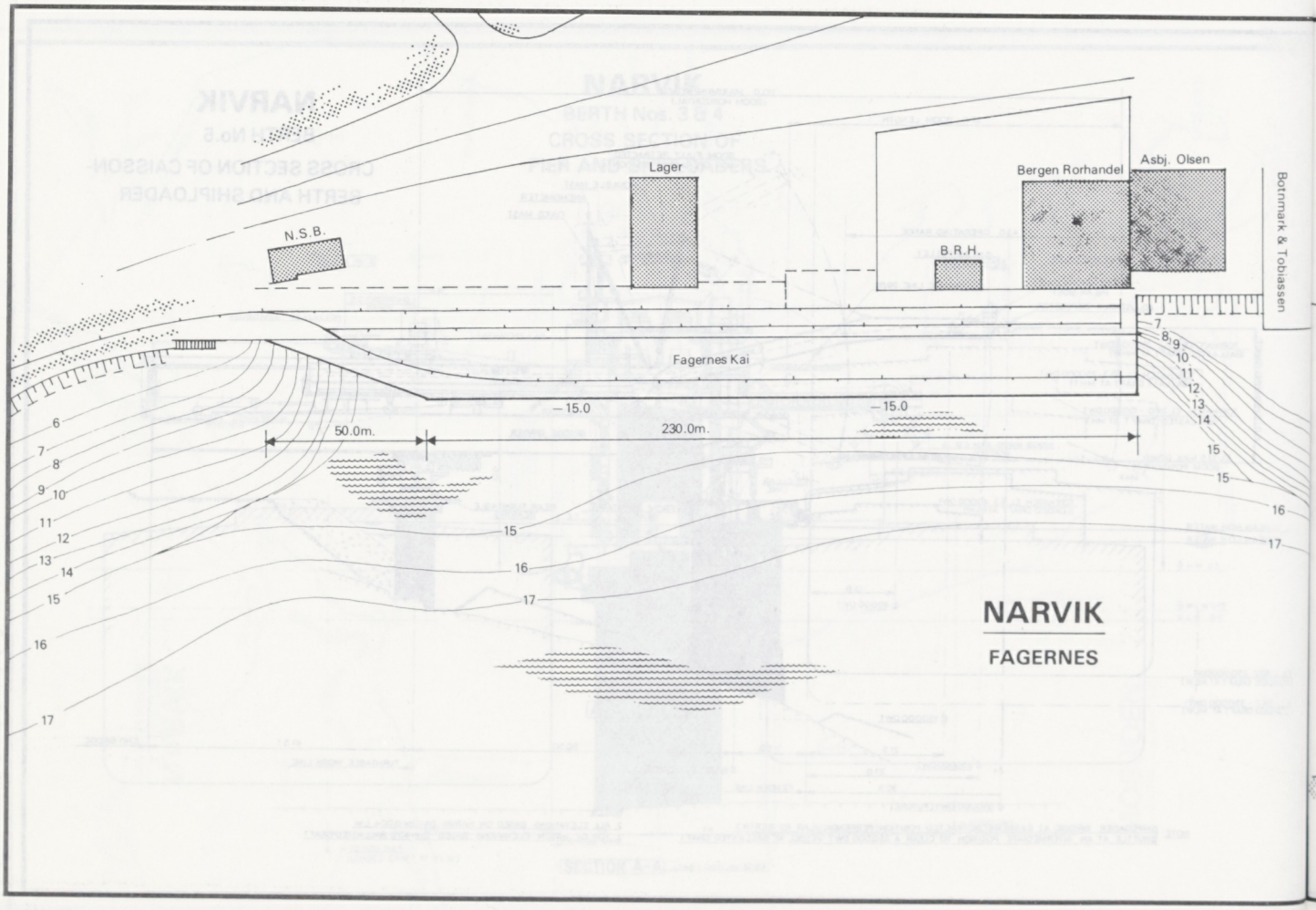
NOTE SHIPLOADER BRIDGE AT EXTREME RETRACTED POSITION (PERPENDICULAR TO BERTH) SHUTTLE AT AN INTERMEDIATE POSITION TO CLEAR A 350,000 DWT VESSEL AT BALLASTED DRAFT

NOTES
2 ALL ELEVATIONS BASED ON NARVIK DATUM 0.00 = L.L.W.
3 TOP OF HATCH ELEVATIONS BASED ON ~40% BALLASTED DRAFT

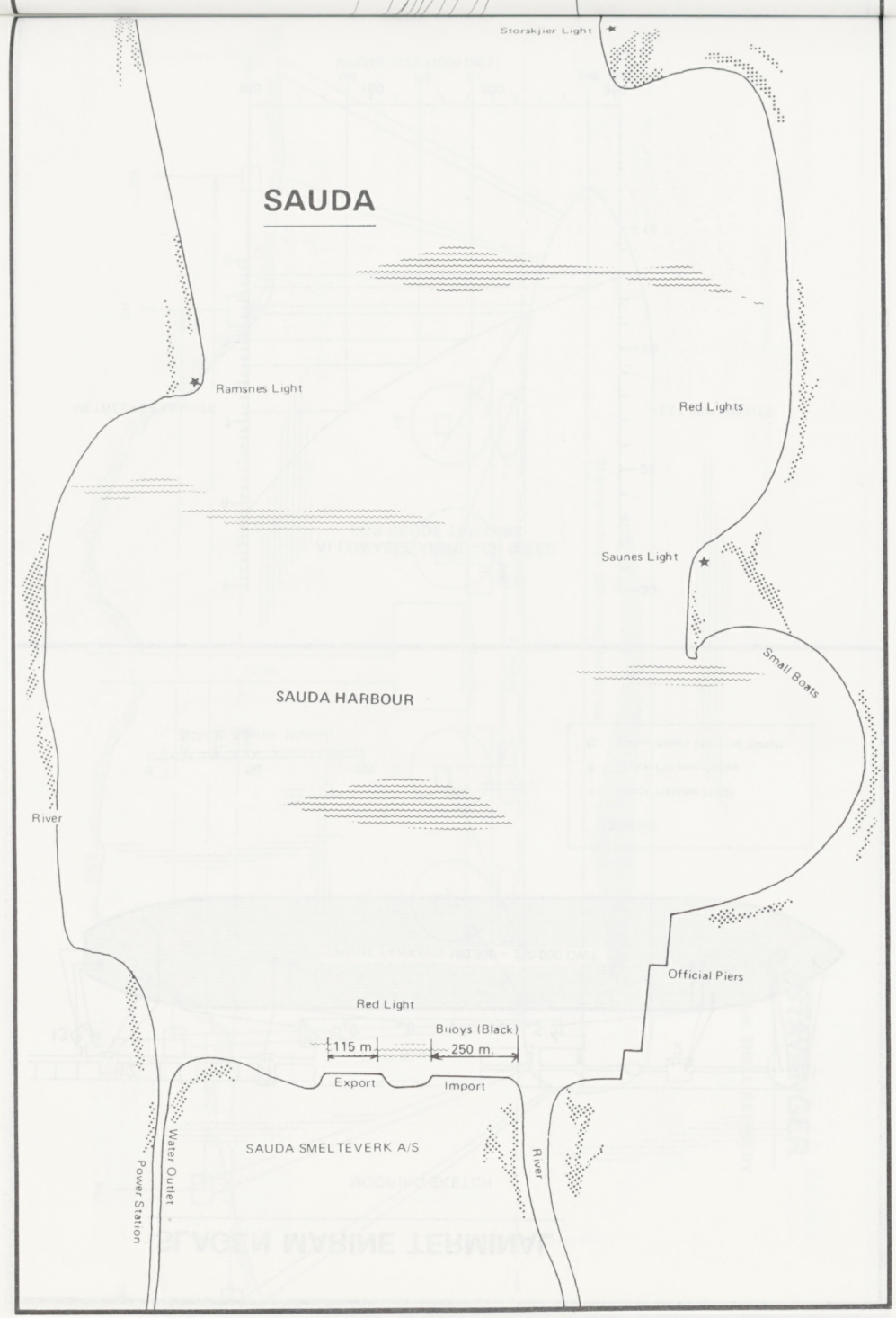
NARVIK

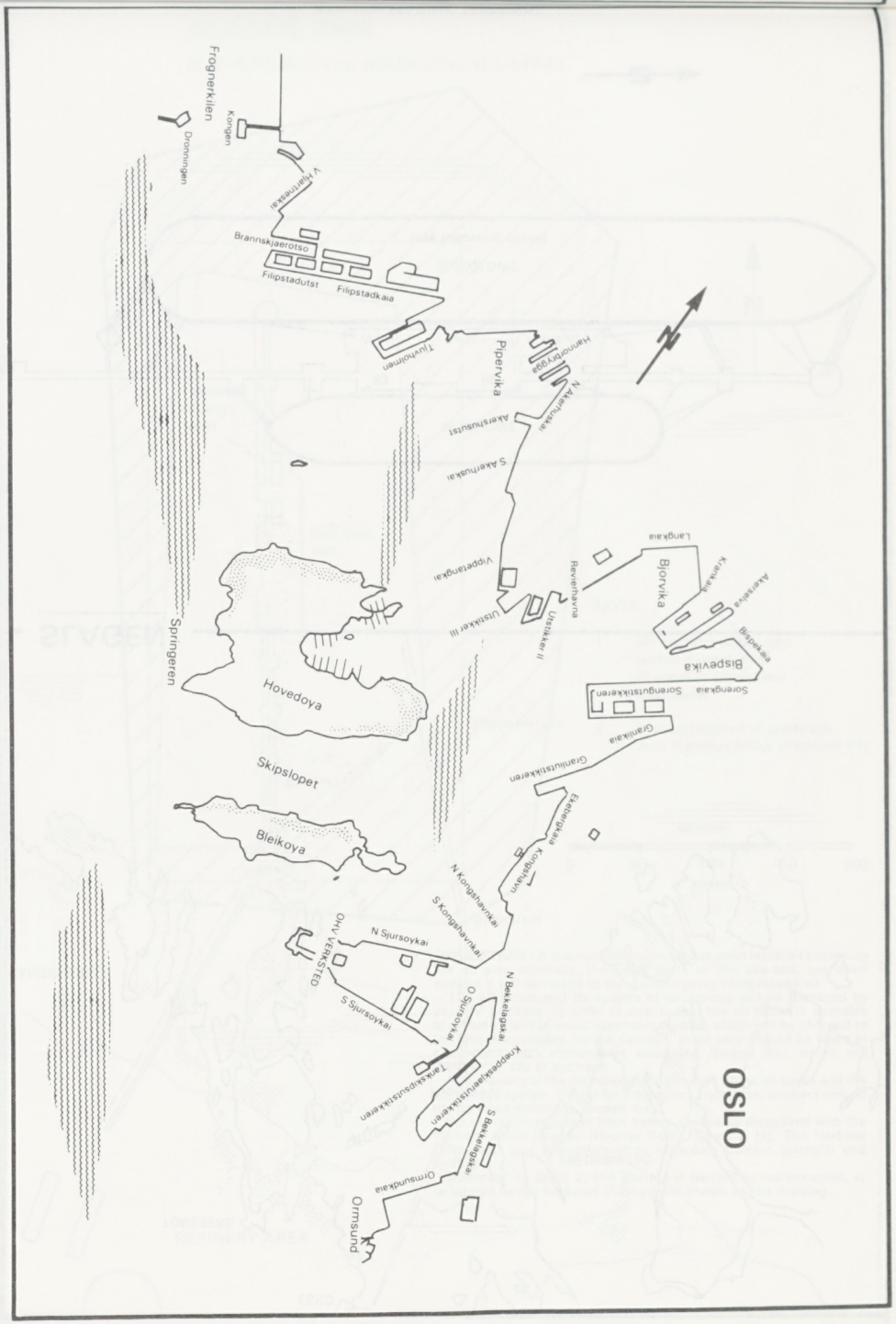
BERTH No.5
MOORING PLAN





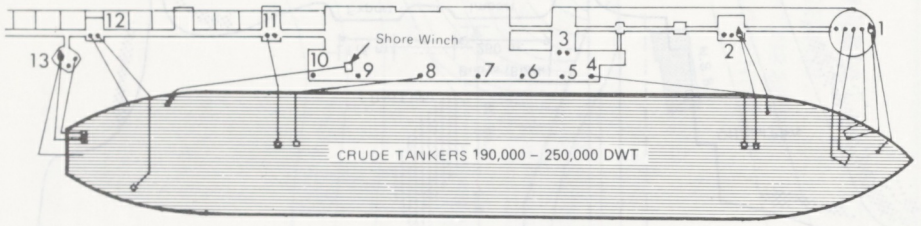
NARVIK
FAGERNES

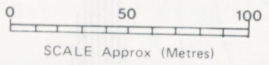

SAUDA
Storskjier Light
Ramsnes Light
Red Lights
Saunes Light
Small Boats
SAUDA HARBOUR
River
Official Piers
Red Light
Buoys (Black)
115 m.
250 m.
Export
Import
SAUDA SMELTEVERK A/S
Water Outlet
Power Station
River


OSLO
NORWAY
Frognerkilen
Dronningen
Kongen
Brannskjaerotsø
Filipstadutst
Filipstadkaia
Tjuvholmen
Pipervika
Akershusutst
Vippetangkai
Ustikker III
Ustikker II
Springeren
Hovedoya
Skipslopet
Bleikoya
Bjorvika
Bispevika
Sorengkaia
Granitkaia
Kongshavnkai
N Sjursoykai
S Sjursoykai
Ormsundkaia
Ormsund

SLAGEN MARINE TERMINAL

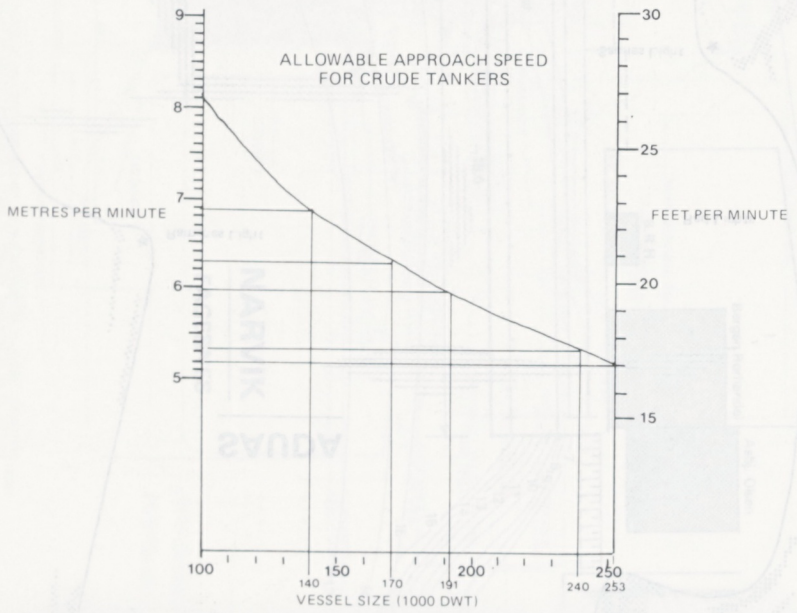
MOORING SKETCH

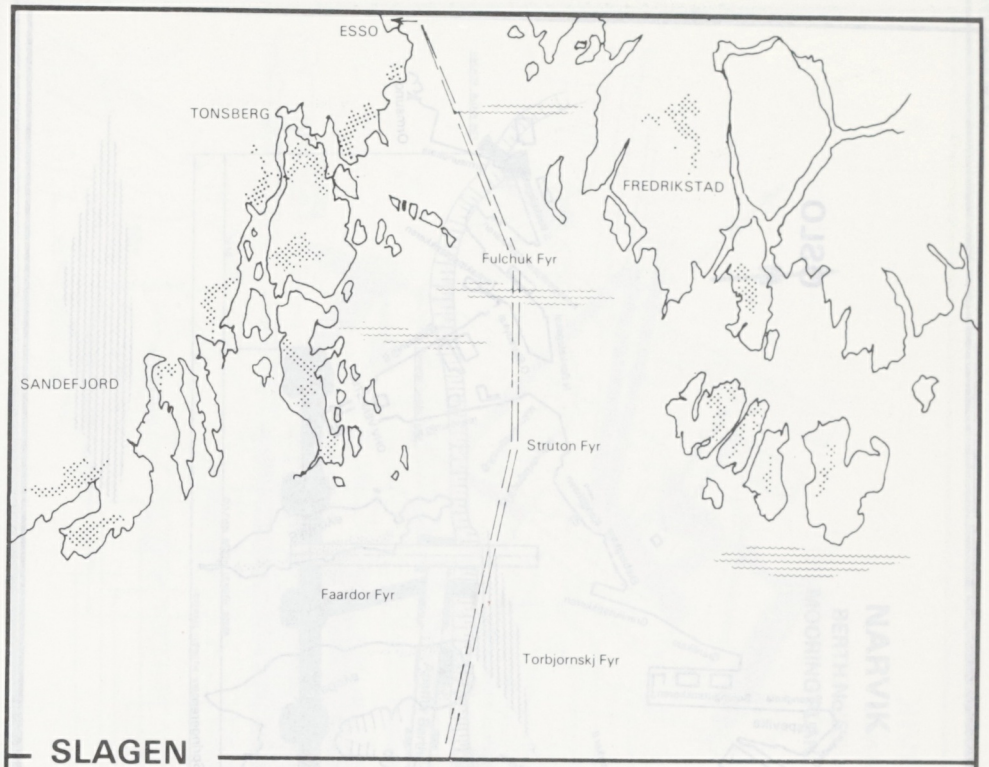




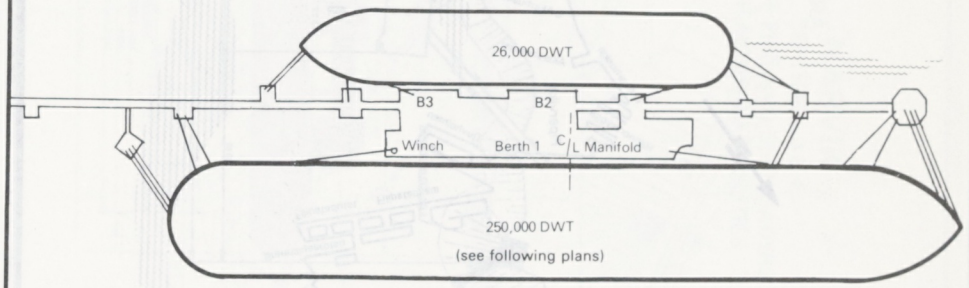
LEGEND

- Quick Release Hook
- Quick Release Pulley
- Shore Based Mooring Winch



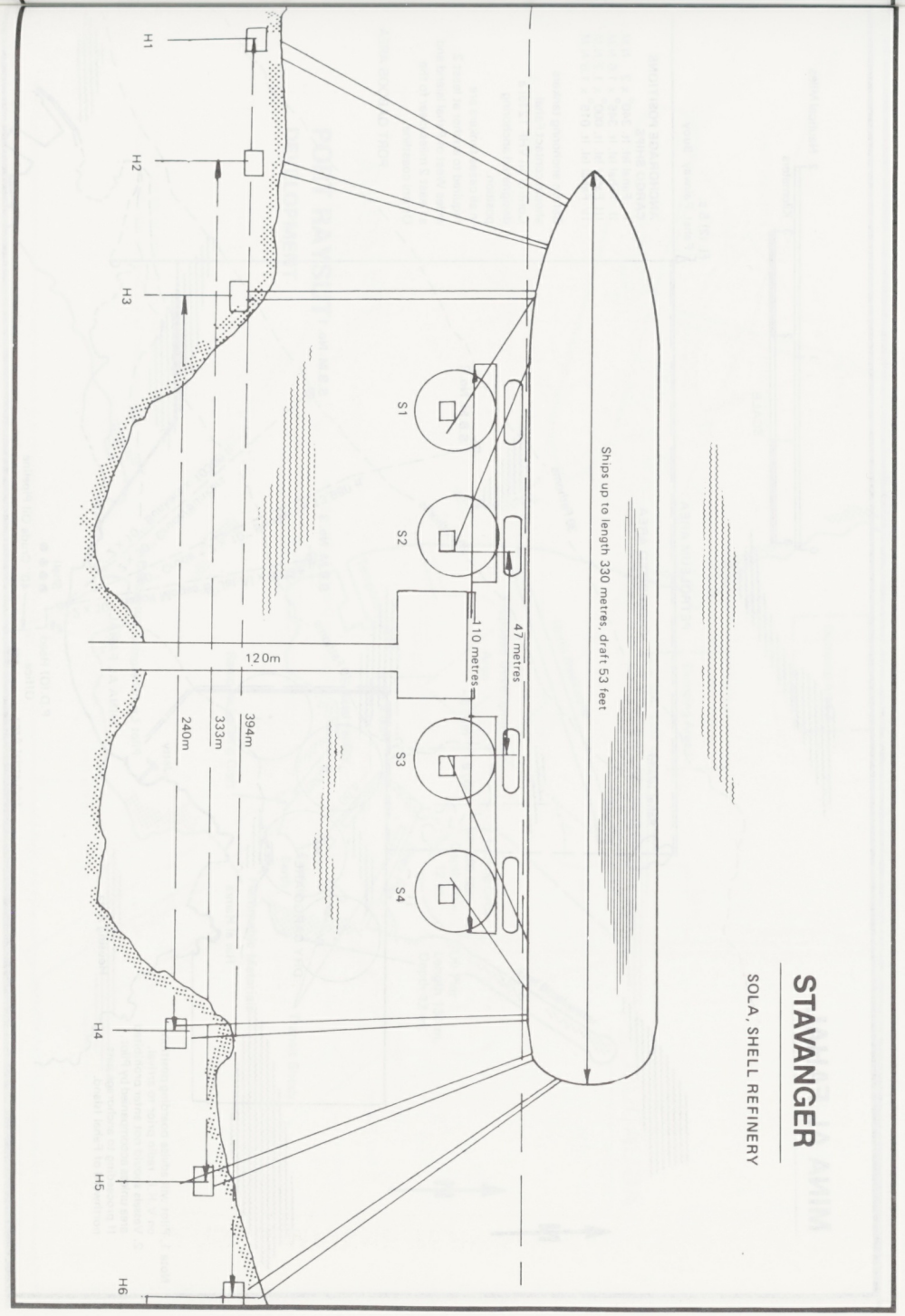


SLAGEN



N

SLAGEN PIER

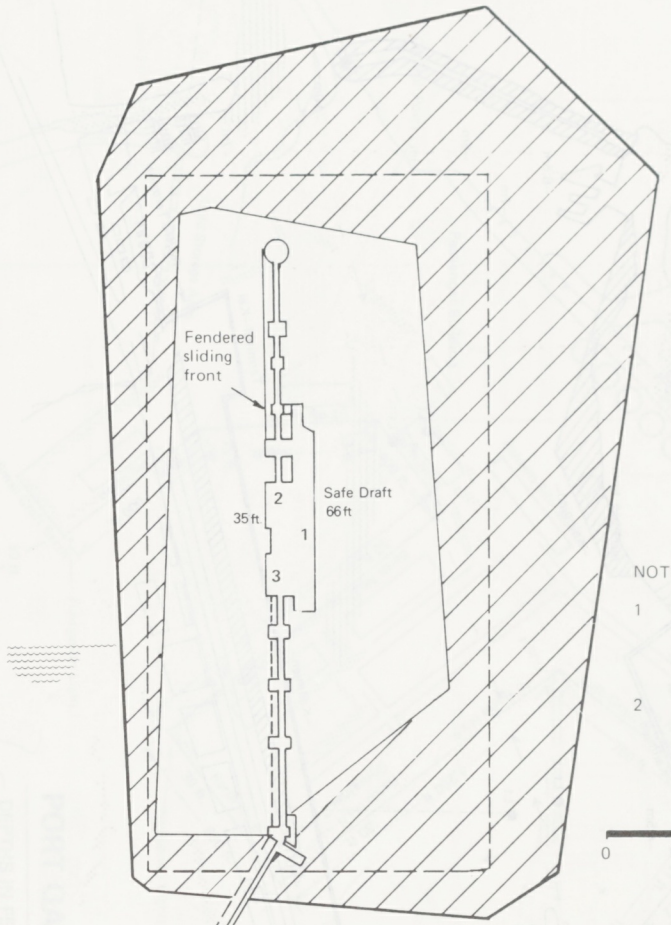


STAVANGER

SOLA, SHELL REFINERY

SLAGEN PIER

SUBMERSIBLE OIL BOOM INSTALLATION



NOTE:

1 No anchors to be used within shaded area (Except in emergency situations)

2 Discuss method of approach with Harbour office (Channel 14)

SCALE

0 50 100 150 200

Meters

REFINERY AREA

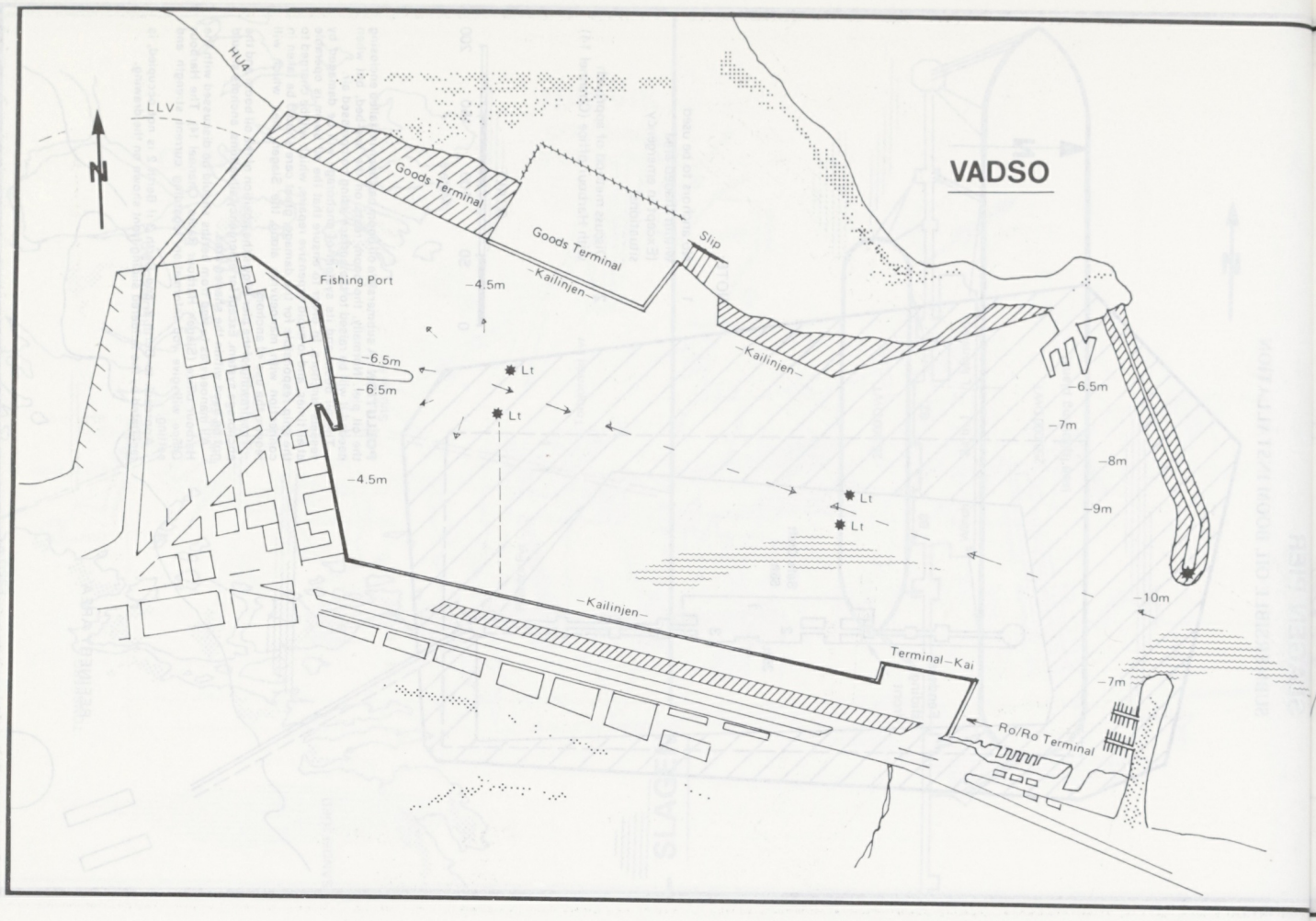
POLLUTION: A submersible oil boom has been installed enclosing the oil pier. Normally, the boom rests on the sea-bed, but when needed it will be raised to the surface using compressed air.

The oil boom and its system of anchorage will be damaged by vessels' anchors. In order to ensure that the oil boom is operable at all times, and to avoid expensive repairs, which will be charged to the ship responsible for the damage, great care should be taken in connection with manoeuvres along the Slagen pier, which will require the use of anchors.

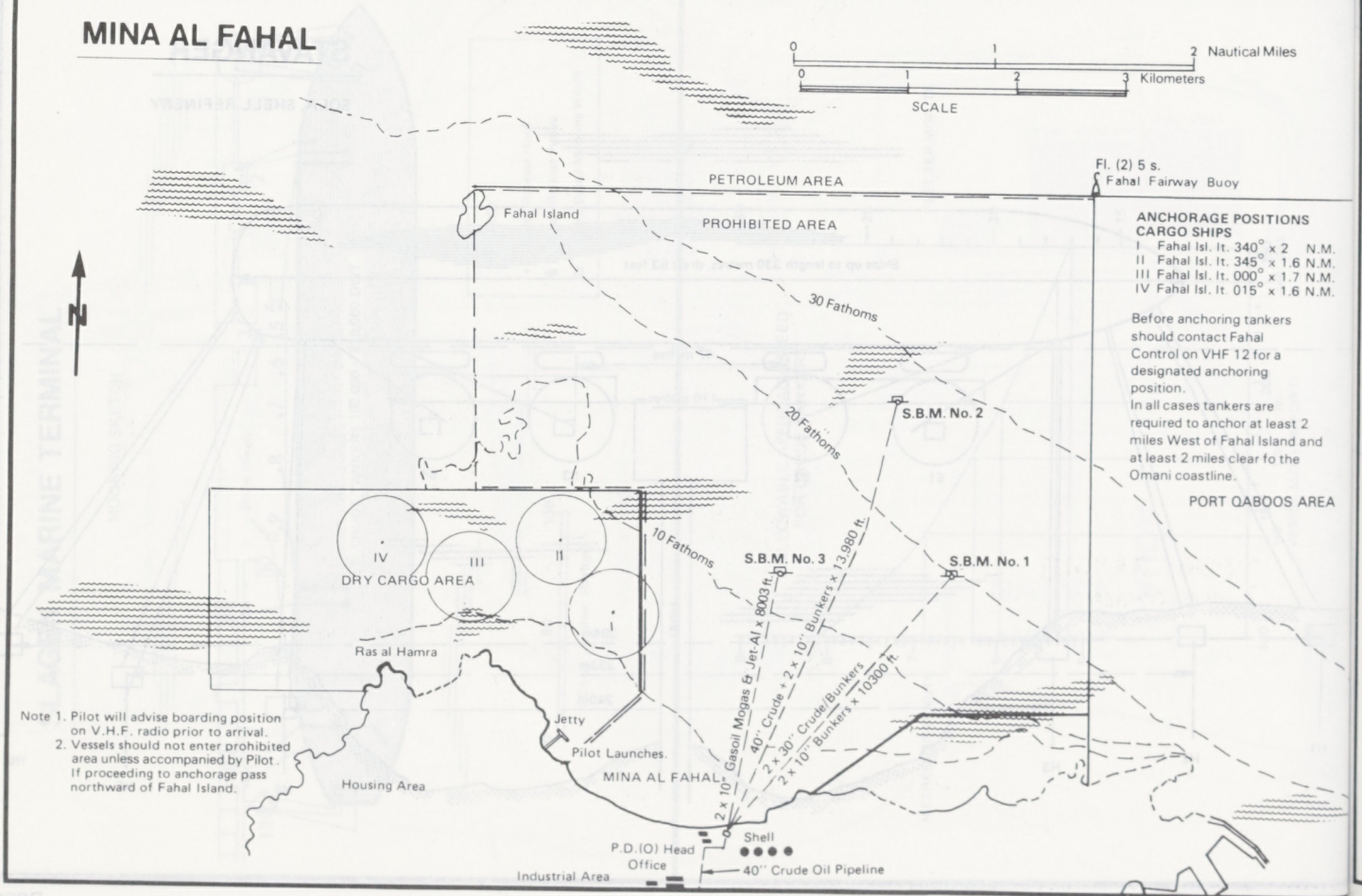
The drawing of the pier shows the position of the oil boom and the anchorage system. Except for emergency situations, anchors should not be used within the shaded area.

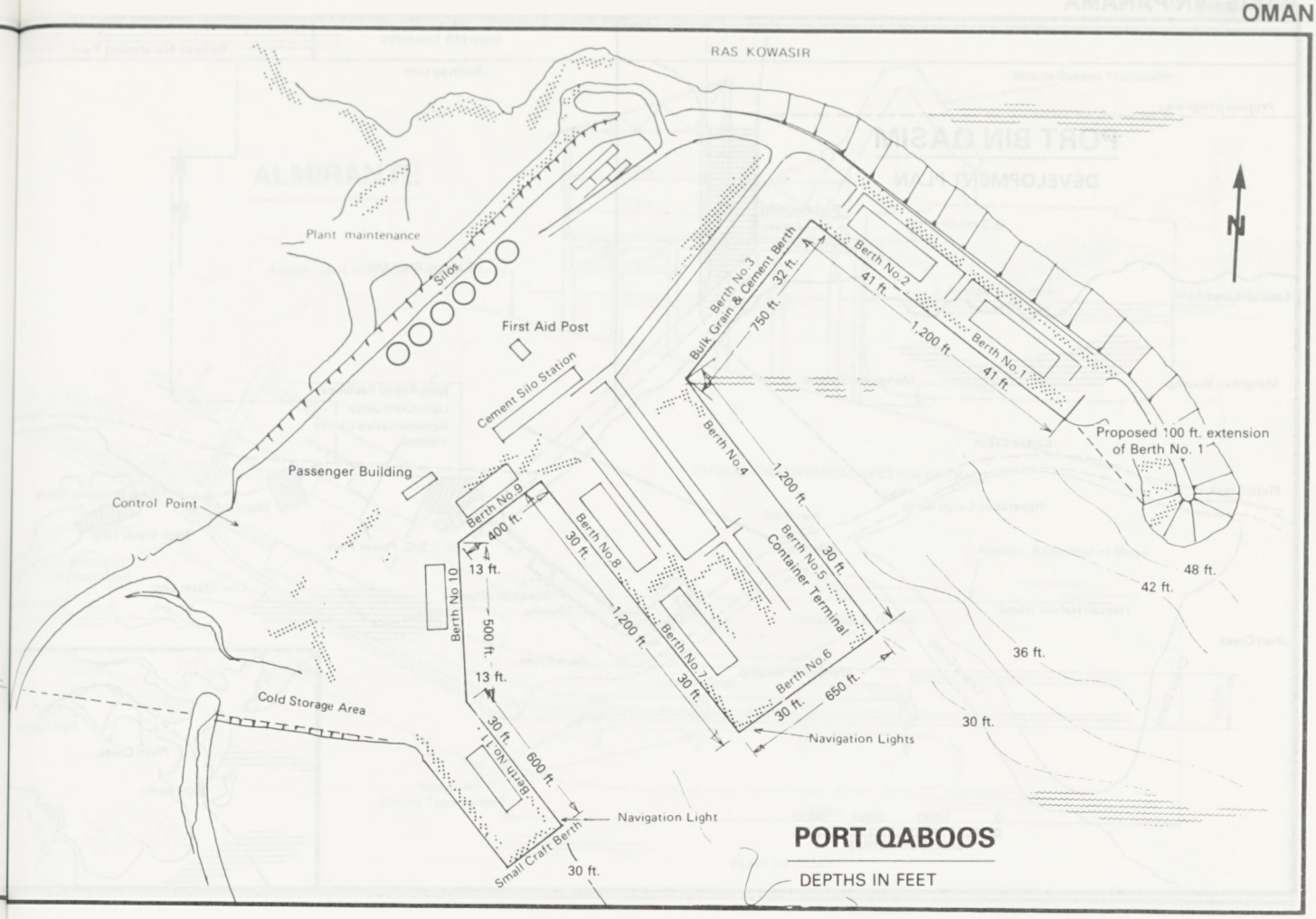
All manoeuvres to and from berths should be discussed with the Harbour office (Slagen Harbour Radio, Channel 14). The Harbour Office will give you information regarding current strength and setting.

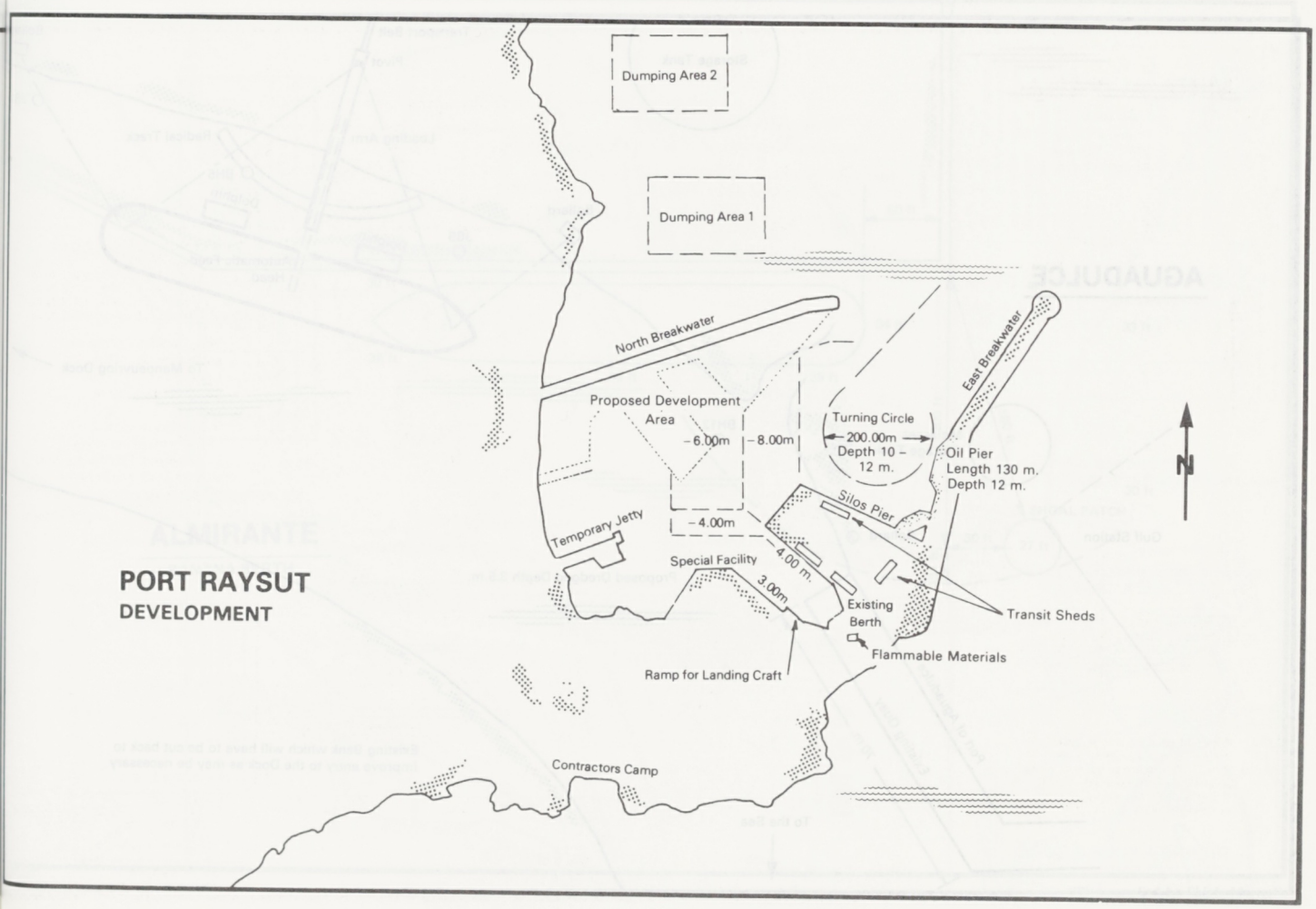
Approach to Berth 2, and Berth 3 if Berth 2 is not occupied, is facilitated by the fendered sliding front shown on the drawing.

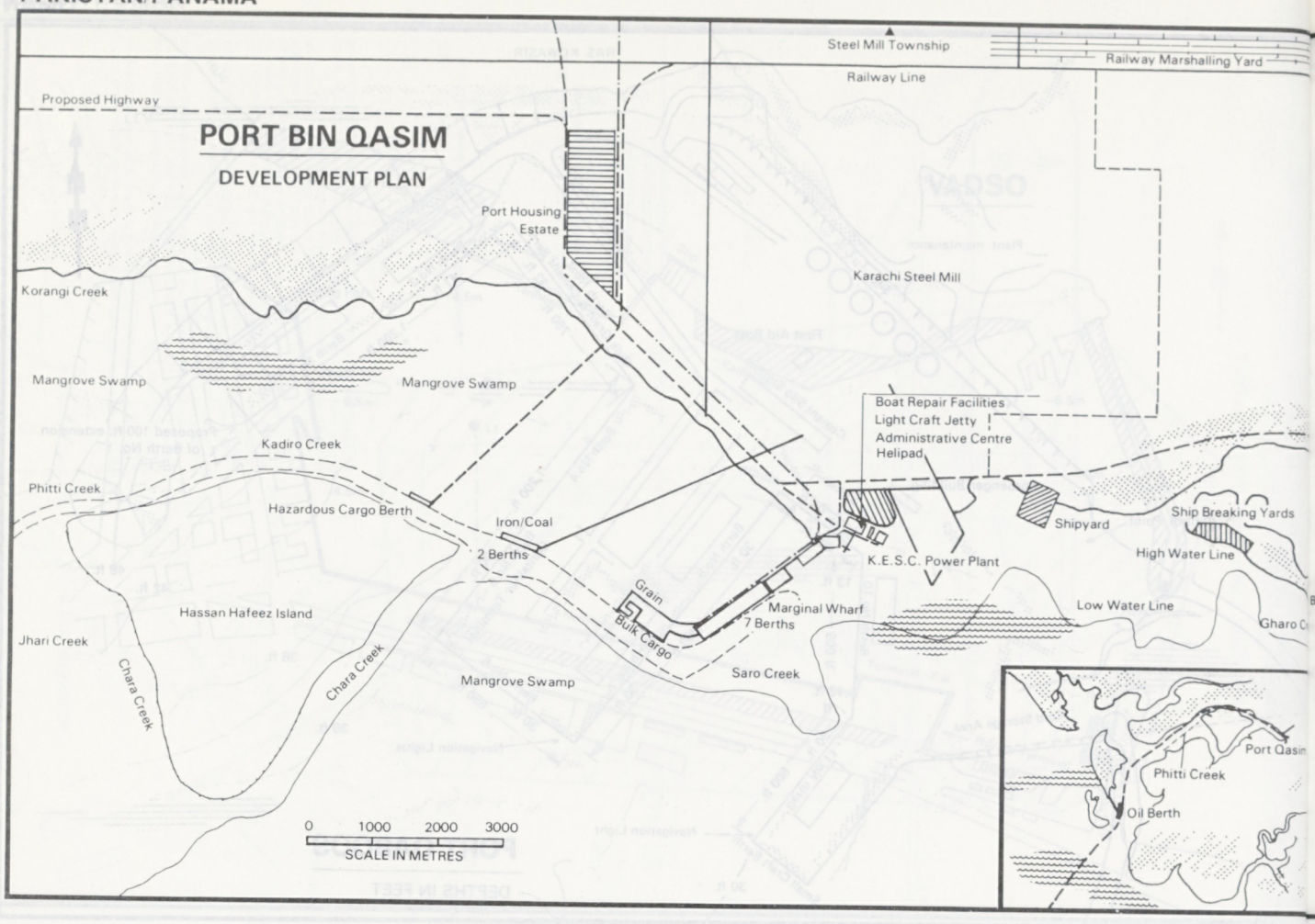


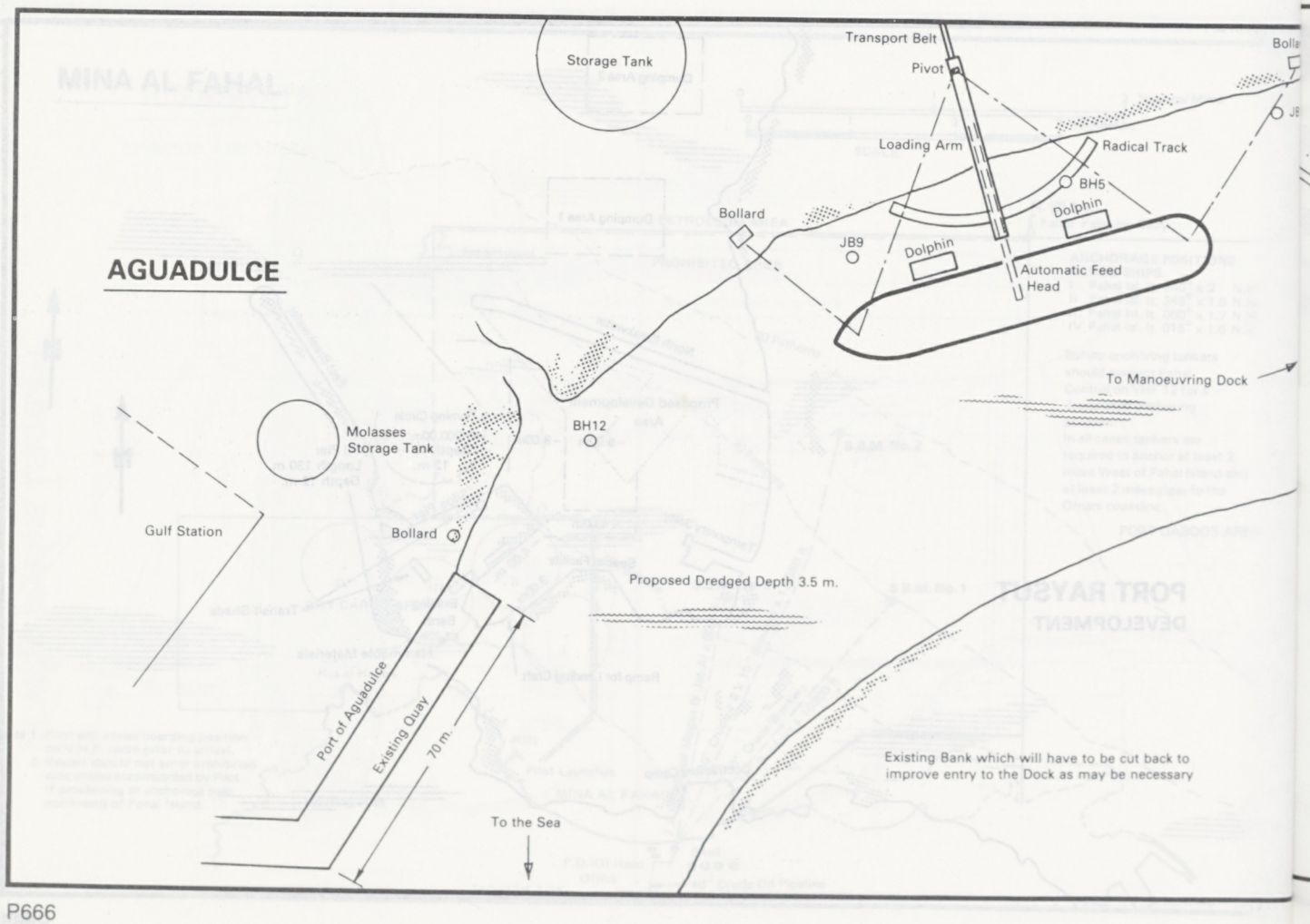
MINA AL FAHAL

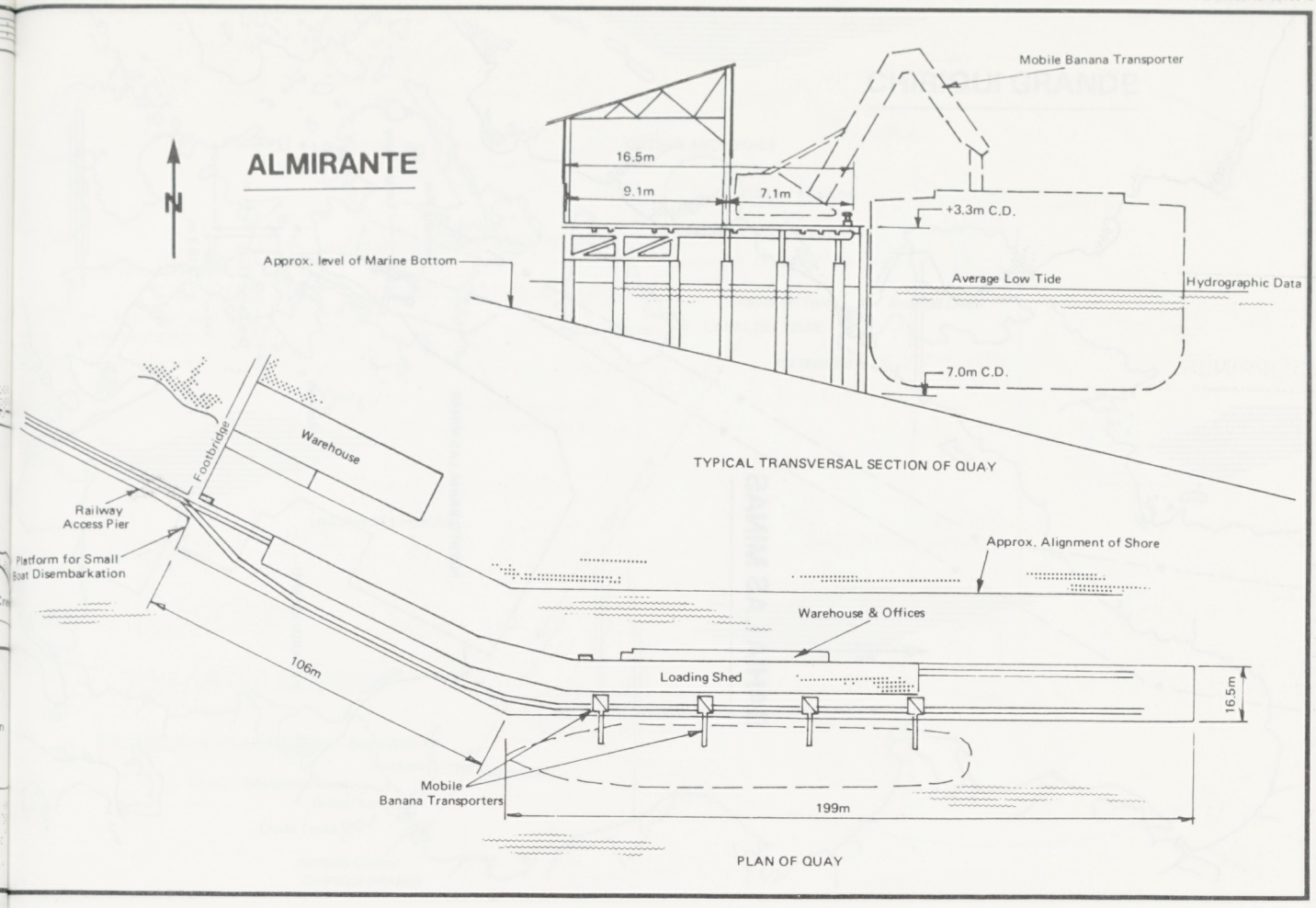


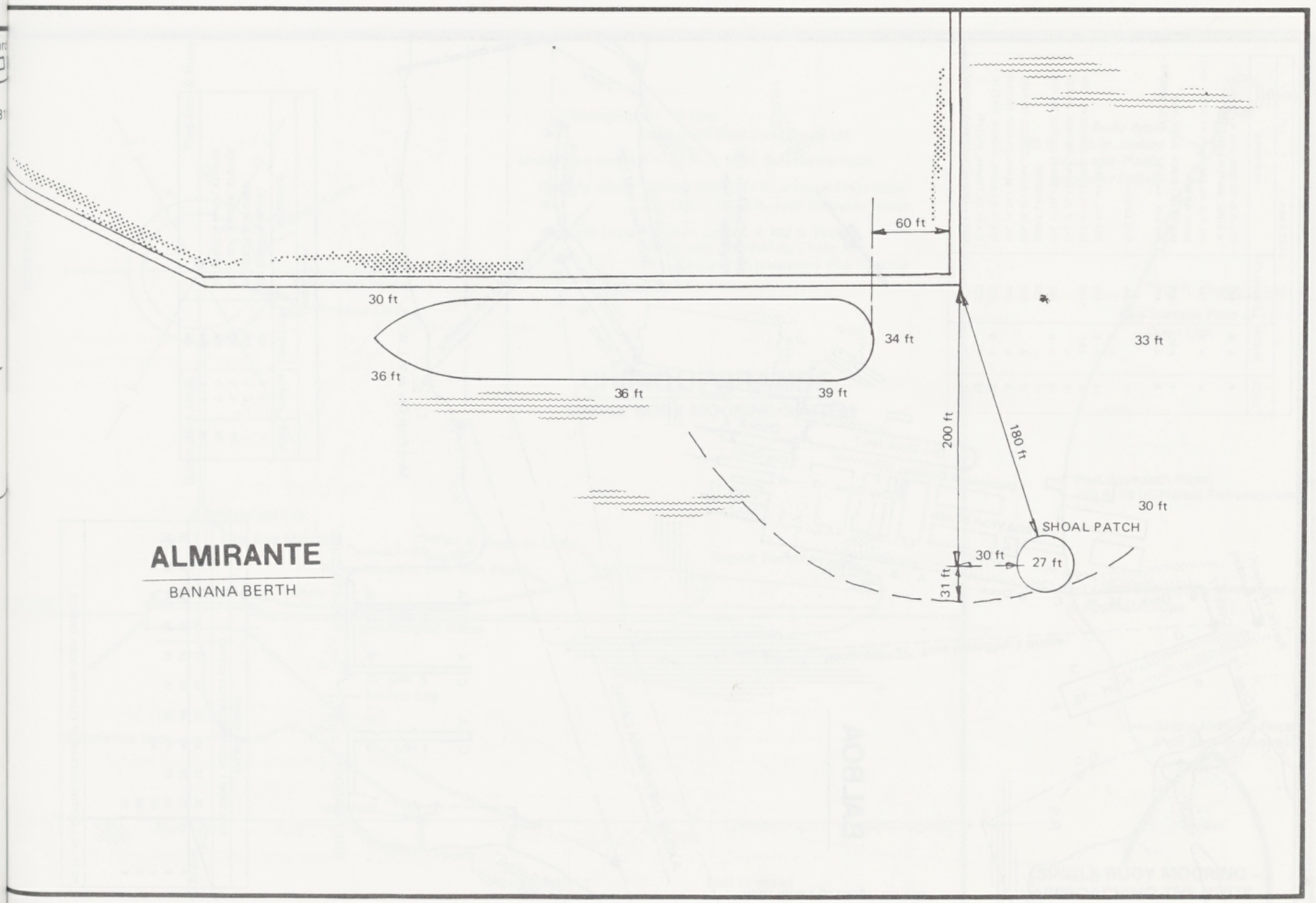

RAS KOWASIR
Plant maintenance
Silos
First Aid Post
Cement Silo Station
Passenger Building
Control Point
Cold Storage Area
Berth No.3 Bulk Grain & Cement Berth
32 ft.
750 ft.
Berth No.2
41 ft.
1,200 ft.
Berth No.1
41 ft.
Proposed 100 ft. extension of Berth No. 1
Berth No.4
1,200 ft.
30 ft.
Berth No.5 Container Terminal
Berth No.6
30 ft.
650 ft.
Navigation Lights
Berth No.9
400 ft.
13 ft.
Berth No.8
30 ft.
1,200 ft.
Berth No.7
30 ft.
Berth No.10
500 ft.
13 ft.
30 ft.
Berth No.11
600 ft.
Navigation Light
Small Craft Berth
30 ft.
48 ft.
42 ft.
36 ft.
30 ft.
N
PORT QABOOS
DEPTHS IN FEET


Dumping Area 2
Dumping Area 1
North Breakwater
East Breakwater
Proposed Development Area
6.00m
8.00m
Turning Circle
200.00m
Depth 10 – 12 m.
Oil Pier
Length 130 m.
Depth 12 m.
Silos Pier
4.00m
Temporary Jetty
Special Facility
4.00 m.
3.00m
Existing Berth
Transit Sheds
Flammable Materials
Ramp for Landing Craft
Contractors Camp
N
PORT RAYSUT
DEVELOPMENT

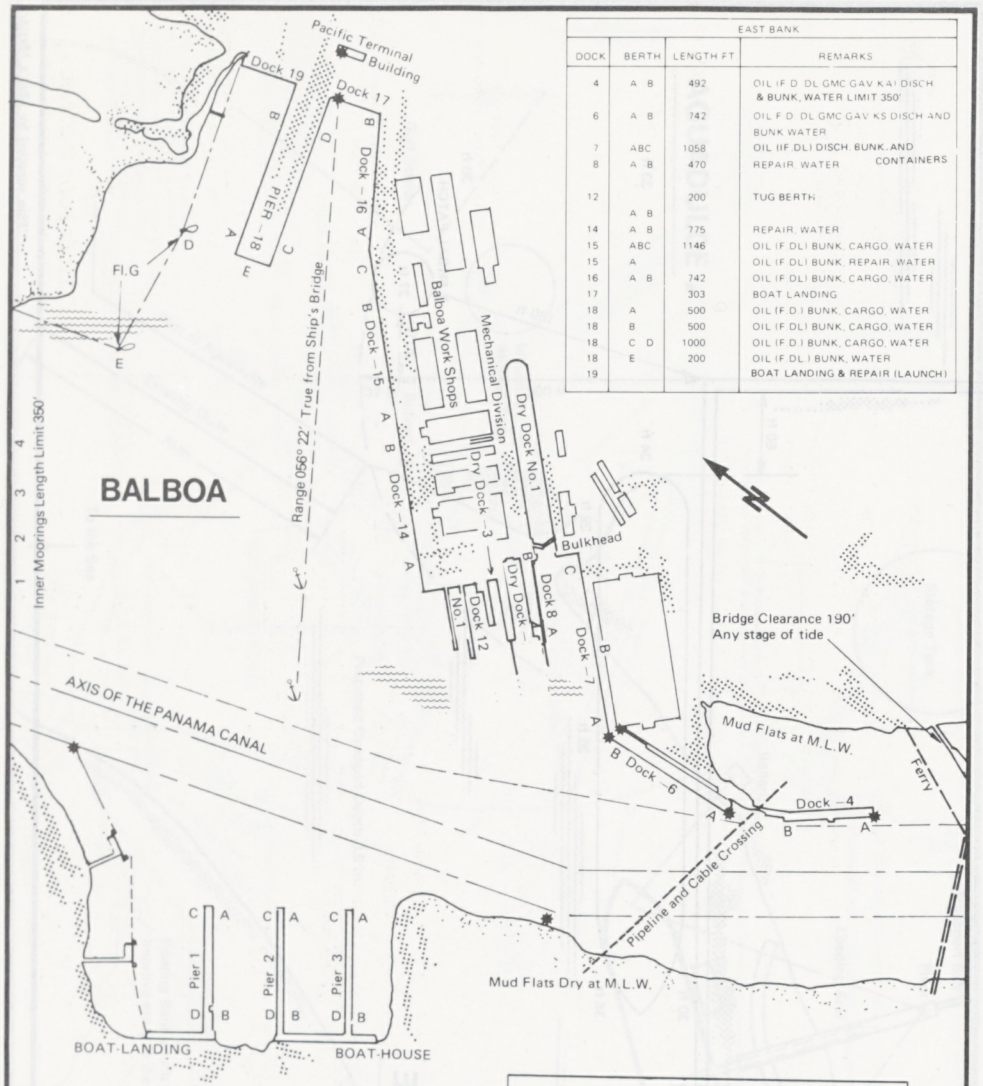

PORT BIN QASIM
DEVELOPMENT PLAN
Steel Mill Township
Railway Marshalling Yard
Railway Line
Proposed Highway
Port Housing Estate
Karachi Steel Mill
Korangi Creek
Mangrove Swamp
Mangrove Swamp
Kadiro Creek
Phitti Creek
Hazardous Cargo Berth
Iron/Coal
2 Berths
Boat Repair Facilities
Light Craft Jetty
Administrative Centre
Helipad
Shipyard
Ship Breaking Yards
High Water Line
K.E.S.C. Power Plant
Grain
Bulk Cargo
Marginal Wharf
7 Berths
Low Water Line
Hassan Hafeez Island
Jhari Creek
Chara Creek
Chara Creek
Mangrove Swamp
Saro Creek
Port Qasim
Phitti Creek
Oil Berth
0 1000 2000 3000
SCALE IN METRES


AGUADULCE
Storage Tank
Transport Belt
Pivot
Loading Arm
Radical Track
BH5
Dolphin
Bollard
JB9
Dolphin
Automatic Feed Head
To Manoeuvring Dock
Molasses Storage Tank
BH12
Gulf Station
Bollard
Proposed Dredged Depth 3.5 m.
Port of Aguadulce
Existing Quay
70 m.
Existing Bank which will have to be cut back to improve entry to the Dock as may be necessary
To the Sea





"Plan supplied by Ship's Master"



EAST BANK			
DOCK	BERTH	LENGTH FT	REMARKS
4	A B	492	OIL (F.D. DL GMC GAV KA) DISCH. & BUNK. WATER LIMIT 350'
6	A B	742	OIL F.D. DL GMC GAV KS DISCH AND BUNK WATER
7	ABC	1058	OIL (IF DL) DISCH. BUNK. AND CONTAINERS
8	A B	470	REPAIR. WATER
12		200	TUG BERTH
	A B		
14	A B	775	REPAIR. WATER
15	ABC	1146	OIL (F.DL) BUNK. CARGO. WATER
15	A		OIL (F.DL) BUNK. REPAIR. WATER
16	A B	742	OIL (F.DL) BUNK. CARGO. WATER
17		303	BOAT LANDING
18	A	500	OIL (F.D.) BUNK. CARGO. WATER
18	B	500	OIL (F.DL) BUNK. CARGO. WATER
18	C D	1000	OIL (F.D.) BUNK. CARGO. WATER
18	E	200	OIL (F.DL.) BUNK. WATER
19			BOAT LANDING & REPAIR (LAUNCH)

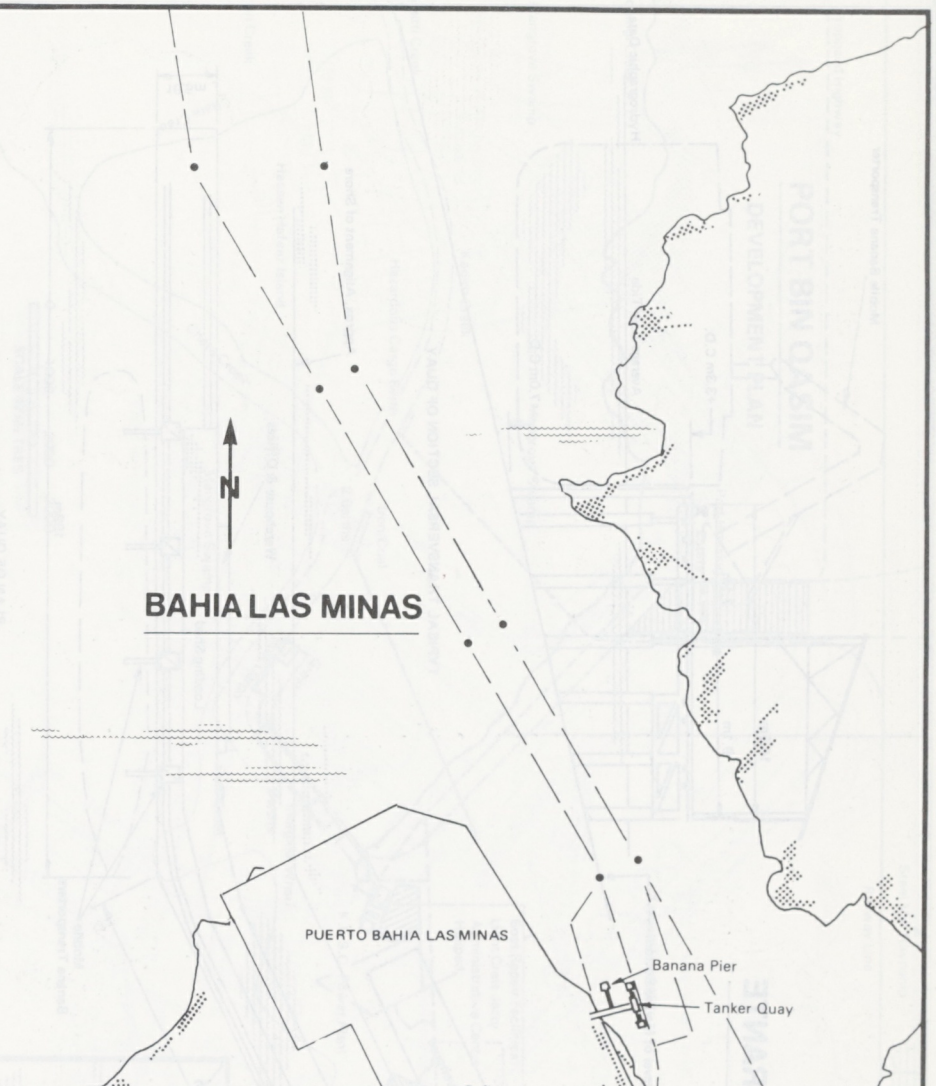
WEST BANK			
DOCK	BERTH	LENGTH FT	REMARKS
1	A B	704	OIL DISCH. & BUNK.
1	C D	704	OIL DISCH. & STORES
2N	A B	704	OIL DISCH. & BUNK. STORES
2S	C D	704	OIL DISCH. & BUNK. STORES
3N	A B	704	
3S	C D	704	

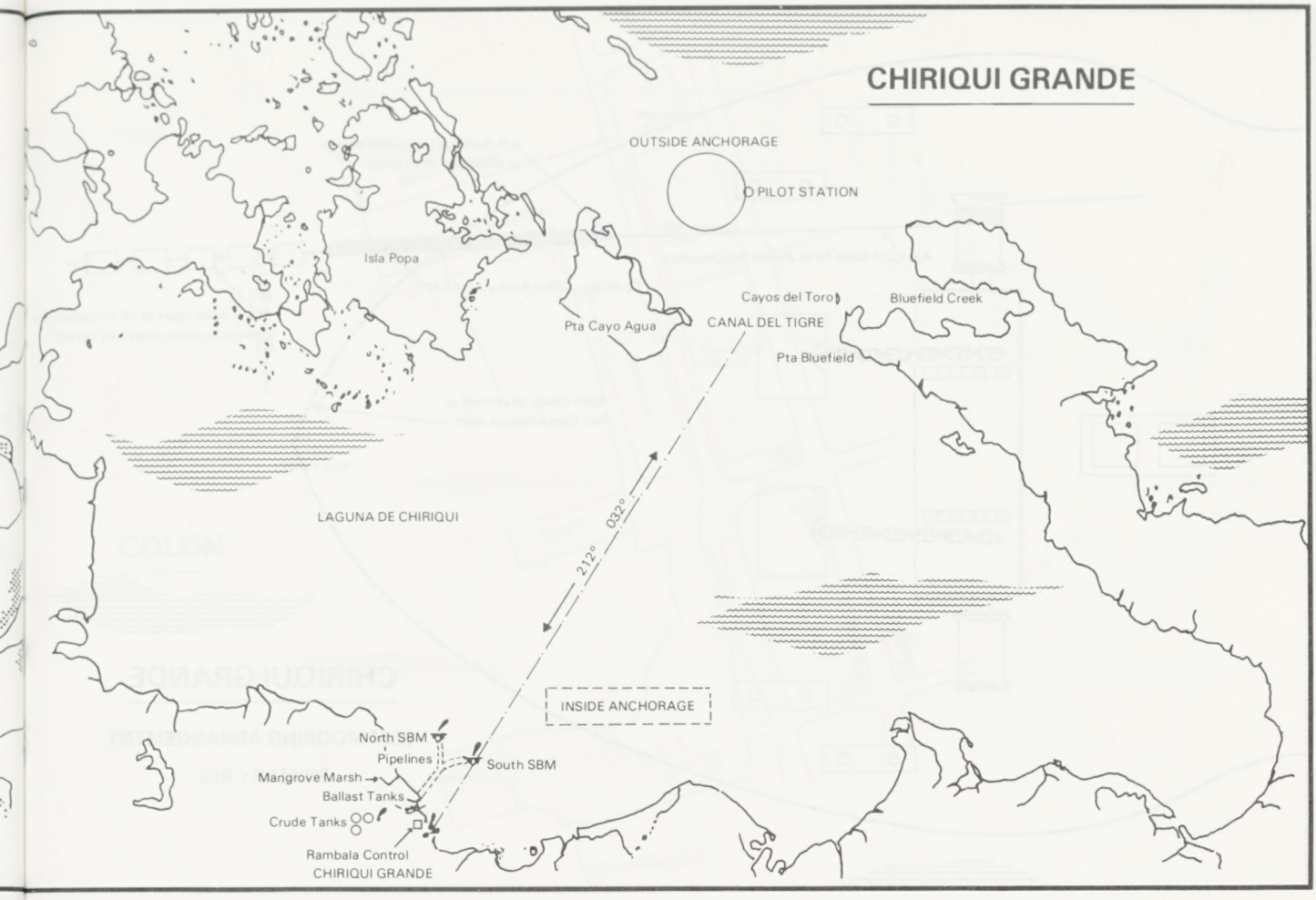
BALBOA DOCKS
MAX. DRAFT ACCOMMODATION IN FEET

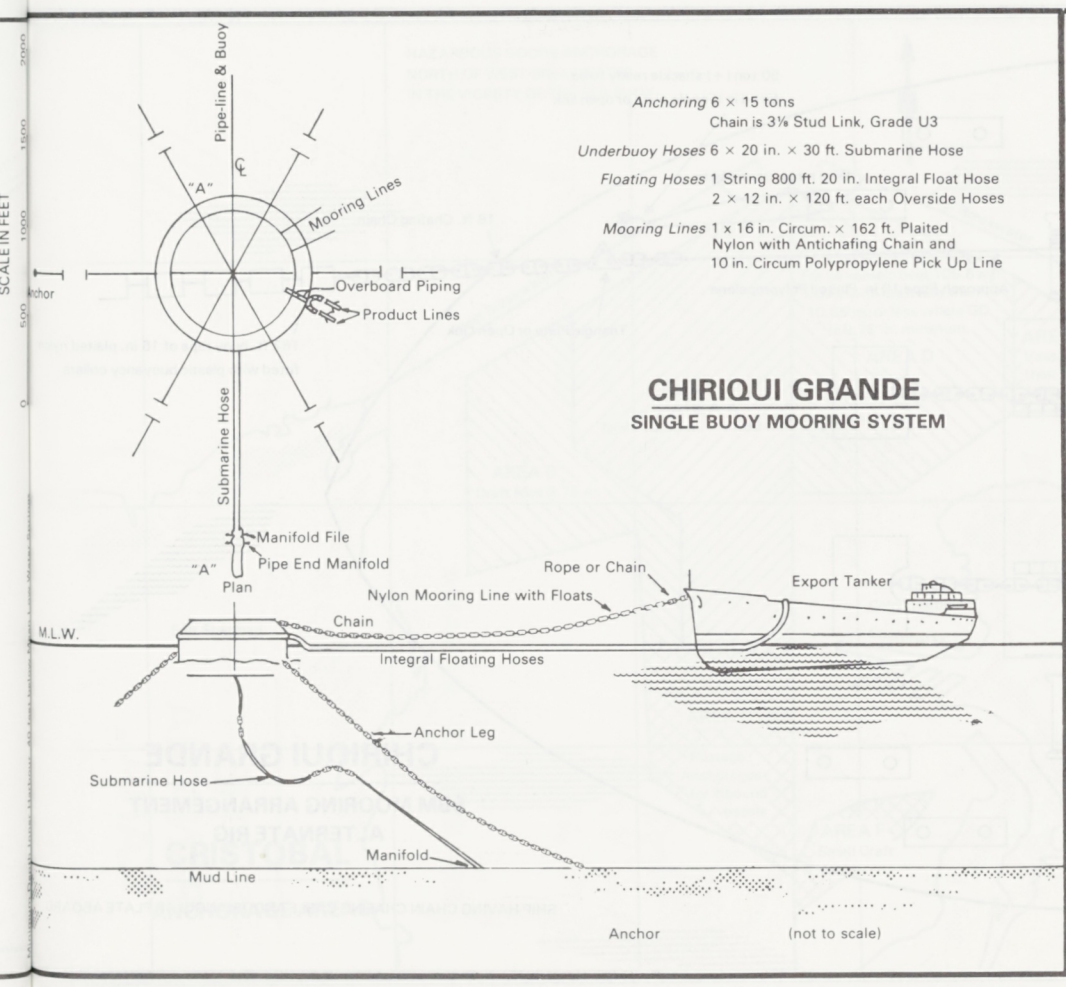
BERTH \ DOCK	18	16	15	14	13	12	8	7	6	4
A	39	38	40	36	13	15	26	34	36	30
B	35	38	40	36	15	15	26	34	36	30
C	40		40					34		
D	40									
E	31									

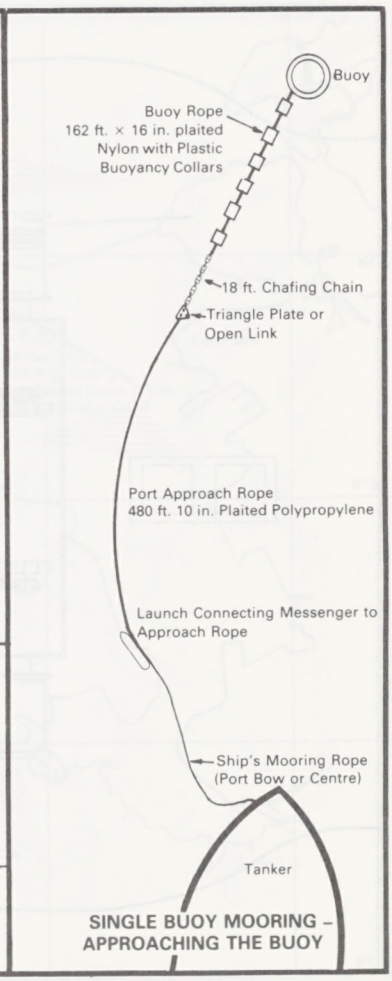
NOTE: ALL DEPTHS OUTSIDE OF FLOATING DOCK CAMELS

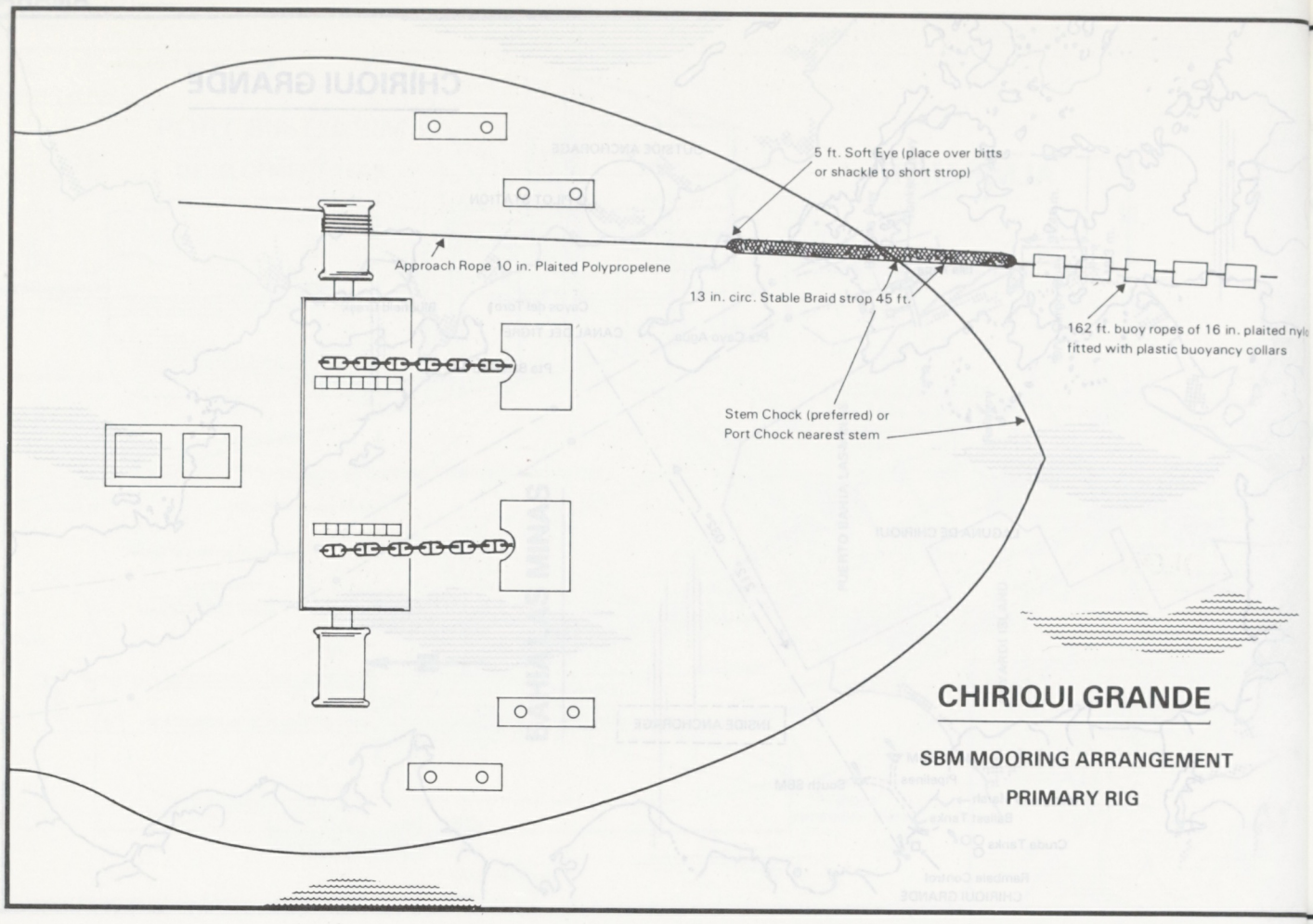
SCALE IN FEET

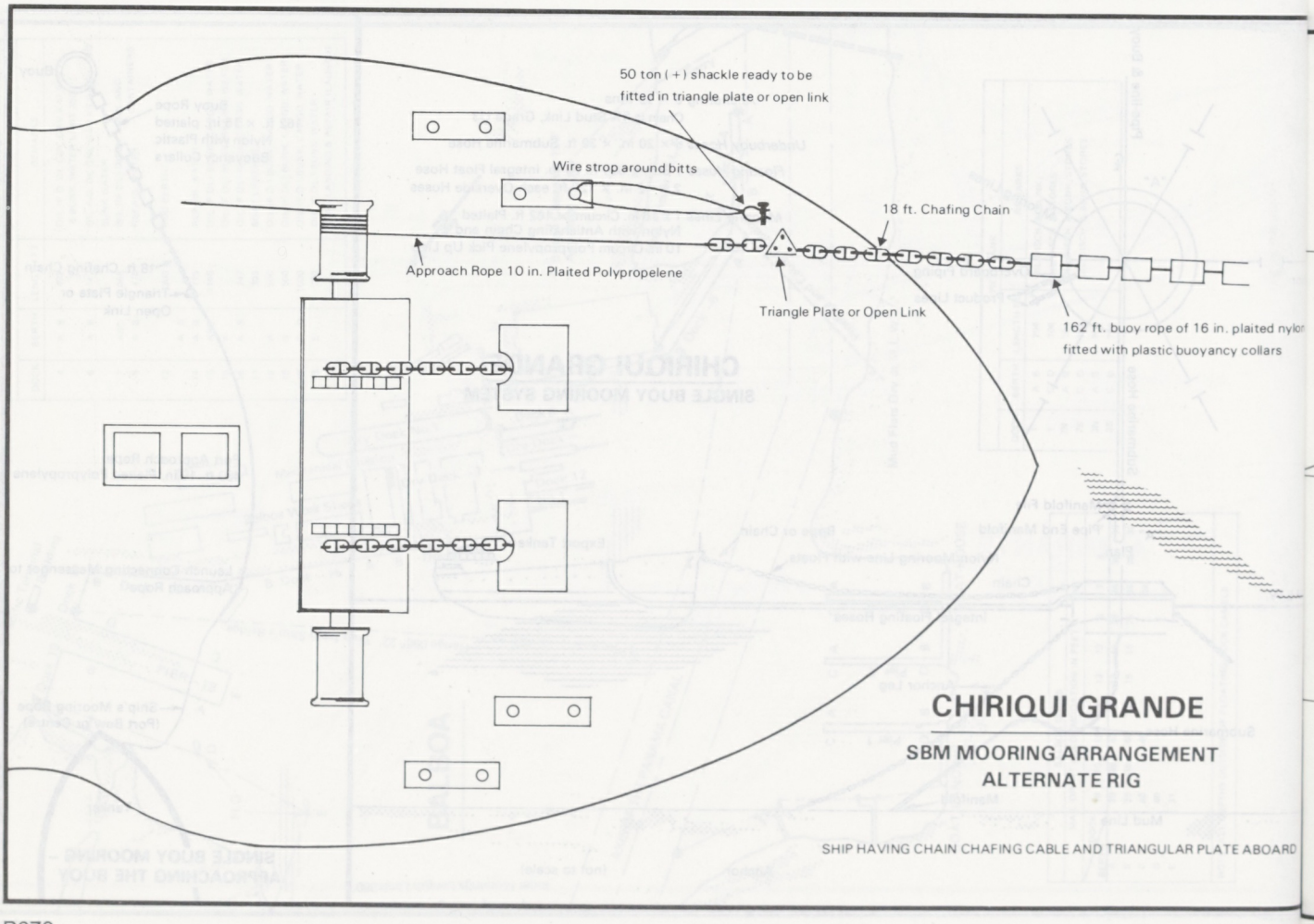


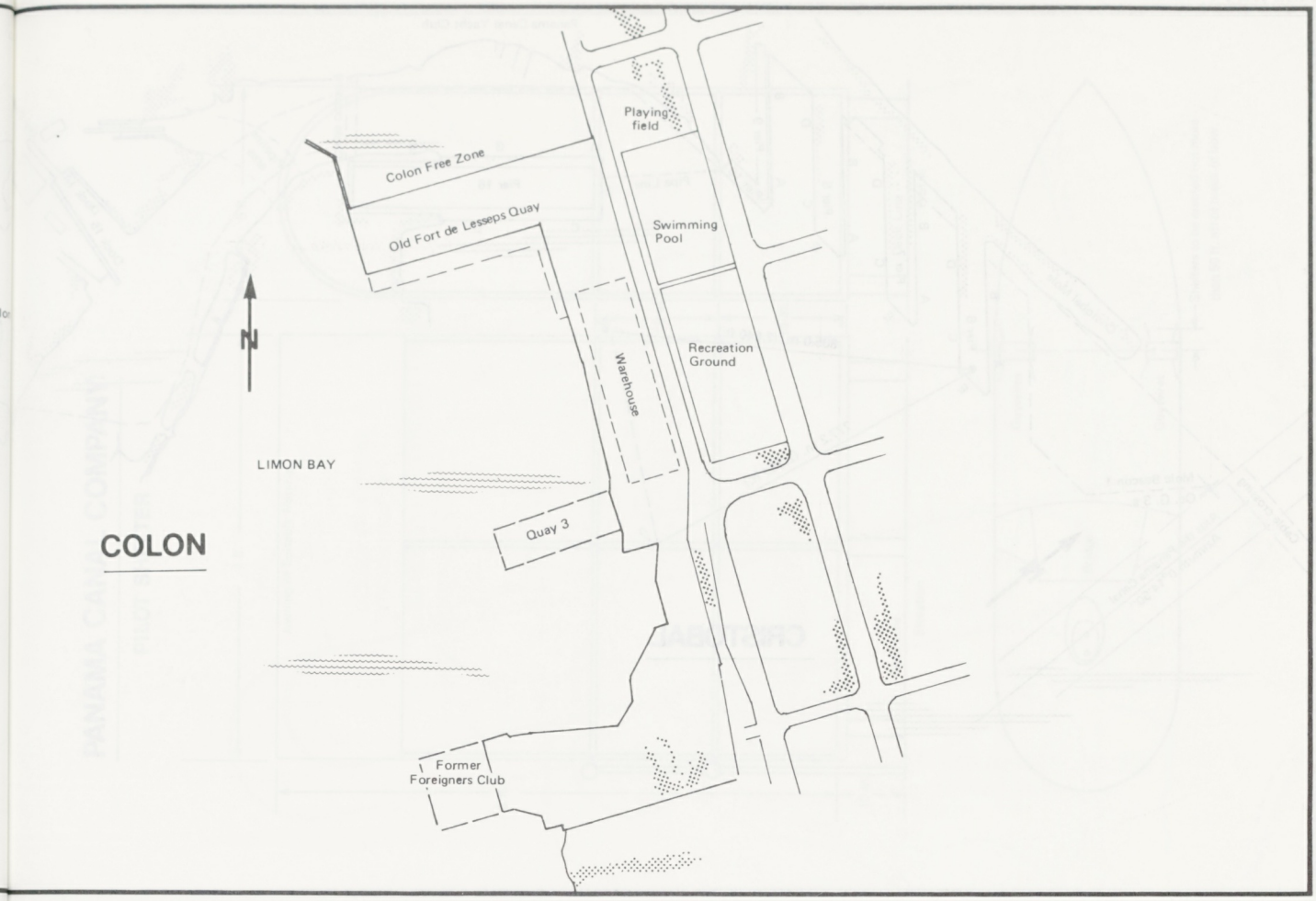

CHIRIQUI GRANDE
OUTSIDE ANCHORAGE
PILOT STATION
Isla Popa
Cayos del Toro
Bluefield Creek
Pta Cayo Agua
CANAL DEL TIGRE
Pta Bluefield
LAGUNA DE CHIRIQUI
212°
032°
INSIDE ANCHORAGE
North SBM
Pipelines
South SBM
Mangrove Marsh
Ballast Tanks
Crude Tanks
Rambala Control
CHIRIQUI GRANDE


Pipe-line & Buoy
"A"
Mooring Lines
Overboard Piping
Product Lines
Anchor
Submarine Hose
Manifold File
Pipe End Manifold
"A"
Plan
SCALE IN FEET
2000
1500
1000
500
0
Anchoring 6 × 15 tons
Chain is 3⅛ Stud Link, Grade U3
Underbuoy Hoses 6 × 20 in. × 30 ft. Submarine Hose
Floating Hoses 1 String 800 ft. 20 in. Integral Float Hose
2 × 12 in. × 120 ft. each Overside Hoses
Mooring Lines 1 x 16 in. Circum. × 162 ft. Plaited
Nylon with Antichafing Chain and
10 in. Circum Polypropylene Pick Up Line
CHIRIQUI GRANDE
SINGLE BUOY MOORING SYSTEM
Rope or Chain
Export Tanker
Nylon Mooring Line with Floats
Chain
M.L.W.
Integral Floating Hoses
Anchor Leg
Submarine Hose
Manifold
Mud Line
Anchor
(not to scale)

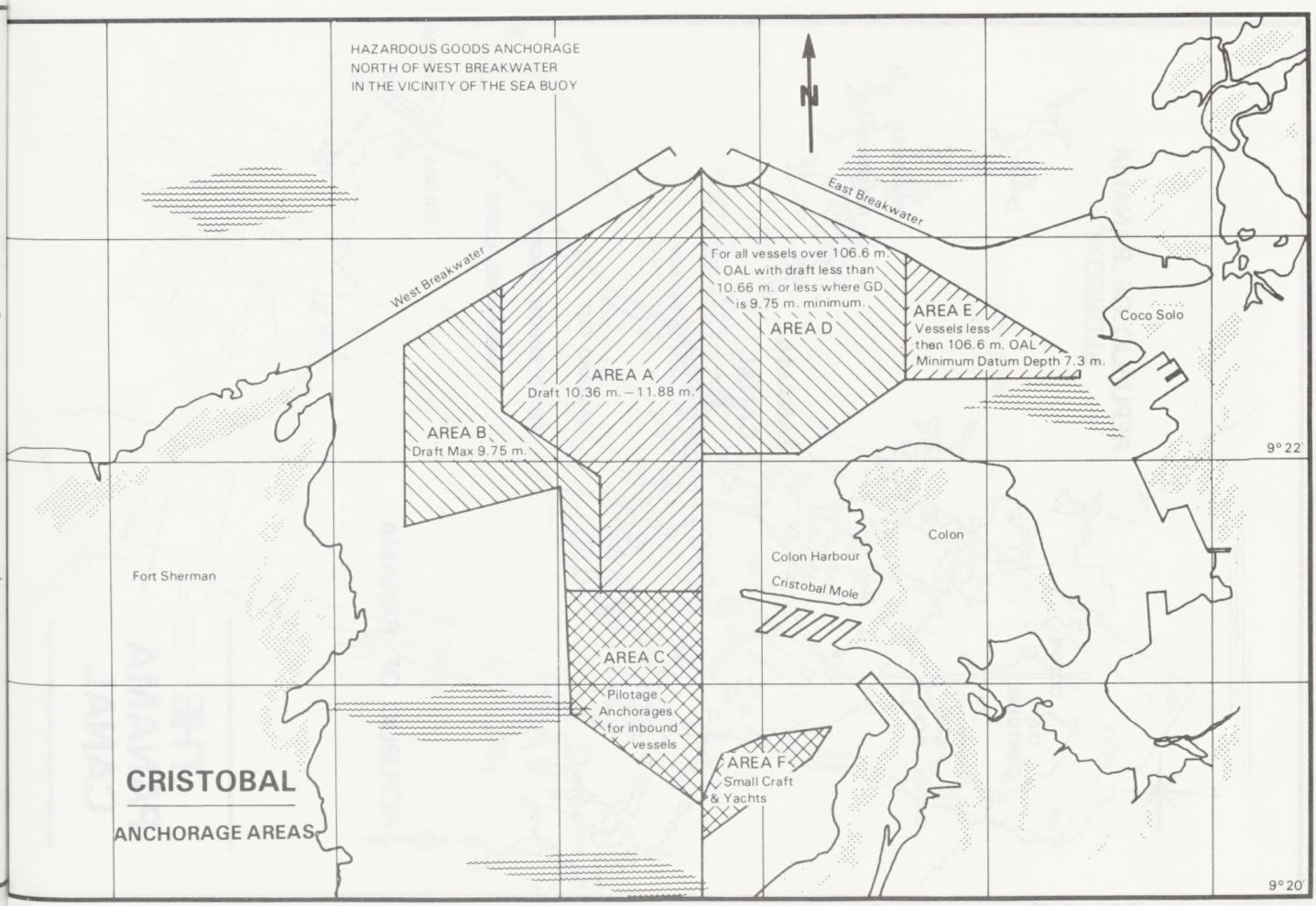

Buoy
Buoy Rope
162 ft. × 16 in. plaited
Nylon with Plastic
Buoyancy Collars
18 ft. Chafing Chain
Triangle Plate or
Open Link
Port Approach Rope
480 ft. 10 in. Plaited Polypropylene
Launch Connecting Messenger to
Approach Rope
Ship's Mooring Rope
(Port Bow or Centre)
Tanker
SINGLE BUOY MOORING –
APPROACHING THE BUOY


5 ft. Soft Eye (place over bitts
or shackle to short strop)
Approach Rope 10 in. Plaited Polypropelene
13 in. circ. Stable Braid strop 45 ft.
162 ft. buoy ropes of 16 in. plaited nyl
fitted with plastic buoyancy collars
Stem Chock (preferred) or
Port Chock nearest stem
CHIRIQUI GRANDE
SBM MOORING ARRANGEMENT
PRIMARY RIG


50 ton (+) shackle ready to be
fitted in triangle plate or open link
Wire strop around bitts
18 ft. Chafing Chain
Approach Rope 10 in. Plaited Polypropelene
Triangle Plate or Open Link
162 ft. buoy rope of 16 in. plaited nylo
fitted with plastic buoyancy collars
CHIRIQUI GRANDE
SBM MOORING ARRANGEMENT
ALTERNATE RIG
SHIP HAVING CHAIN CHAFING CABLE AND TRIANGULAR PLATE ABOARD

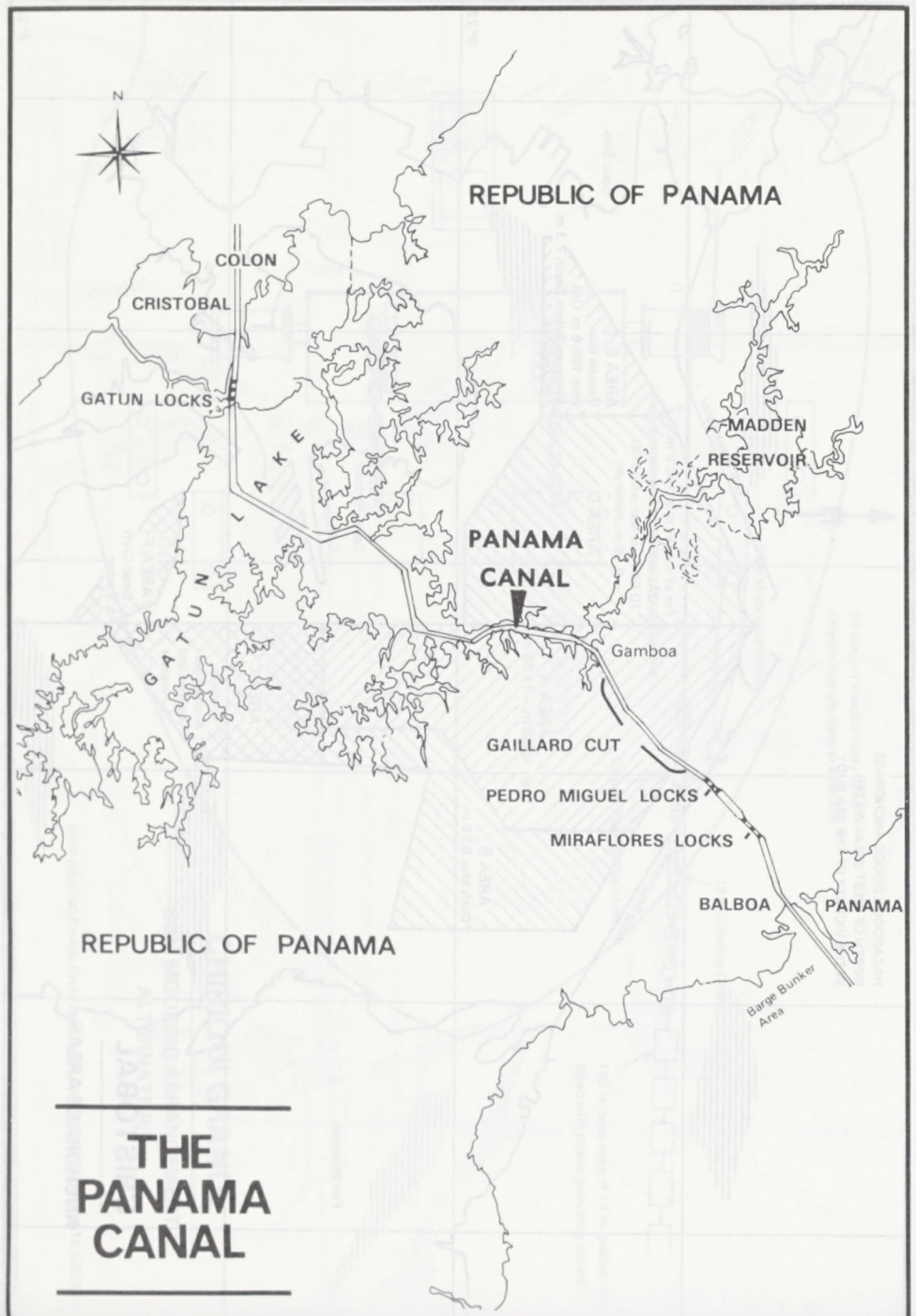


COLON

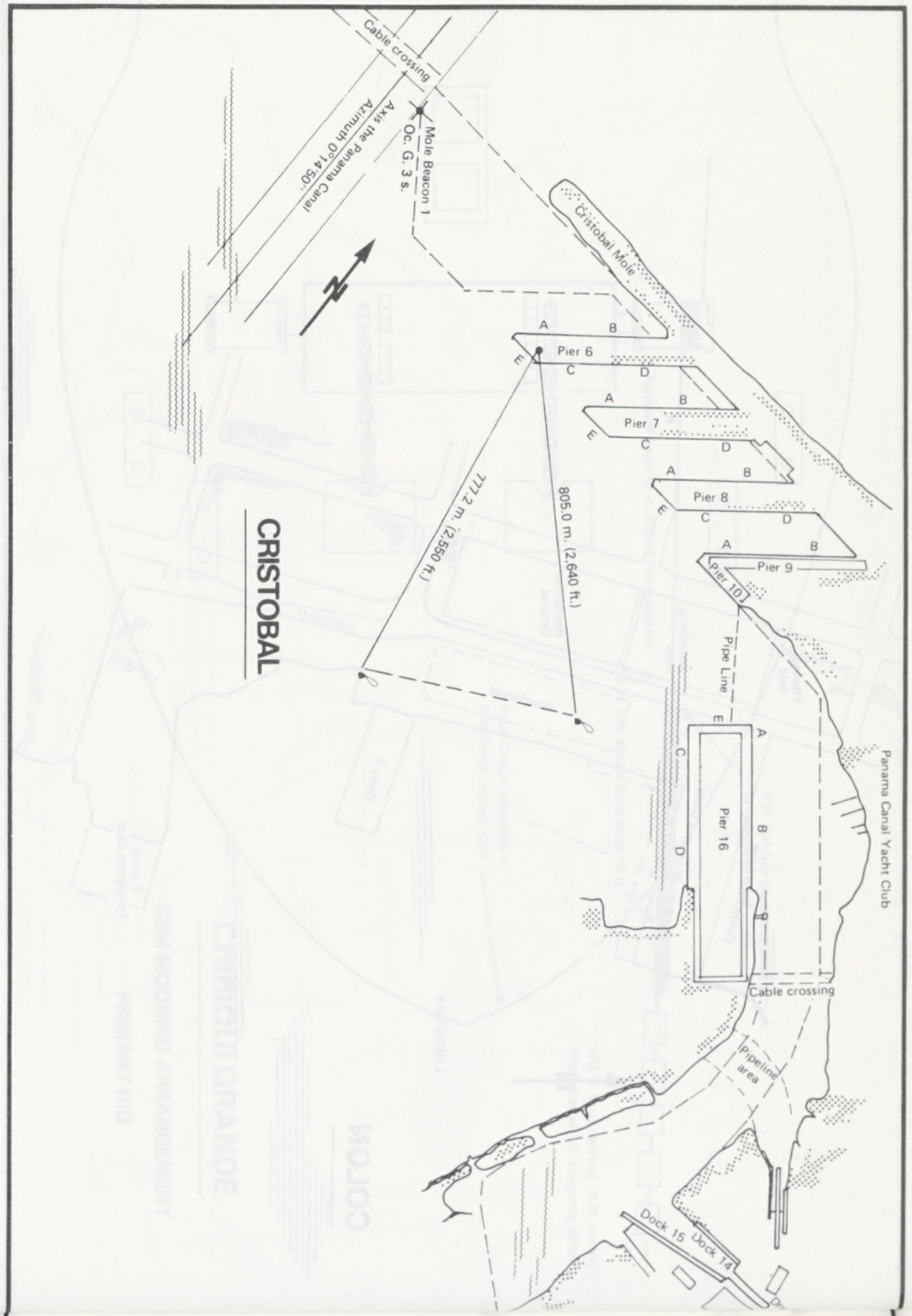


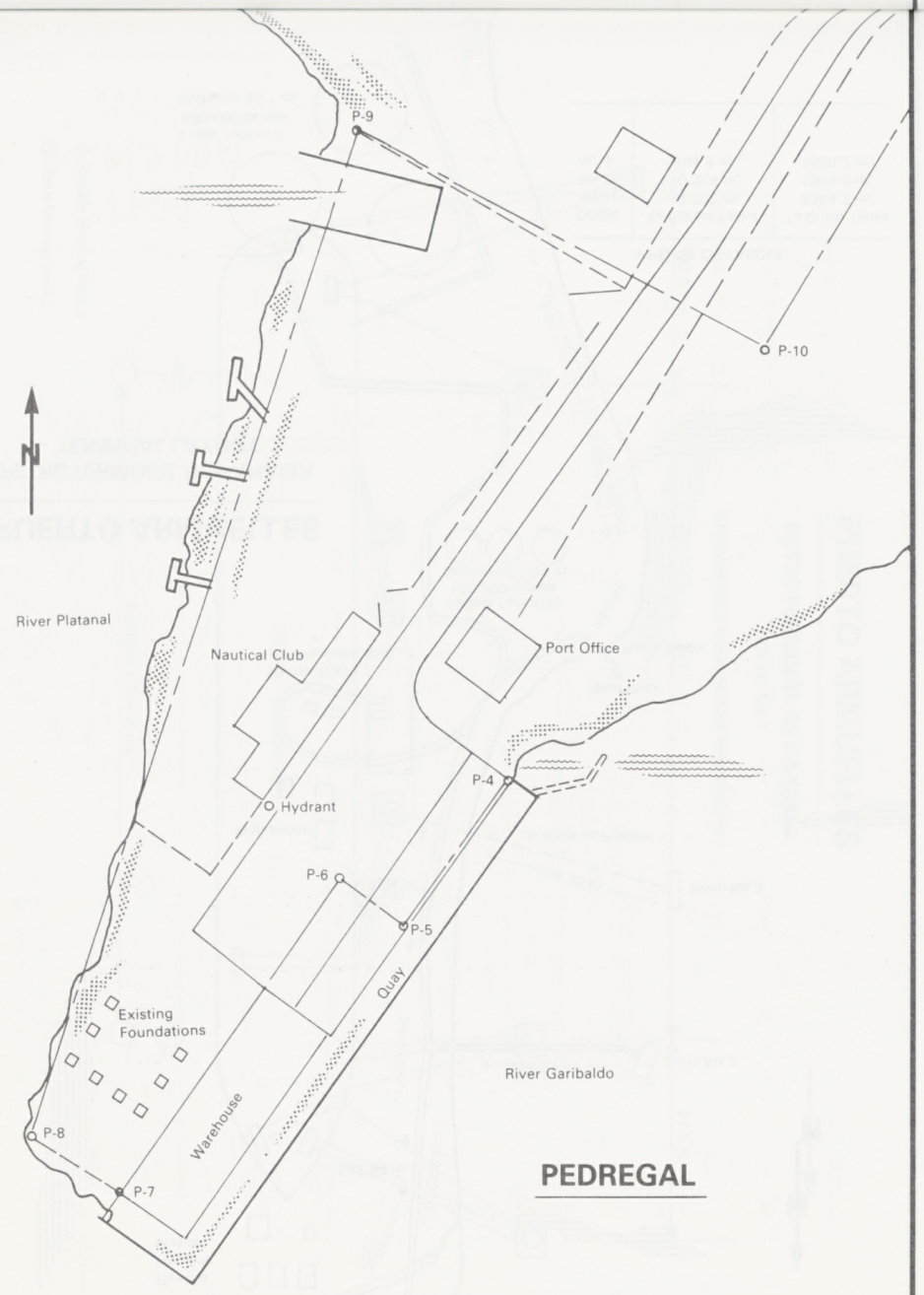
CRISTOBAL

ANCHORAGE AREAS



THE PANAMA CANAL

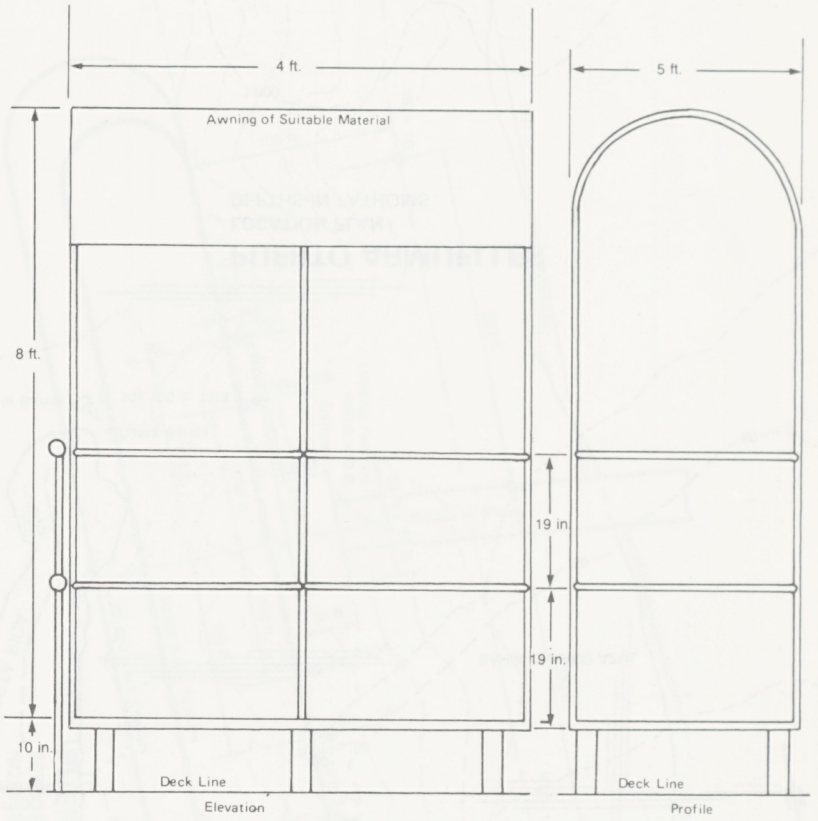


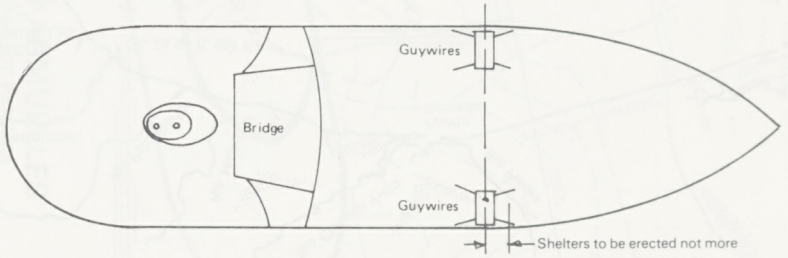


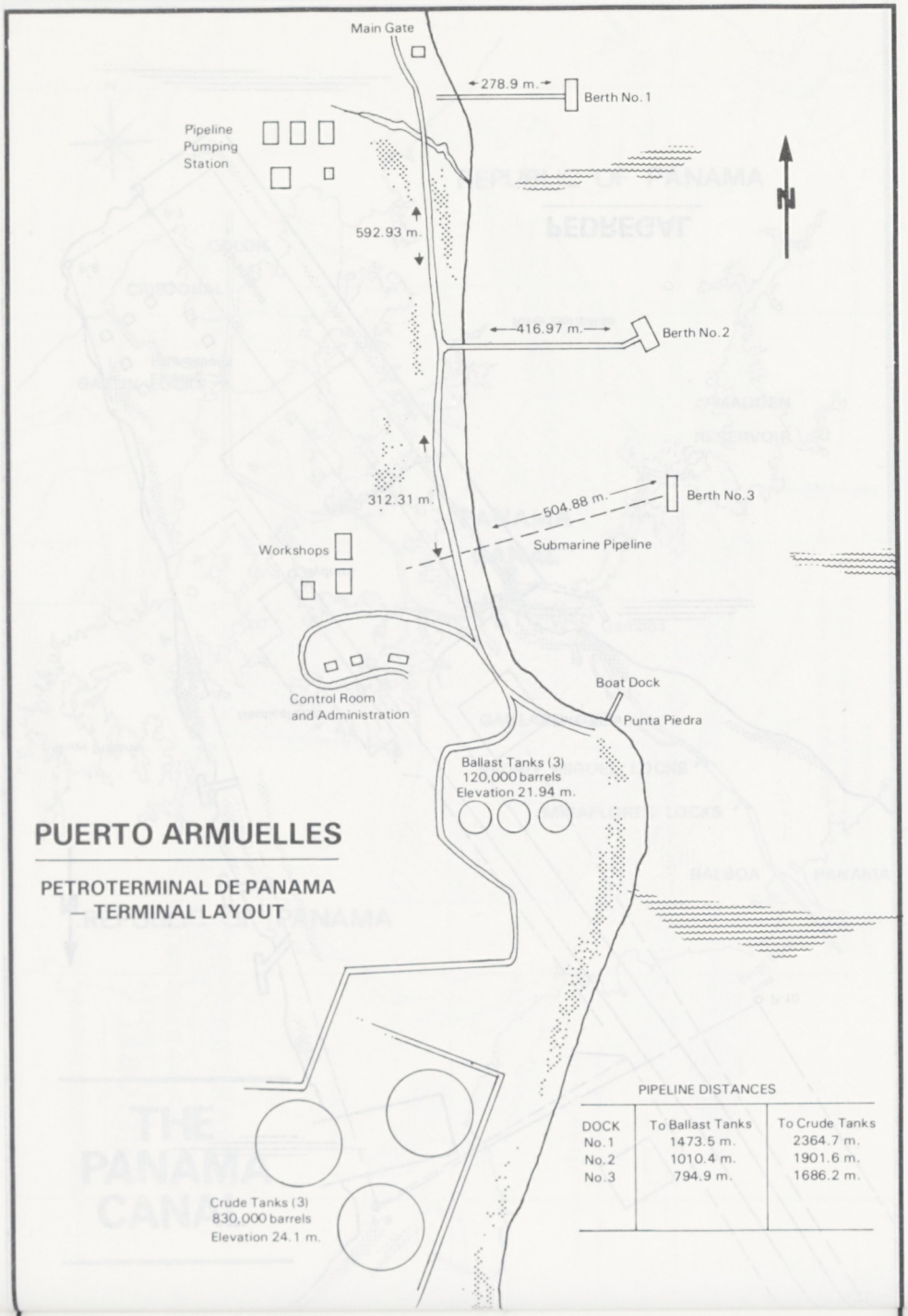
PEDREGAL

PANAMA CANAL COMPANY

PILOT SHELTER





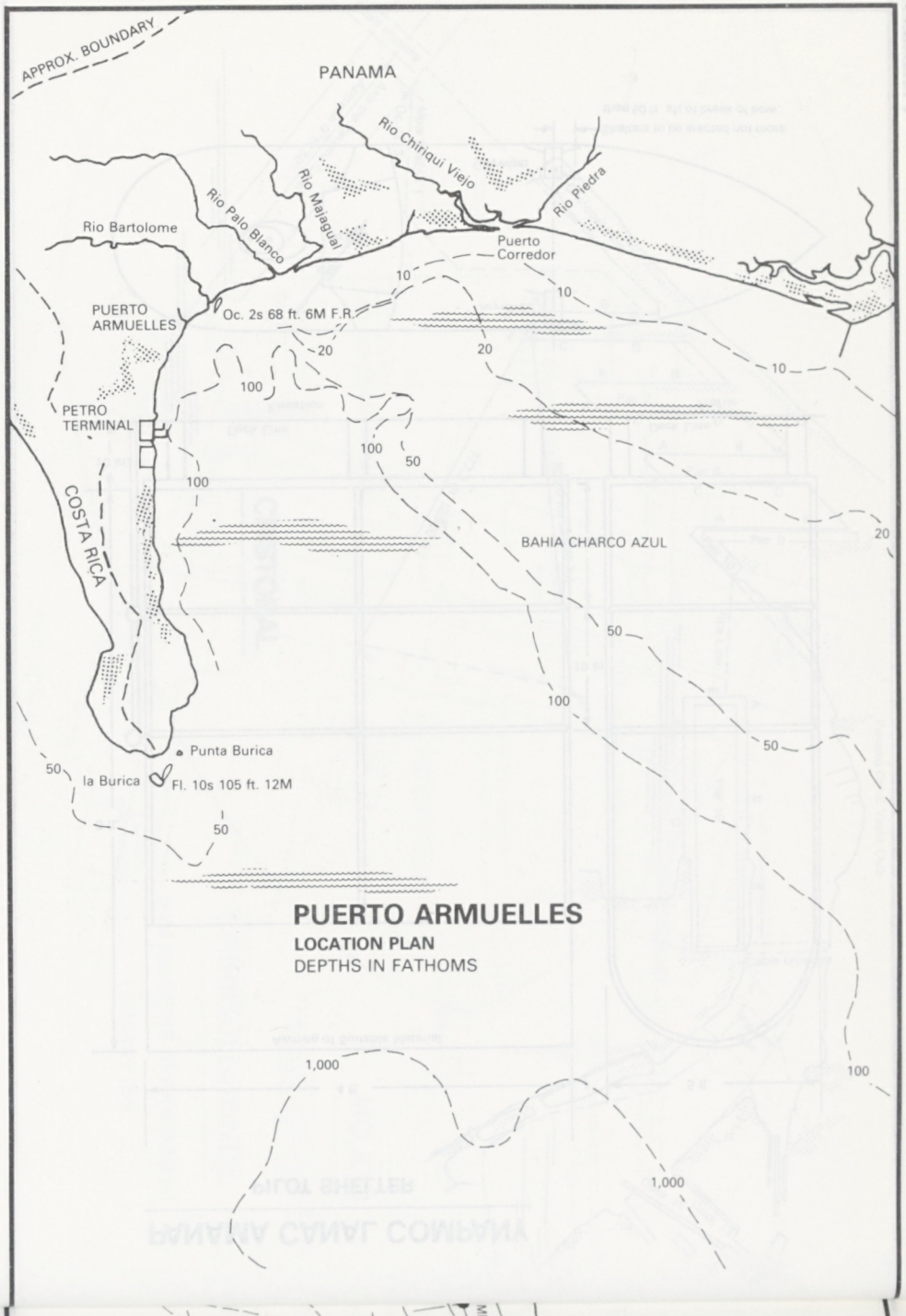


PUERTO ARMUELLES

PETROTERMINAL DE PANAMA — TERMINAL LAYOUT

PIPELINE DISTANCES

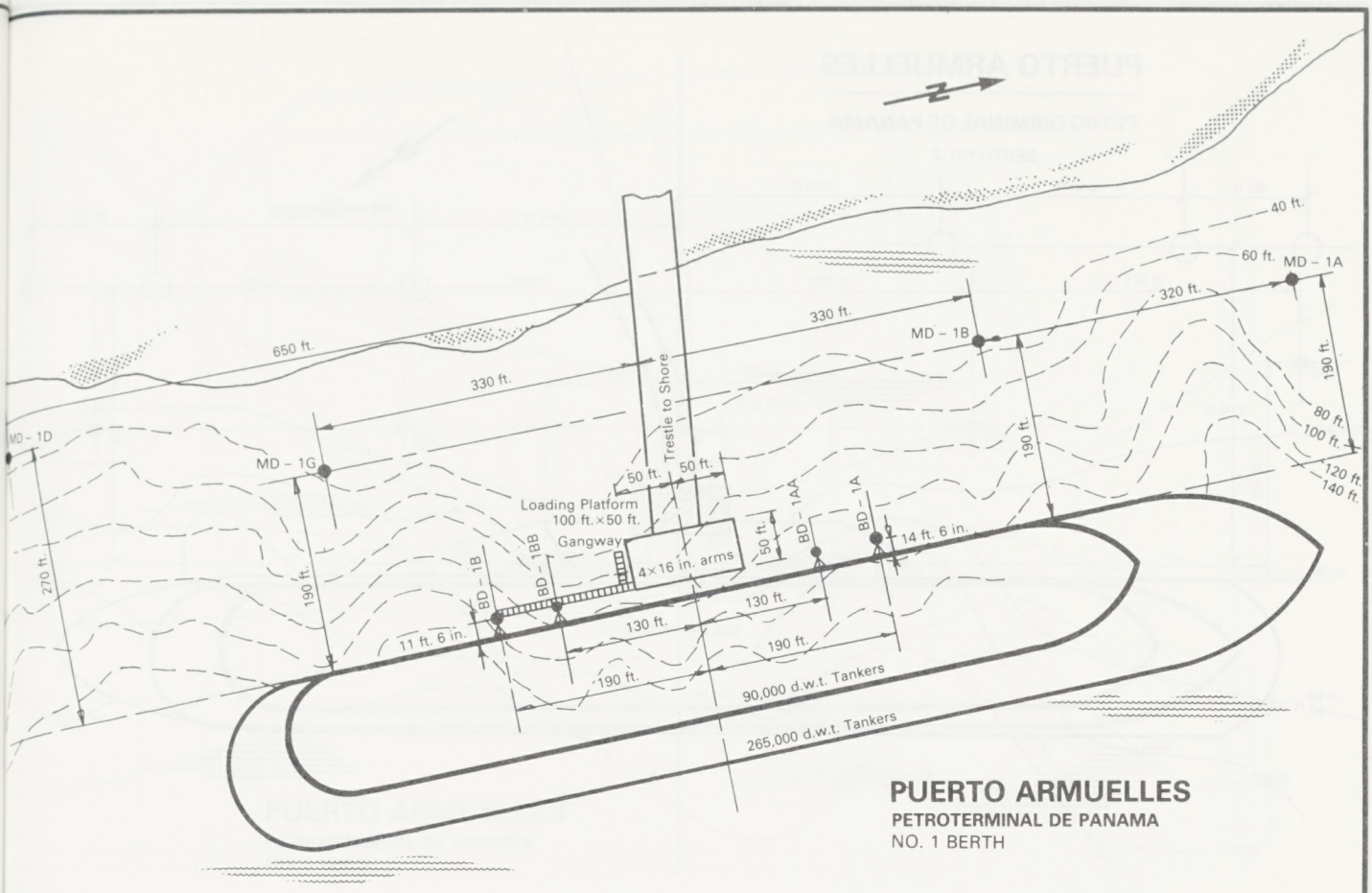
DOCK	To Ballast Tanks	To Crude Tanks
No. 1	1473.5 m.	2364.7 m.
No. 2	1010.4 m.	1901.6 m.
No. 3	794.9 m.	1686.2 m.



PUERTO ARMUELLES

LOCATION PLAN

DEPTHS IN FATHOMS



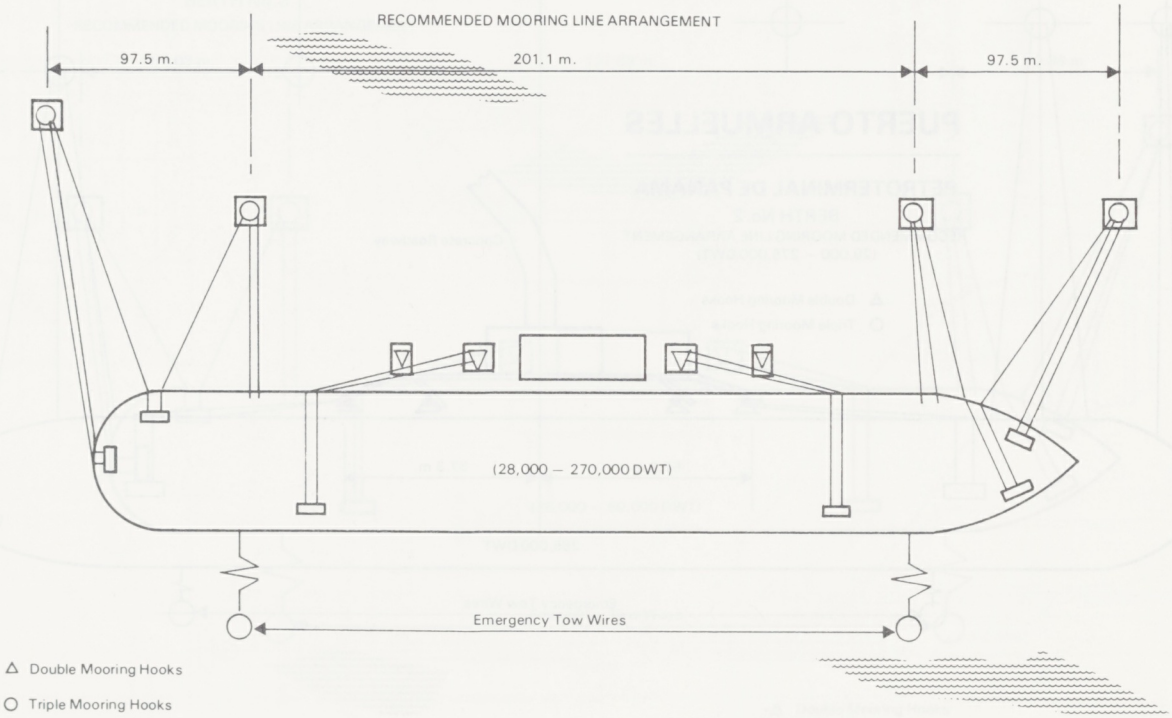
PUERTO ARMUELLES
PETROTERMINAL DE PANAMA
NO. 1 BERTH

PUERTO ARMUELLES

PETROTERMINAL DE PANAMA

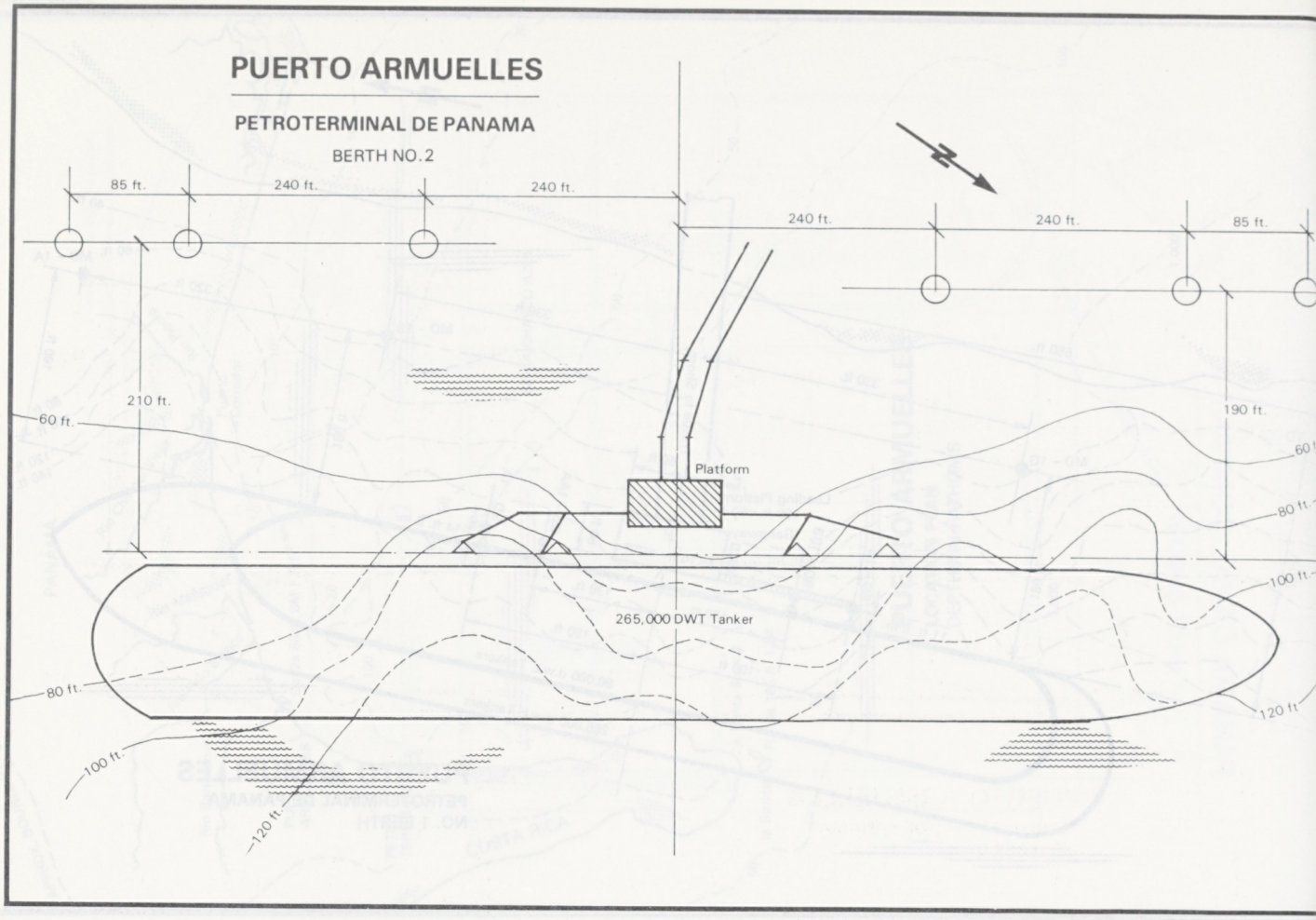
BERTH No. 1

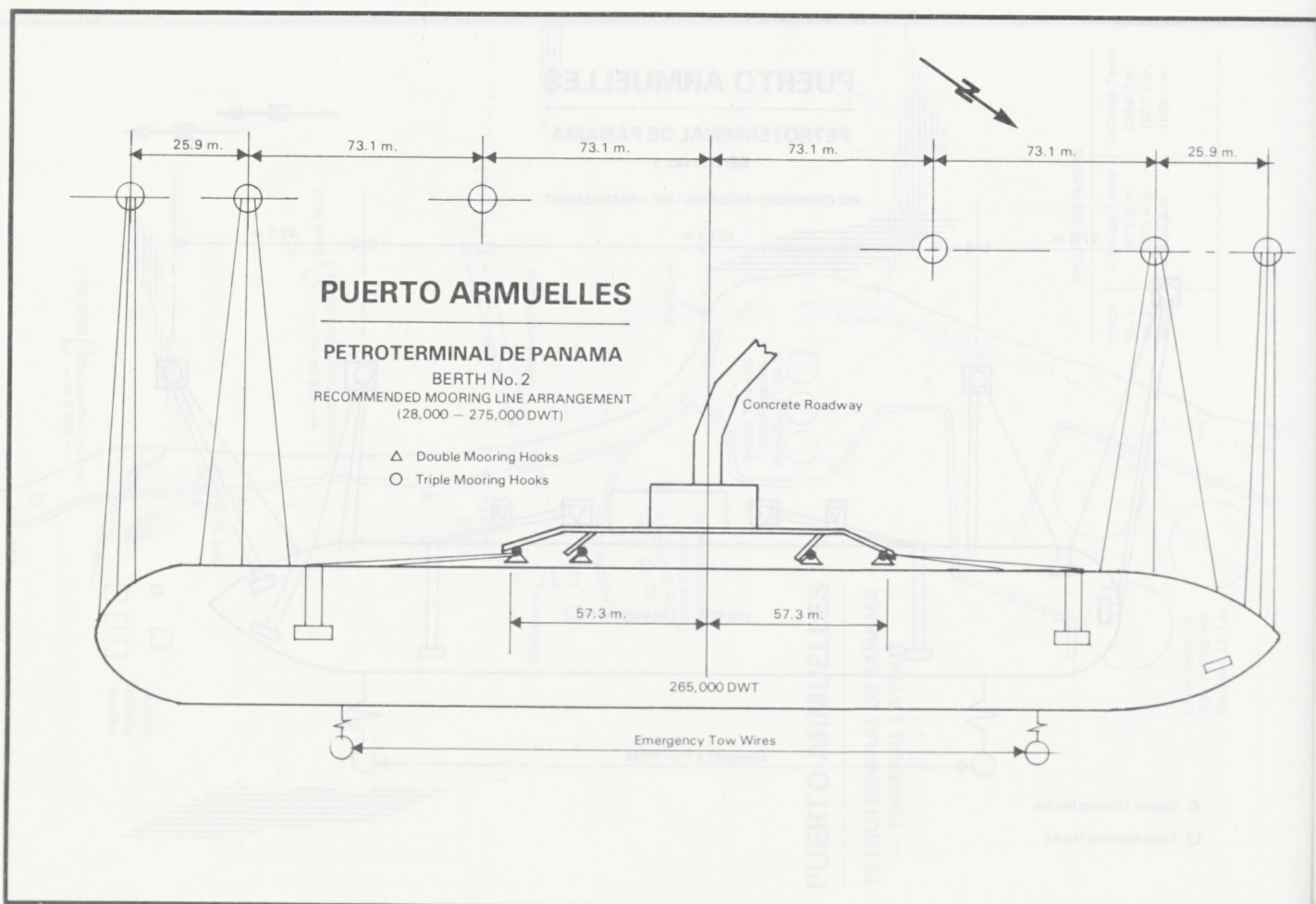
RECOMMENDED MOORING LINE ARRANGEMENT

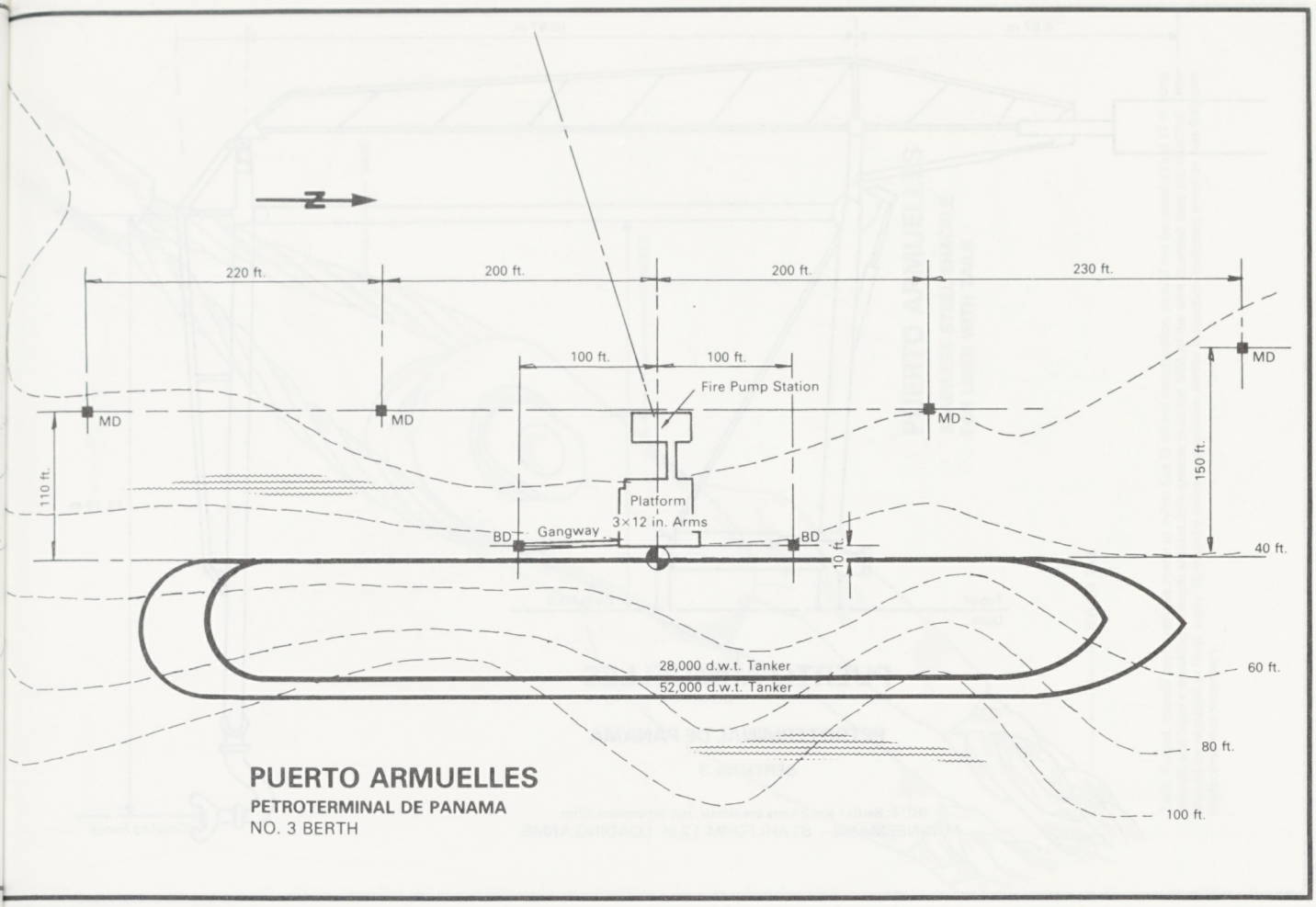


△ Double Mooring Hooks

○ Triple Mooring Hooks


PUERTO ARMUELLES
PETROTERMINAL DE PANAMA
BERTH NO. 2
85 ft.
240 ft.
240 ft.
240 ft.
240 ft.
85 ft.
210 ft.
190 ft.
60 ft.
Platform
80 ft.
100 ft.
265,000 DWT Tanker
80 ft.
100 ft.
120 ft.
120 ft.


25.9 m.
73.1 m.
73.1 m.
73.1 m.
73.1 m.
25.9 m.
PUERTO ARMUELLES
PETROTERMINAL DE PANAMA
BERTH No. 2
RECOMMENDED MOORING LINE ARRANGEMENT
(28,000 – 275,000 DWT)
△ Double Mooring Hooks
○ Triple Mooring Hooks
Concrete Roadway
57.3 m.
57.3 m.
265,000 DWT
Emergency Tow Wires



PUERTO ARMUELLES

PETROTERMINAL DE PANAMA

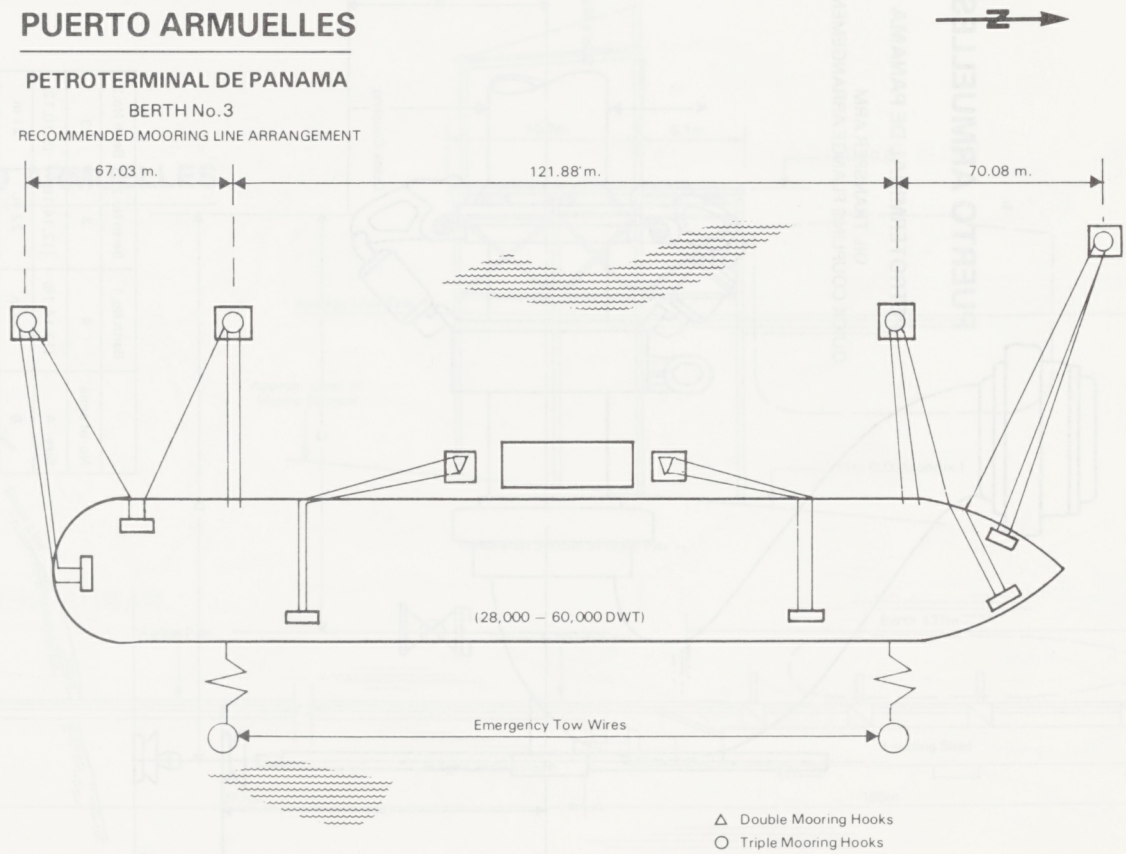
NO. 3 BERTH

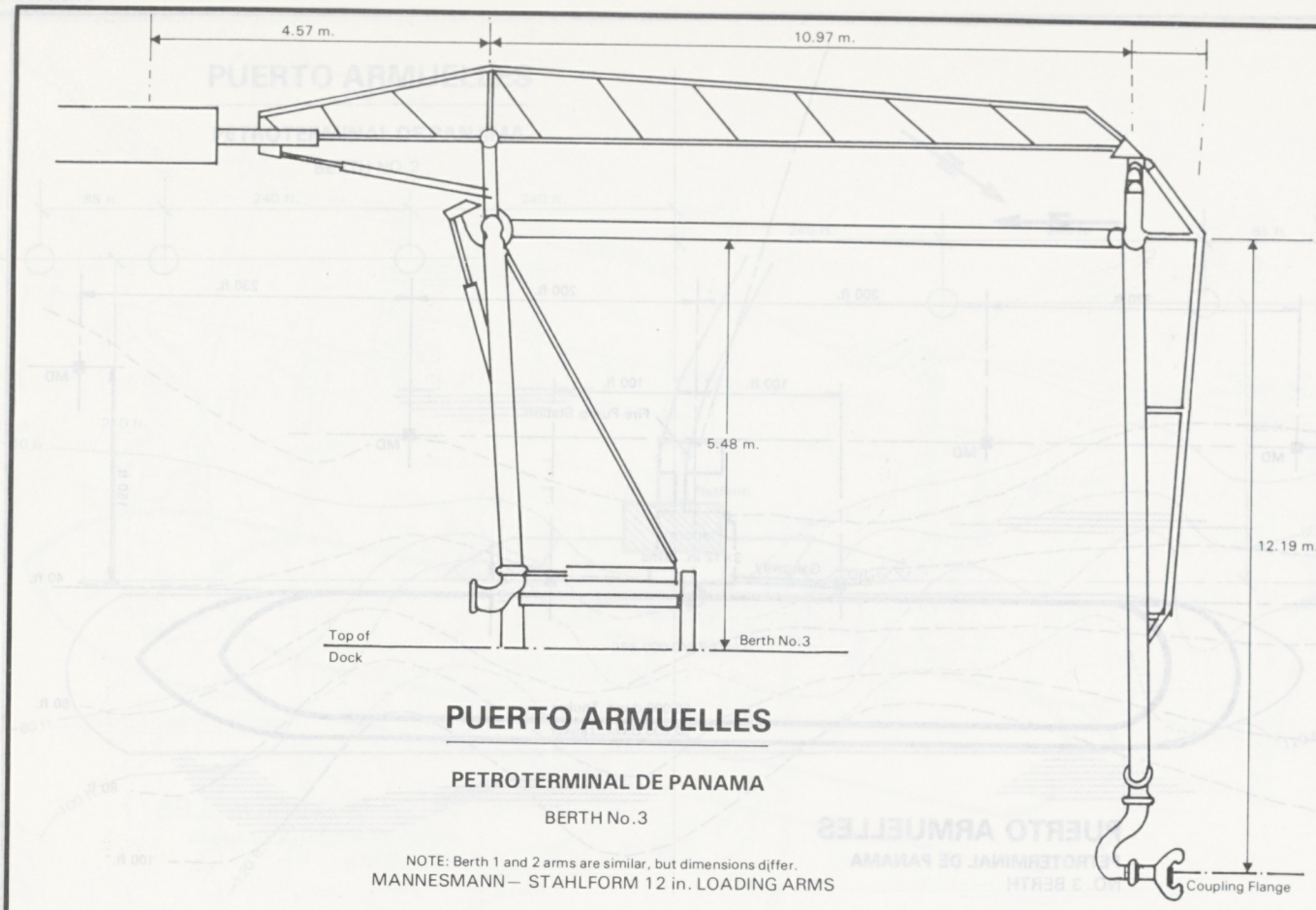
PUERTO ARMUELLES

PETROTERMINAL DE PANAMA

BERTH No. 3

RECOMMENDED MOORING LINE ARRANGEMENT





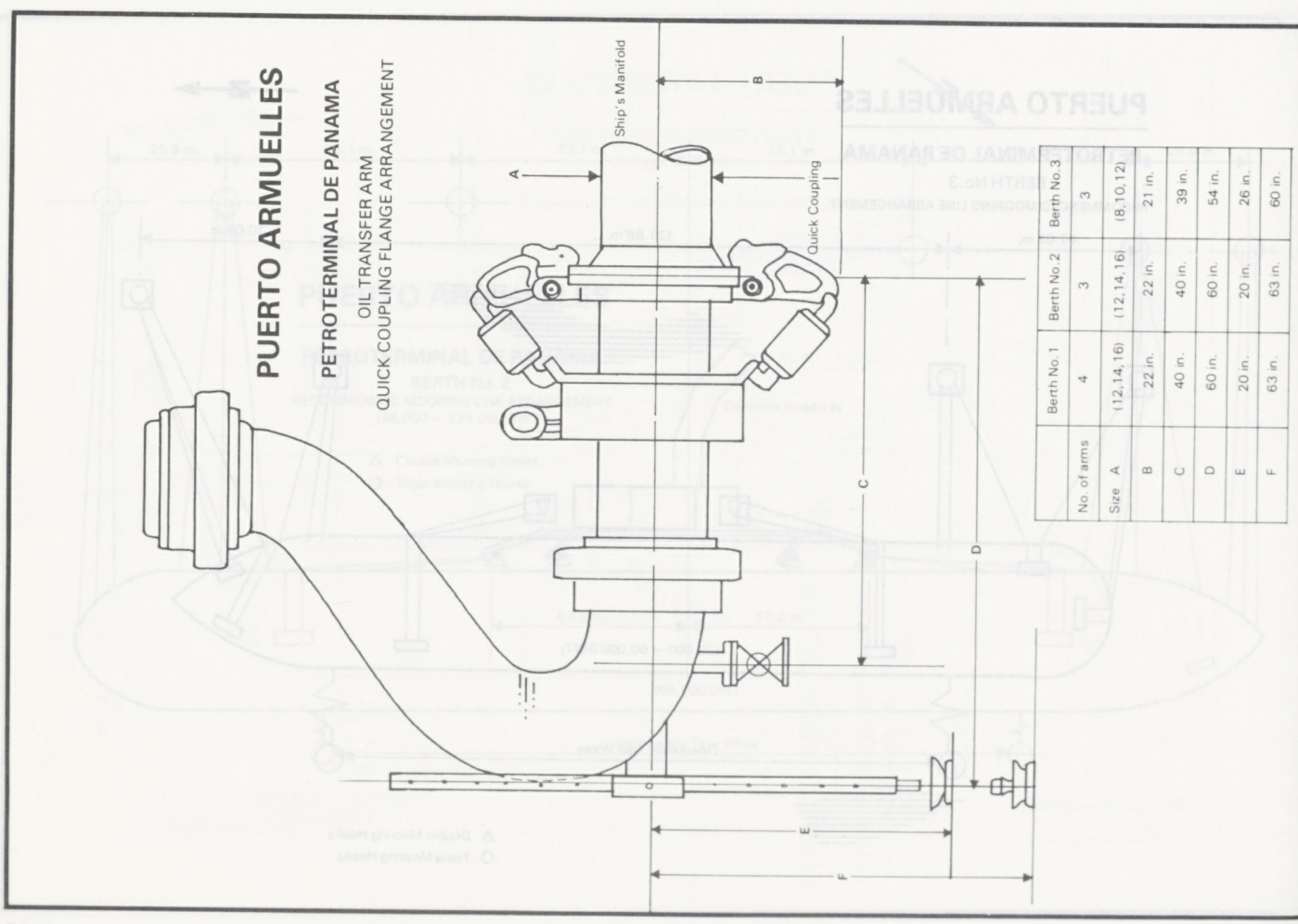
PUERTO ARMUELLES

PETROTERMINAL DE PANAMA

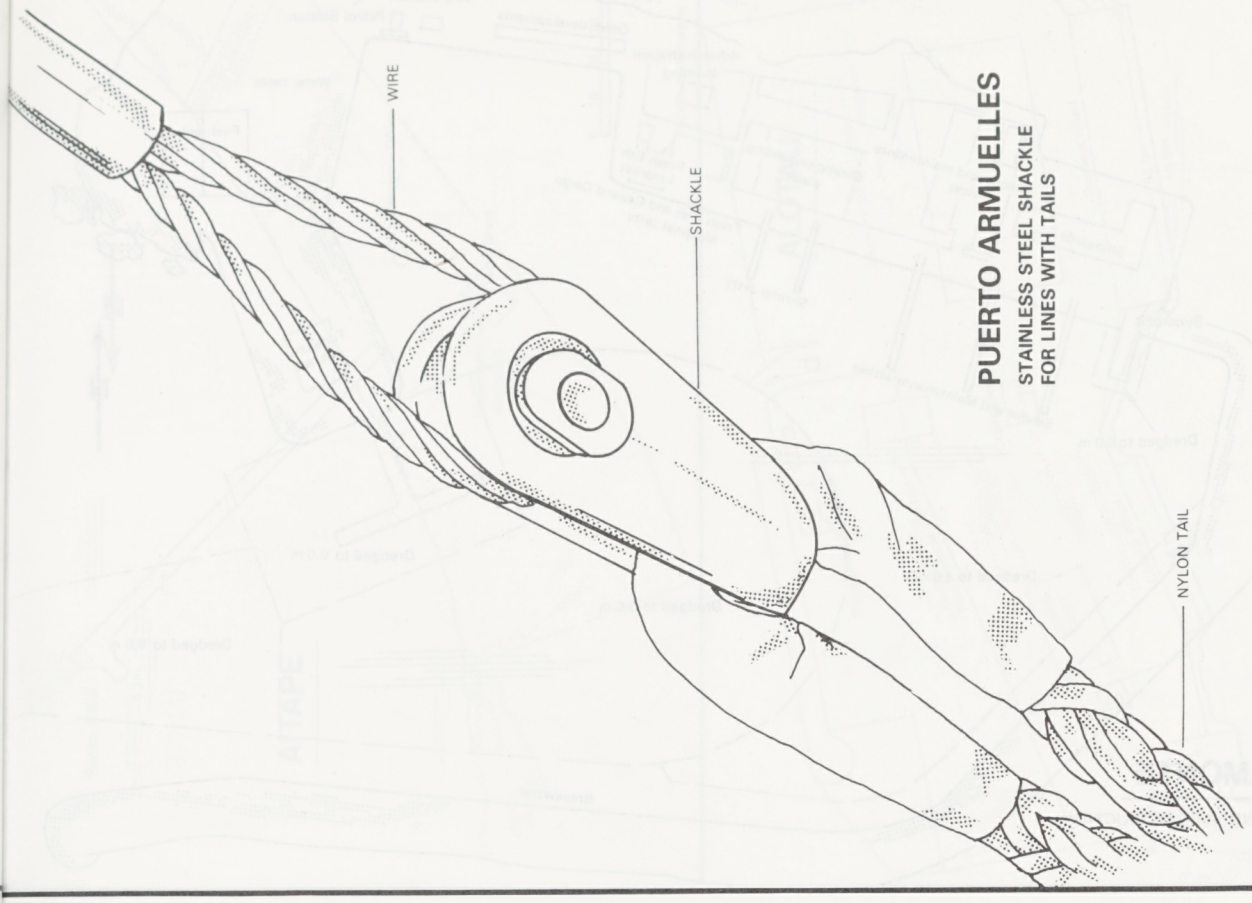
BERTH No.3

NOTE: Berth 1 and 2 arms are similar, but dimensions differ.

MANNESMANN – STAHLFORM 12 in. LOADING ARMS



No. of arms	Berth No.1	Berth No.2	Berth No.3
Size A	4 (12,14,16)	3 (12,14,16)	3 (8,10,12)
B	22 in.	22 in.	21 in.
C	40 in.	40 in.	39 in.
D	60 in.	60 in.	54 in.
E	20 in.	20 in.	26 in.
F	63 in.	63 in.	60 in.

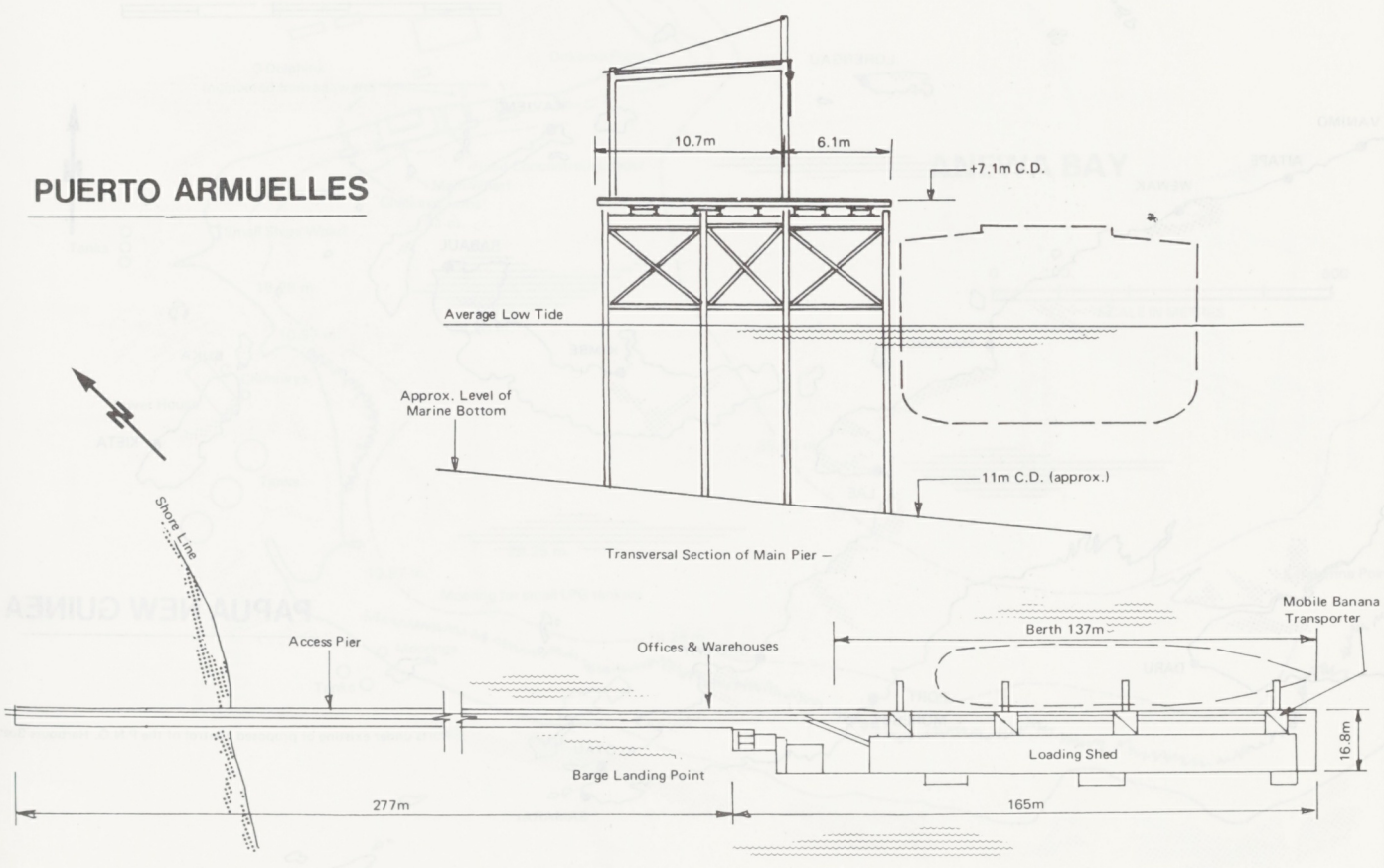


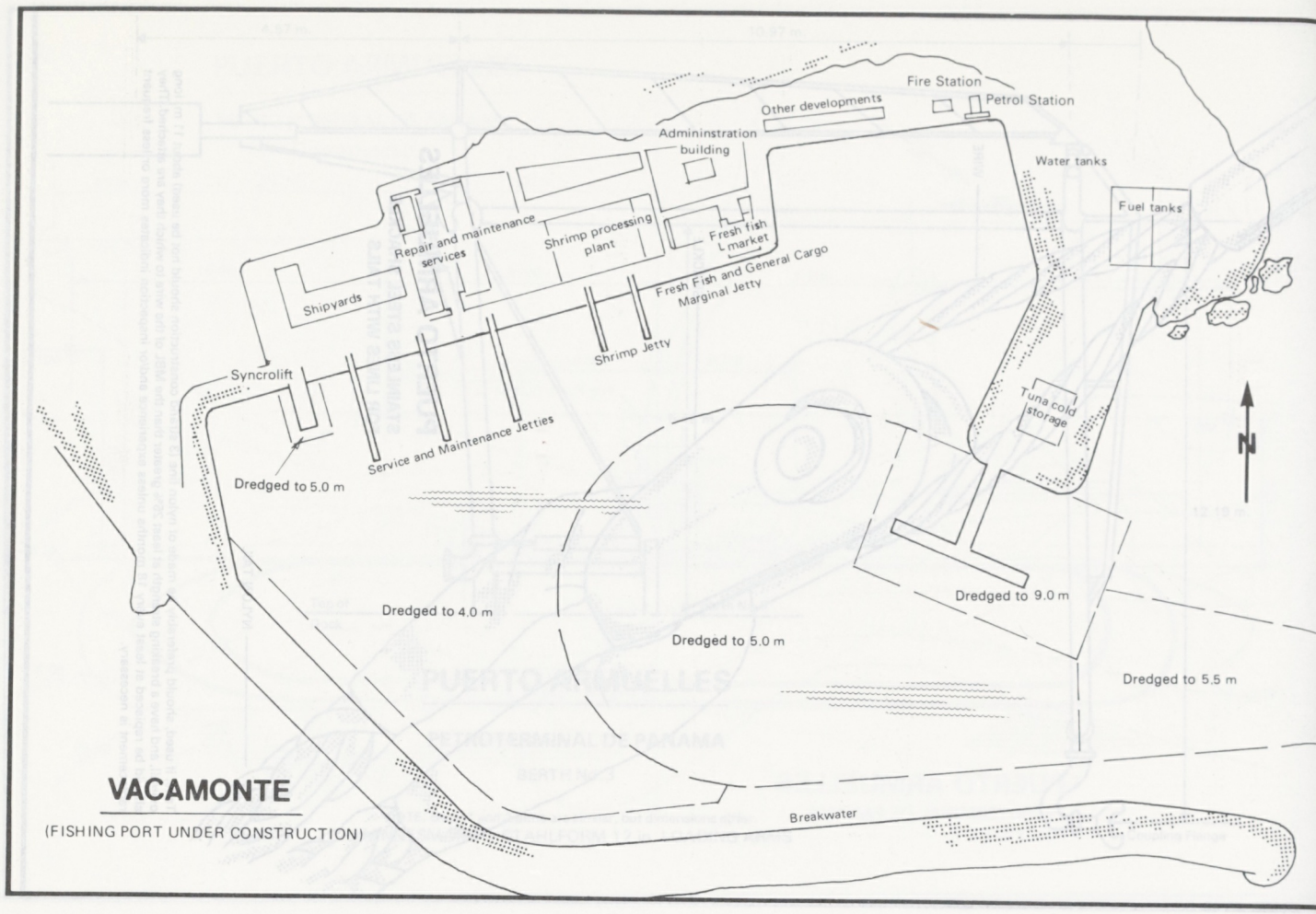
PUERTO ARMUELLES

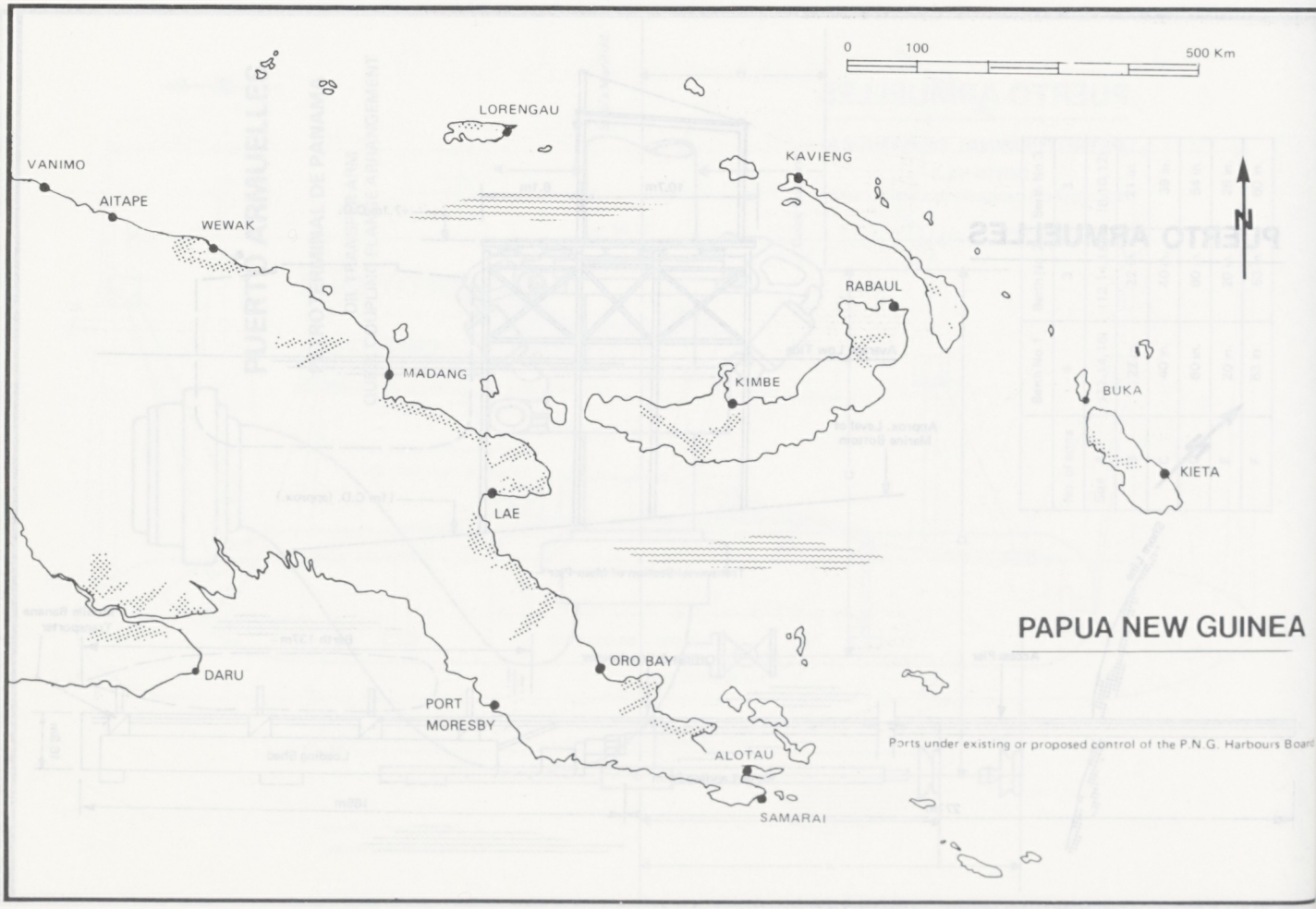
STAINLESS STEEL SHACKLE FOR LINES WITH TAILS

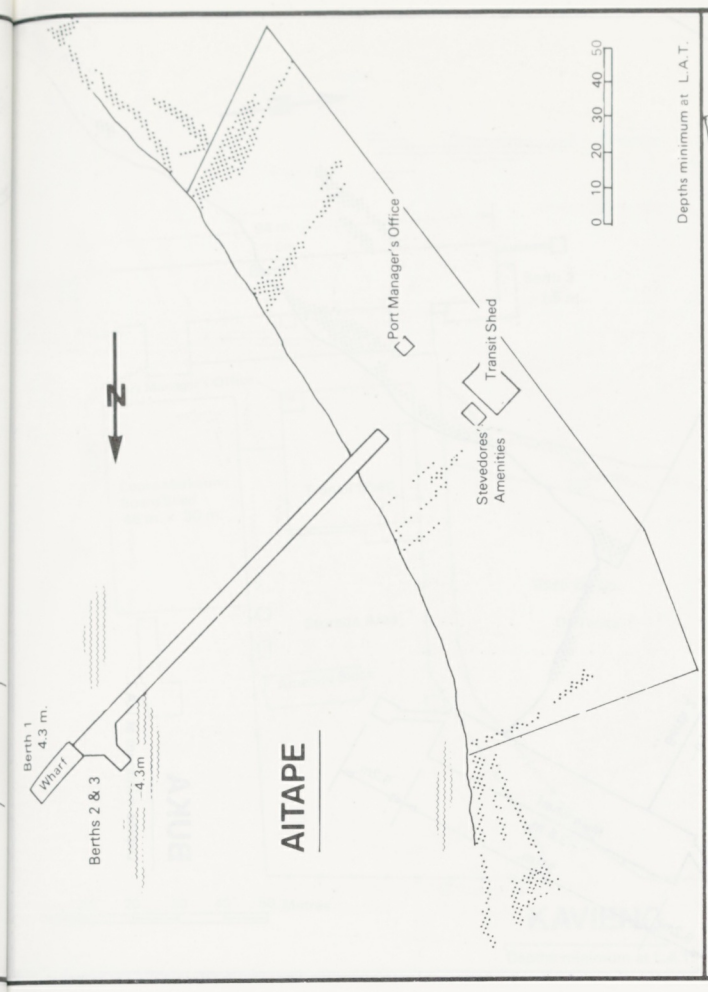
Tails, if used, should preferably be made of nylon line (3 strand construction should not be used) about 11 m. long overall, and have a breaking strength at least 25% greater than the MBL of the wire to which they are attached. They should be replaced at least every 18 months unless experience and/or inspection indicates more or less frequent replacement is necessary.

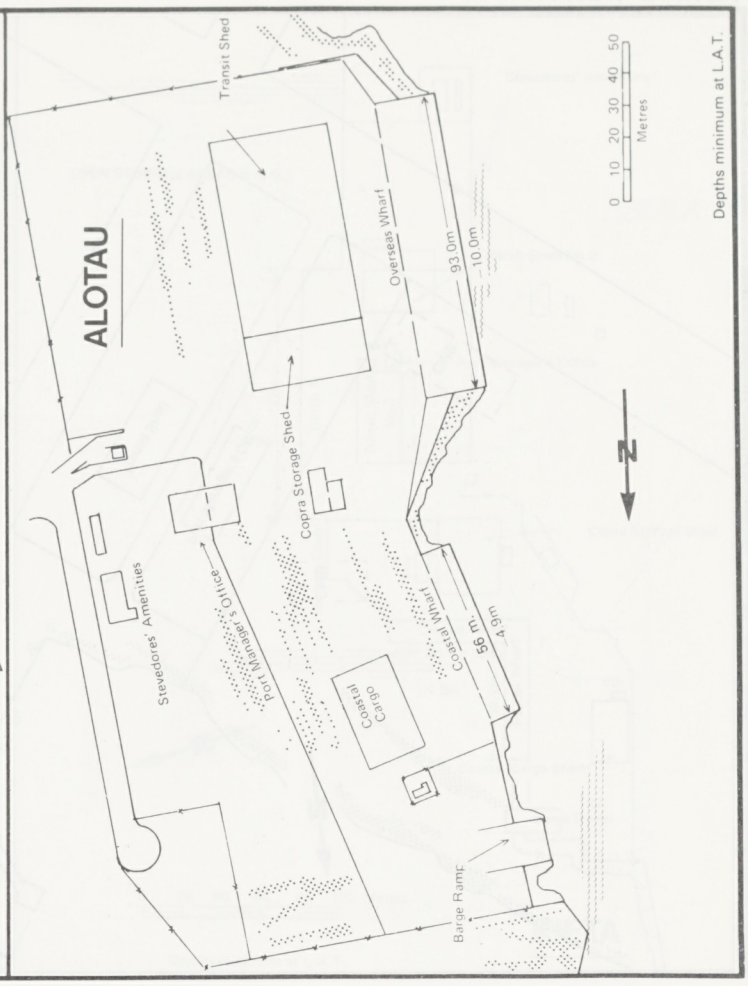
PUERTO ARMUELLES

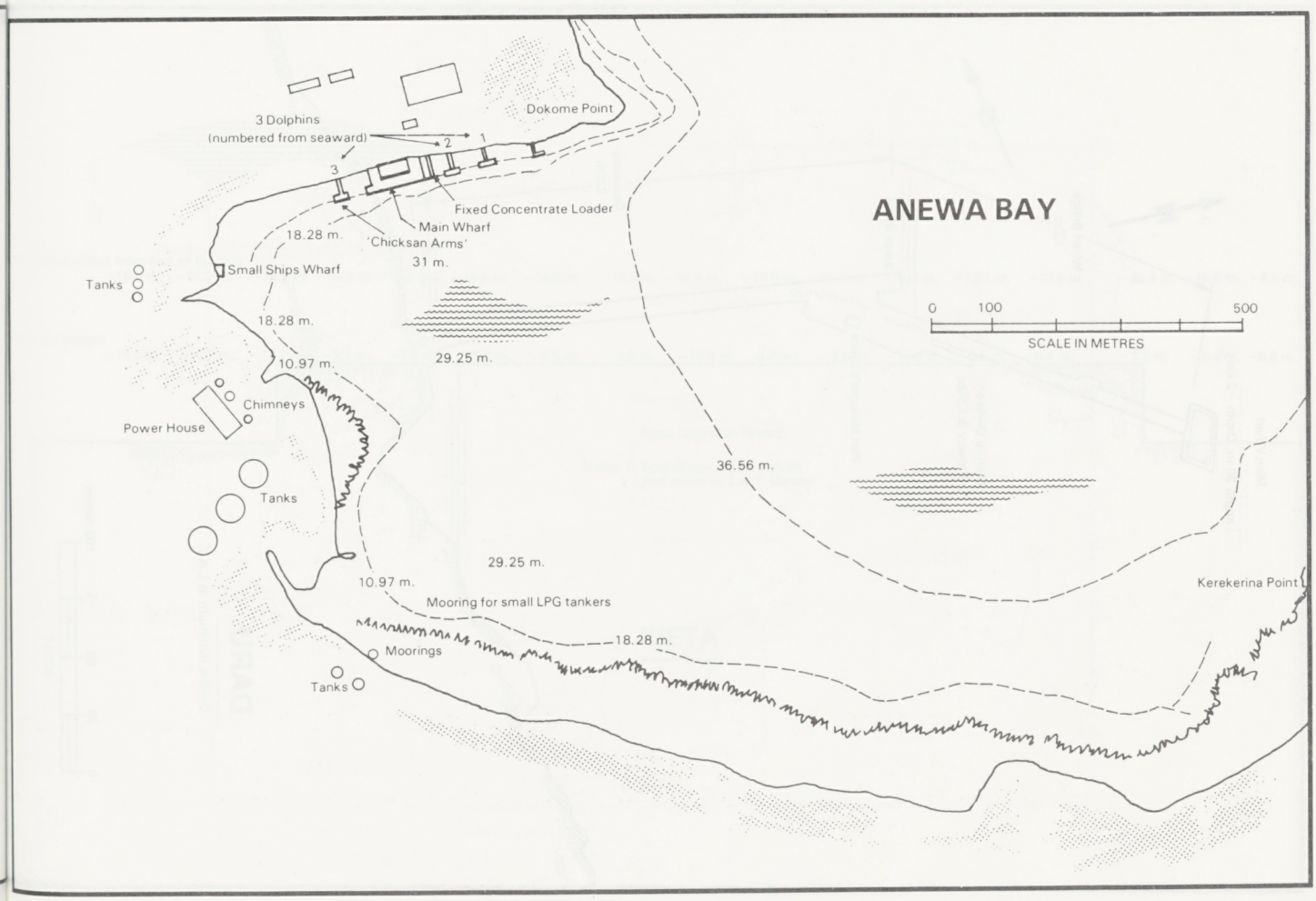


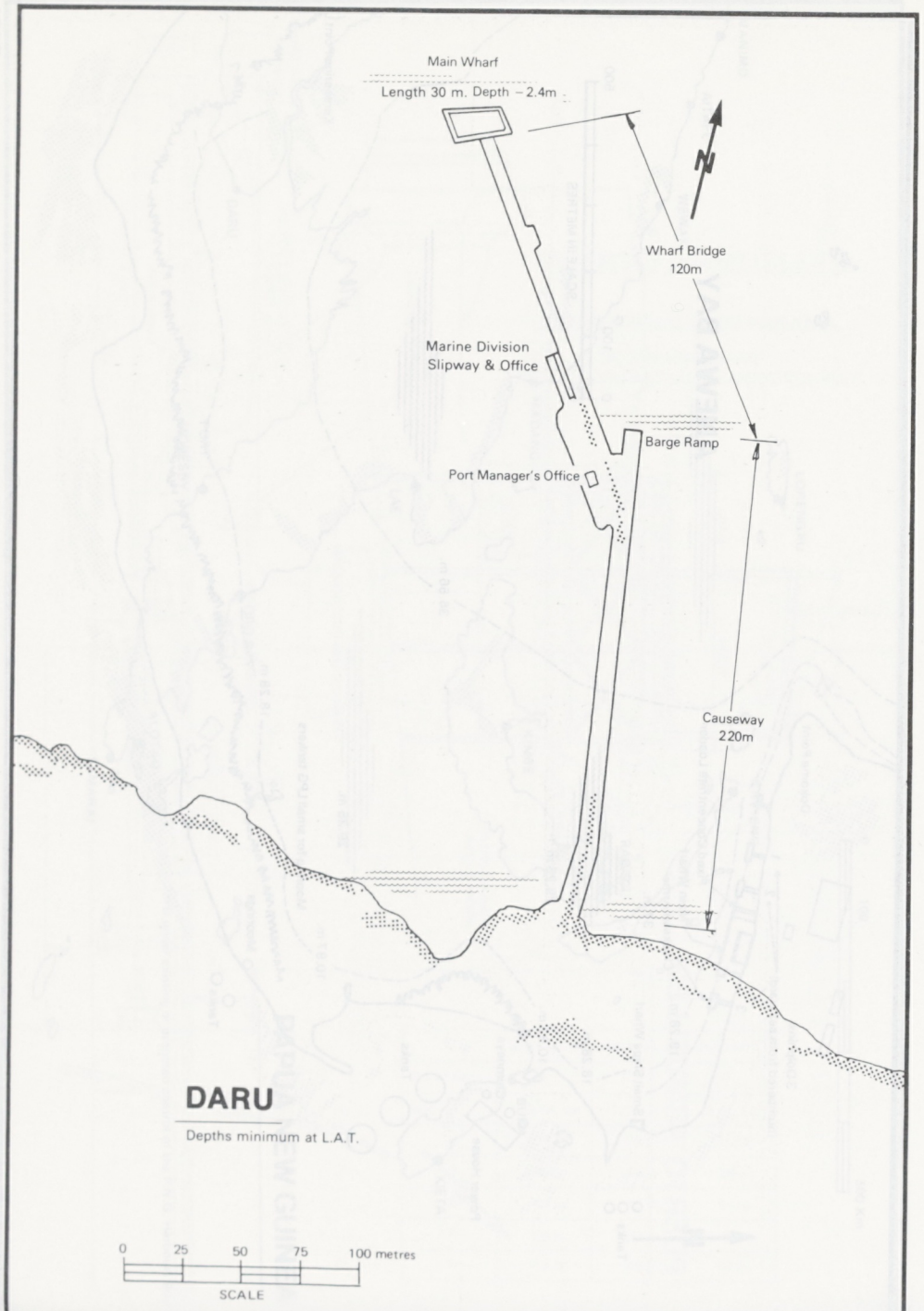

Fire Station
Petrol Station
Other developments
Admininstration building
Water tanks
Fuel tanks
Repair and maintenance services
Shrimp processing plant
Fresh fish L market
Shipyards
Fresh Fish and General Cargo Marginal Jetty
Shrimp Jetty
Syncrolift
Tuna cold storage
Service and Maintenance Jetties
Dredged to 5.0 m
N
Dredged to 9.0 m
Dredged to 4.0 m
Dredged to 5.0 m
Dredged to 5.5 m
VACAMONTE
(FISHING PORT UNDER CONSTRUCTION)
Breakwater


0
100
500 Km
LORENGAU
VANIMO
AITAPE
WEWAK
KAVIENG
N
RABAUL
MADANG
KIMBE
BUKA
KIETA
LAE
PAPUA NEW GUINEA
DARU
ORO BAY
PORT MORESBY
ALOTAU
SAMARAI
Ports under existing or proposed control of the P.N.G. Harbours Board


AITAPE
N
Port Manager's Office
Transit Shed
Stevedores' Amenities
Berth 1
4.3 m.
Wharf
Berths 2 & 3
4.3m
0 10 20 30 40 50
Depths minimum at L.A.T.

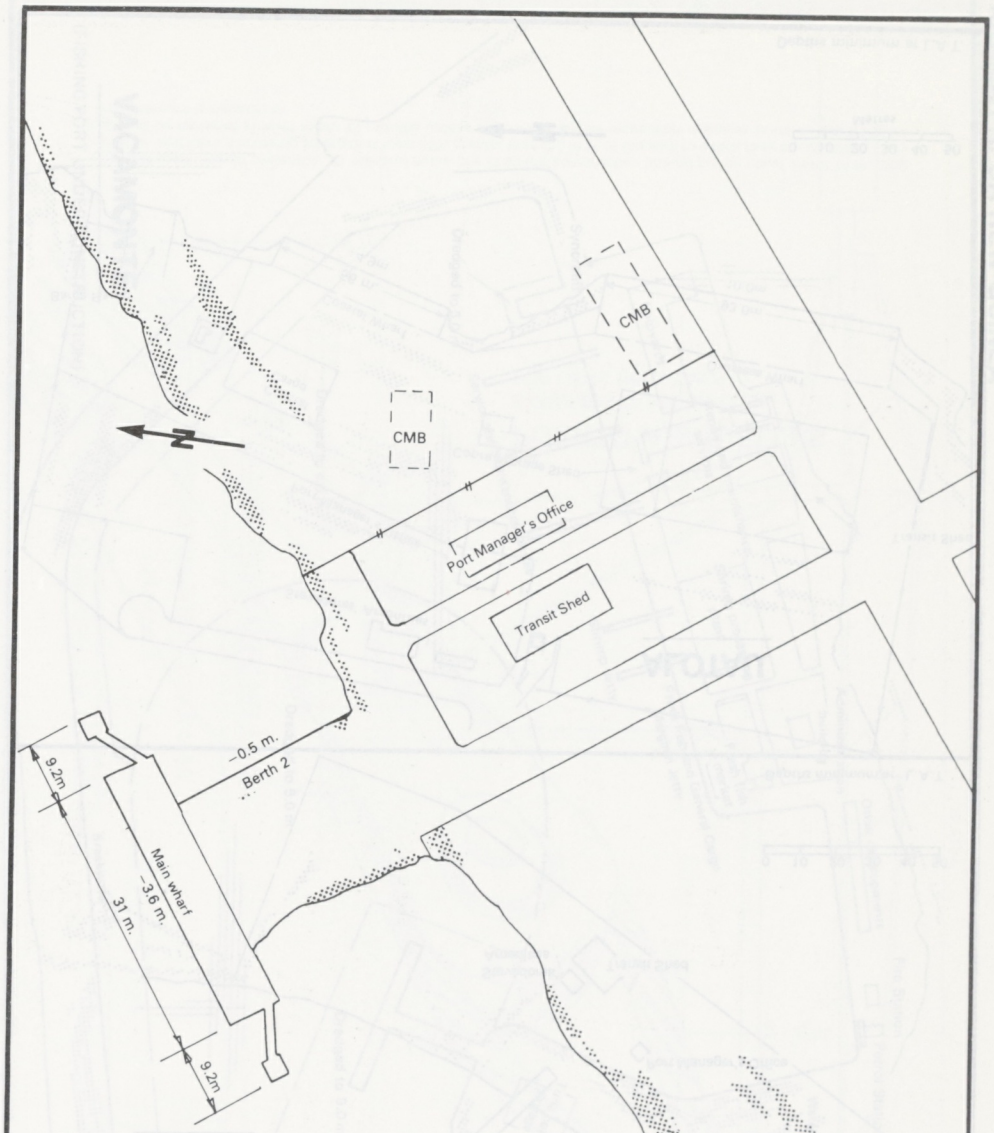

ALOTAU
N
Transit Shed
Overseas Wharf
93.0m
10.0m
Copra Storage Shed
Stevedores' Amenities
Port Manager's Office
Coastal Cargo
Coastal Wharf
56 m.
4.9m
Barge Ramp
0 10 20 30 40 50
Metres
Depths minimum at L.A.T.


ANEWA BAY
3 Dolphins
(numbered from seaward)
1
2
3
Dokome Point
Fixed Concentrate Loader
Main Wharf
'Chicksan Arms'
18.28 m.
31 m.
Small Ships Wharf
Tanks
18.28 m.
10.97 m.
29.25 m.
Chimneys
Power House
Tanks
36.56 m.
29.25 m.
10.97 m.
Mooring for small LPG tankers
18.28 m.
Moorings
Tanks
Kerekerina Point
0 100 500
SCALE IN METRES



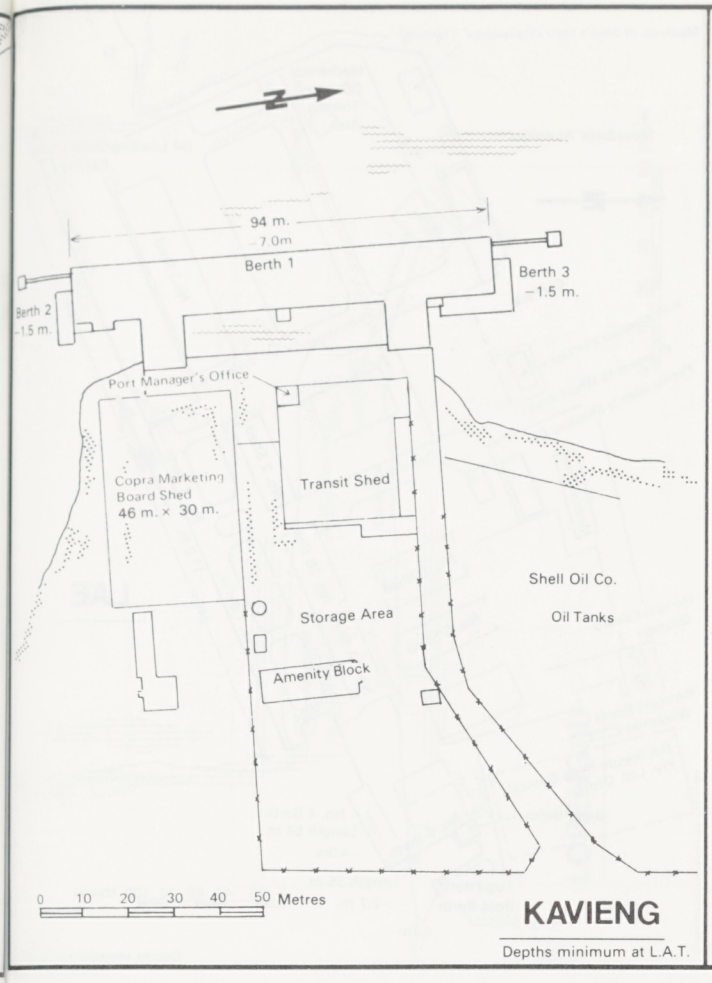
DARU

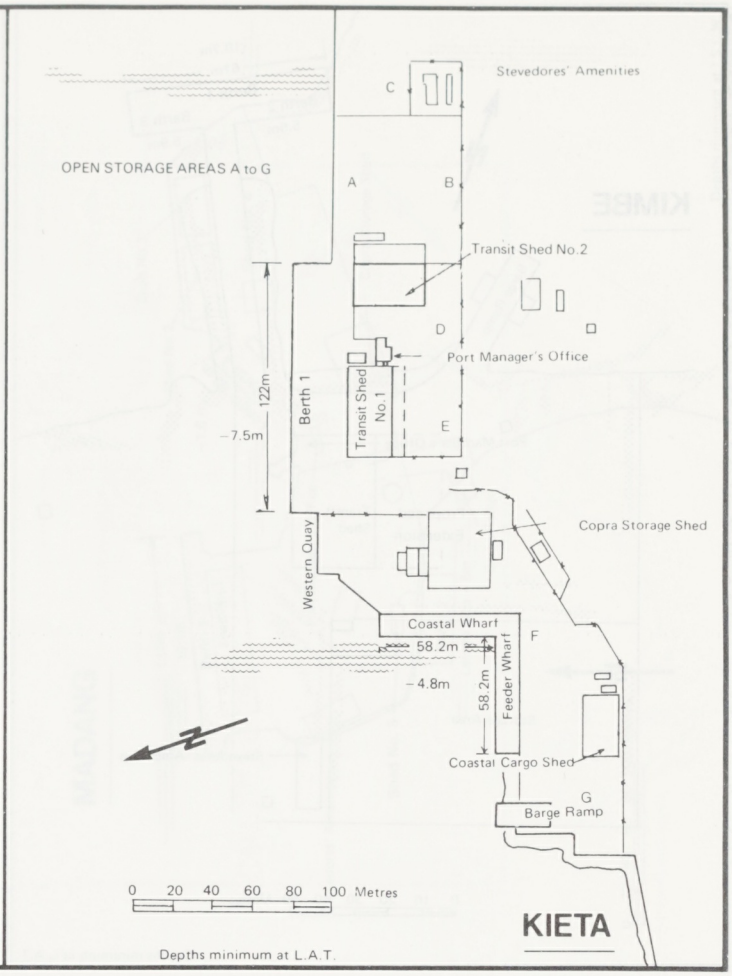
Depths minimum at L.A.T.

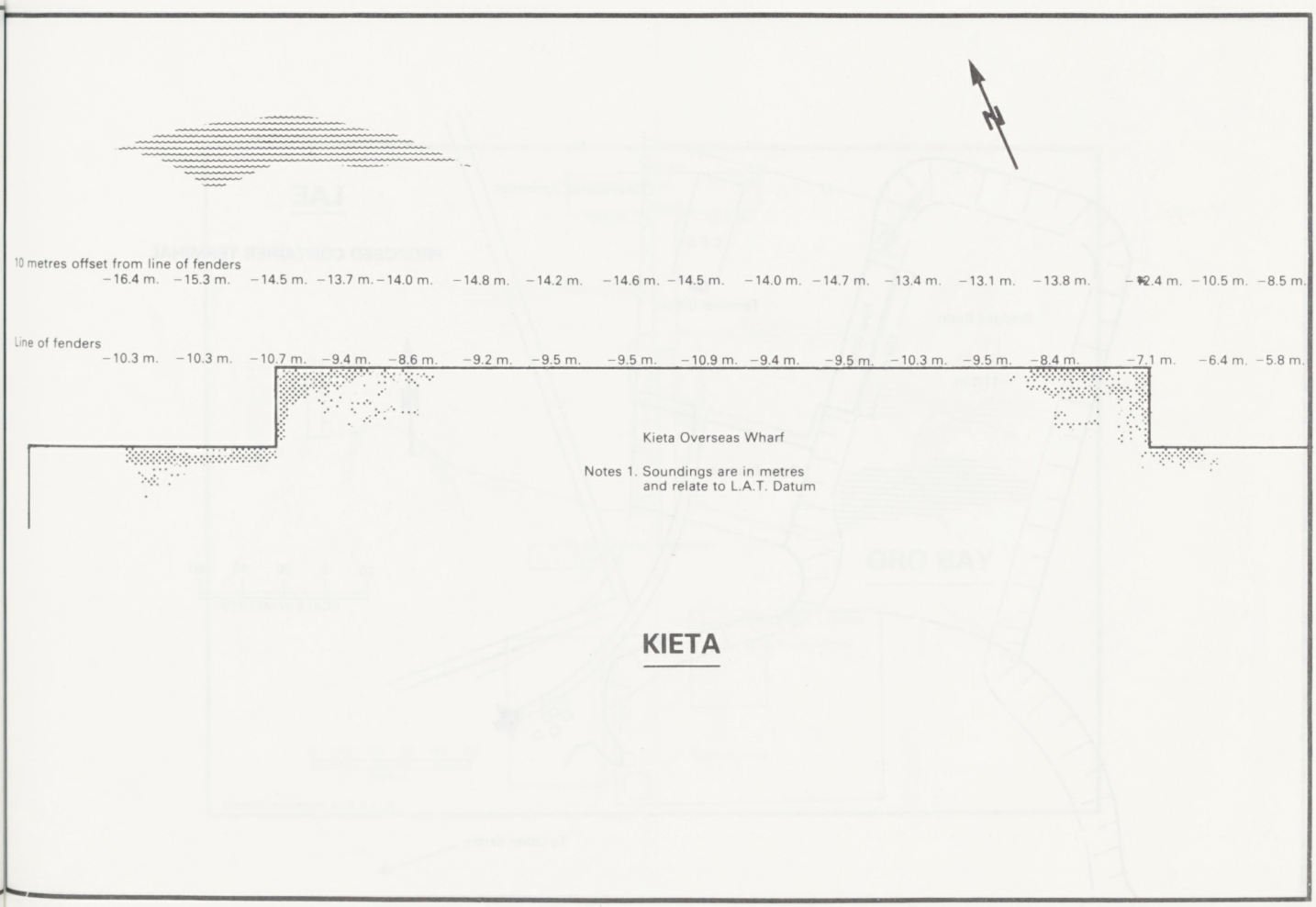


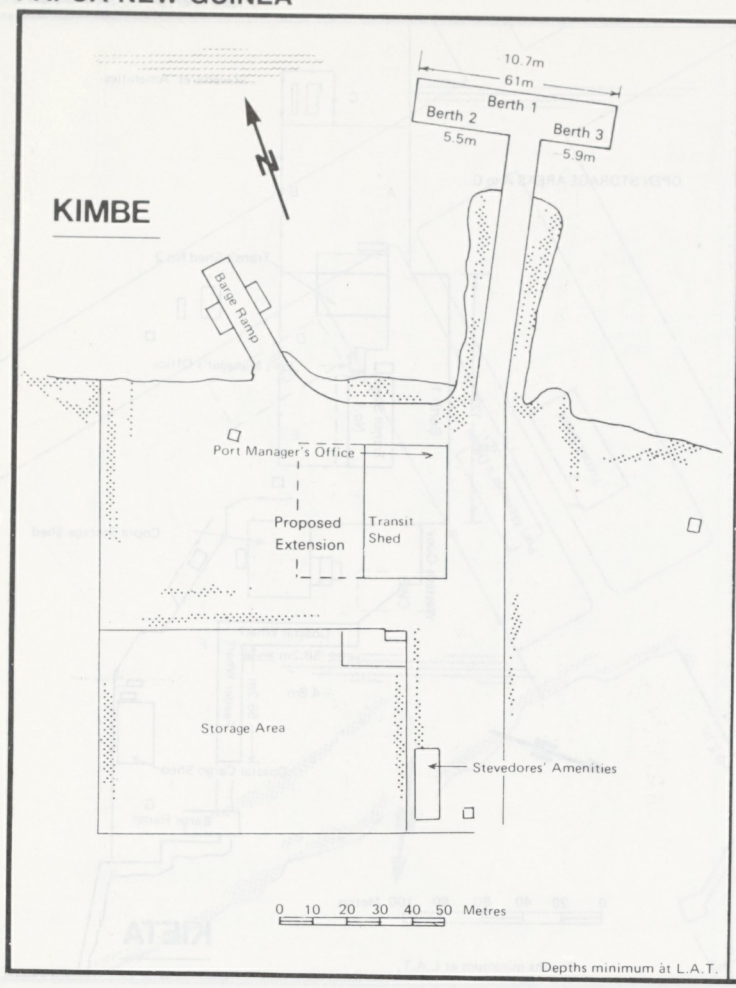
BUKA

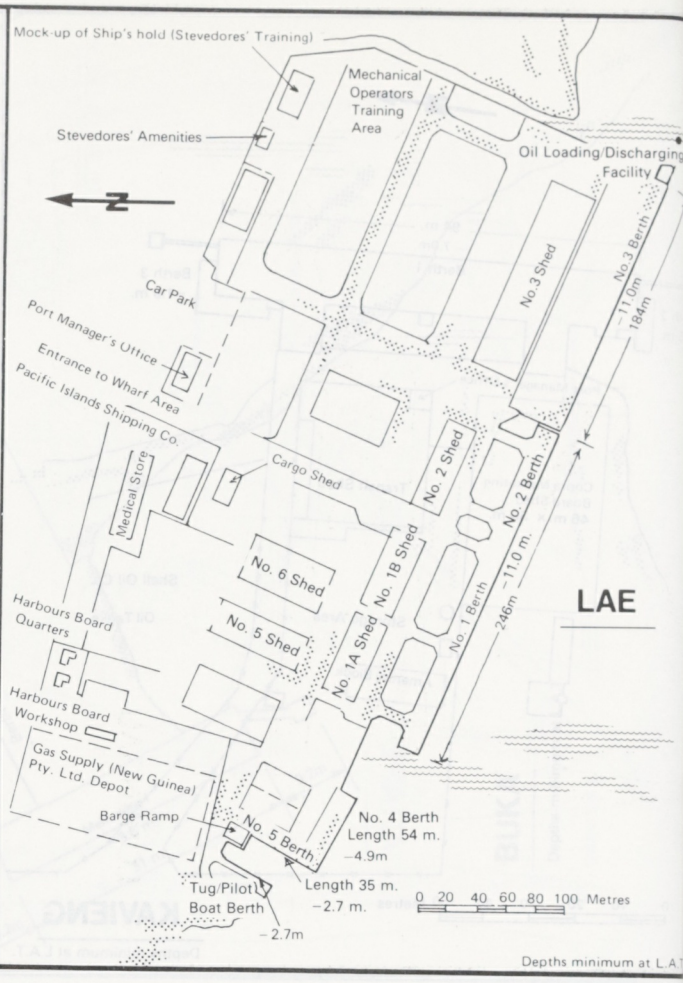
Depths minimum at L.A.T.

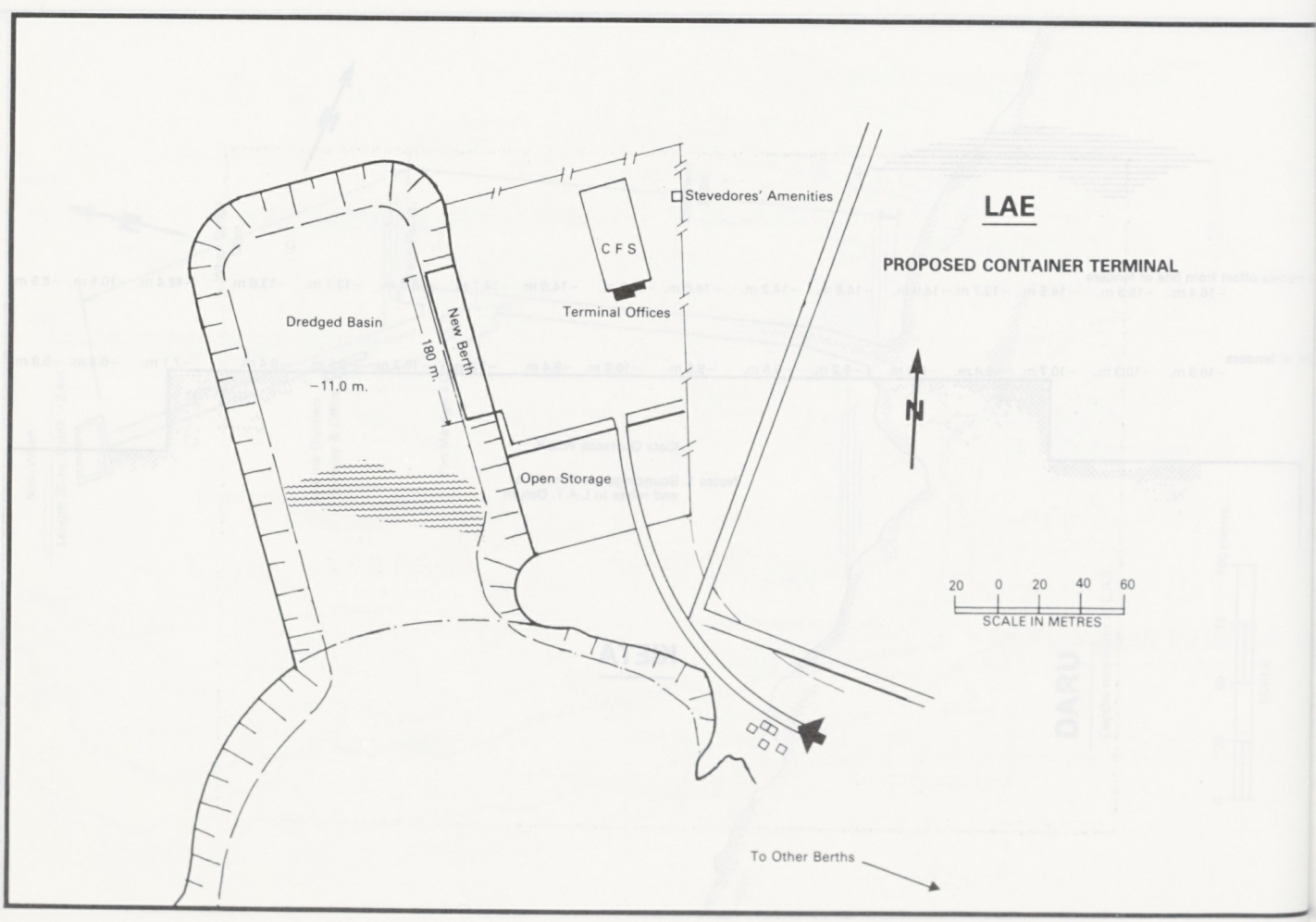

94 m.
7.0m
Berth 1
Berth 2
-1.5 m.
Berth 3
-1.5 m.
Port Manager's Office
Copra Marketing Board Shed
46 m. × 30 m.
Transit Shed
Shell Oil Co.
Oil Tanks
Storage Area
Amenity Block
0 10 20 30 40 50 Metres
KAVIENG
Depths minimum at L.A.T.

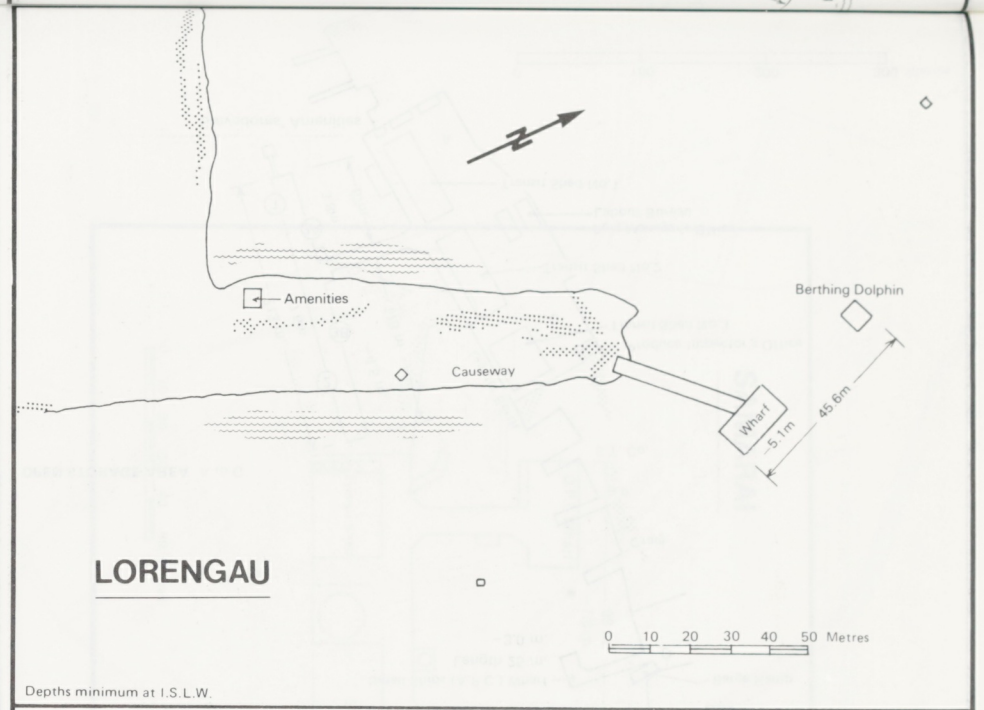

Stevedores' Amenities
C
OPEN STORAGE AREAS A to G
A
B
Transit Shed No.2
D
Port Manager's Office
122m
-7.5m
Berth 1
Transit Shed No.1
E
Copra Storage Shed
Western Quay
Coastal Wharf
58.2m
F
-4.8m
58.2m
Feeder Wharf
Coastal Cargo Shed
G
Barge Ramp
0 20 40 60 80 100 Metres
Depths minimum at L.A.T.
KIETA

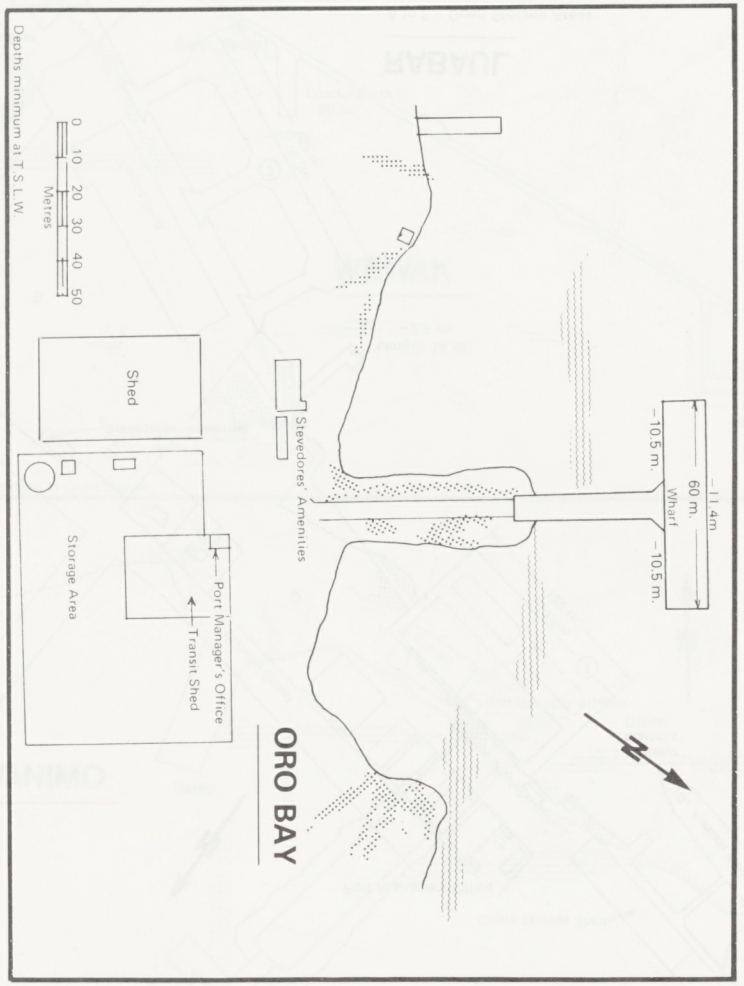

10 metres offset from line of fenders
-16.4 m. -15.3 m. -14.5 m. -13.7 m. -14.0 m. -14.8 m. -14.2 m. -14.6 m. -14.5 m. -14.0 m. -14.7 m. -13.4 m. -13.1 m. -13.8 m. -12.4 m. -10.5 m. -8.5 m.
Line of fenders
-10.3 m. -10.3 m. -10.7 m. -9.4 m. -8.6 m. -9.2 m. -9.5 m. -9.5 m. -10.9 m. -9.4 m. -9.5 m. -10.3 m. -9.5 m. -8.4 m. -7.1 m. -6.4 m. -5.8 m.
Kieta Overseas Wharf
Notes 1. Soundings are in metres and relate to L.A.T. Datum
KIETA

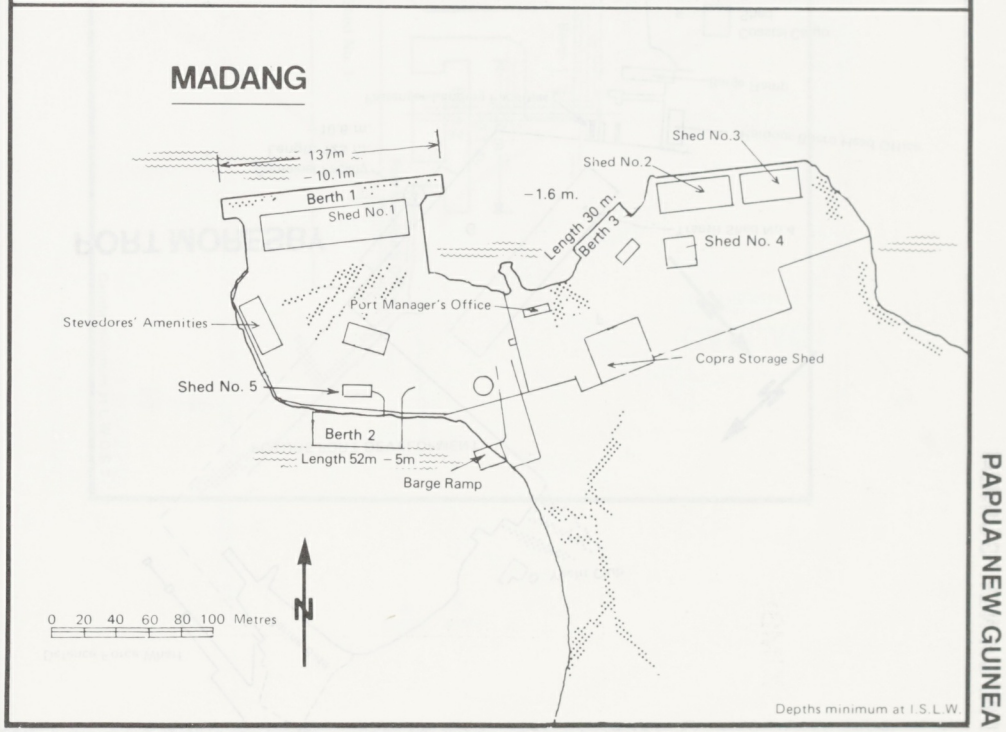

KIMBE
N
10.7m
61m
Berth 1
Berth 2
5.5m
Berth 3
5.9m
Barge Ramp
Port Manager's Office
Proposed Extension
Transit Shed
Storage Area
Stevedores' Amenities
0 10 20 30 40 50 Metres
Depths minimum at L.A.T.


Mock-up of Ship's hold (Stevedores' Training)
Mechanical Operators Training Area
Stevedores' Amenities
Oil Loading/Discharging Facility
N
Car Park
No. 3 Shed
No. 3 Berth
11.0m
184m
Port Manager's Office
Entrance to Wharf Area
Pacific Islands Shipping Co.
Medical Store
Cargo Shed
No. 2 Shed
No. 2 Berth
11.0 m.
No. 6 Shed
No. 1B Shed
No. 5 Shed
No. 1A Shed
No. 1 Berth
246m
LAE
Harbours Board Quarters
Harbours Board Workshop
Gas Supply (New Guinea) Pty. Ltd. Depot
Barge Ramp
No. 5 Berth
No. 4 Berth
Length 54 m.
4.9m
Length 35 m.
2.7 m.
Tug/Pilot Boat Berth
2.7m
0 20 40 60 80 100 Metres
Depths minimum at L.A.T.

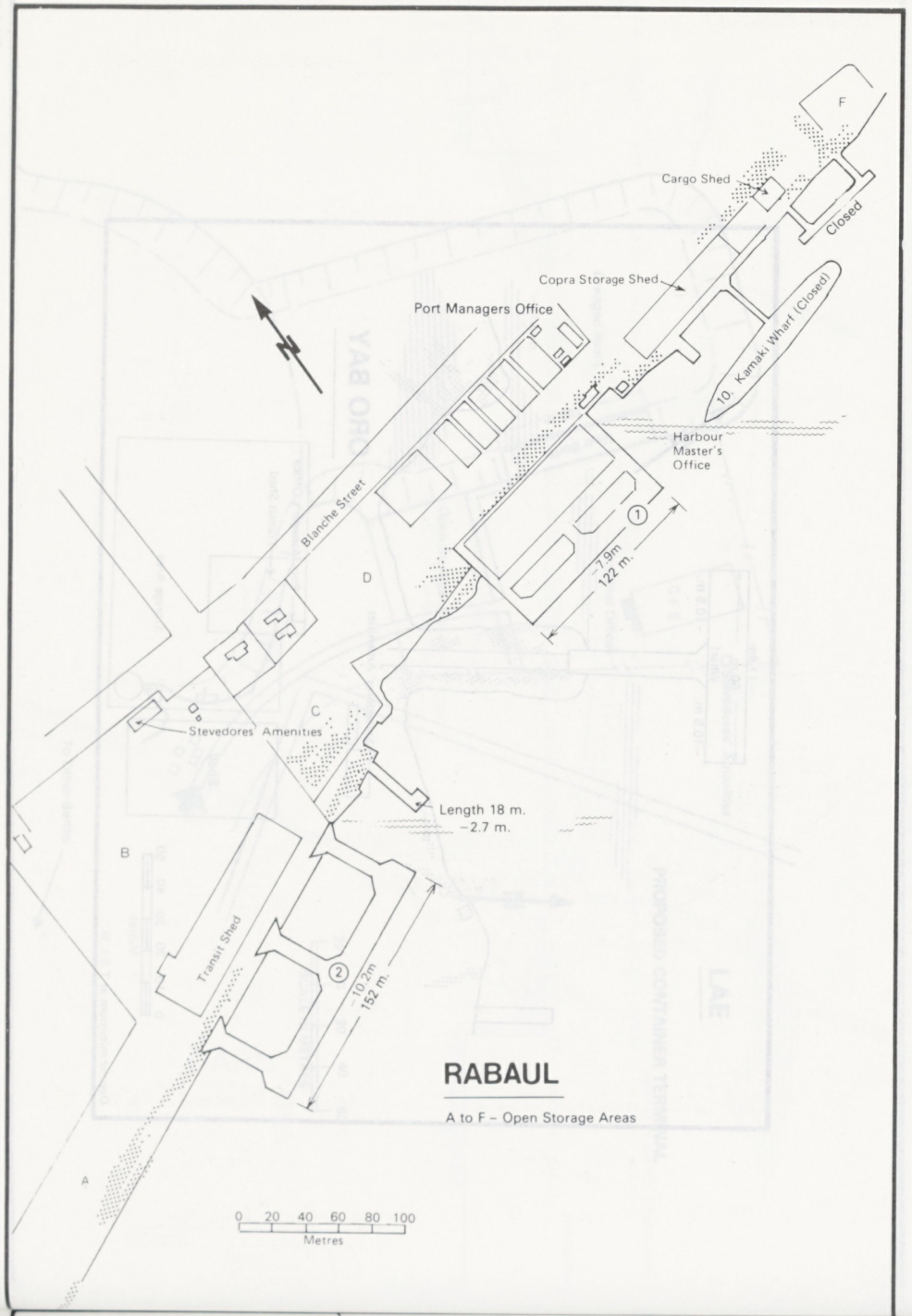

Stevedores' Amenities
LAE
PROPOSED CONTAINER TERMINAL
C F S
Terminal Offices
Dredged Basin
New Berth
180 m.
11.0 m.
N
Open Storage
20 0 20 40 60
SCALE IN METRES
To Other Berths





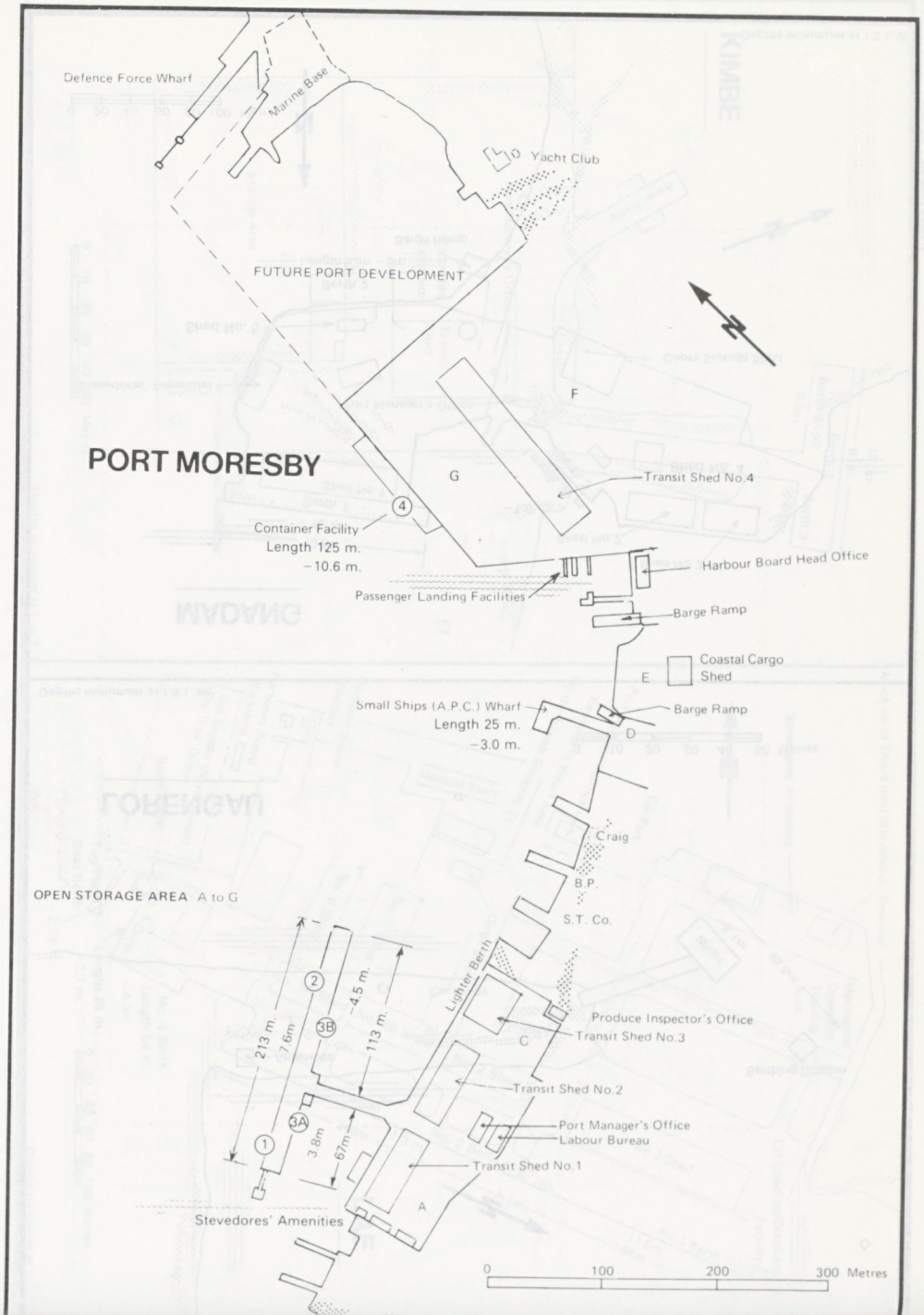


PAPUA NEW GUINEA



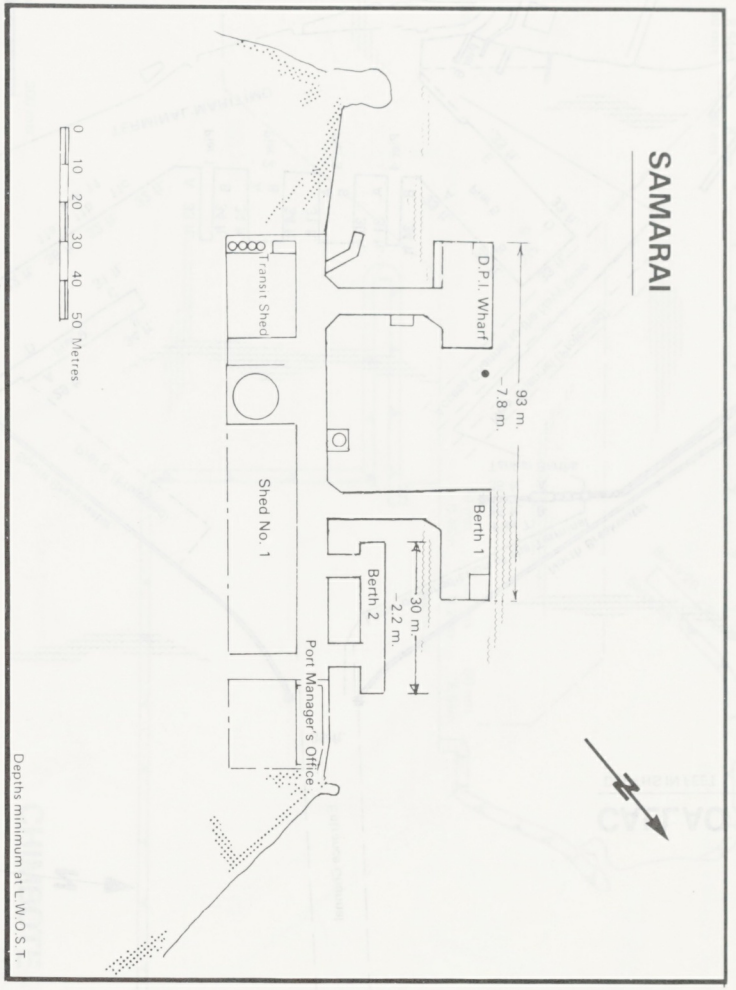
RABAUL

A to F – Open Storage Areas

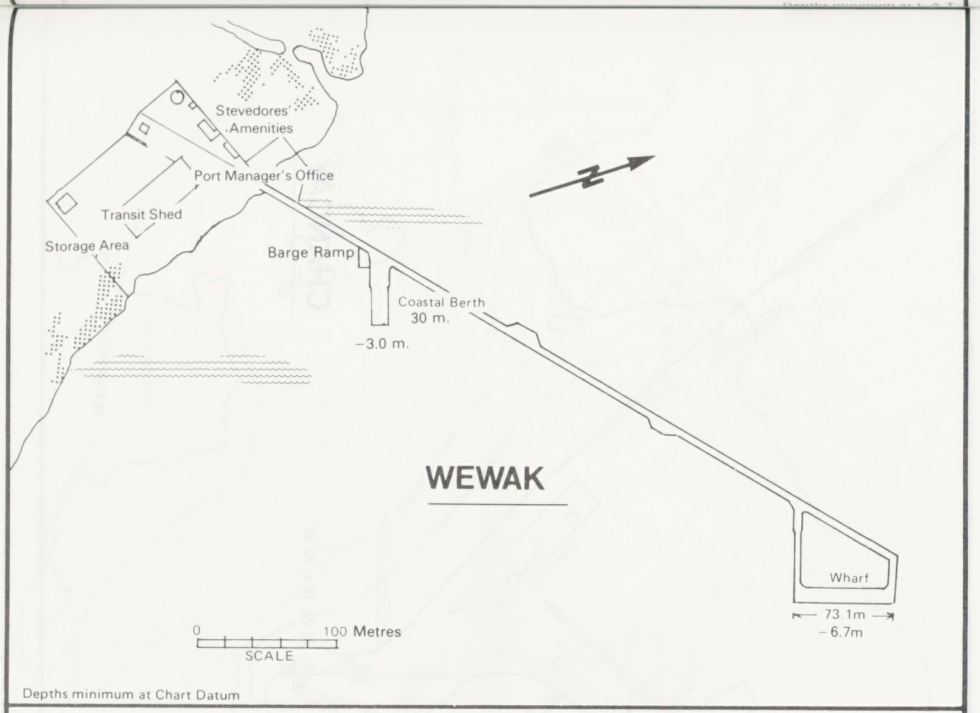


PORT MORESBY

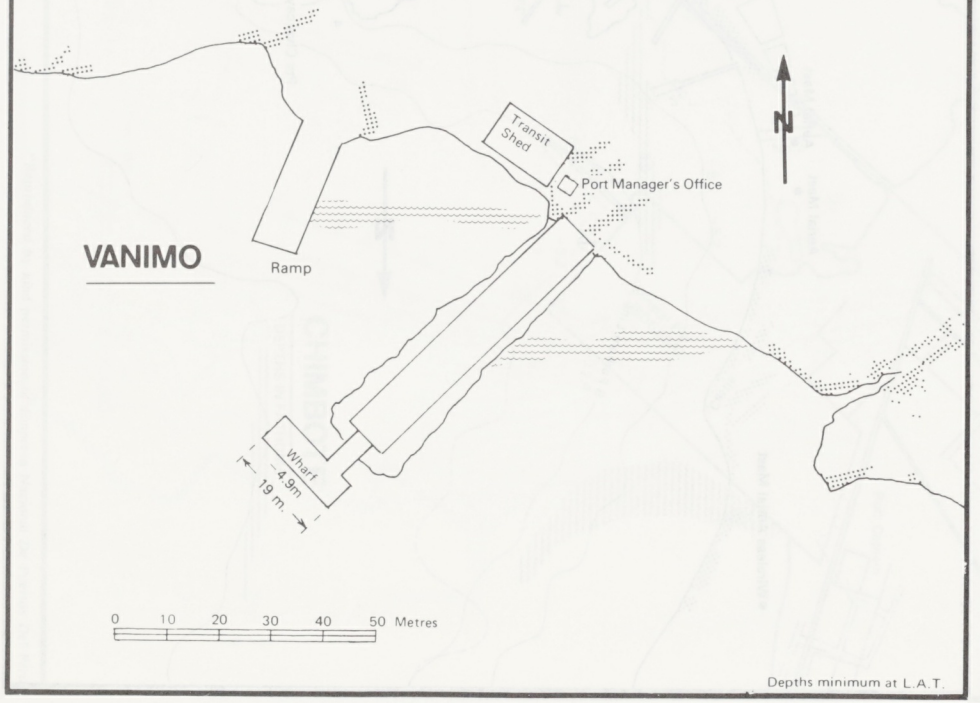
SAMARAI

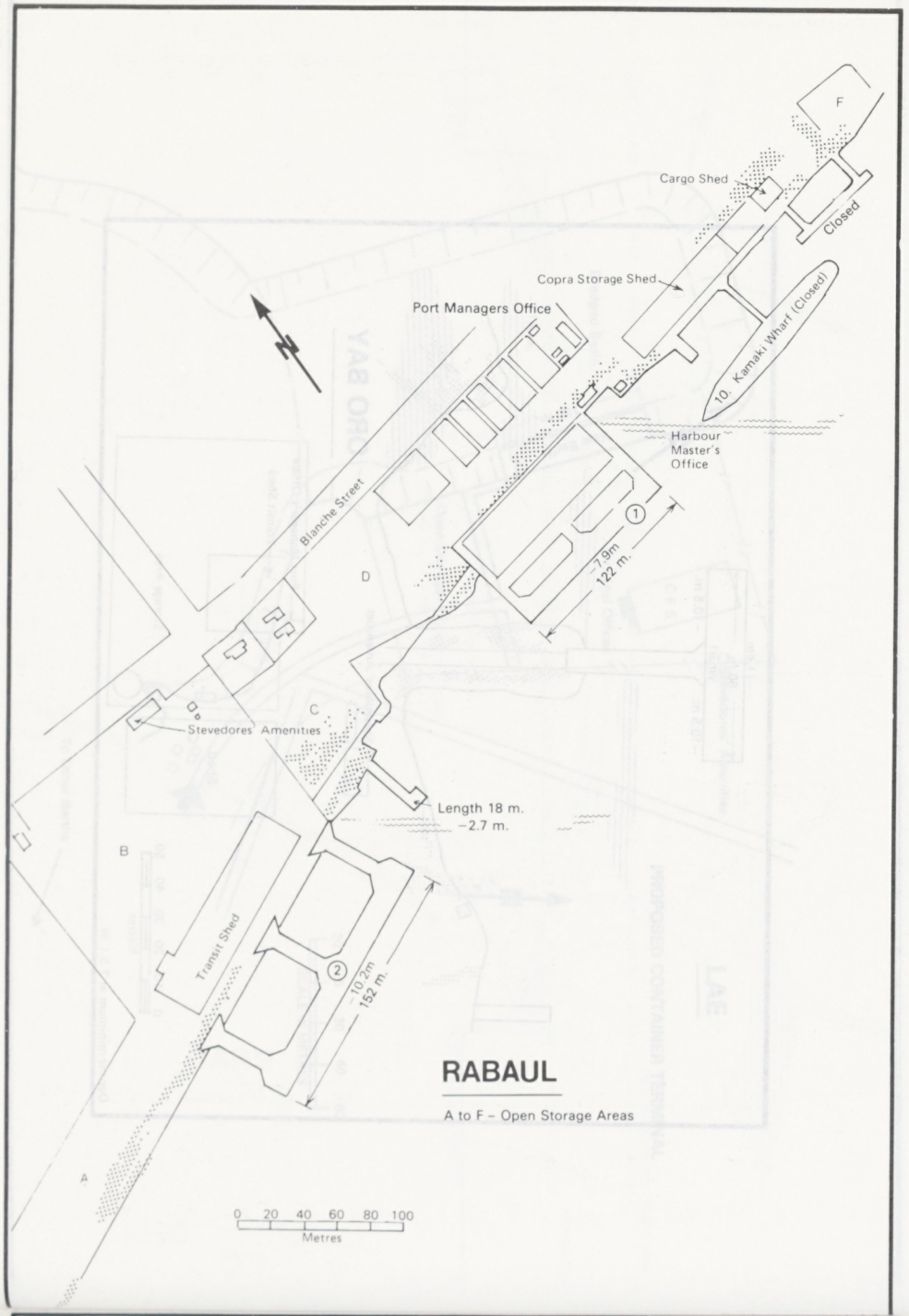


WEWAK



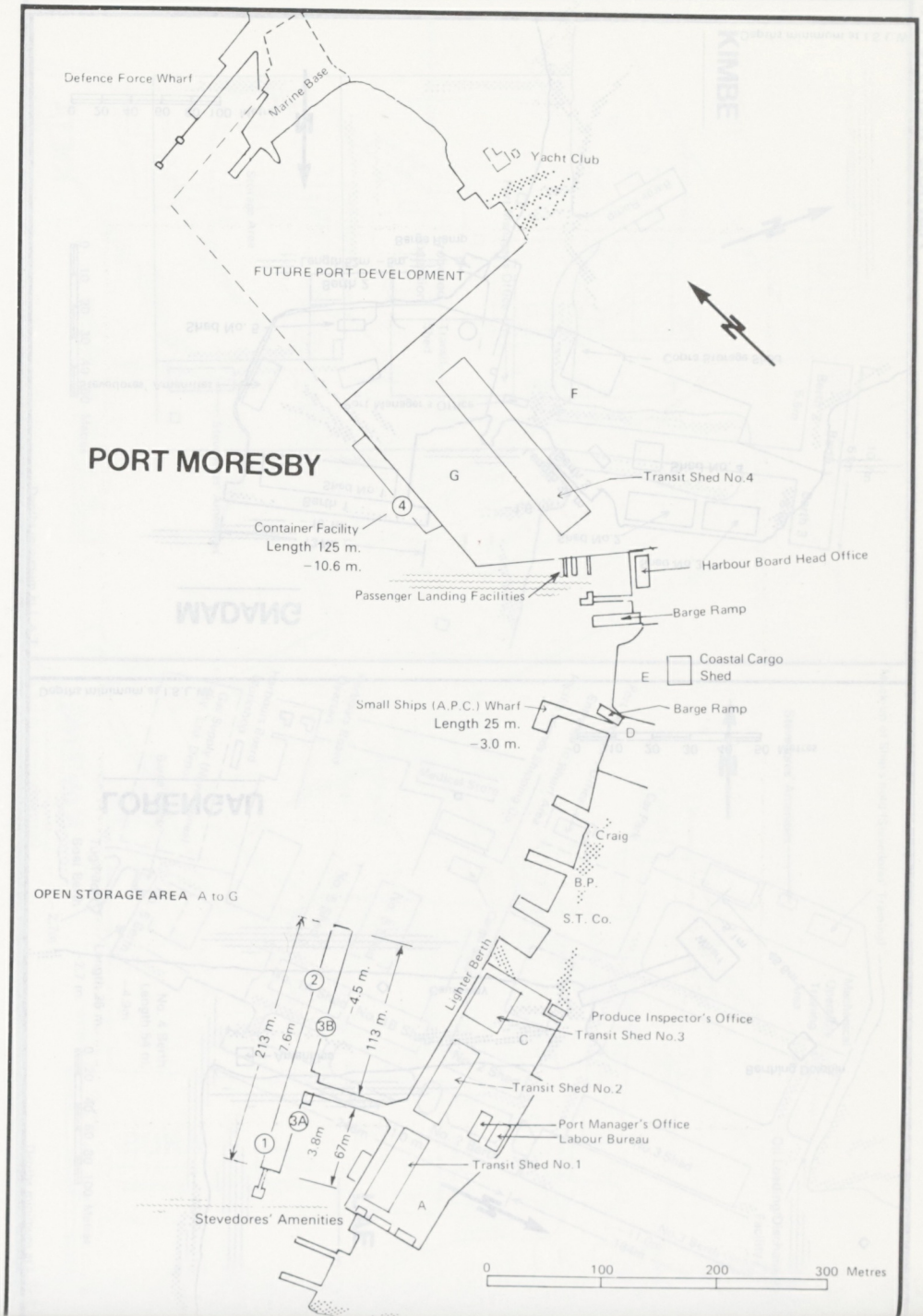
VANIMO



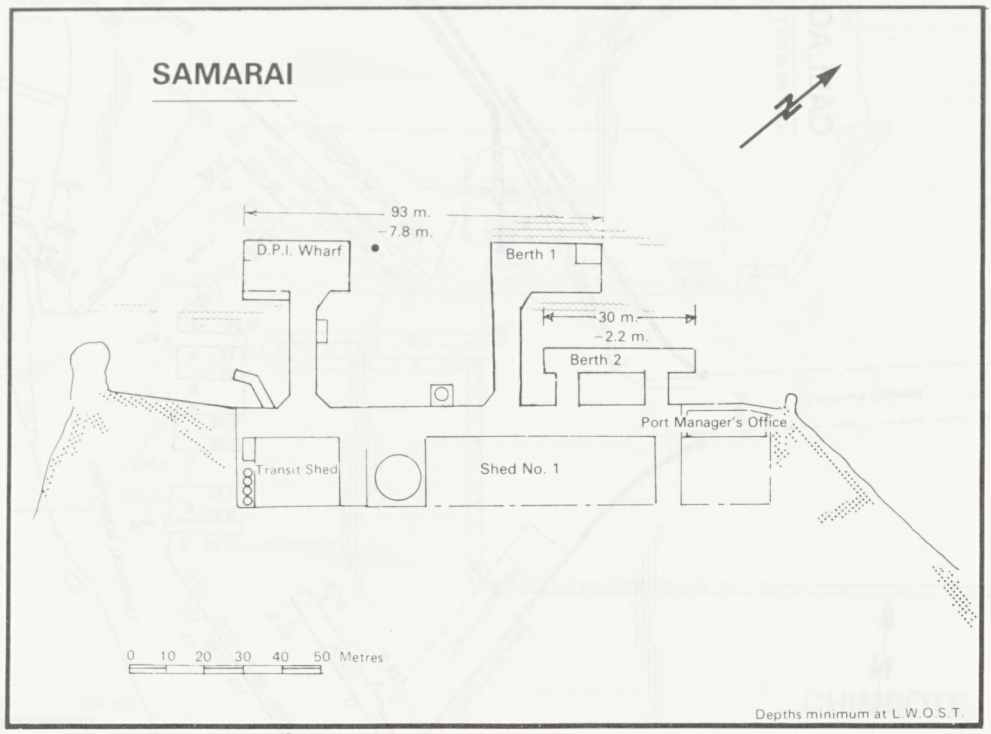


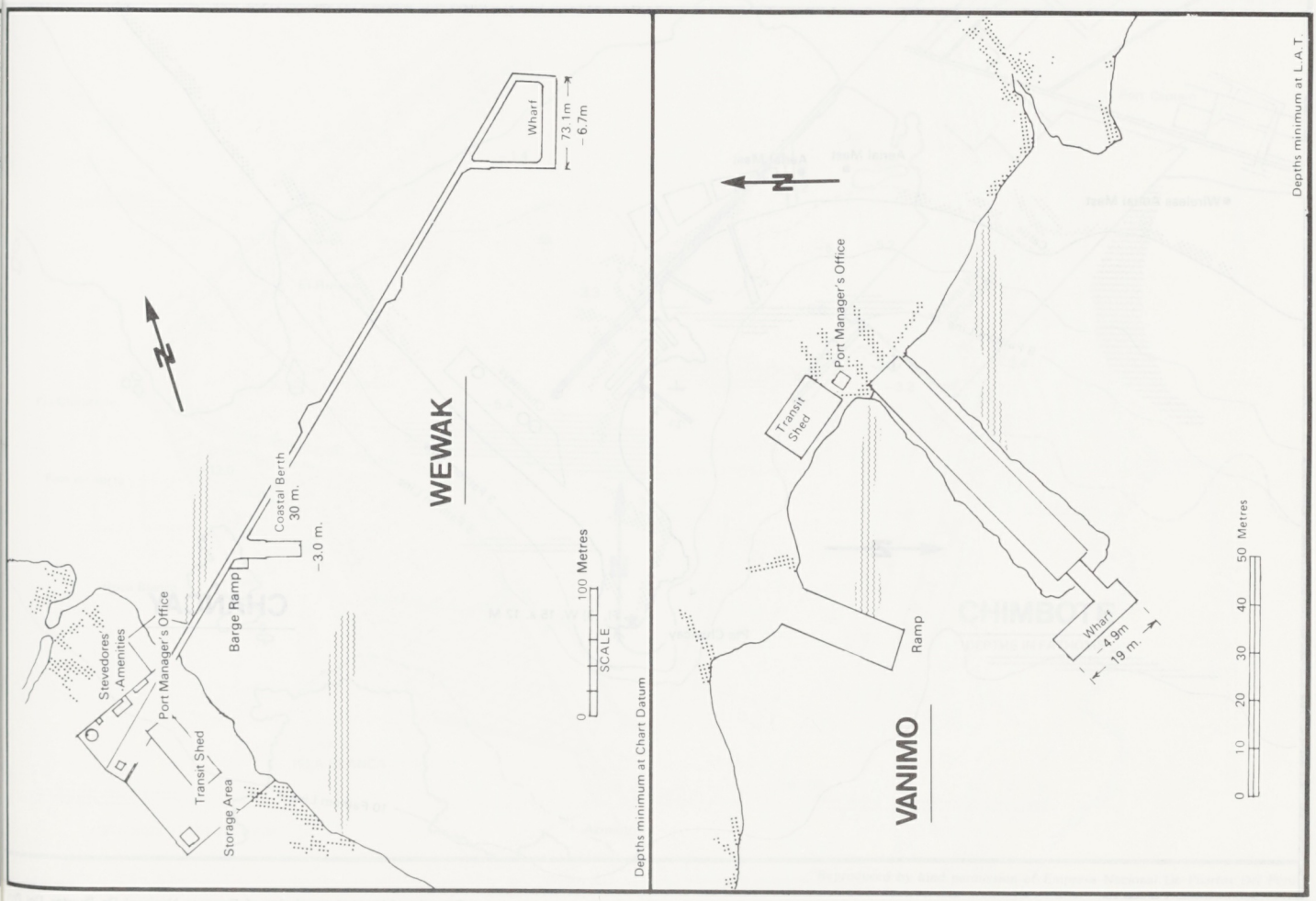
RABAUL

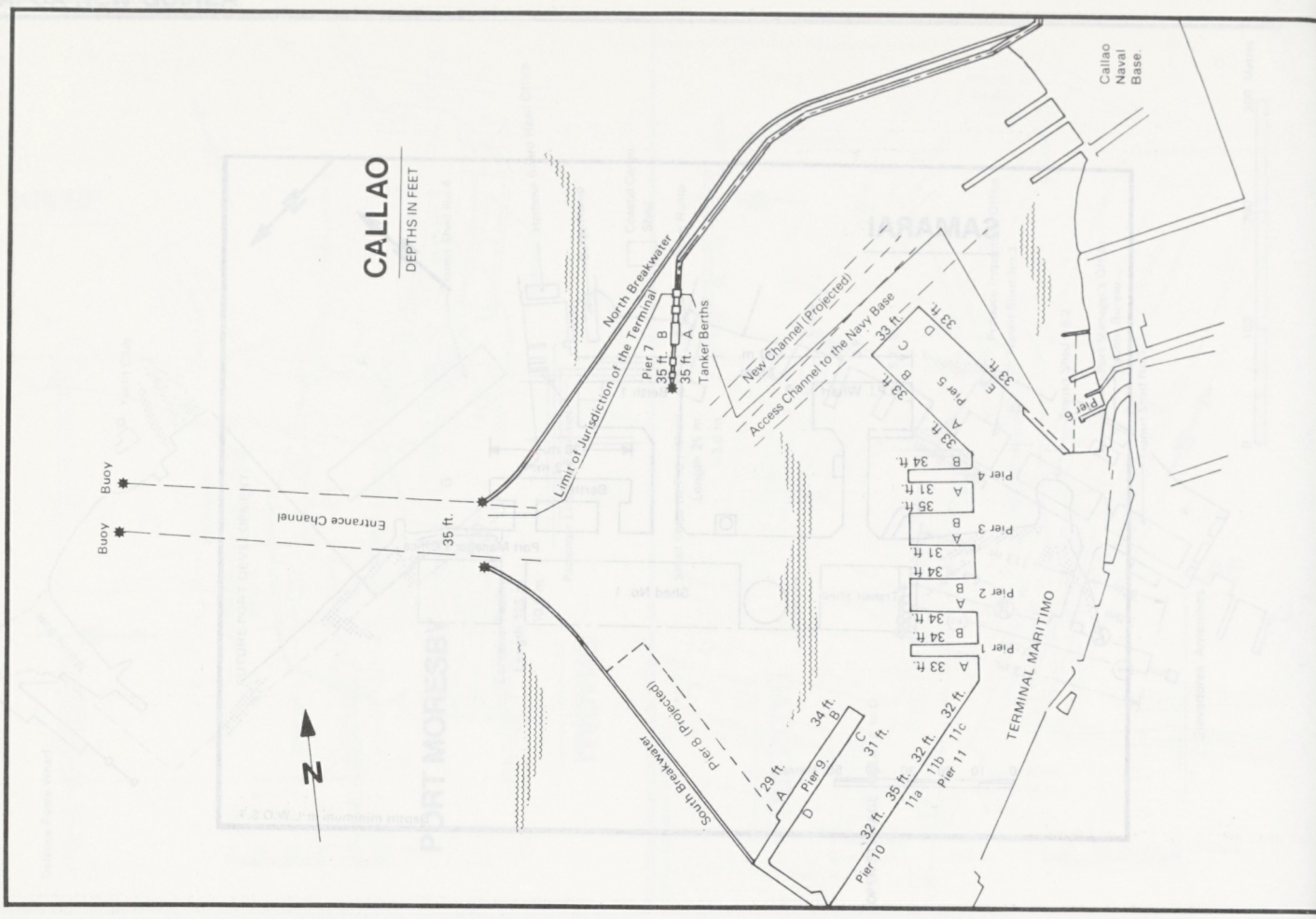
A to F – Open Storage Areas

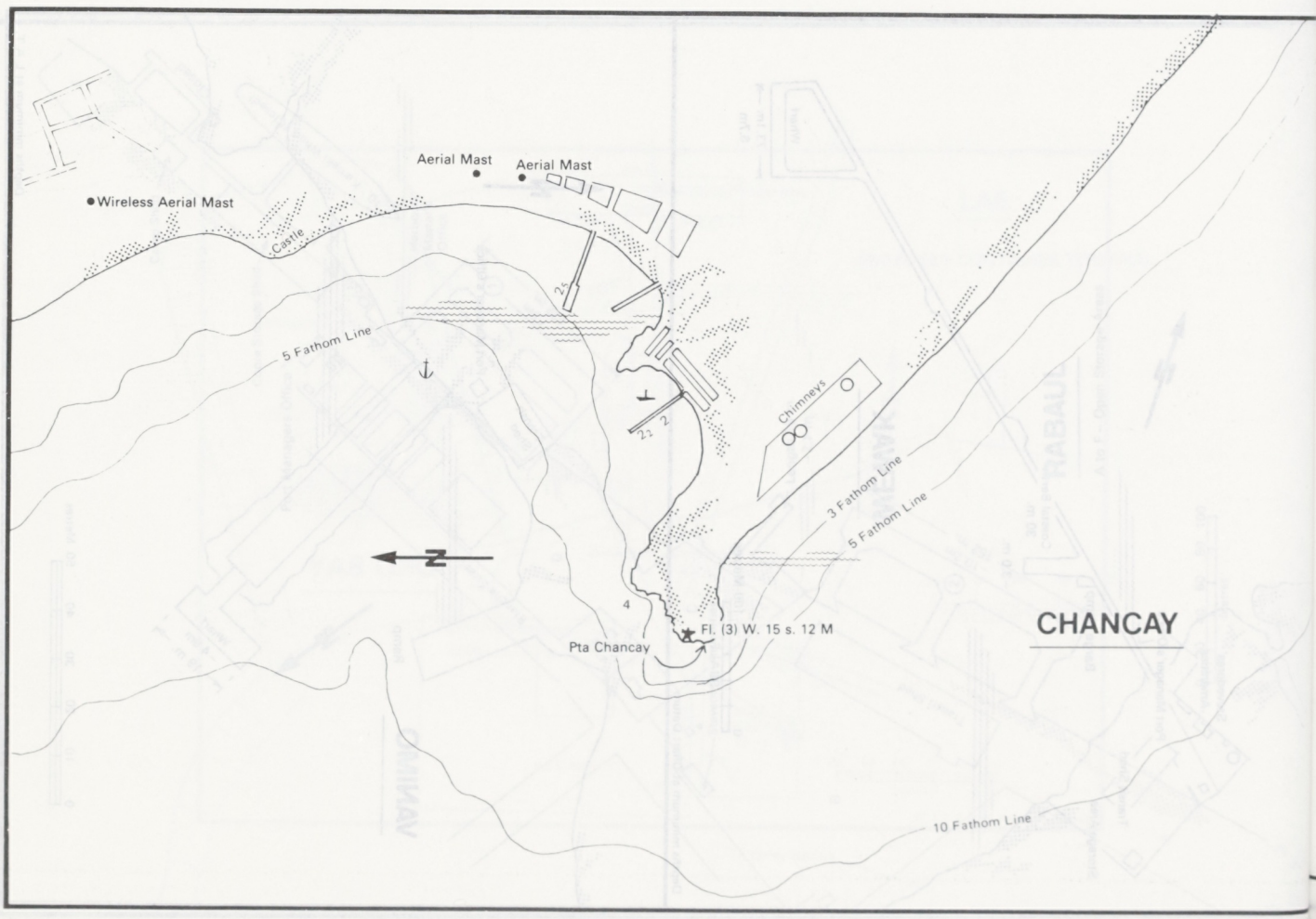


PORT MORESBY


SAMARAI
93 m.
-7.8 m.
D.P.I. Wharf
Berth 1
30 m.
-2.2 m.
Berth 2
Port Manager's Office
Transit Shed
Shed No. 1
0 10 20 30 40 50 Metres
Depths minimum at L.W.O.S.T.


WEWAK
Wharf
73.1m
-6.7m
Coastal Berth
30 m.
-3.0 m.
Barge Ramp
Stevedores' Amenities
Port Manager's Office
Transit Shed
Storage Area
0 100 Metres
SCALE
Depths minimum at Chart Datum
VANIMO
Port Manager's Office
Transit Shed
Ramp
Wharf
-4.9m
19 m.
0 10 20 30 40 50 Metres
Depths minimum at L.A.T.





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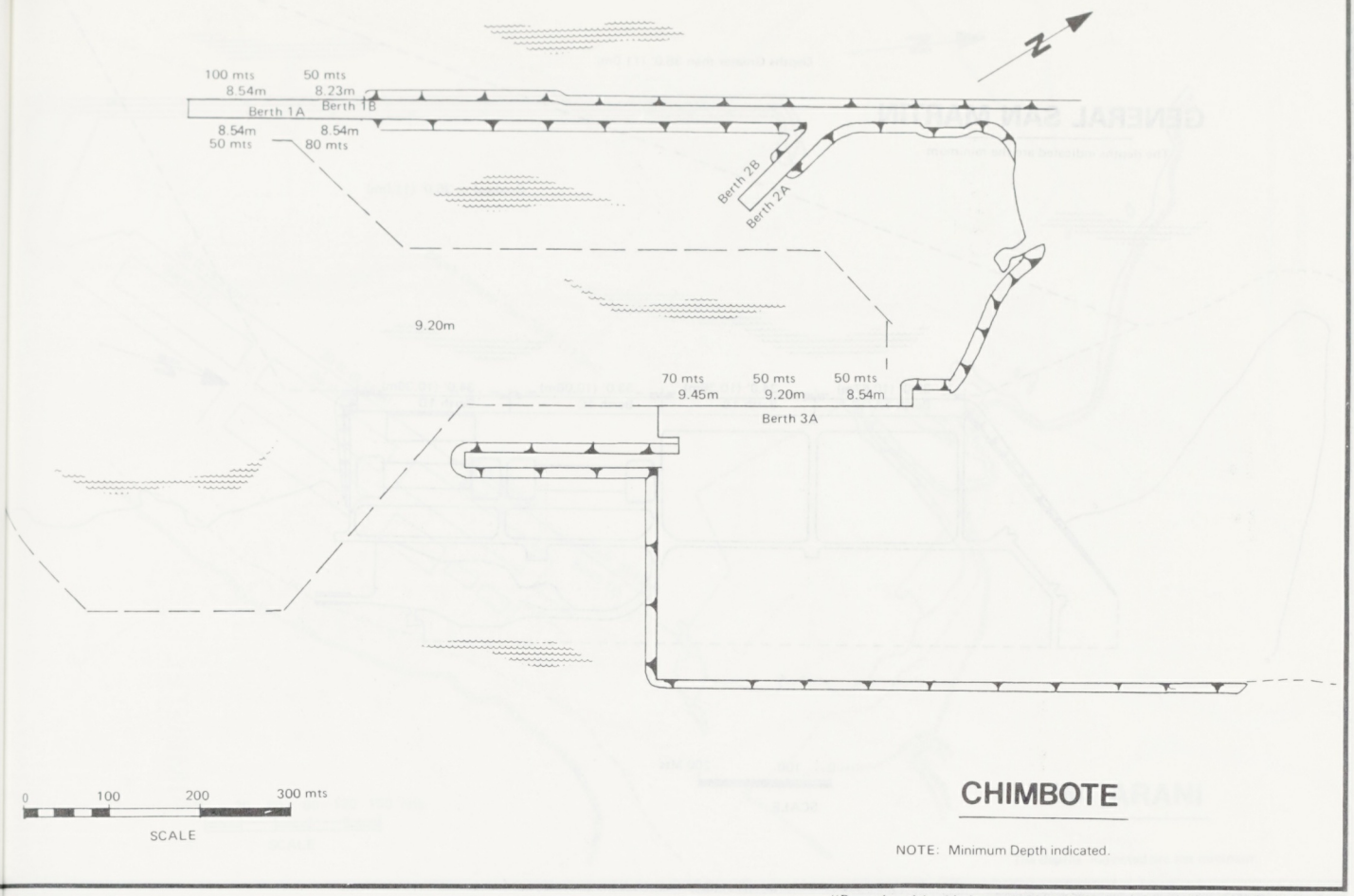

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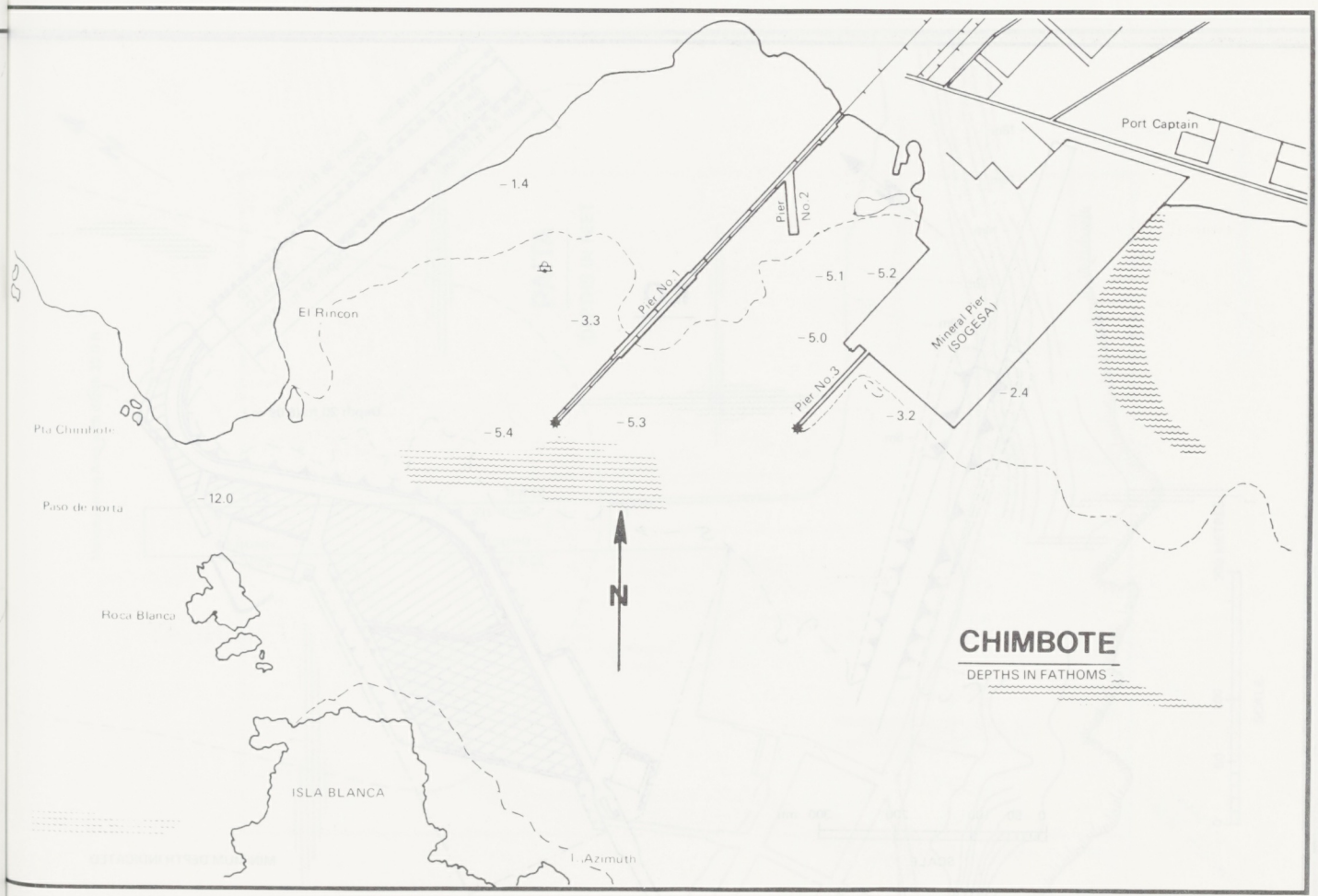

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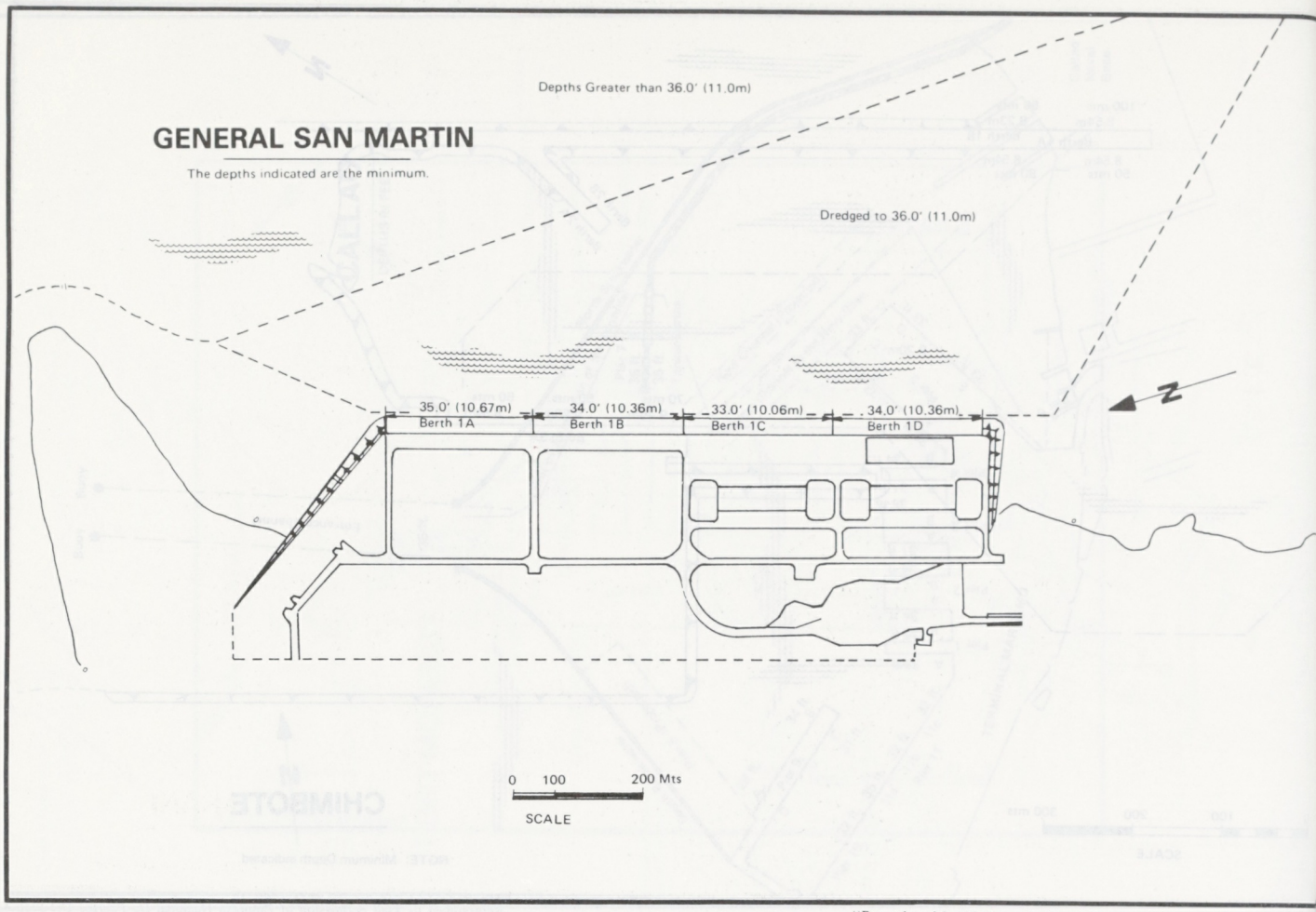

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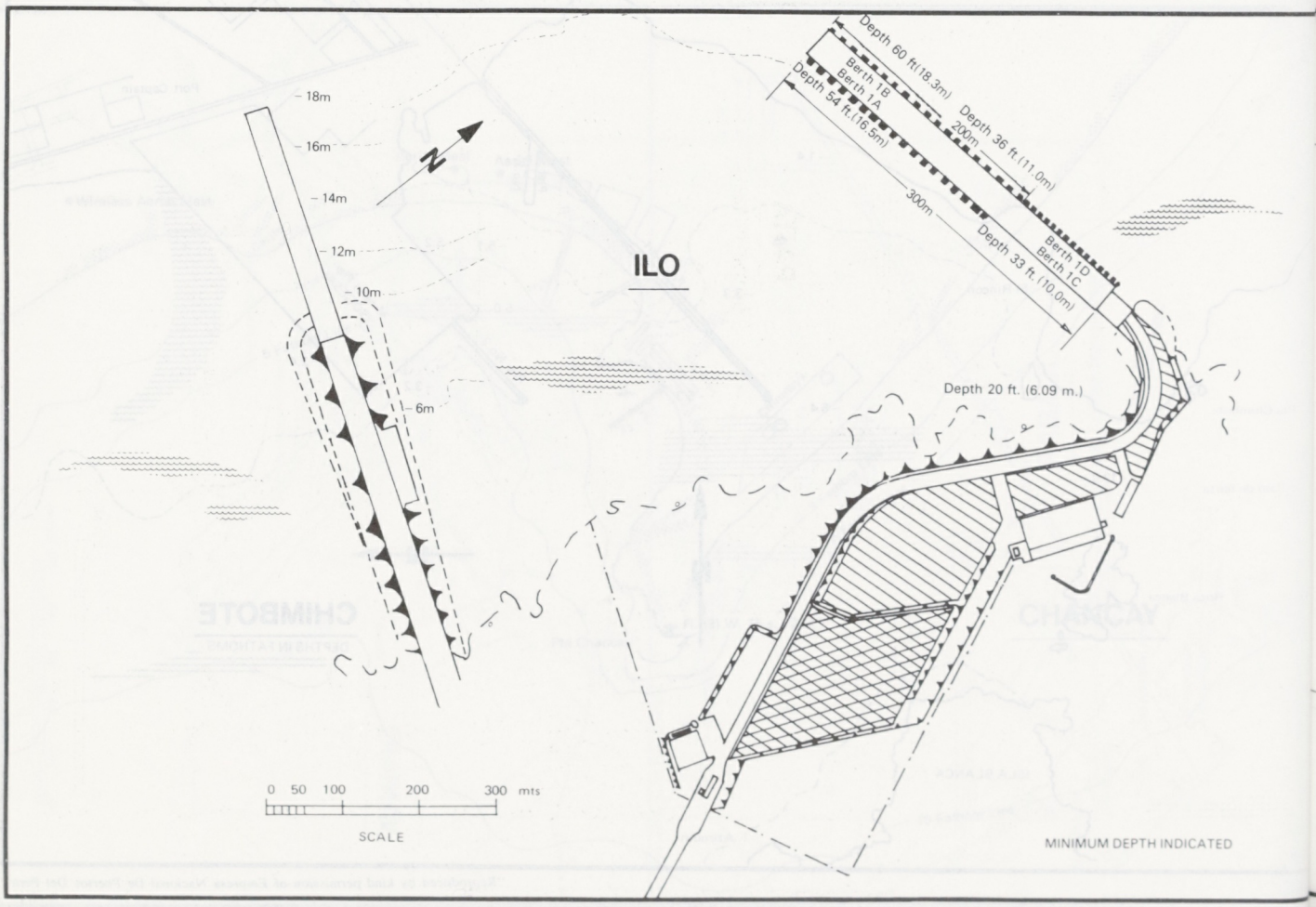

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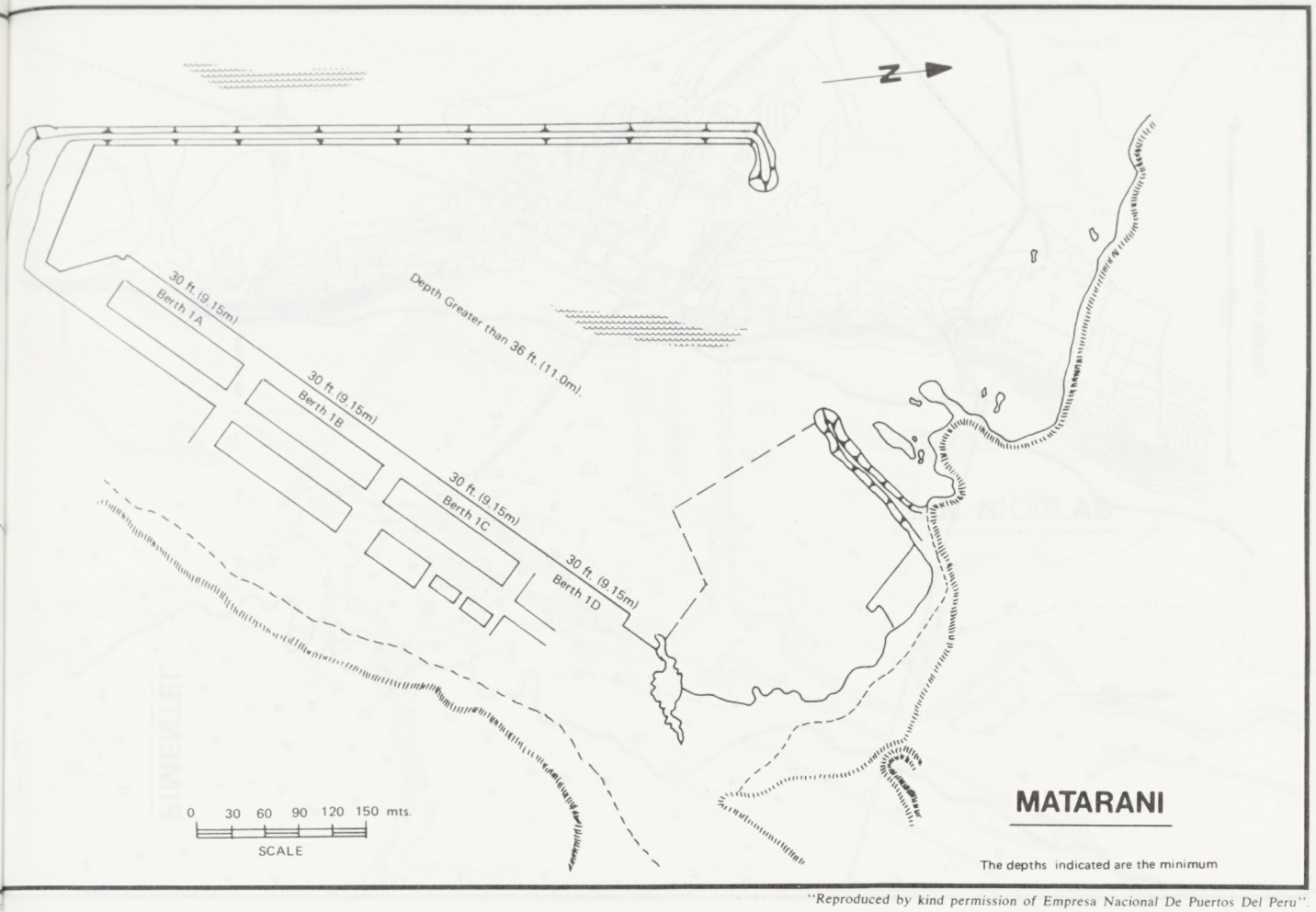

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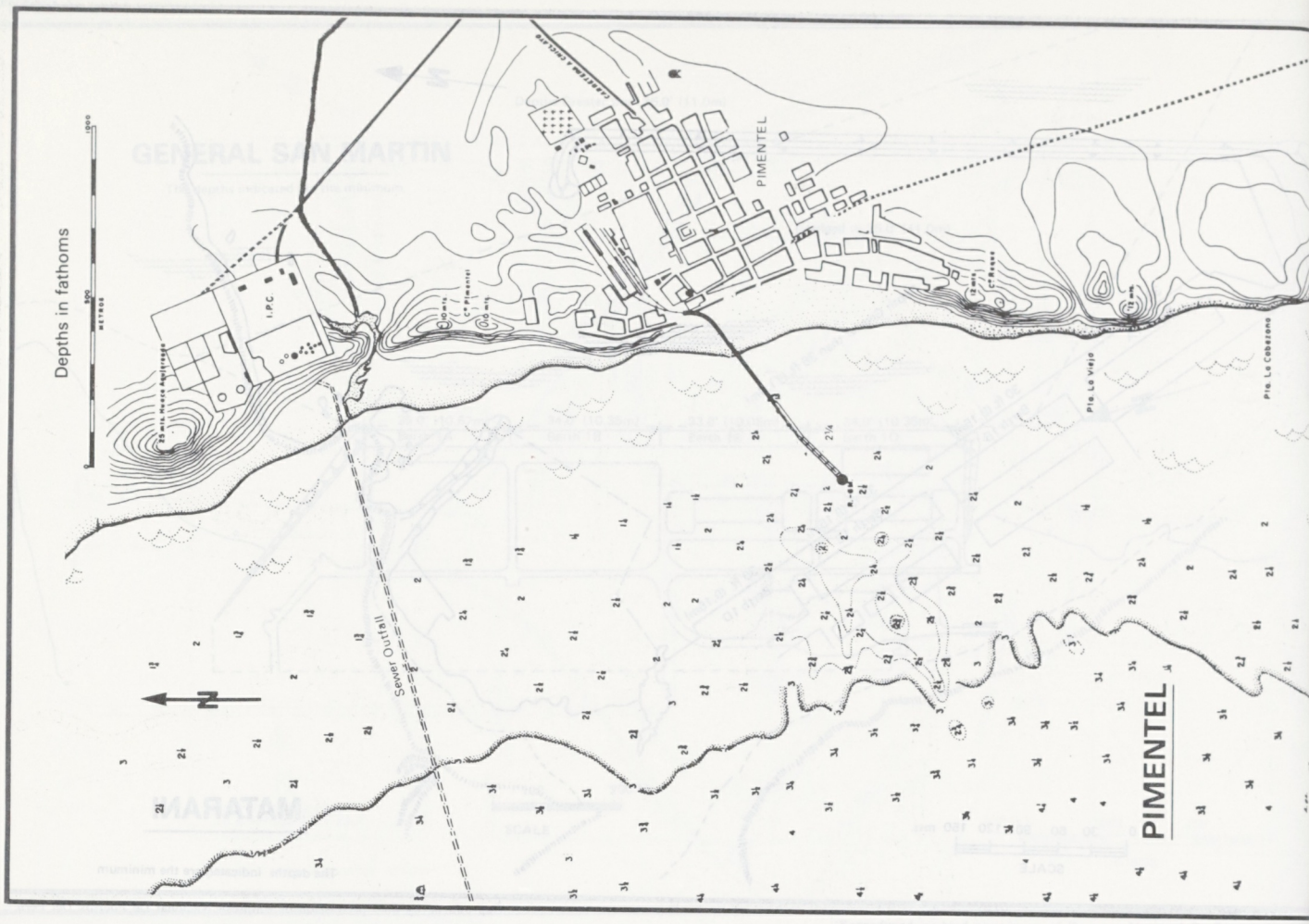
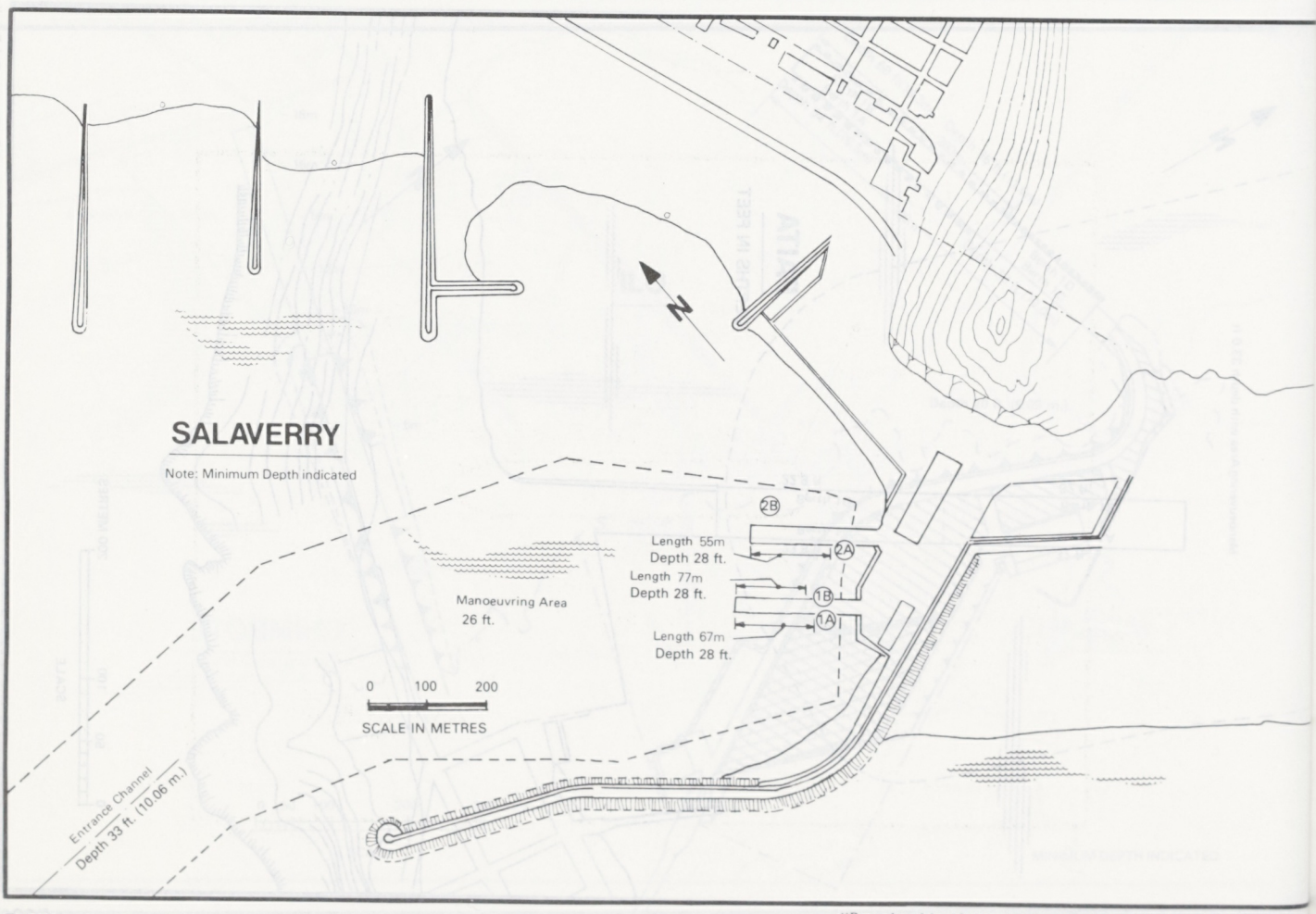
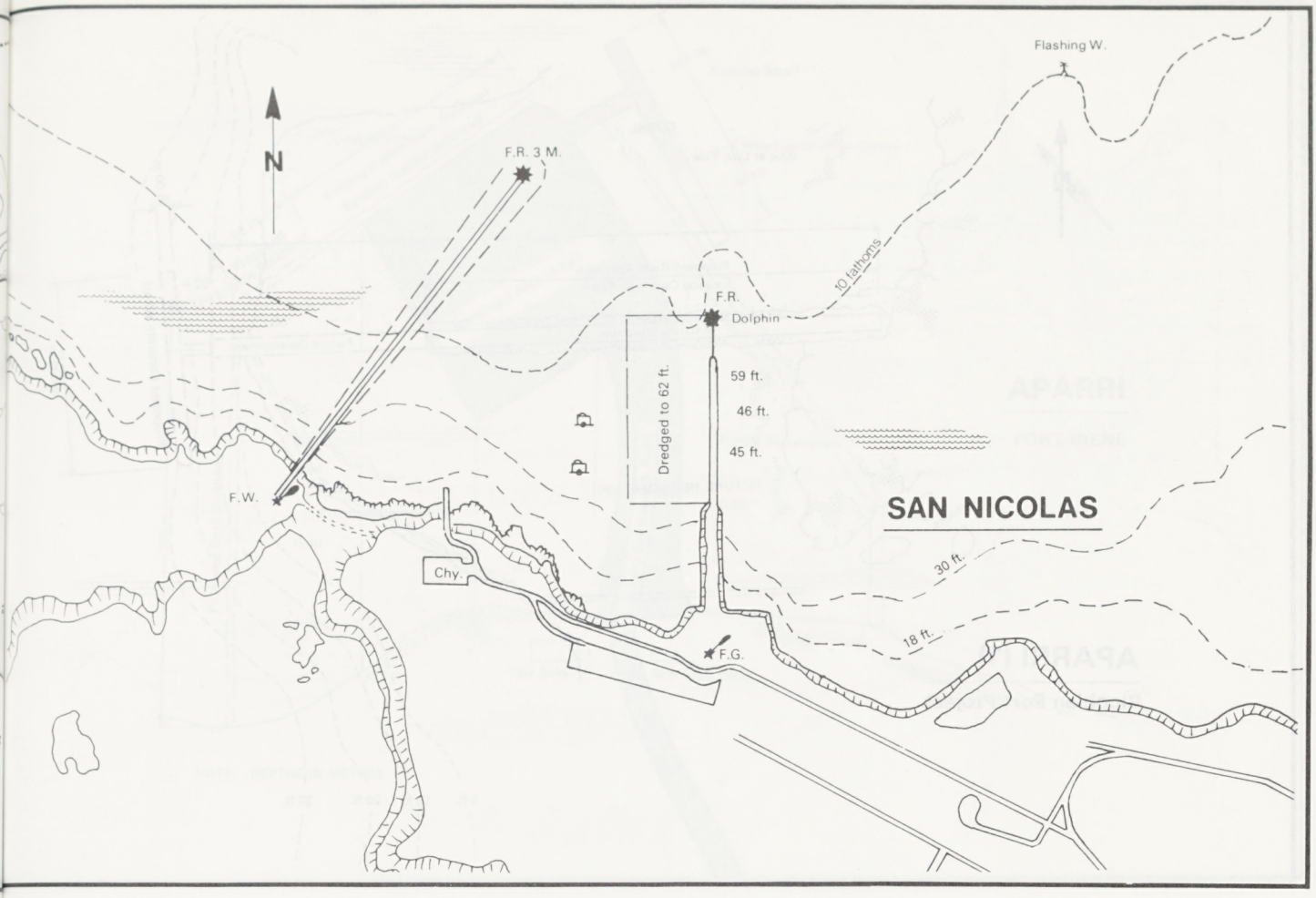
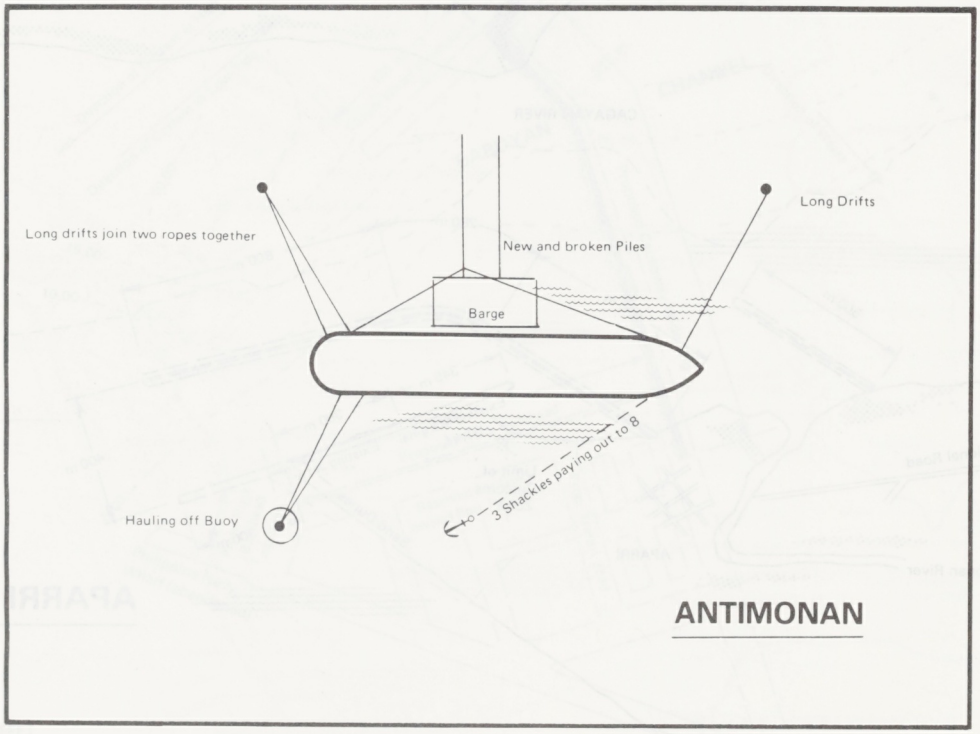


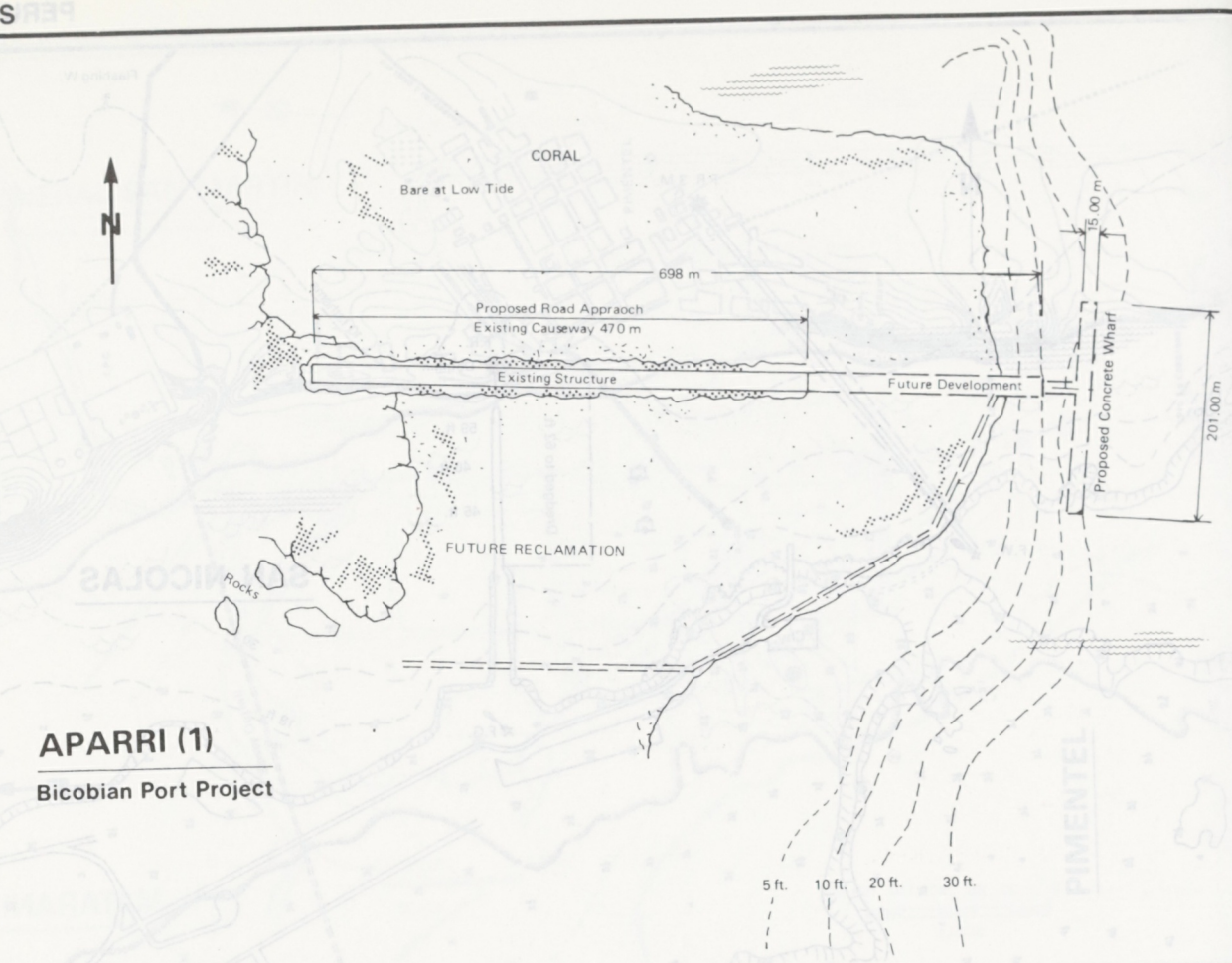


"Reproduced by kind permission of Empresa Nacional De Puertos Del P



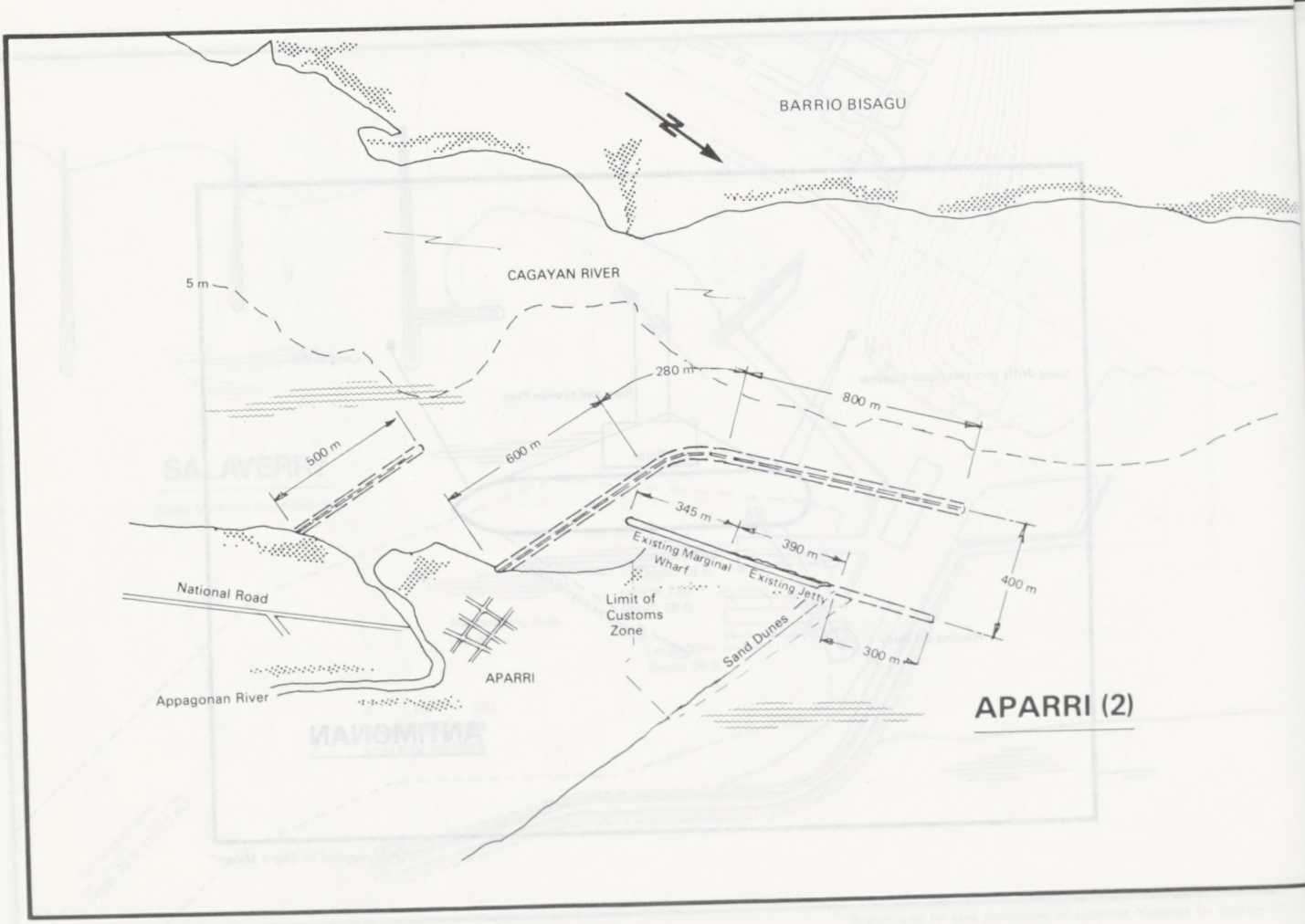


"Plan supplied by Ship's Master"

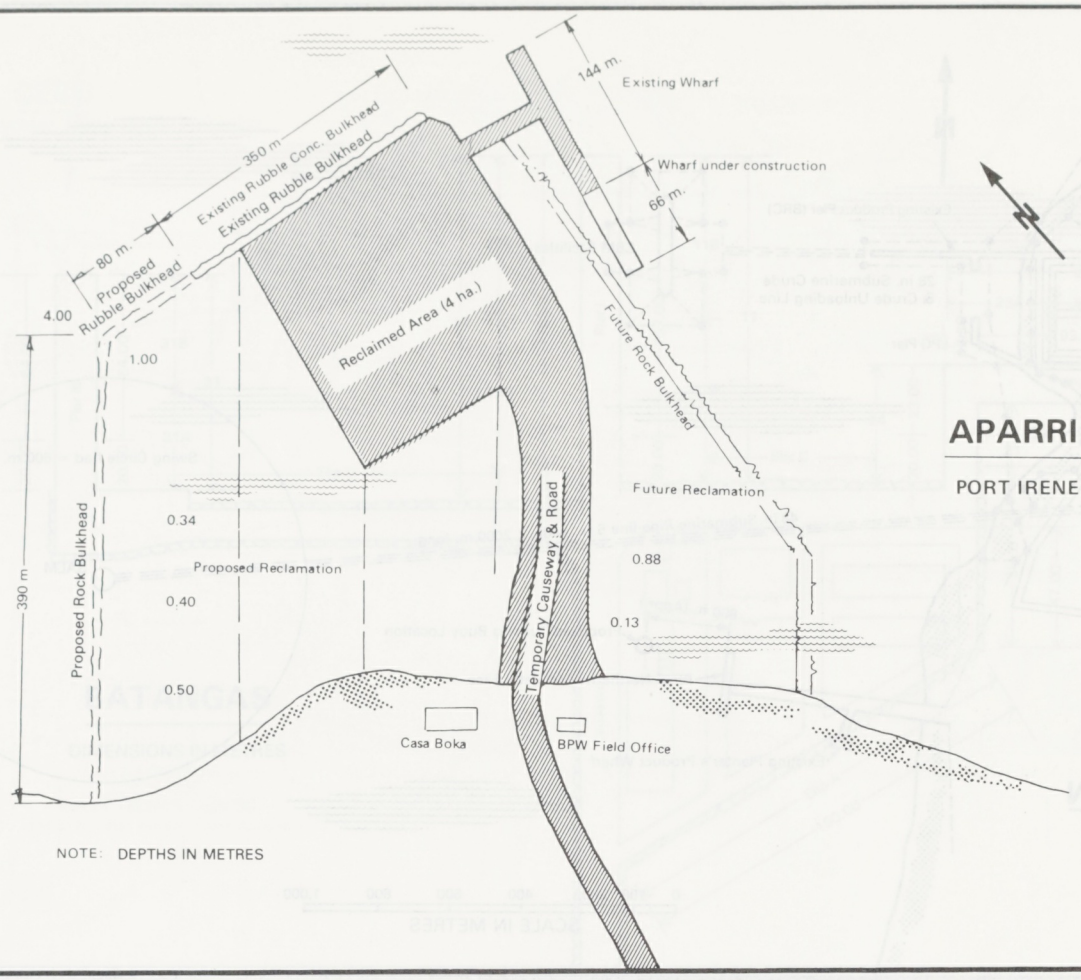


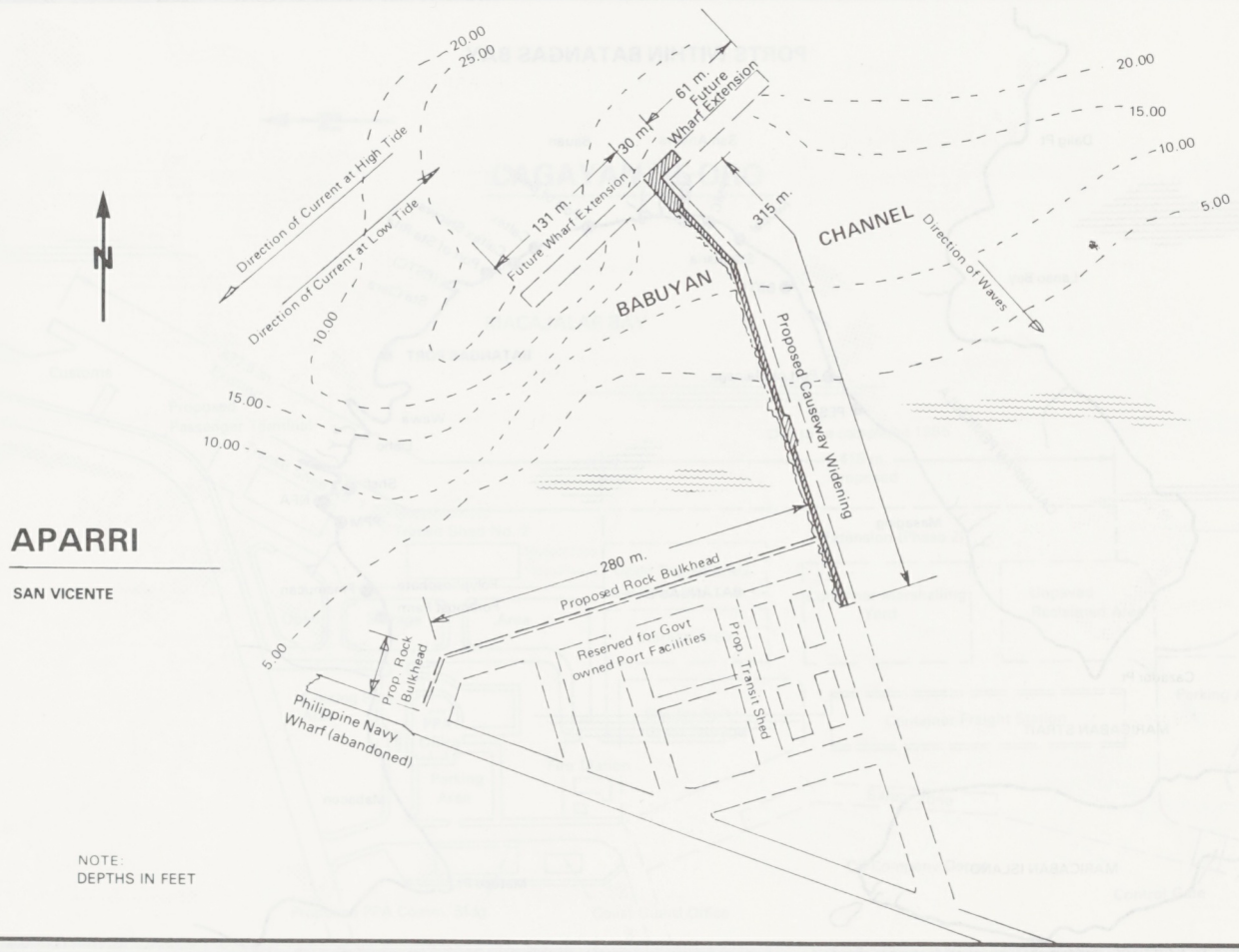
APARRI (1)

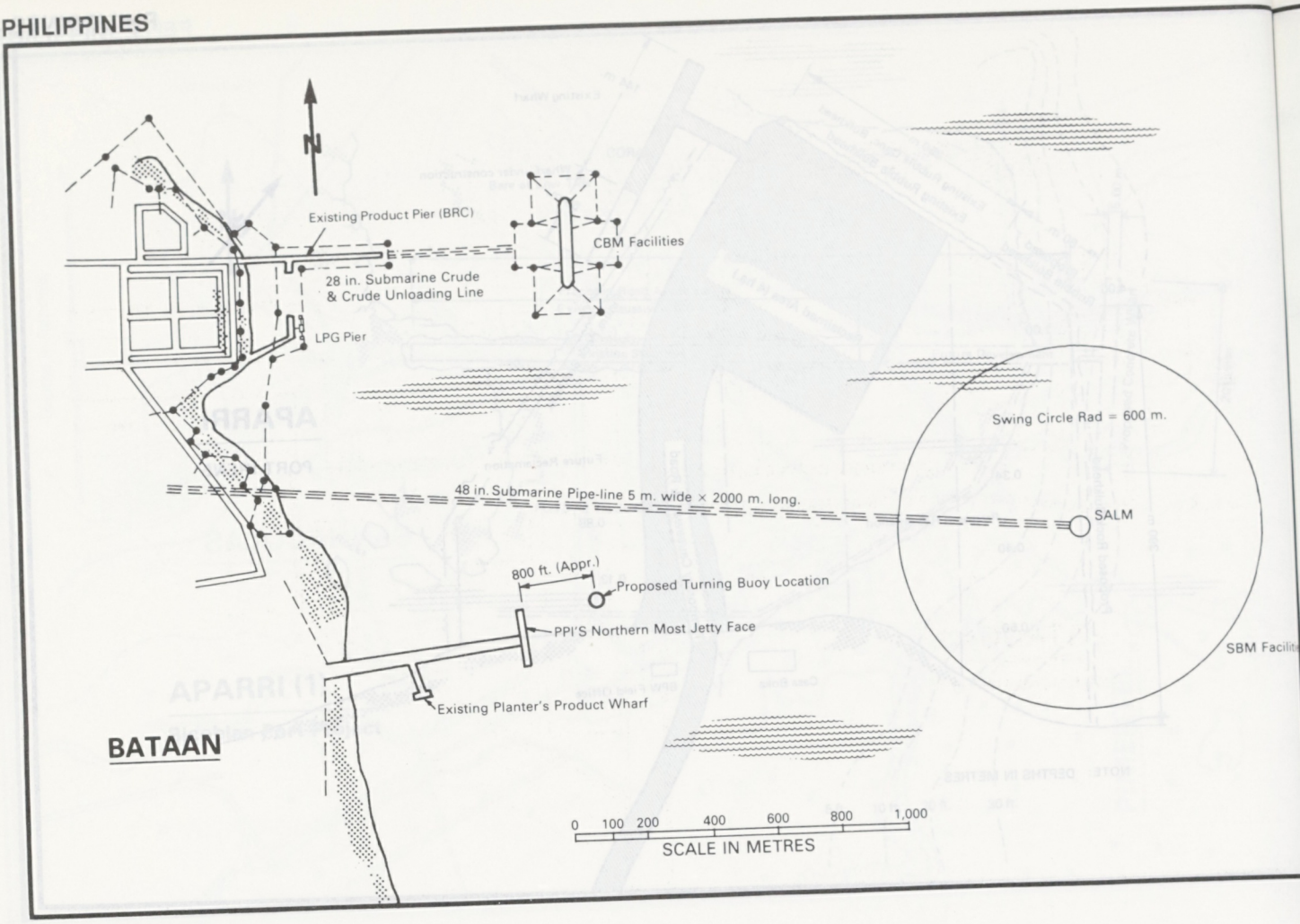
Bicobian Port Project

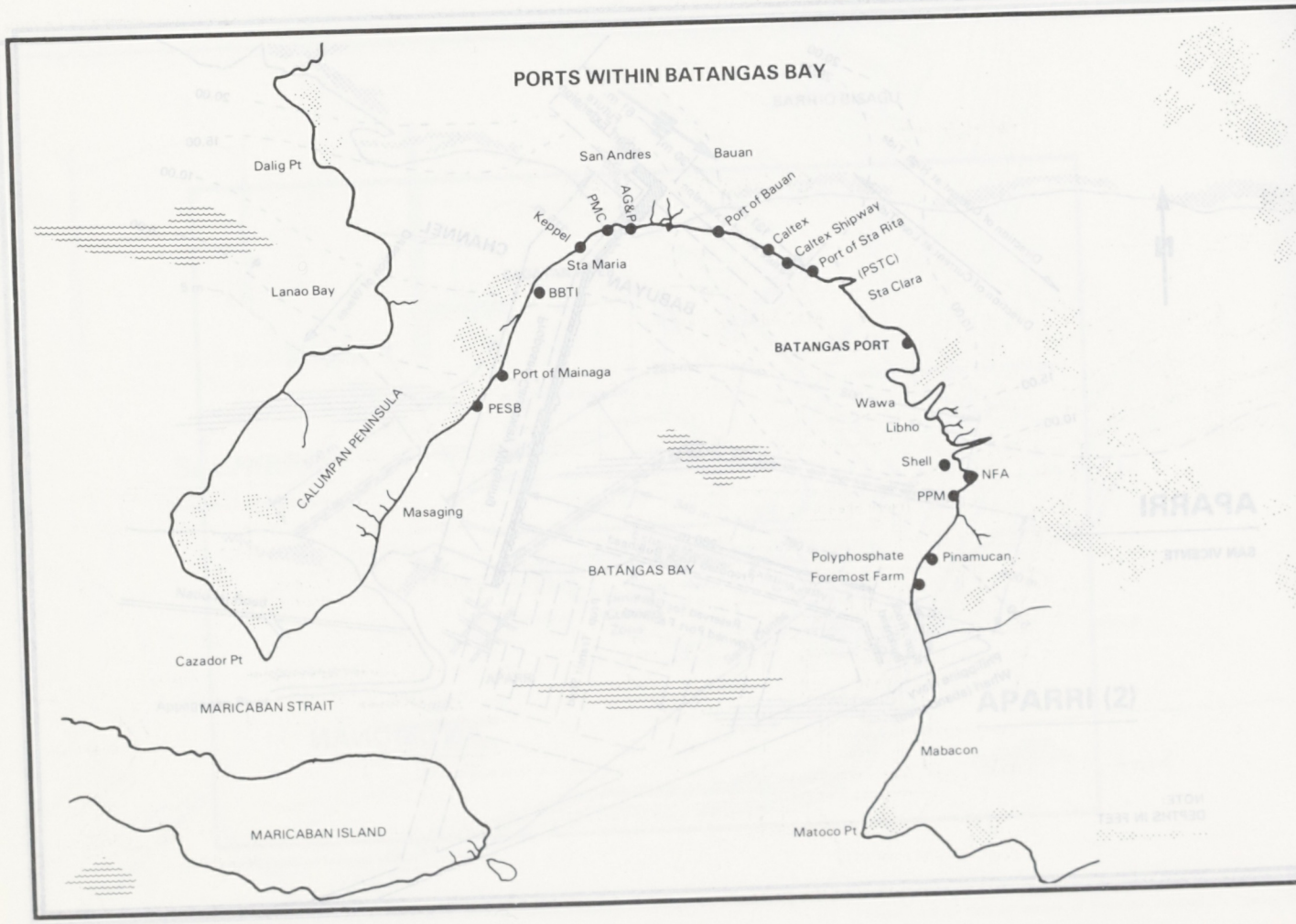


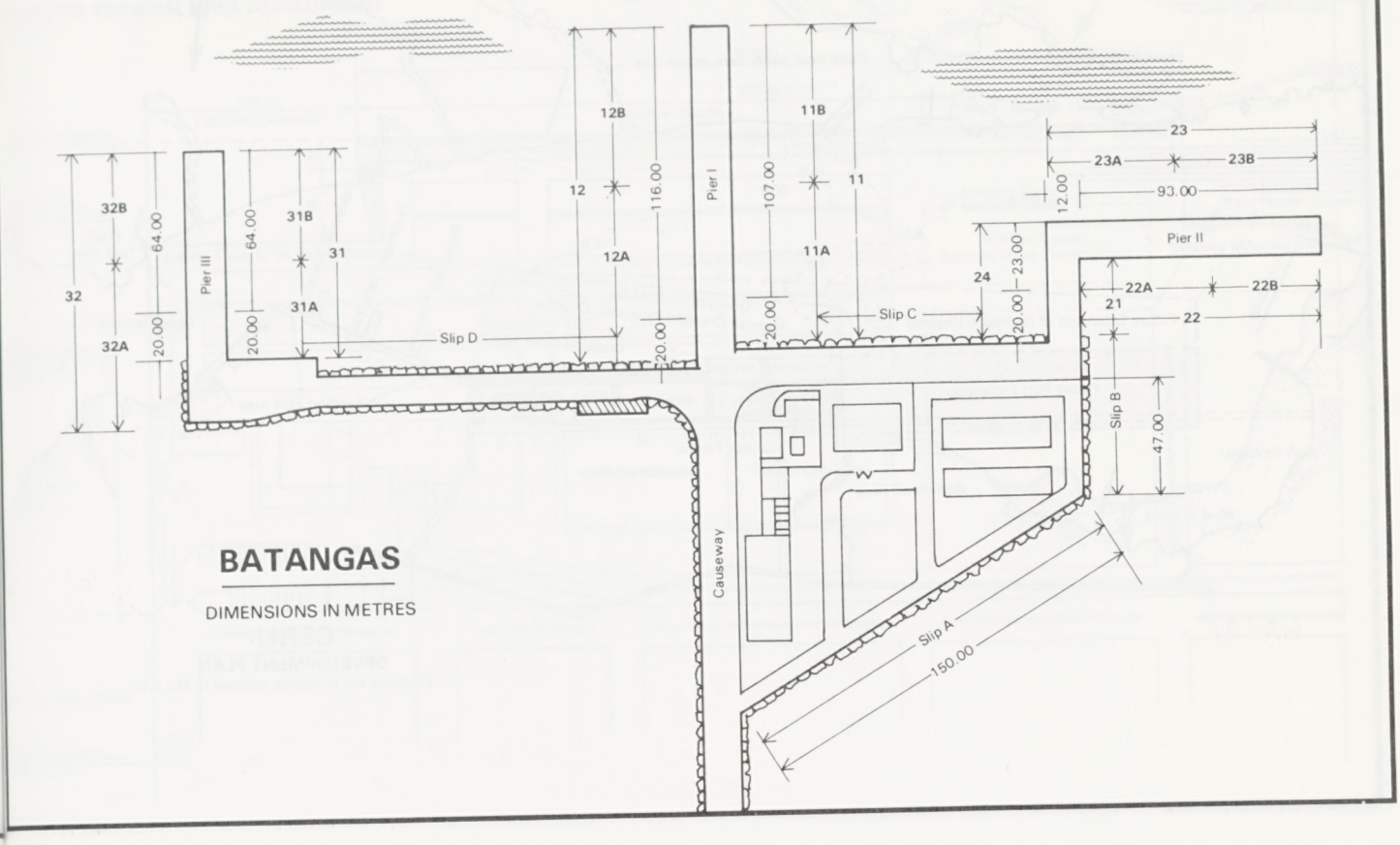
APARRI (2)


144 m.
Existing Wharf
Wharf under construction
66 m.
350 m.
Existing Rubble Conc. Bulkhead
Existing Rubble Bulkhead
80 m.
Proposed Rubble Bulkhead
4.00
1.00
Reclaimed Area (4 ha.)
Future Rock Bulkhead
Future Reclamation
0.34
Proposed Reclamation
0.40
0.50
390 m
Proposed Rock Bulkhead
Temporary Causeway & Road
0.88
0.13
Casa Boka
BPW Field Office
N
APARRI
PORT IRENE
NOTE: DEPTHS IN METRES


20.00
25.00
Direction of Current at High Tide
Direction of Current at Low Tide
10.00
15.00
10.00
61 m.
Future Wharf Extension
30 m.
131 m.
Future Wharf Extension
315 m.
BABUYAN
CHANNEL
Direction of Waves
20.00
15.00
10.00
5.00
Proposed Causeway Widening
280 m.
Proposed Rock Bulkhead
Reserved for Govt owned Port Facilities
Prop. Transit Shed
Prop. Rock Bulkhead
Philippine Navy Wharf (abandoned)
5.00
N
APARRI
SAN VICENTE
NOTE:
DEPTHS IN FEET

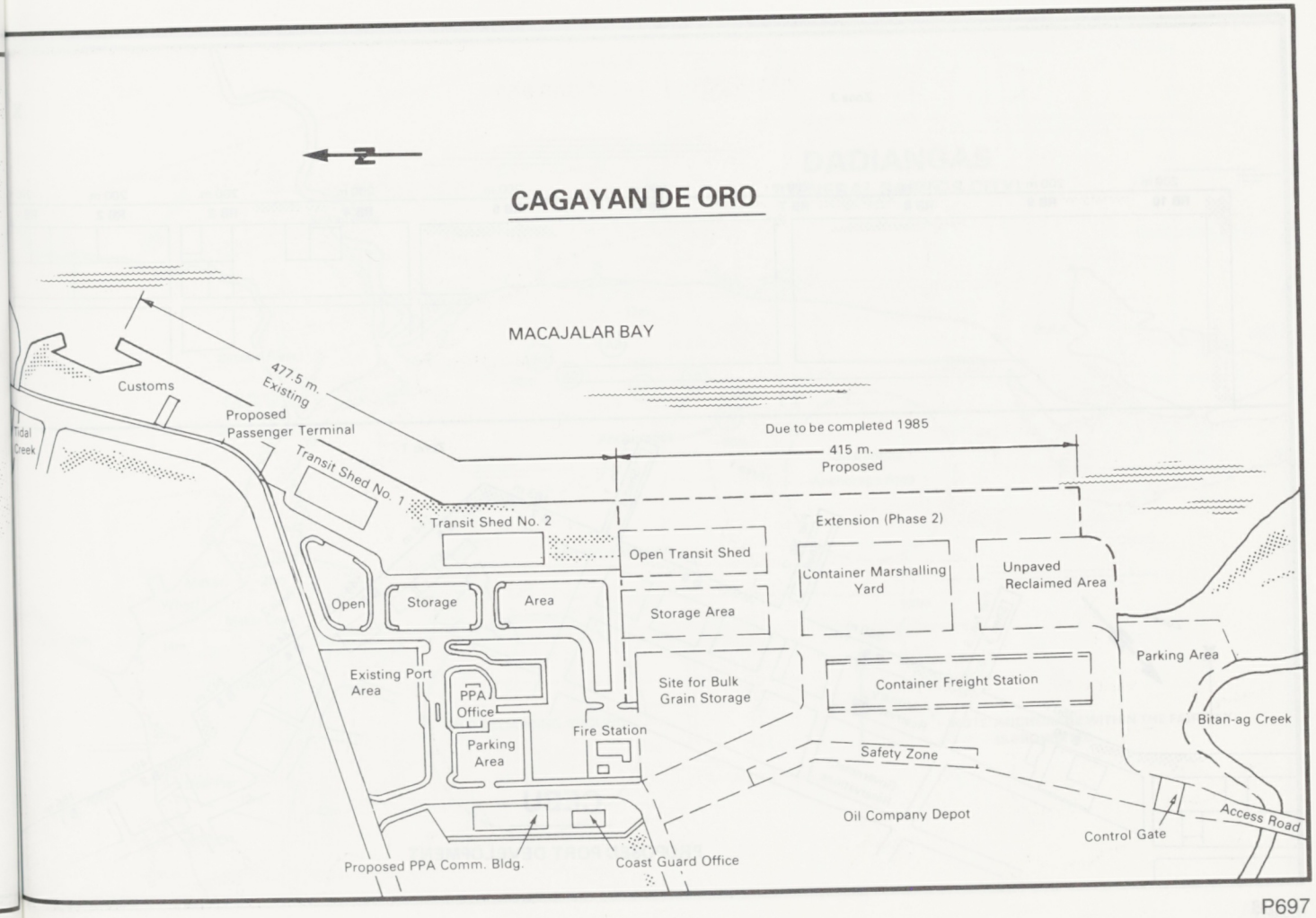

N
Existing Product Pier (BRC)
CBM Facilities
28 in. Submarine Crude
& Crude Unloading Line
LPG Pier
Swing Circle Rad = 600 m.
48 in. Submarine Pipe-line 5 m. wide × 2000 m. long.
SALM
800 ft. (Appr.)
Proposed Turning Buoy Location
PPI'S Northern Most Jetty Face
Existing Planter's Product Wharf
BATAAN
0 100 200 400 600 800 1,000
SCALE IN METRES


PORTS WITHIN BATANGAS BAY
Dalig Pt
San Andres
Bauan
PMC
AG&P
Keppel
Port of Bauan
Caltex
Caltex Shipway
Port of Sta Rita
(PSTC)
Sta Clara
Sta Maria
BBTI
Lanao Bay
BATANGAS PORT
Port of Mainaga
PESB
Wawa
Libho
Shell
NFA
PPM
CALUMPAN PENINSULA
Masaging
Polyphosphate
Foremost Farm
Pinamucan
BATANGAS BAY
Cazador Pt
MARICABAN STRAIT
Mabacon
MARICABAN ISLAND
Matoco Pt

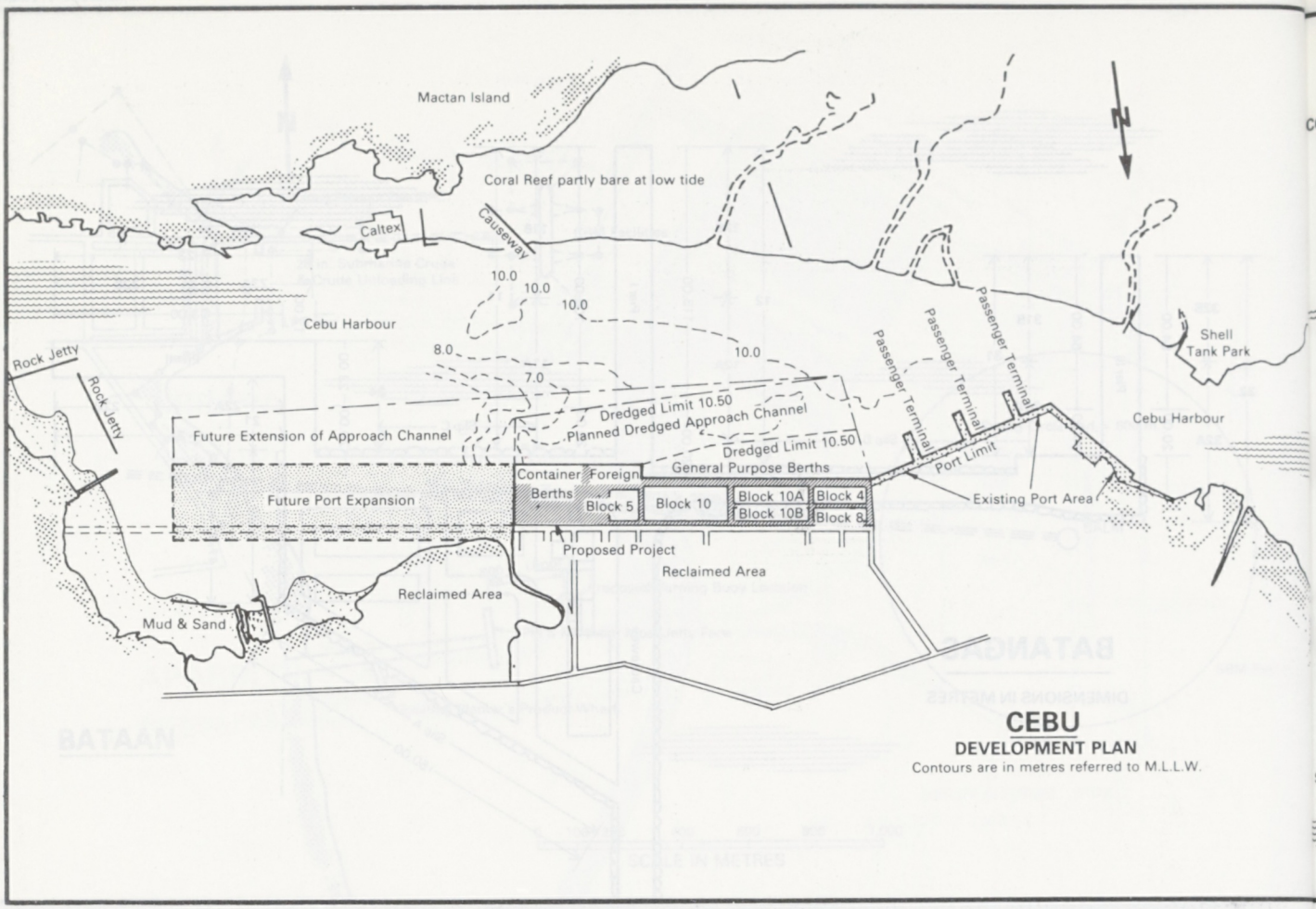


BATANGAS

DIMENSIONS IN METRES



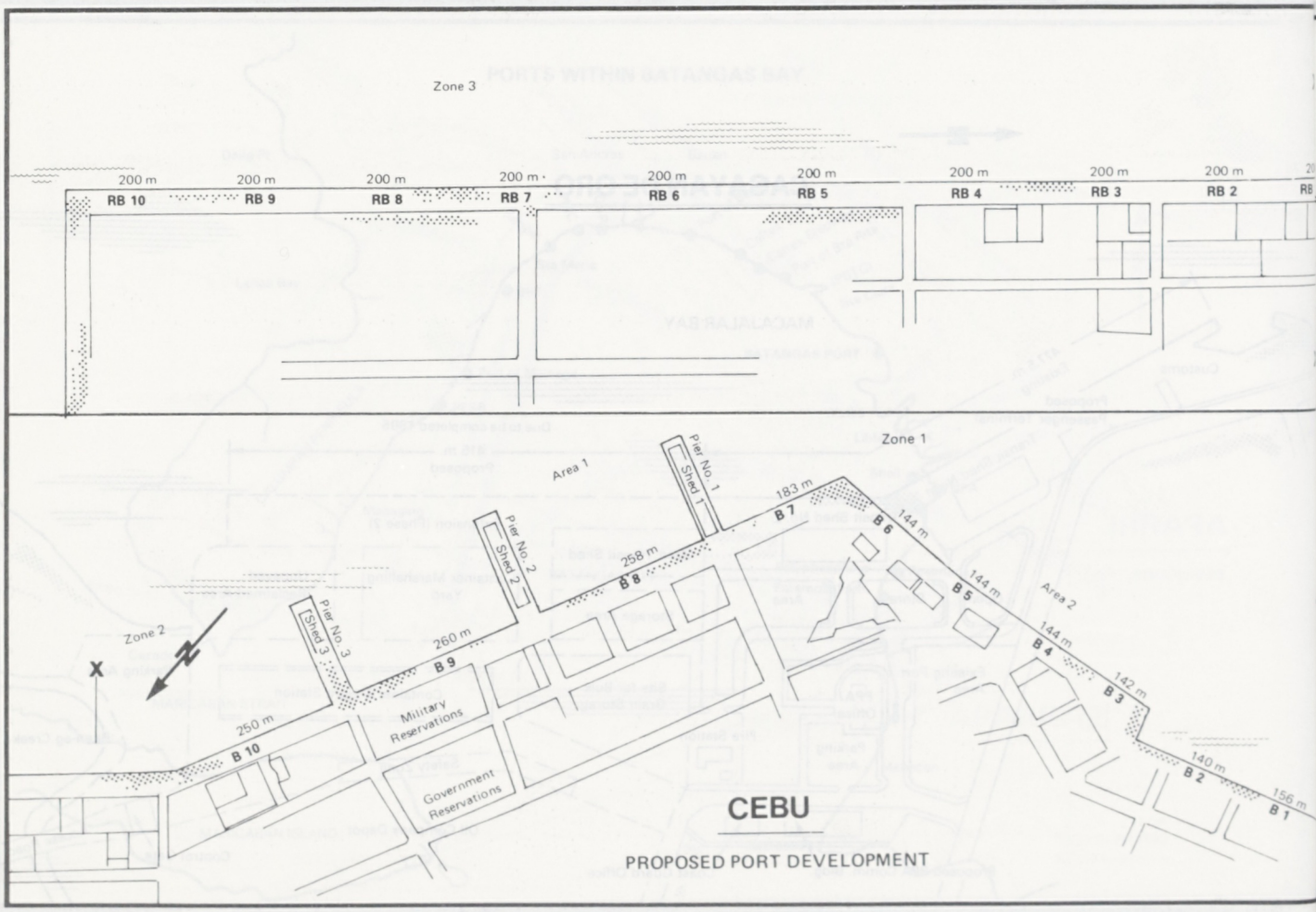
CAGAYAN DE ORO



CEBU

DEVELOPMENT PLAN

Contours are in metres referred to M.L.L.W.

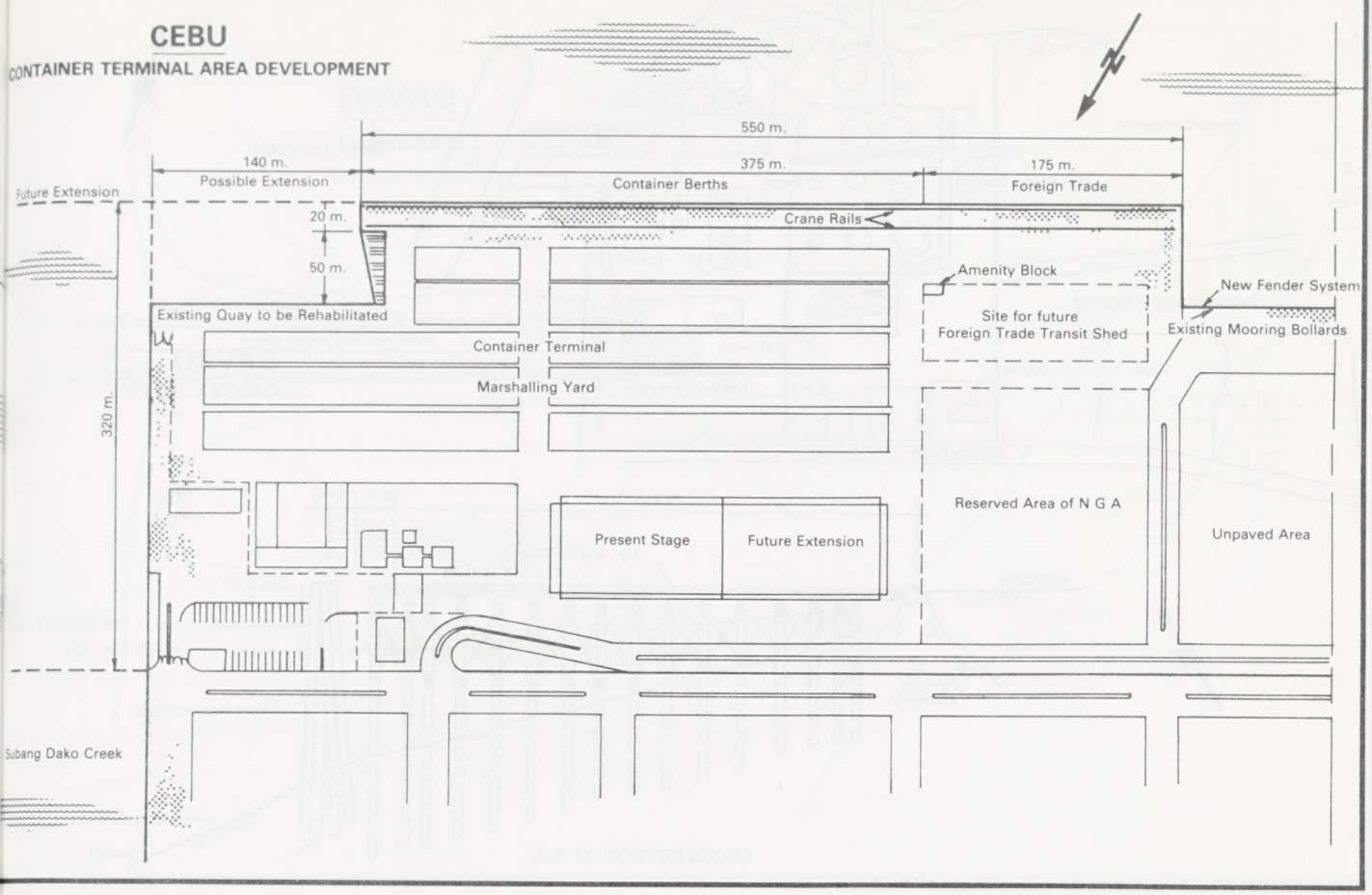


CEBU

PROPOSED PORT DEVELOPMENT

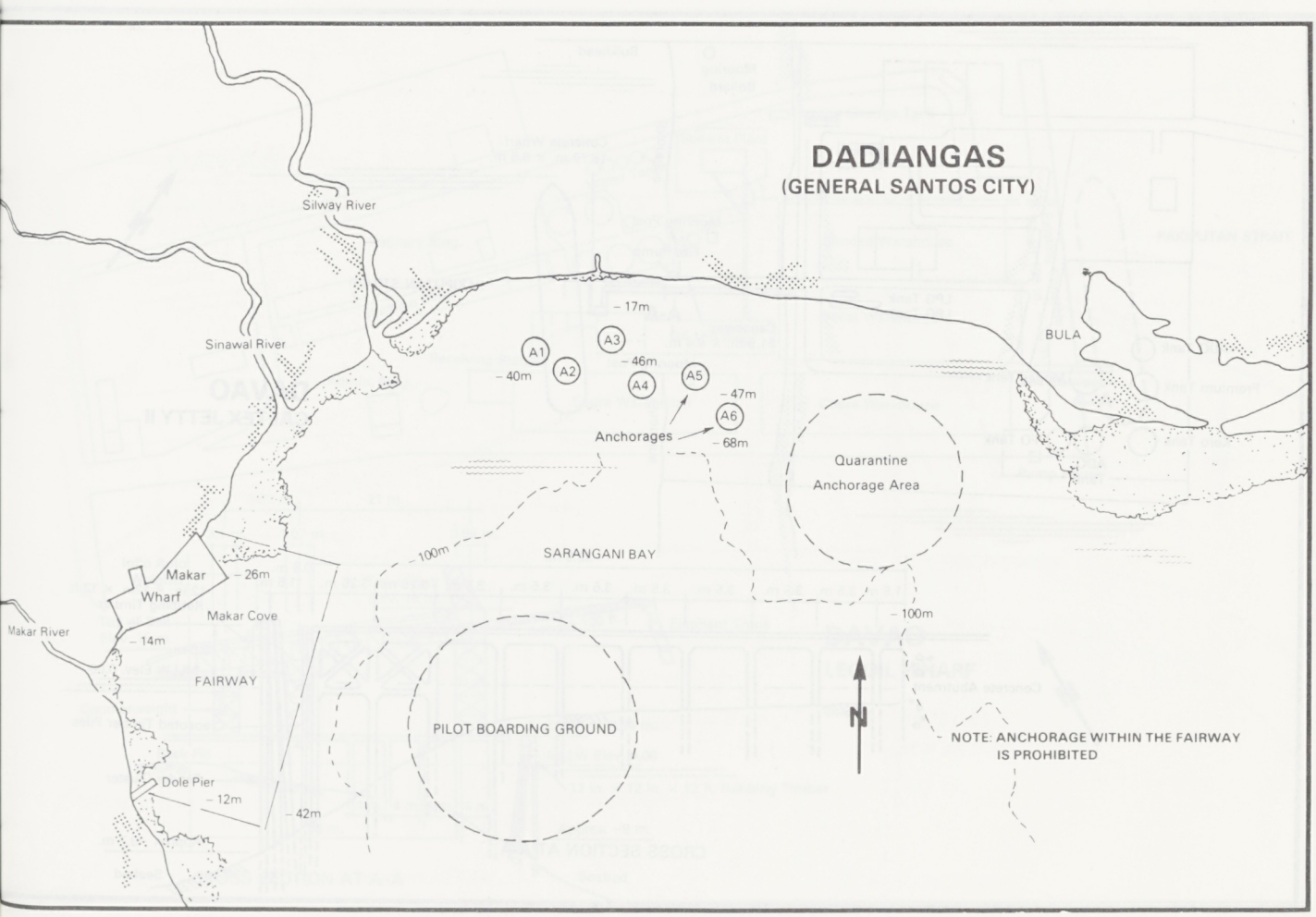
CEBU

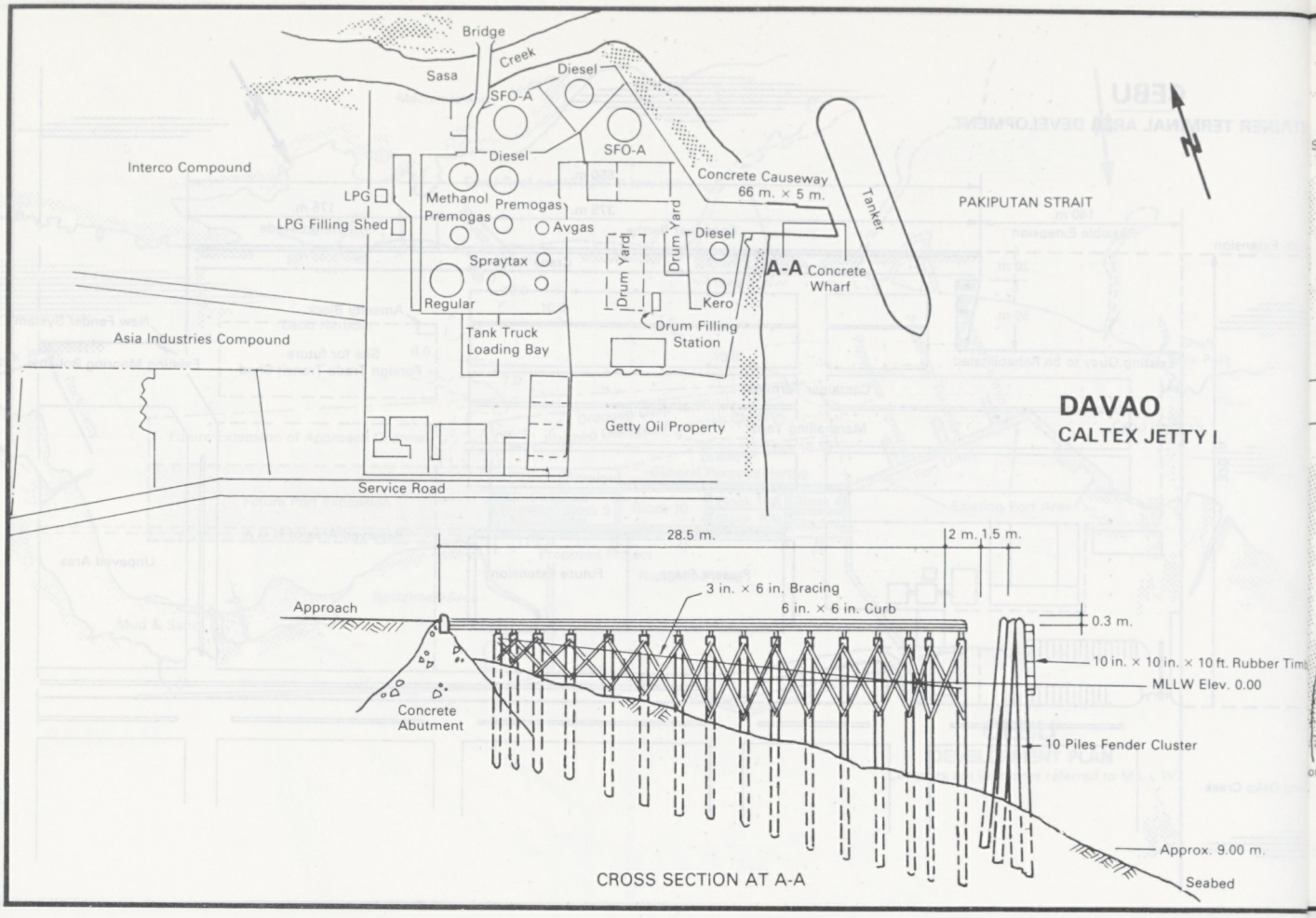
CONTAINER TERMINAL AREA DEVELOPMENT

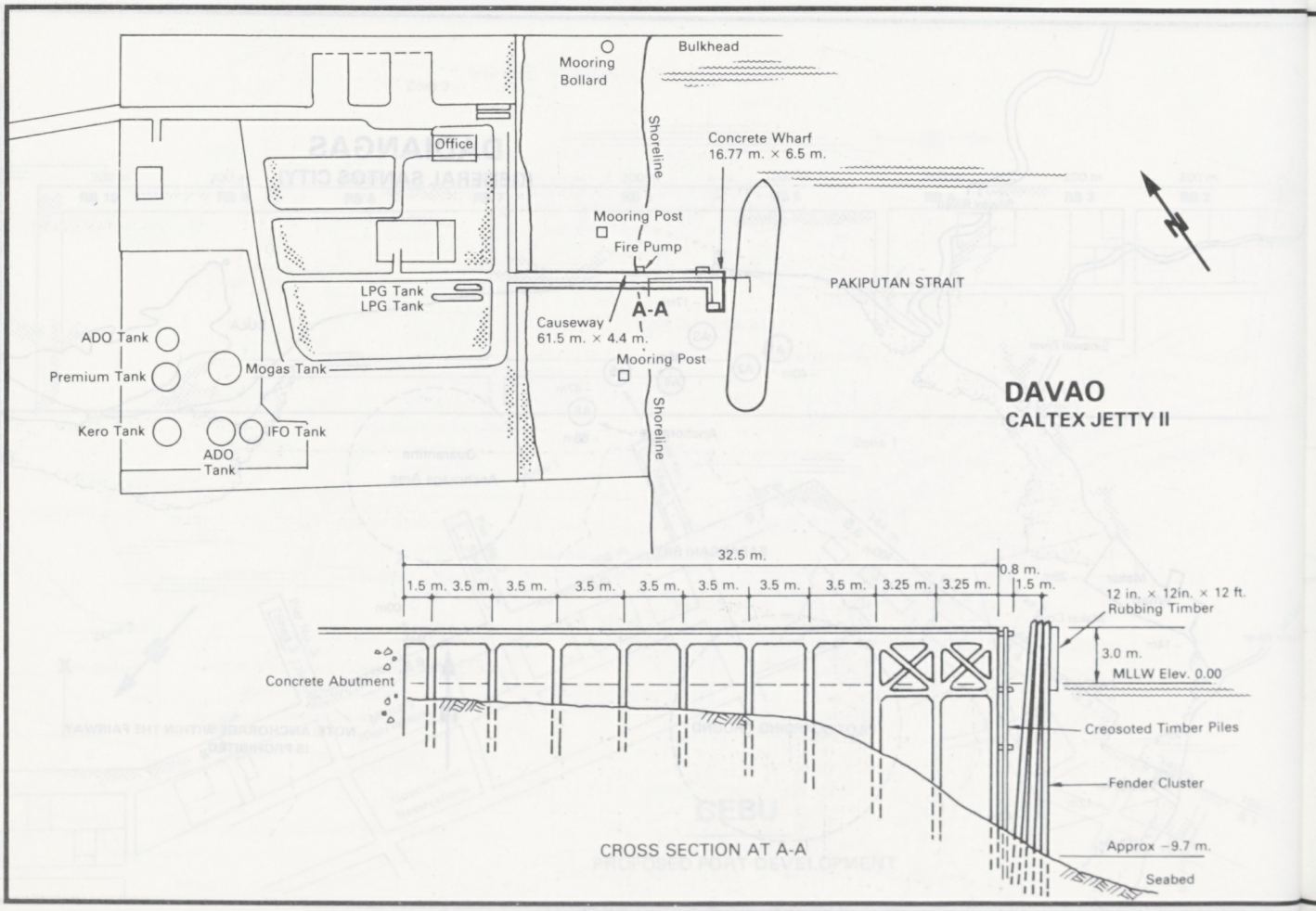


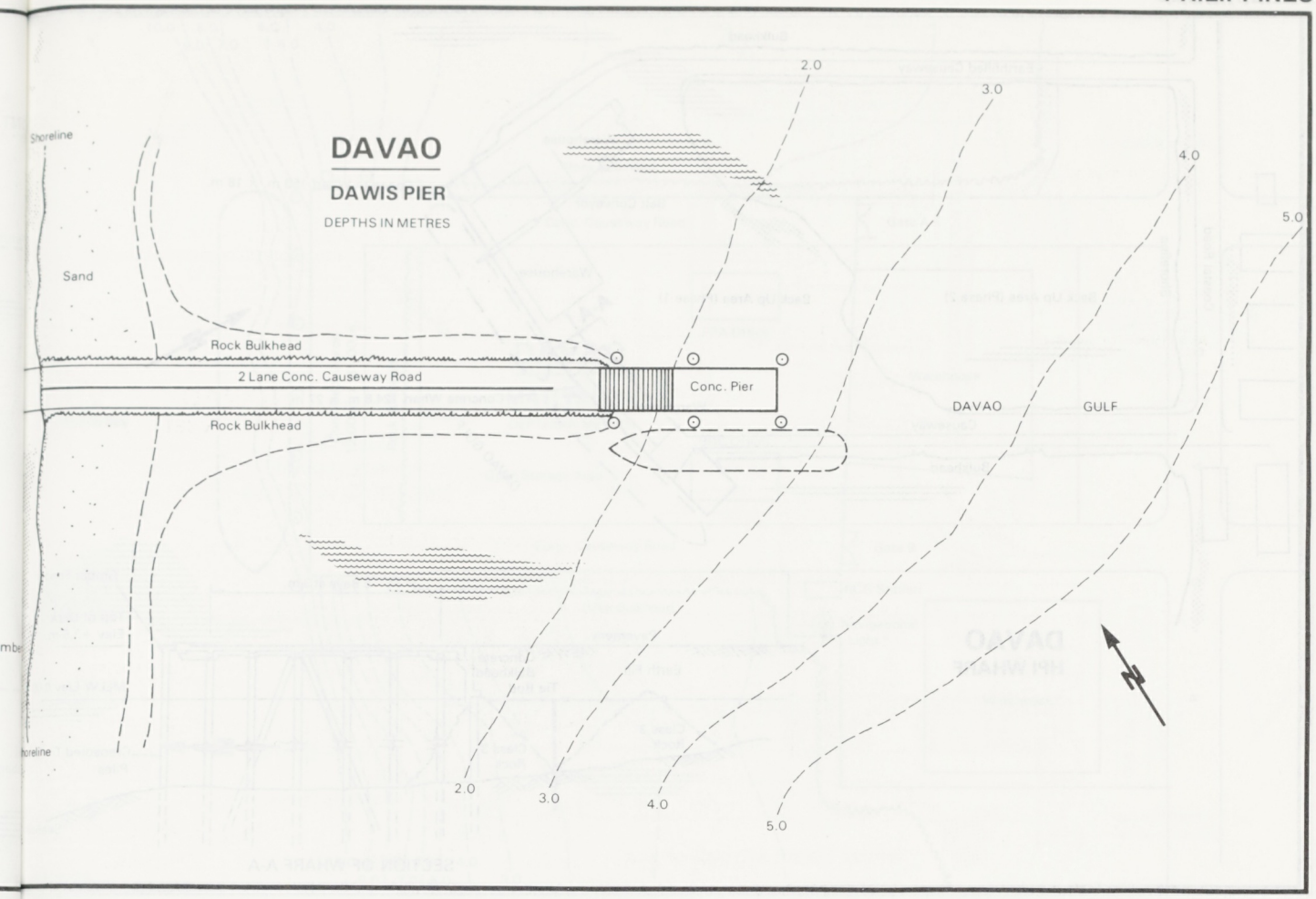
DADIANGAS

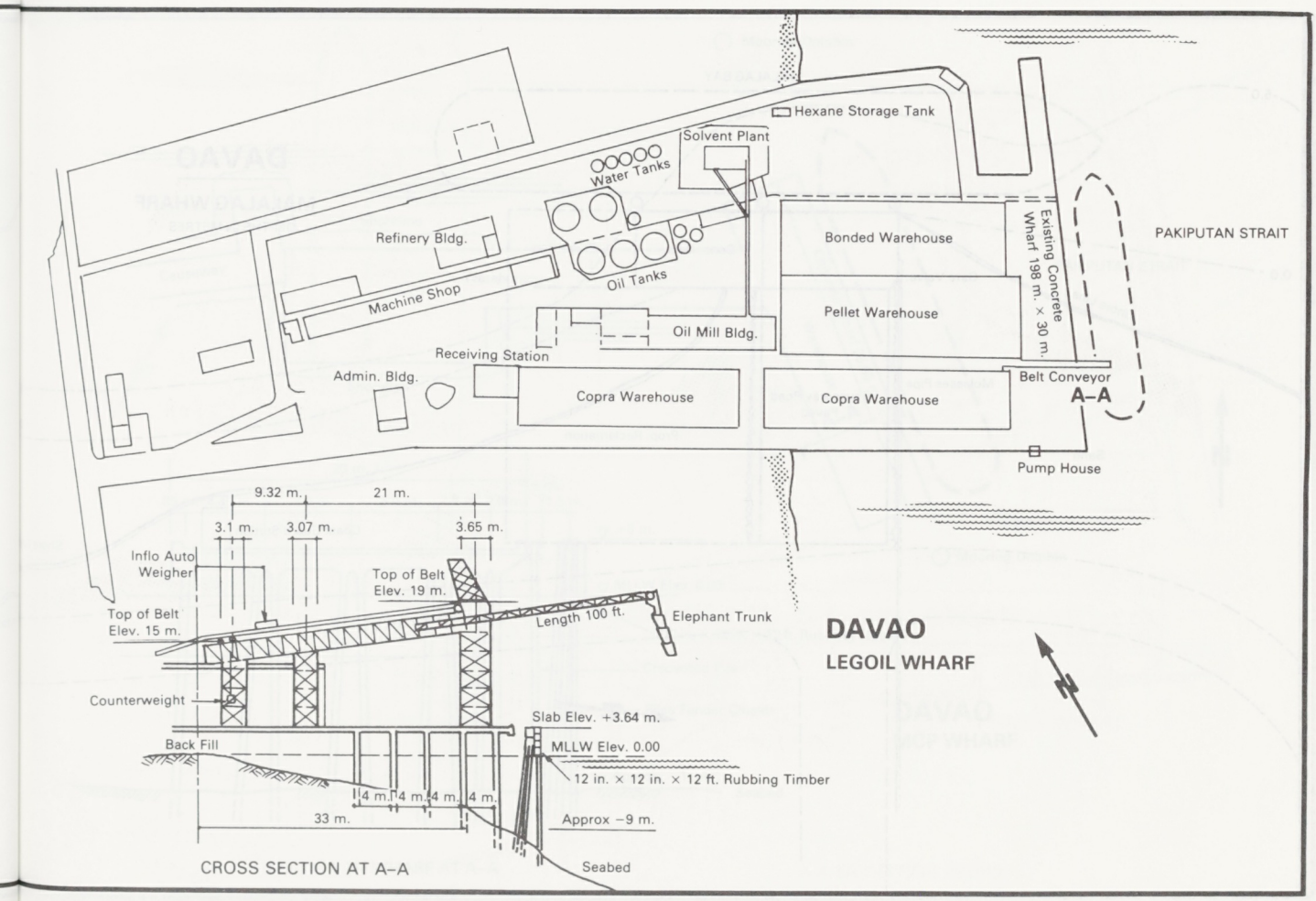
(GENERAL SANTOS CITY)

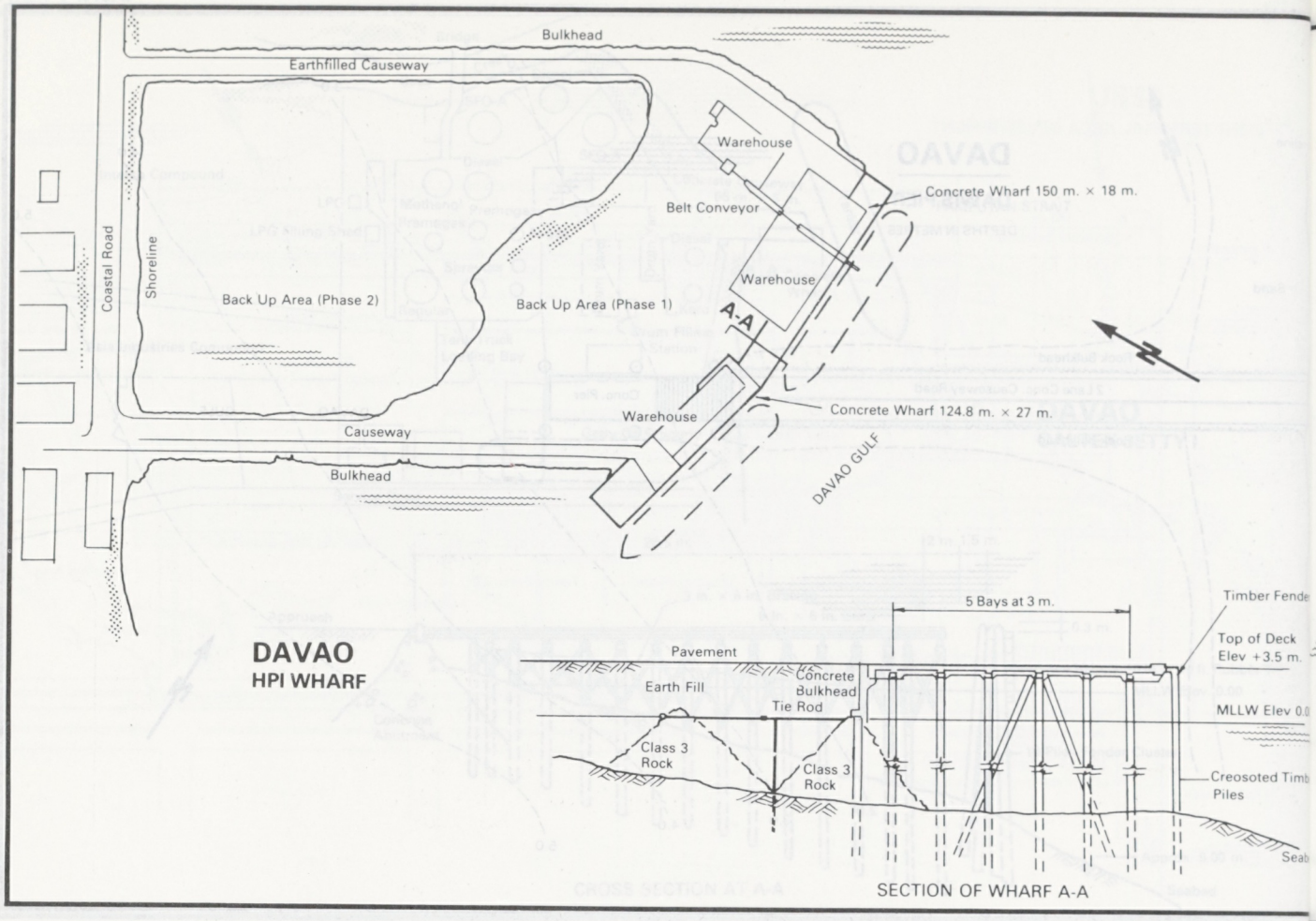


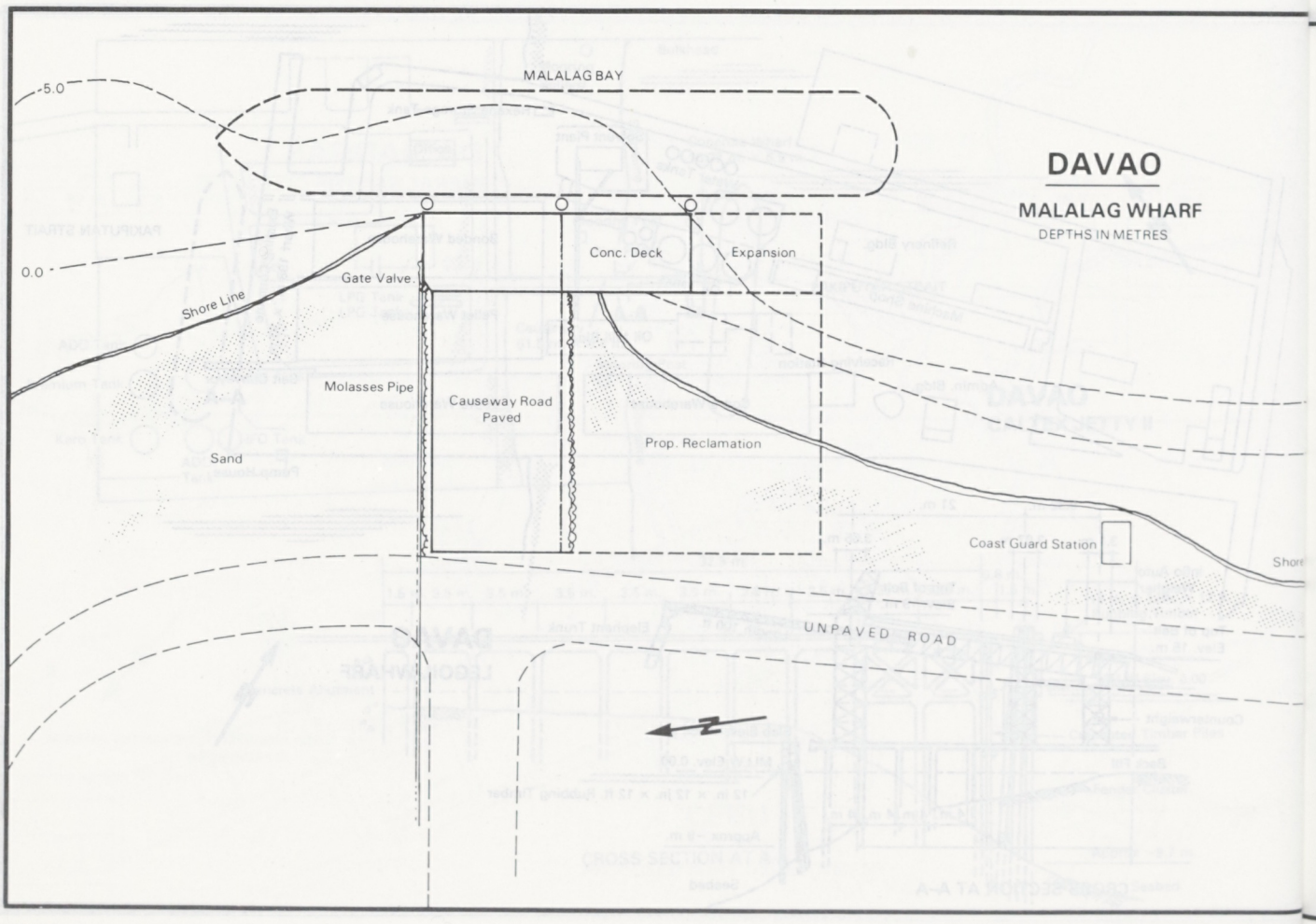

Bridge
Creek
Sasa
Diesel
SFO-A
SFO-A
Diesel
Interco Compound
LPG
LPG Filling Shed
Methanol
Premogas
Premogas
Avgas
Concrete Causeway
66 m. × 5 m.
Tanker
PAKIPUTAN STRAIT
Spraytax
Regular
Drum Yard
Drum Yard
Diesel
Kero
A-A
Concrete
Wharf
Tank Truck
Loading Bay
Drum Filling
Station
Asia Industries Compound
Getty Oil Property
Service Road
DAVAO
CALTEX JETTY I
28.5 m.
2 m.
1.5 m.
3 in. × 6 in. Bracing
6 in. × 6 in. Curb
Approach
0.3 m.
10 in. × 10 in. × 10 ft. Rubber Tire
MLLW Elev. 0.00
Concrete
Abutment
10 Piles Fender Cluster
Approx. 9.00 m.
Seabed
CROSS SECTION AT A-A

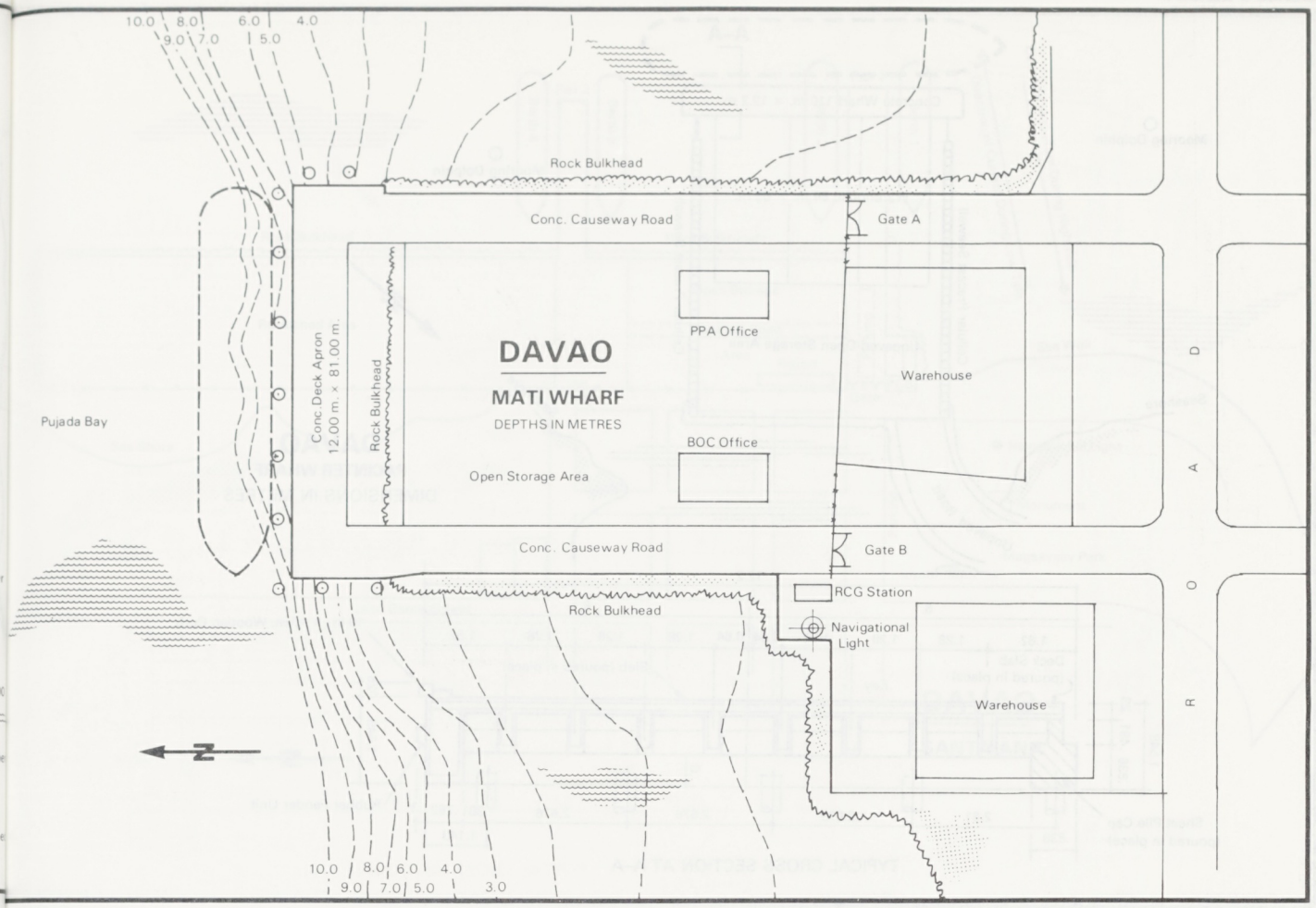

Mooring
Bollard
Bulkhead
Shoreline
Concrete Wharf
16.77 m. × 6.5 m.
Office
Mooring Post
Fire Pump
LPG Tank
LPG Tank
A-A
PAKIPUTAN STRAIT
Causeway
61.5 m. × 4.4 m.
Mooring Post
ADO Tank
Premium Tank
Mogas Tank
Kero Tank
IFO Tank
ADO
Tank
Shoreline
DAVAO
CALTEX JETTY II
32.5 m.
0.8 m.
1.5 m. 3.5 m. 3.5 m. 3.5 m. 3.5 m. 3.5 m. 3.5 m. 3.5 m. 3.25 m. 3.25 m. 1.5 m.
12 in. × 12in. × 12 ft.
Rubbing Timber
3.0 m.
MLLW Elev. 0.00
Concrete Abutment
Creosoted Timber Piles
Fender Cluster
Approx −9.7 m.
Seabed
CROSS SECTION AT A-A

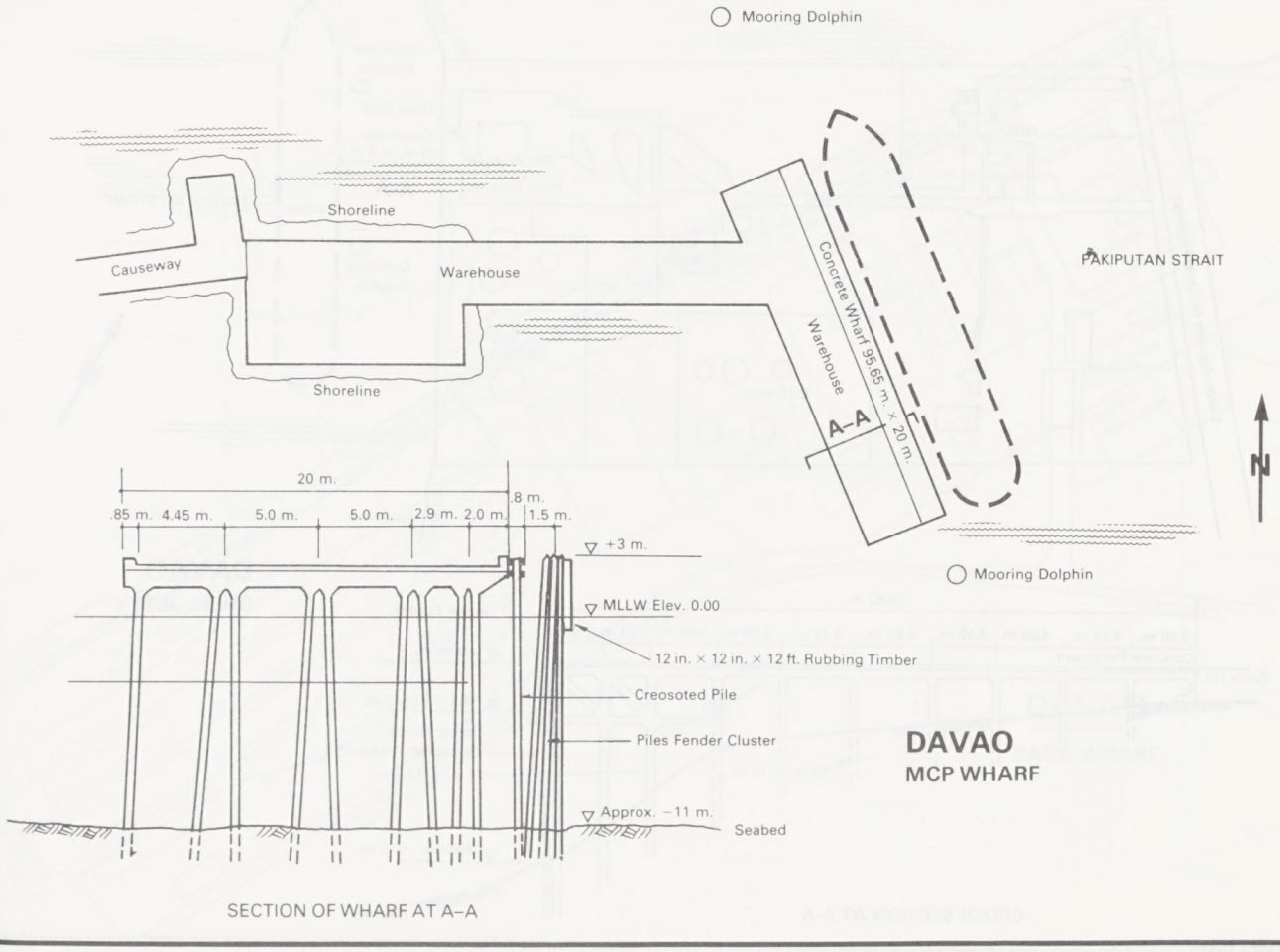

DAVAO
DAWIS PIER
DEPTHS IN METRES
Shoreline
Sand
Rock Bulkhead
2 Lane Conc. Causeway Road
Conc. Pier
Rock Bulkhead
DAVAO GULF
2.0
3.0
4.0
5.0

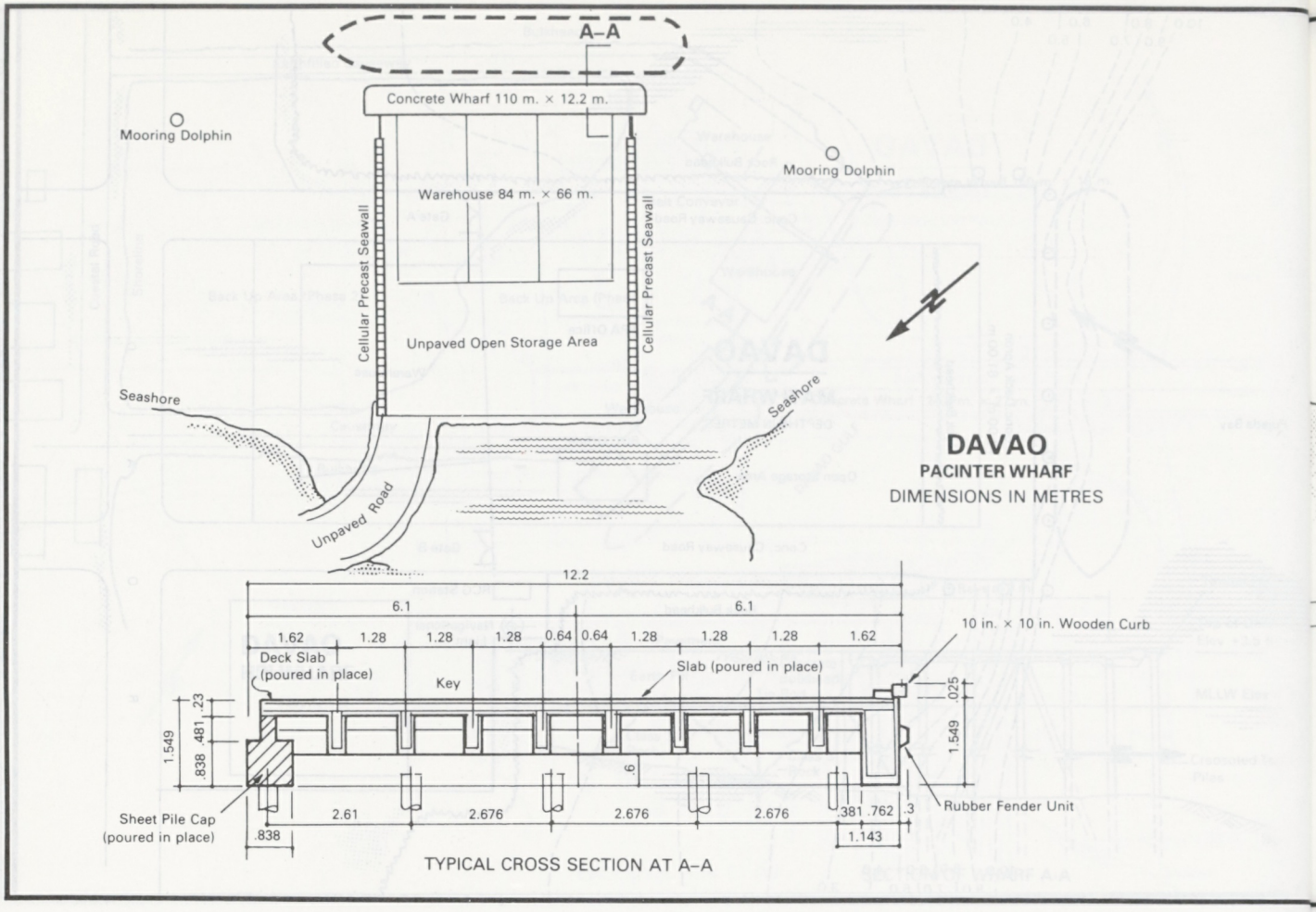

Hexane Storage Tank
Solvent Plant
Water Tanks
Refinery Bldg.
Machine Shop
Oil Tanks
Bonded Warehouse
Pellet Warehouse
Existing Concrete Wharf 198 m. × 30 m.
PAKIPUTAN STRAIT
Oil Mill Bldg.
Receiving Station
Admin. Bldg.
Copra Warehouse
Copra Warehouse
Belt Conveyor
A–A
Pump House
9.32 m.
21 m.
3.1 m.
3.07 m.
3.65 m.
Inflo Auto Weigher
Top of Belt Elev. 19 m.
Top of Belt Elev. 15 m.
Length 100 ft.
Elephant Trunk
Counterweight
Back Fill
Slab Elev. +3.64 m.
MLLW Elev. 0.00
12 in. × 12 in. × 12 ft. Rubbing Timber
4 m. 4 m. 4 m. 4 m.
33 m.
Approx –9 m.
Seabed
CROSS SECTION AT A–A
DAVAO
LEGOIL WHARF

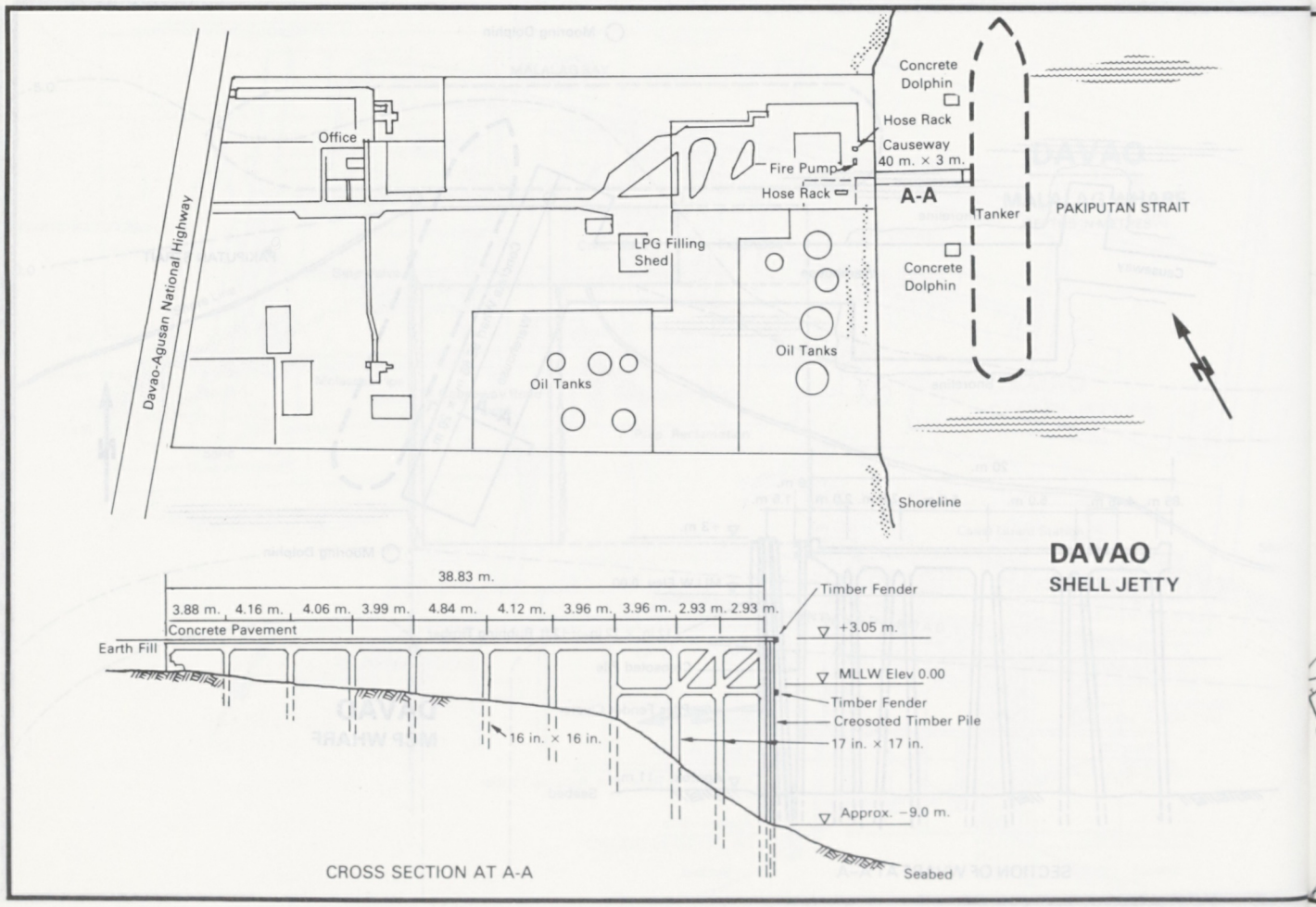

Bulkhead
Earthfilled Causeway
Warehouse
Concrete Wharf 150 m. × 18 m.
Belt Conveyor
Coastal Road
Shoreline
Back Up Area (Phase 2)
Back Up Area (Phase 1)
Warehouse
A-A
Concrete Wharf 124.8 m. × 27 m.
Warehouse
Causeway
Bulkhead
DAVAO GULF
DAVAO
HPI WHARF
5 Bays at 3 m.
Timber Fende
Pavement
Top of Deck
Elev +3.5 m.
Earth Fill
Concrete
Bulkhead
Tie Rod
MLLW Elev 0.0
Class 3
Rock
Class 3
Rock
Creosoted Timb
Piles
Seab
SECTION OF WHARF A-A

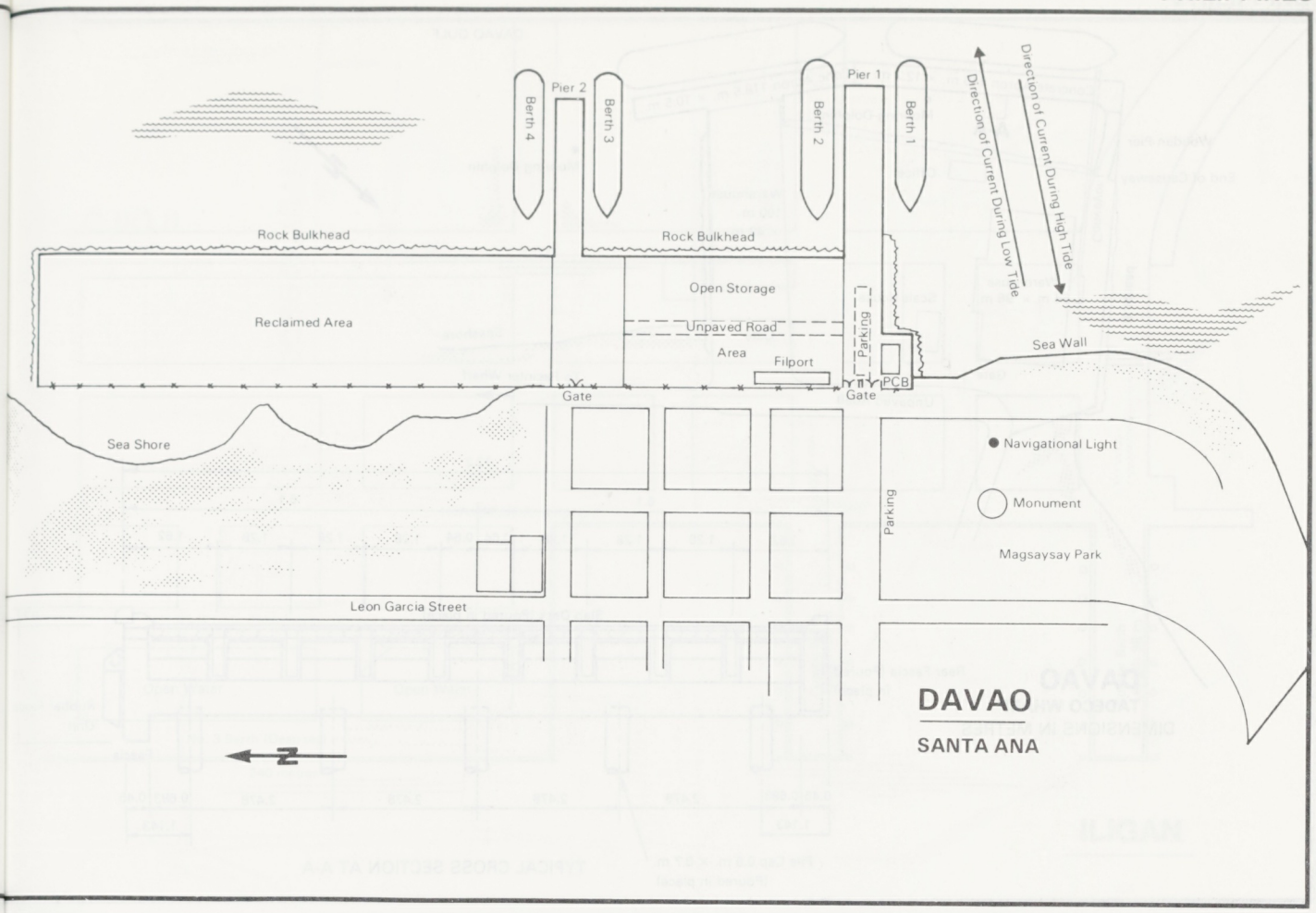

MALALAG BAY
-5.0
0.0
Shore Line
Gate Valve
Conc. Deck
Expansion
Molasses Pipe
Causeway Road
Paved
Prop. Reclamation
Sand
Coast Guard Station
UNPAVED ROAD
DAVAO
MALALAG WHARF
DEPTHS IN METRES

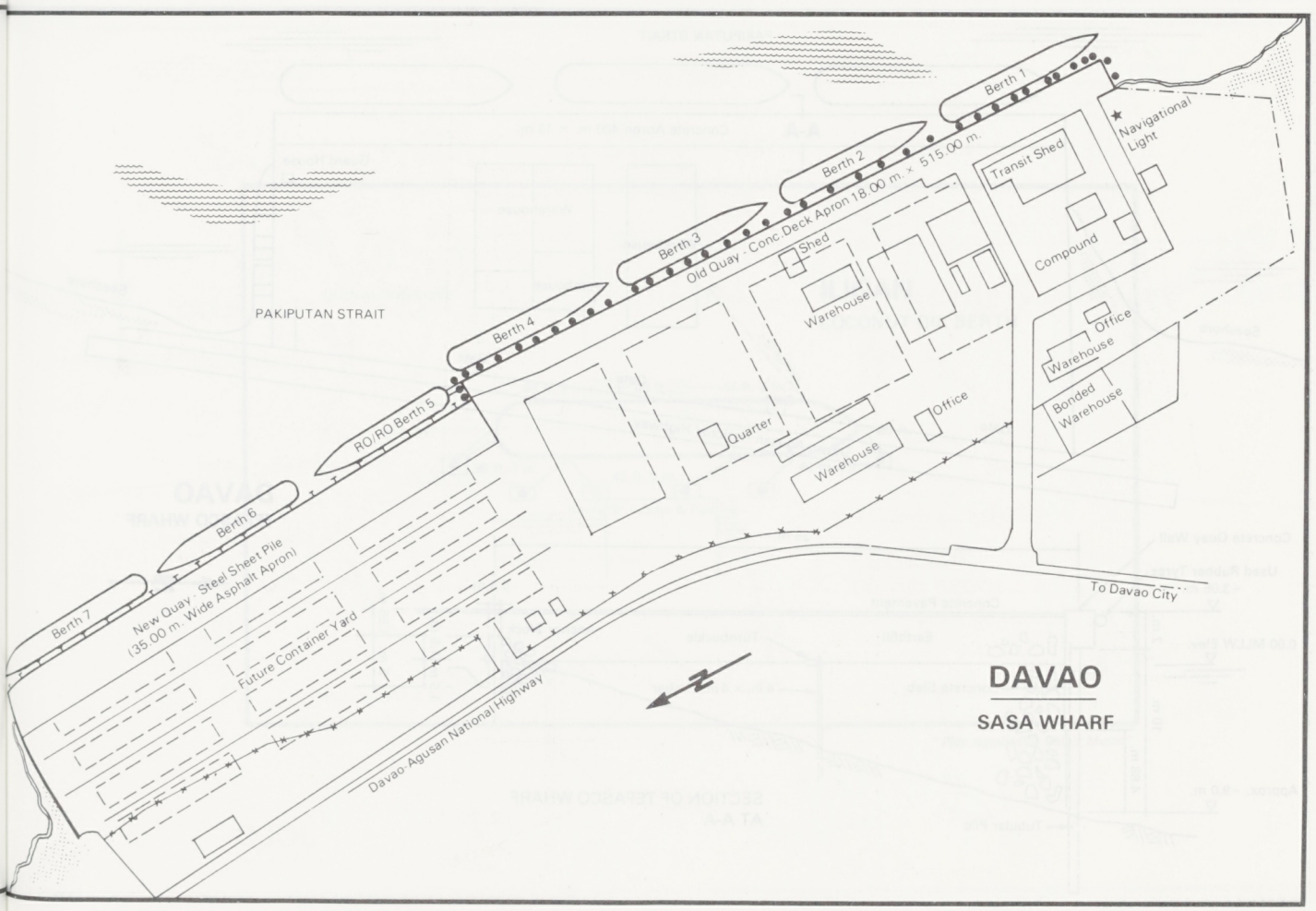

10.0
9.0
8.0
7.0
6.0
5.0
4.0
Rock Bulkhead
Conc. Causeway Road
Gate A
PPA Office
DAVAO
MATI WHARF
DEPTHS IN METRES
Warehouse
Conc. Deck Apron
12.00 m. × 81.00 m.
Rock Bulkhead
Pujada Bay
BOC Office
Open Storage Area
Conc. Causeway Road
Gate B
RCG Station
Rock Bulkhead
Navigational Light
Warehouse
A D
R O
N
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0

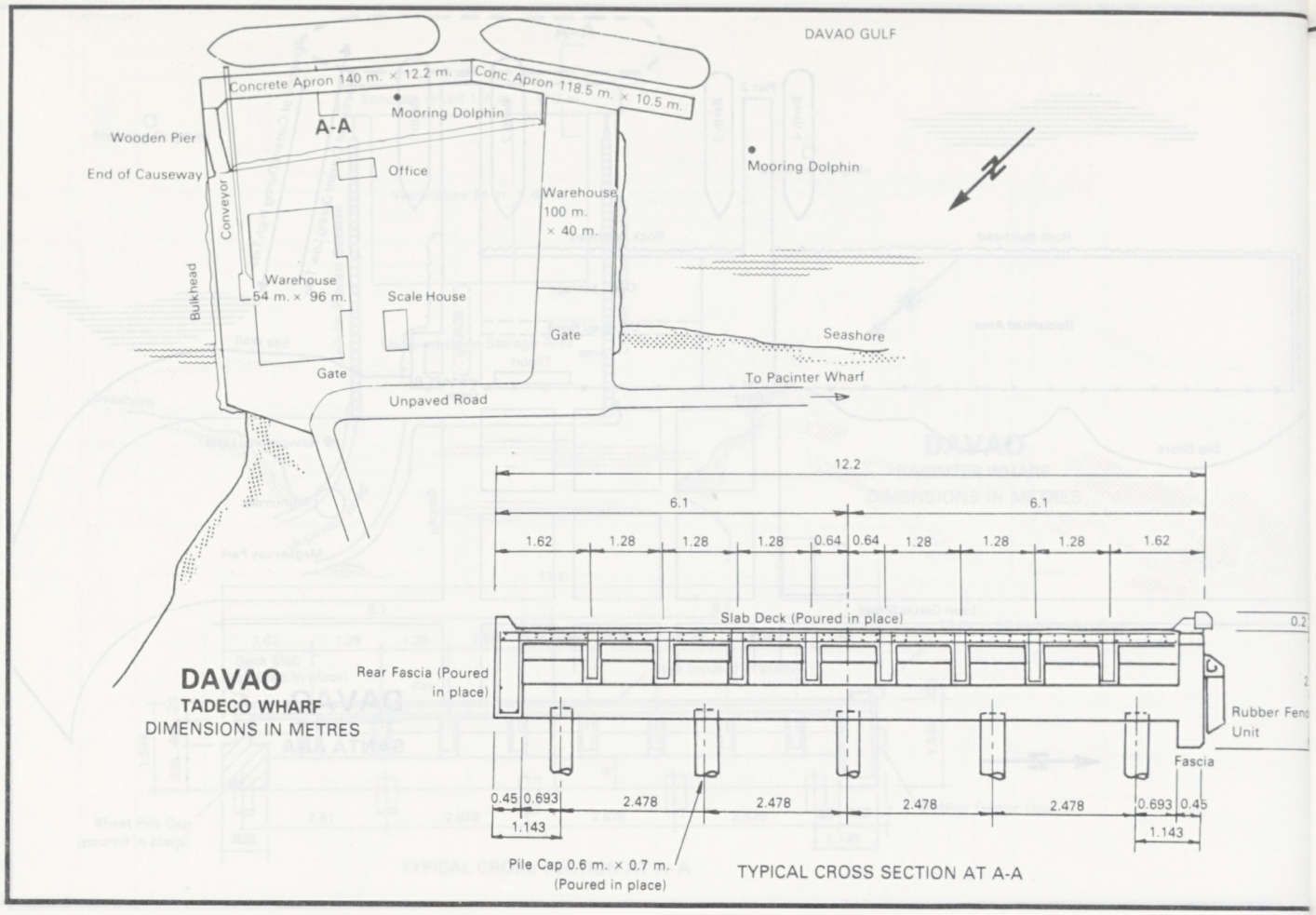

Mooring Dolphin
Shoreline
Causeway
Warehouse
Shoreline
PAKIPUTAN STRAIT
Concrete Wharf 95.65 m. × 20 m.
Warehouse
A-A
N
Mooring Dolphin
20 m.
8 m.
.85 m.
4.45 m.
5.0 m.
5.0 m.
2.9 m.
2.0 m.
1.5 m.
+3 m.
MLLW Elev. 0.00
12 in. × 12 in. × 12 ft. Rubbing Timber
Creosoted Pile
Piles Fender Cluster
Approx. −11 m.
Seabed
DAVAO
MCP WHARF
SECTION OF WHARF AT A–A


A–A
Concrete Wharf 110 m. × 12.2 m.
Mooring Dolphin
Mooring Dolphin
Warehouse 84 m. × 66 m.
Cellular Precast Seawall
Cellular Precast Seawall
Unpaved Open Storage Area
Seashore
Seashore
Unpaved Road
DAVAO
PACINTER WHARF
DIMENSIONS IN METRES
12.2
6.1
6.1
1.62 1.28 1.28 1.28 0.64 0.64 1.28 1.28 1.28 1.62
Deck Slab (poured in place)
Key
Slab (poured in place)
10 in. × 10 in. Wooden Curb
1.549
.838 .481 .23
.025
1.549
.6
Sheet Pile Cap (poured in place)
.838
2.61
2.676
2.676
2.676
.381 .762 .3
1.143
Rubber Fender Unit
TYPICAL CROSS SECTION AT A–A

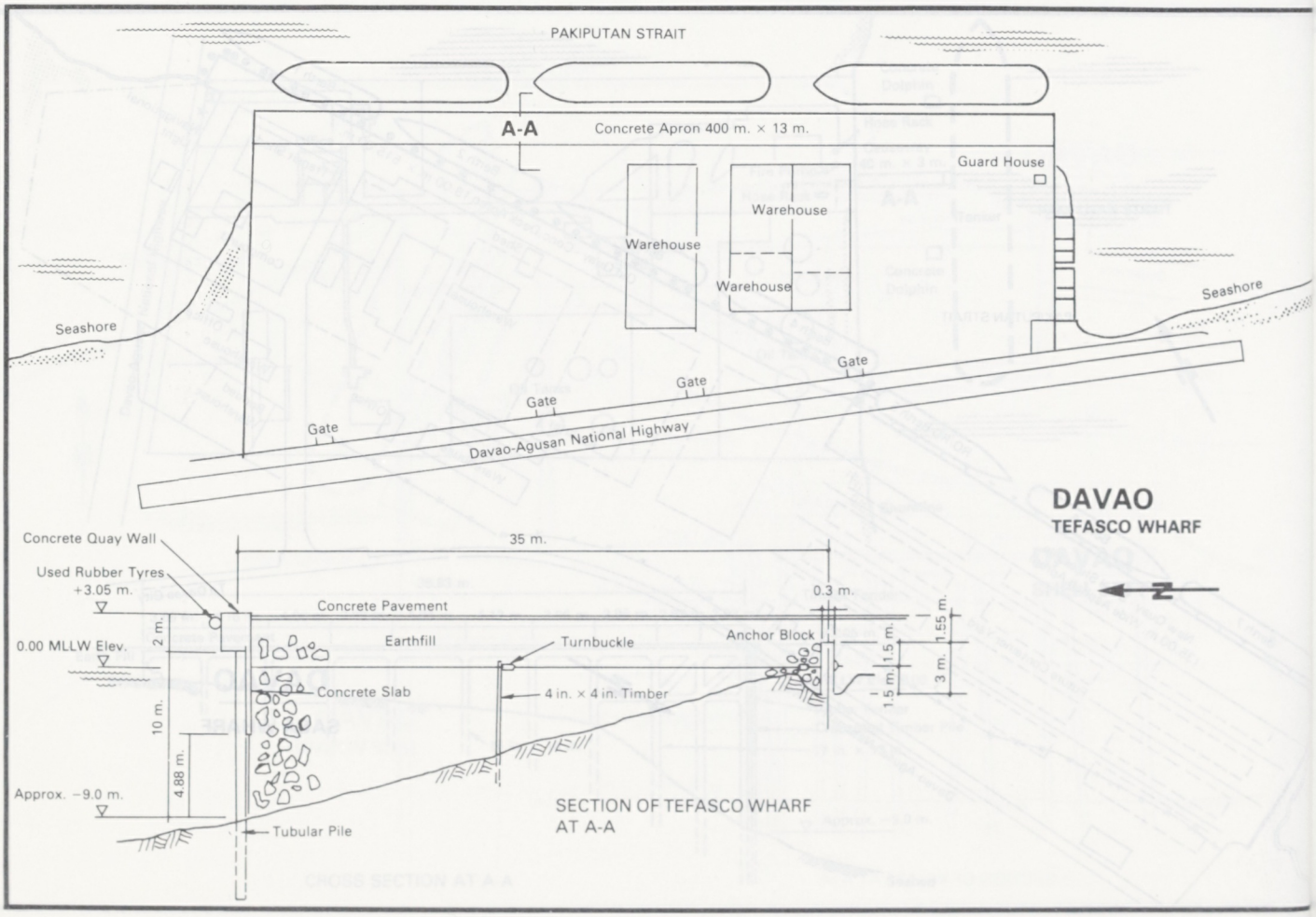

Davao-Agusan National Highway
Office
Concrete Dolphin
Hose Rack
Causeway 40 m. × 3 m.
Fire Pump
Hose Rack
A-A
Tanker
PAKIPUTAN STRAIT
LPG Filling Shed
Concrete Dolphin
Oil Tanks
Oil Tanks
Shoreline
DAVAO
SHELL JETTY
38.83 m.
3.88 m. 4.16 m. 4.06 m. 3.99 m. 4.84 m. 4.12 m. 3.96 m. 3.96 m. 2.93 m. 2.93 m.
Timber Fender
Concrete Pavement
+3.05 m.
Earth Fill
MLLW Elev 0.00
Timber Fender
Creosoted Timber Pile
16 in. × 16 in.
17 in. × 17 in.
Approx. –9.0 m.
Seabed
CROSS SECTION AT A-A


Pier 2
Berth 4
Berth 3
Pier 1
Berth 2
Berth 1
Direction of Current During Low Tide
Direction of Current During High Tide
Rock Bulkhead
Rock Bulkhead
Open Storage
Reclaimed Area
Unpaved Road
Area
Parking
Filport
Sea Wall
Gate
Gate
PCB
Sea Shore
Navigational Light
Monument
Parking
Magsaysay Park
Leon Garcia Street
DAVAO
SANTA ANA

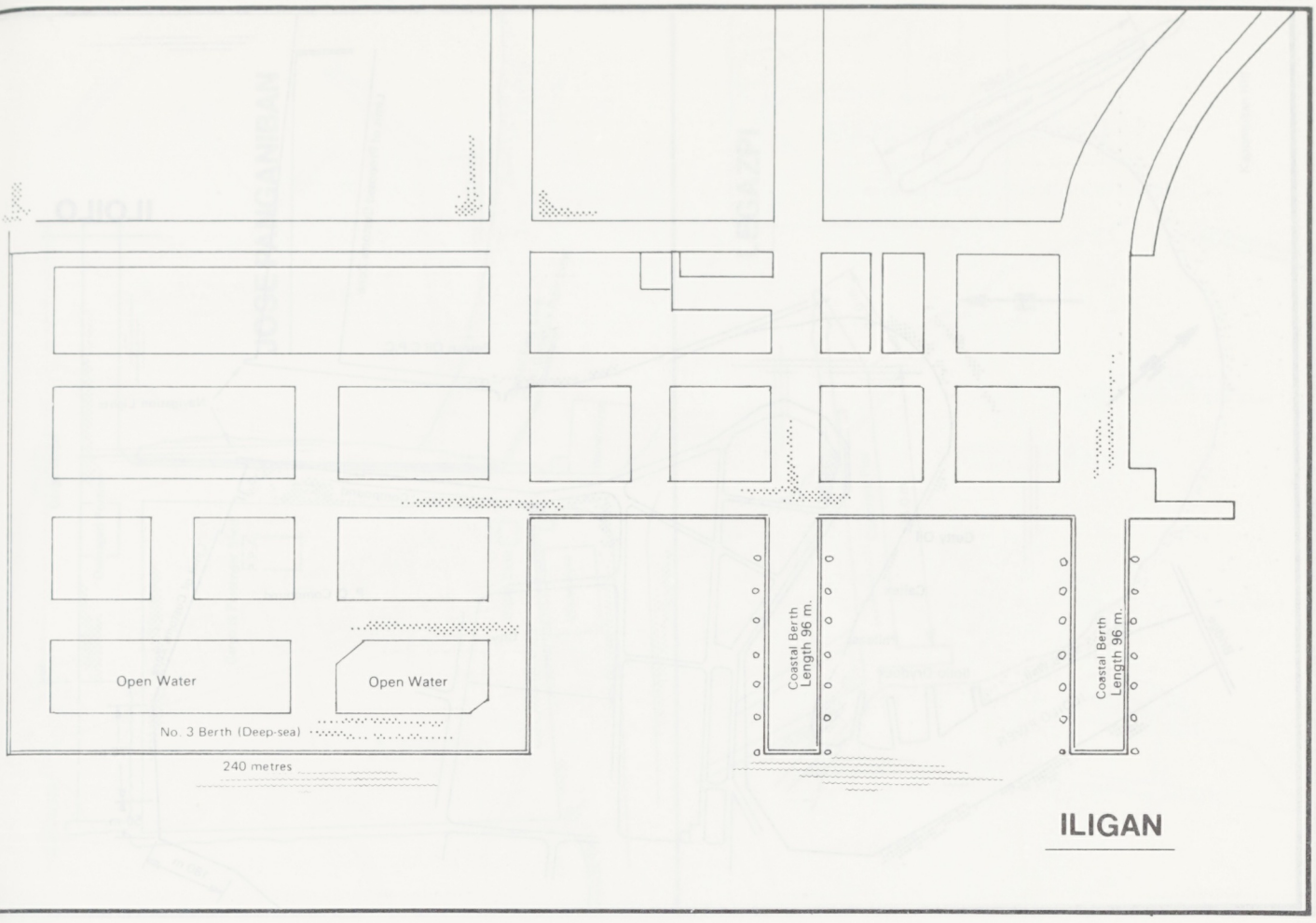

Berth 1
Navigational Light
Berth 2
Transit Shed
Old Quay - Conc. Deck Apron 18.00 m. x 515.00 m.
Berth 3
Shed
Compound
PAKIPUTAN STRAIT
Berth 4
Warehouse
Office
Warehouse
RO/RO Berth 5
Quarter
Office
Bonded Warehouse
Warehouse
Berth 6
New Quay - Steel Sheet Pile (35.00 m. Wide Asphalt Apron)
To Davao City
Berth 7
Future Container Yard
Davao-Agusan National Highway
DAVAO
SASA WHARF

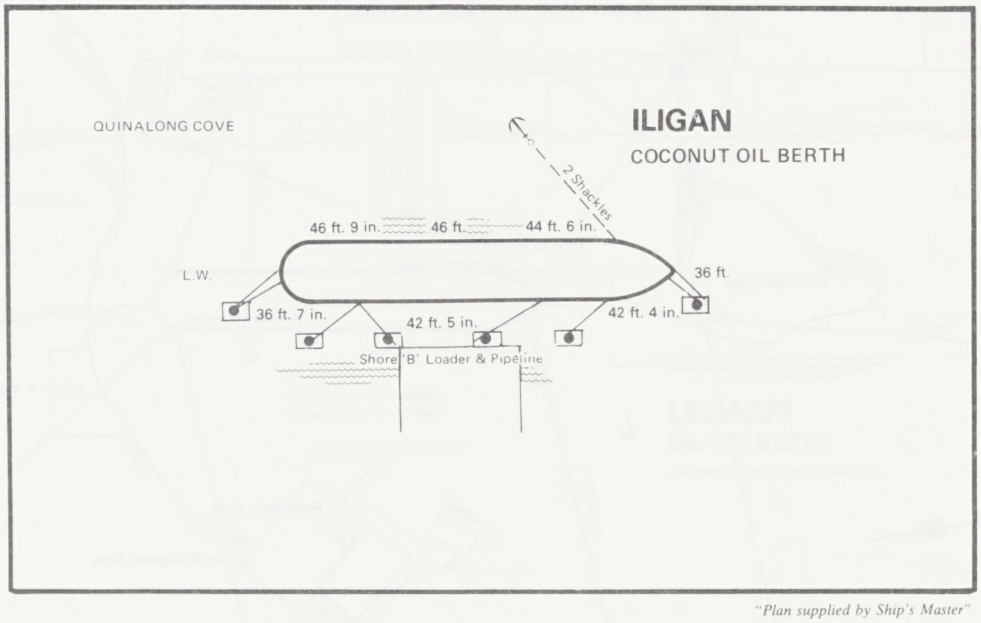


DAVAO
TADECO WHARF
DIMENSIONS IN METRES

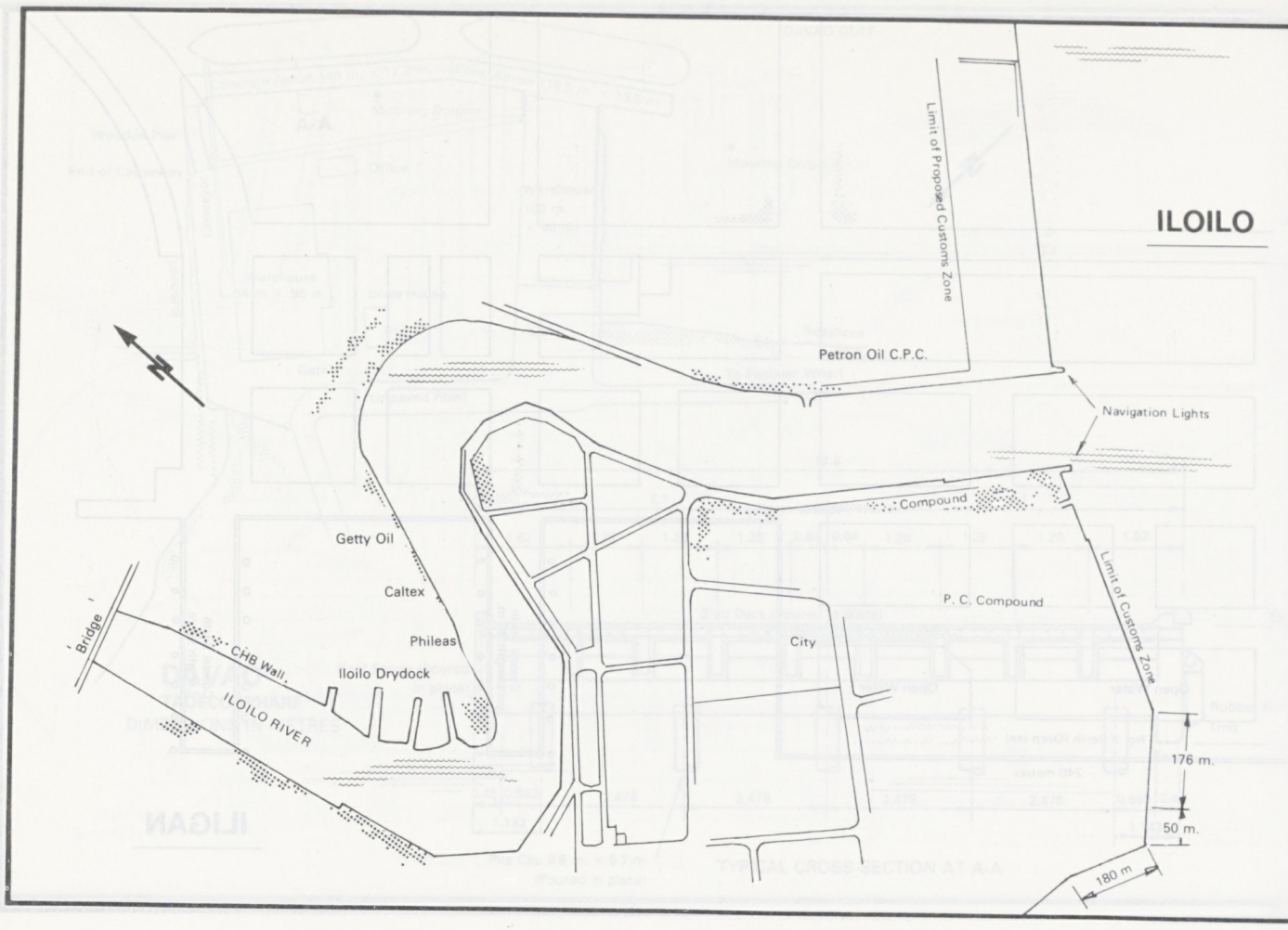


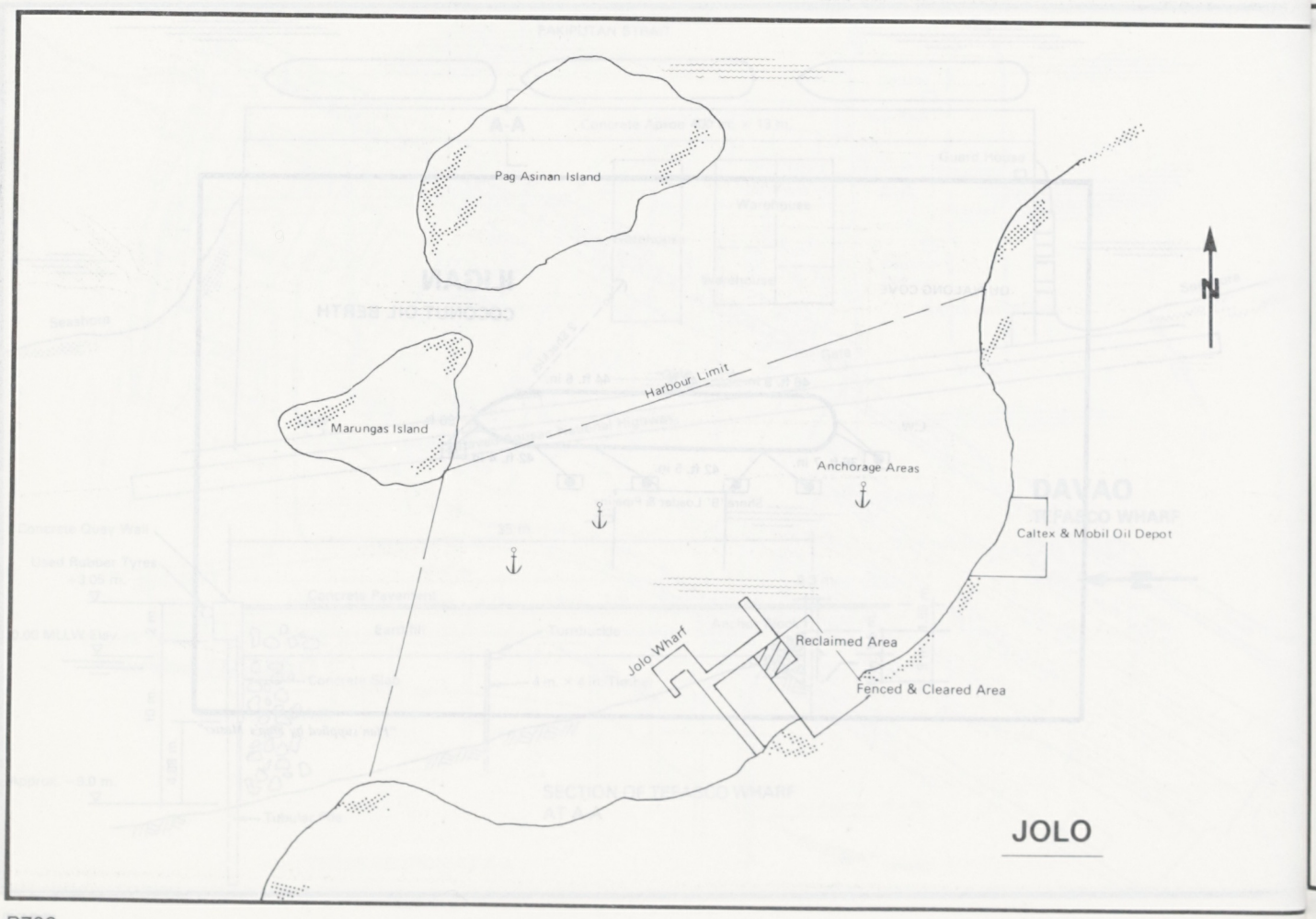
DAVAO
TEFASCO WHARF

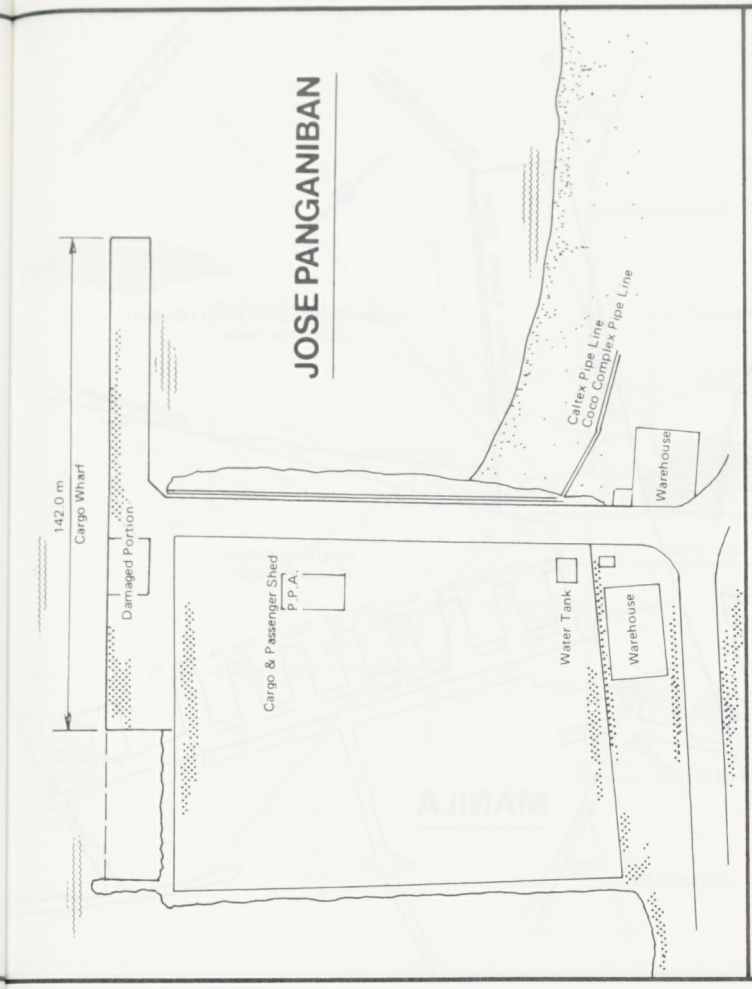


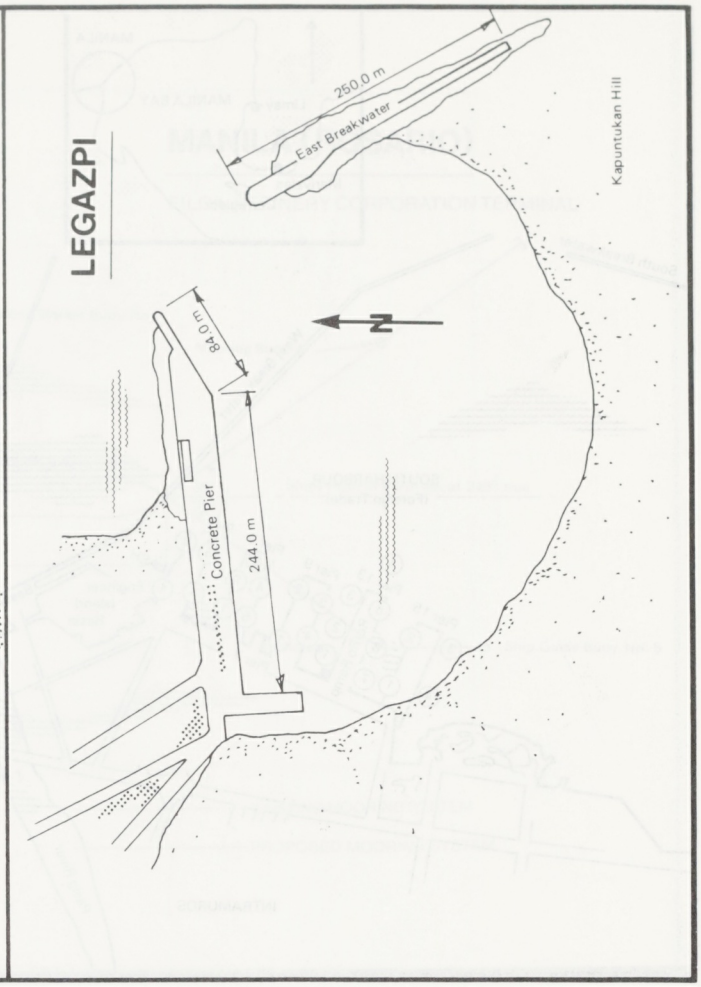


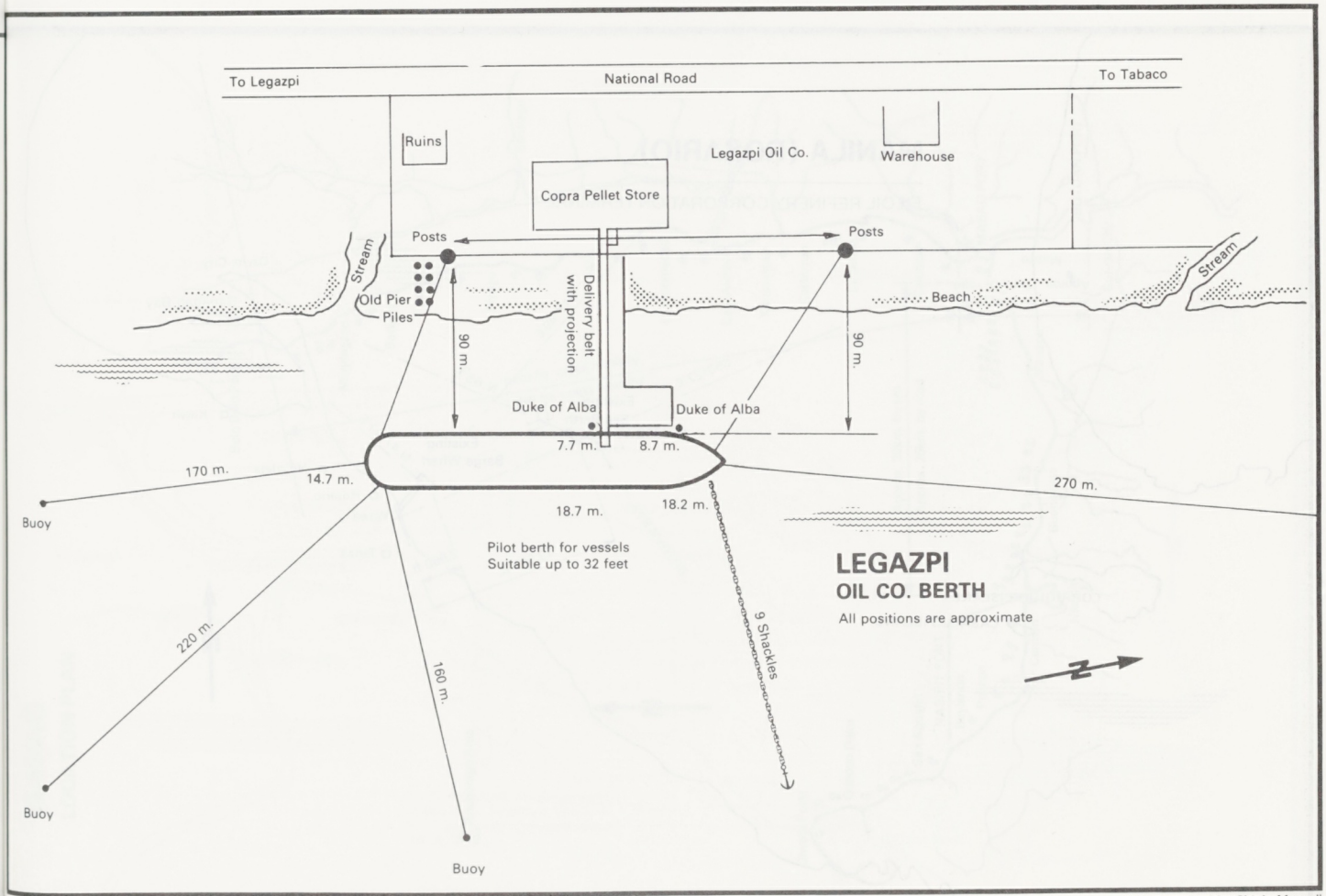
"Plan supplied by Ship's Master"


ILOILO
Limit of Proposed Customs Zone
Petron Oil C.P.C.
Navigation Lights
Compound
Getty Oil
Caltex
Phileas
Iloilo Drydock
Bridge
CHB Wall
ILOILO RIVER
P. C. Compound
City
Limit of Customs Zone
176 m.
50 m.
180 m

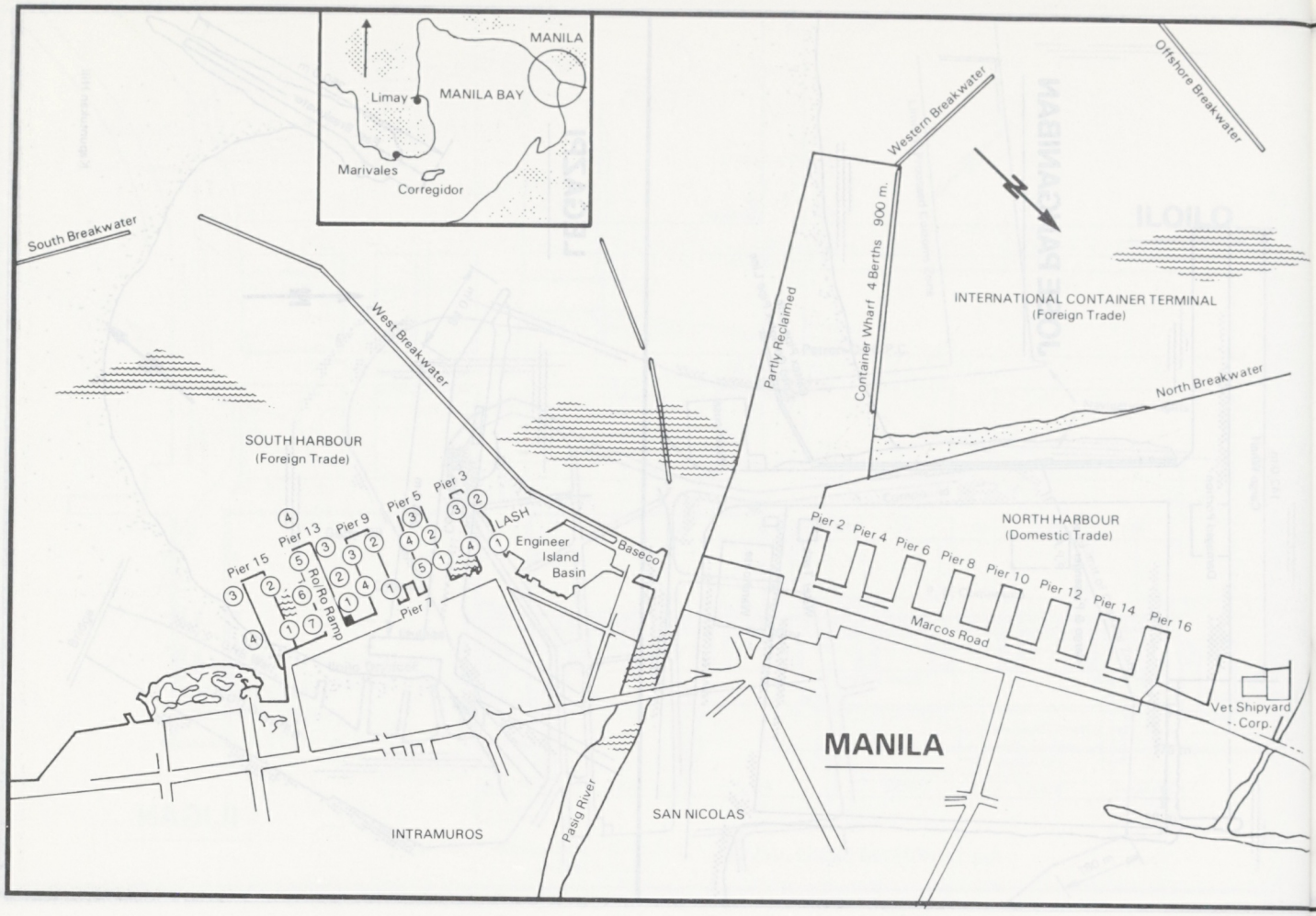

Pag Asinan Island
N
Harbour Limit
Marungas Island
Anchorage Areas
Caltex & Mobil Oil Depot
Jolo Wharf
Reclaimed Area
Fenced & Cleared Area
JOLO

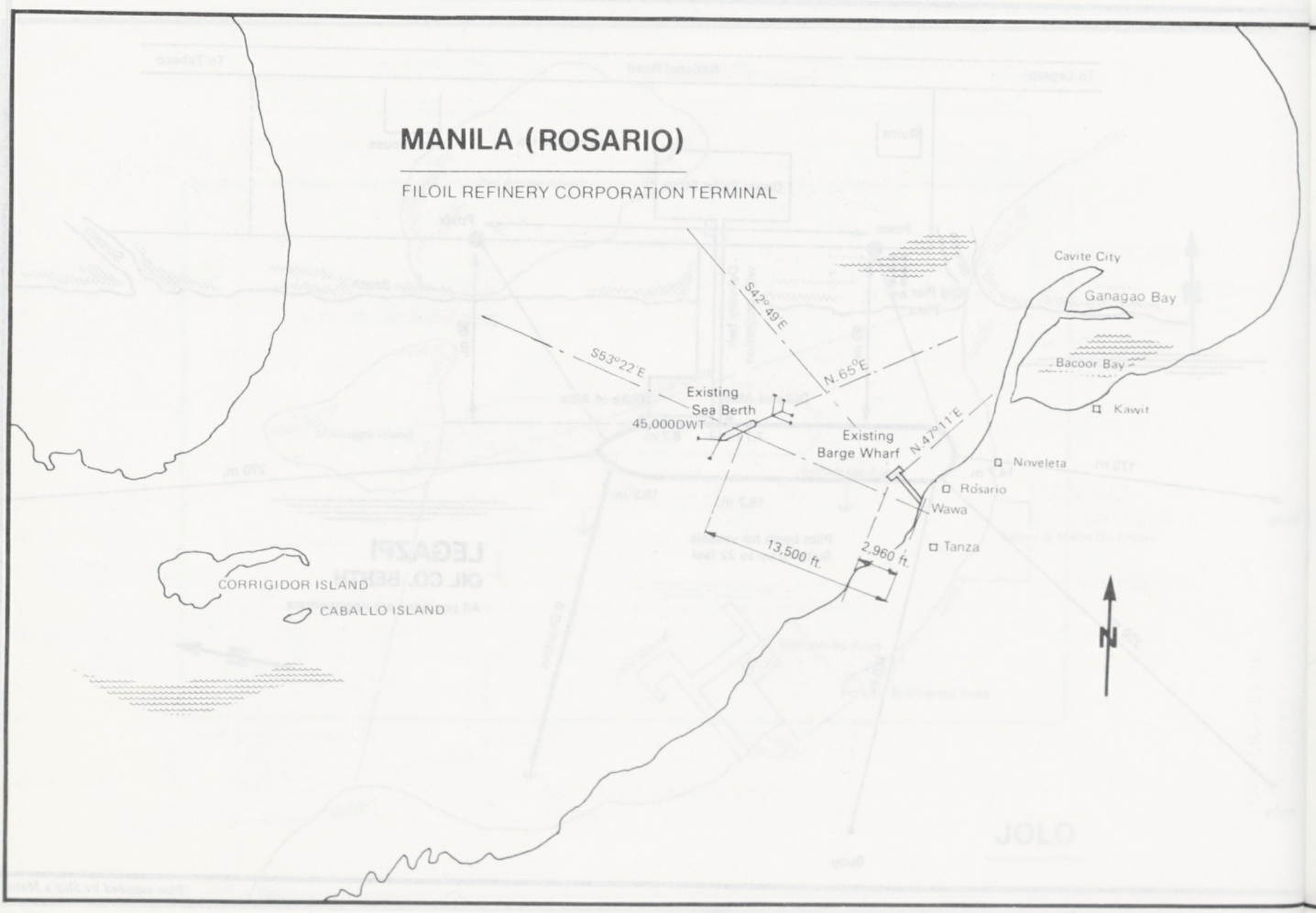


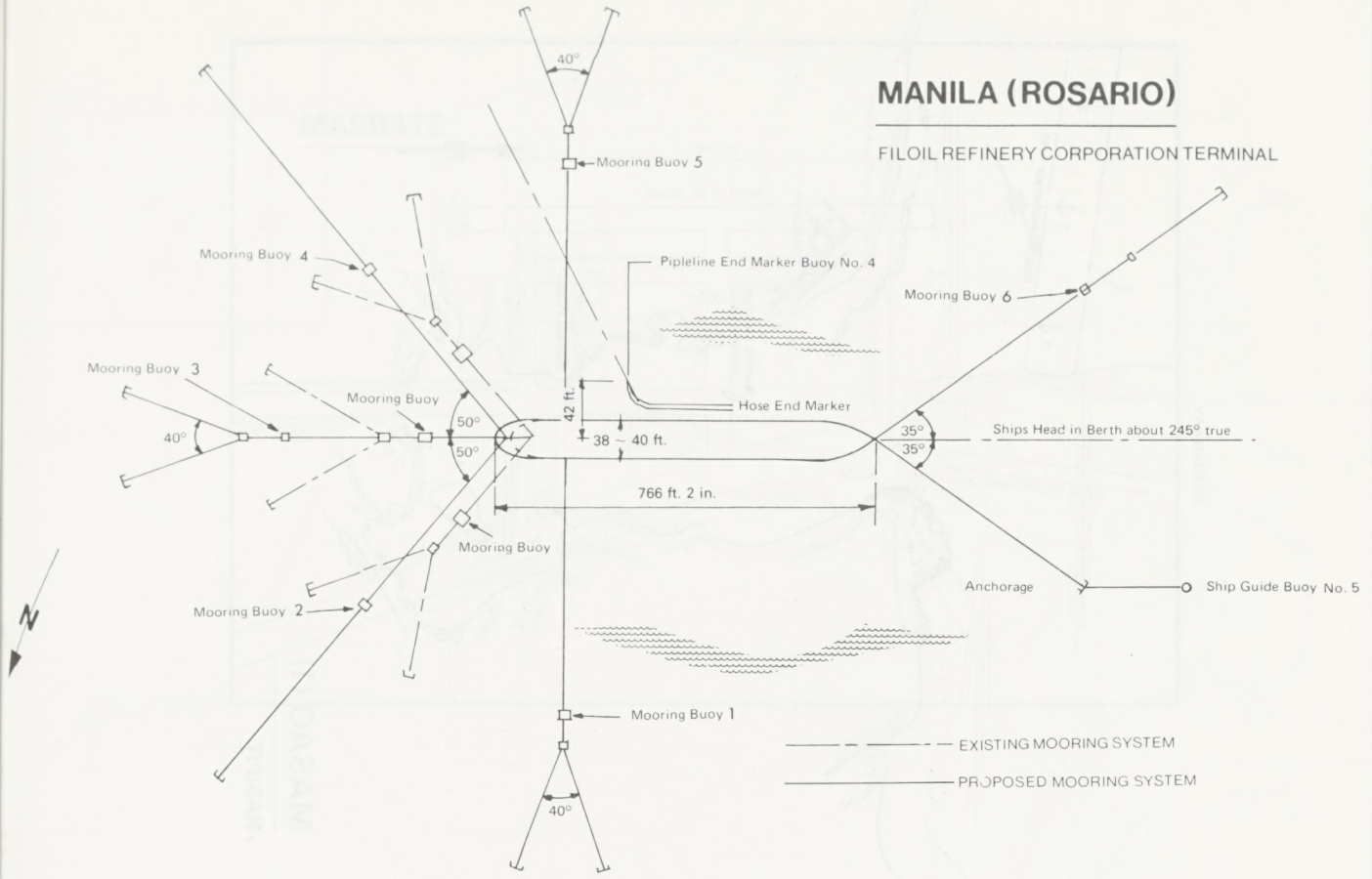




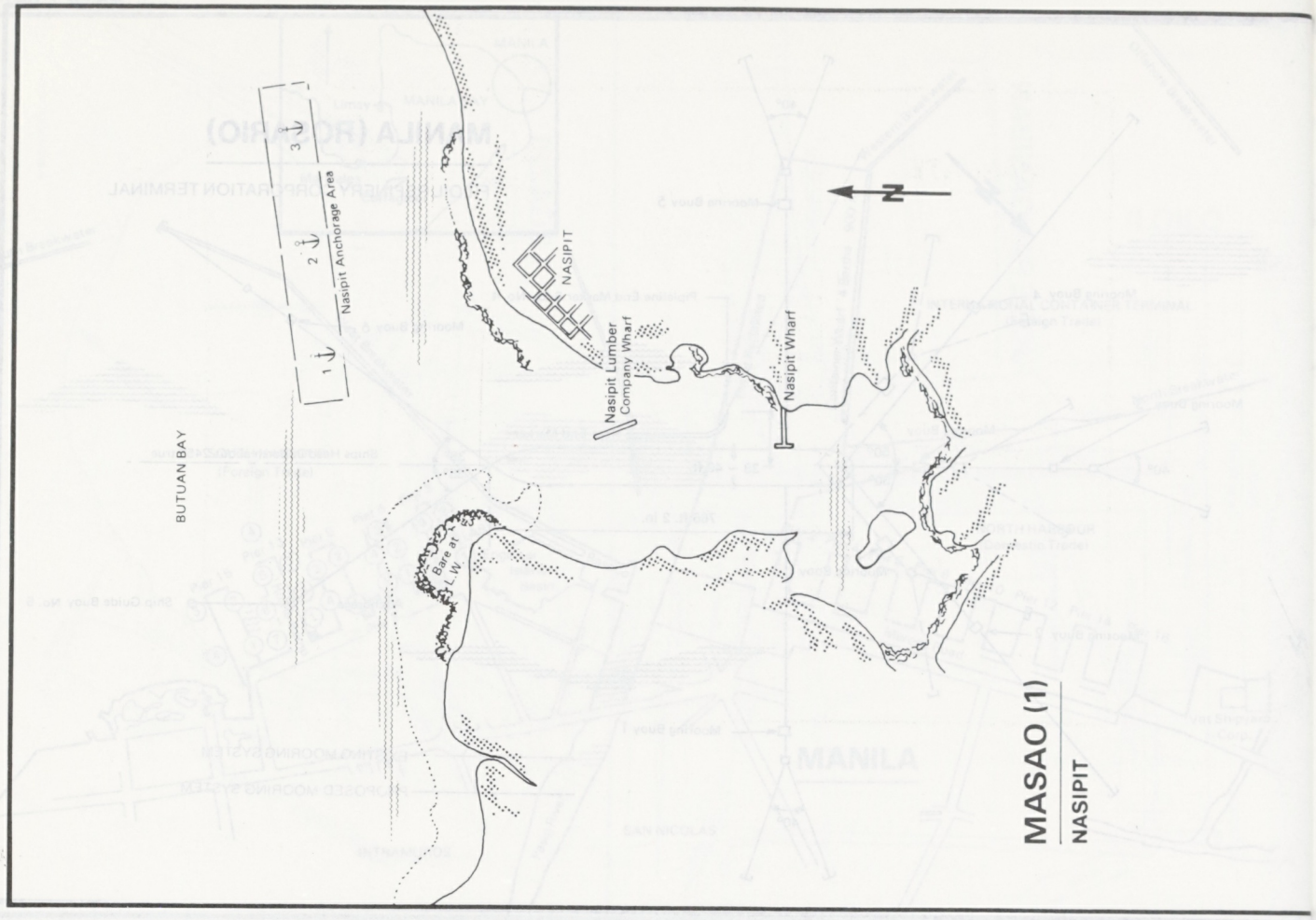
"Plan supplied by Ship's Master"


MANILA
Limay
MANILA BAY
Marivales
Corregidor
South Breakwater
West Breakwater
Western Breakwater
Offshore Breakwater
Partly Reclaimed
Container Wharf 4 Berths 900 m.
INTERNATIONAL CONTAINER TERMINAL
(Foreign Trade)
North Breakwater
SOUTH HARBOUR
(Foreign Trade)
Pier 15
Pier 13
Pier 9
Pier 5
Pier 3
LASH
Engineer Island Basin
Baseco
Ro/Ro Ramp
Pier 7
NORTH HARBOUR
(Domestic Trade)
Pier 2
Pier 4
Pier 6
Pier 8
Pier 10
Pier 12
Pier 14
Pier 16
Marcos Road
Vet Shipyard Corp.
MANILA
INTRAMUROS
Pasig River
SAN NICOLAS


MANILA (ROSARIO)
FILOIL REFINERY CORPORATION TERMINAL
S42°49'E
S53°22'E
N.65°E
N.47°11'E
Existing Sea Berth
45,000DWT
Existing Barge Wharf
13,500 ft.
2,960 ft.
Cavite City
Ganagao Bay
Bacoor Bay
Kawit
Noveleta
Rosario
Wawa
Tanza
CORRIGIDOR ISLAND
CABALLO ISLAND

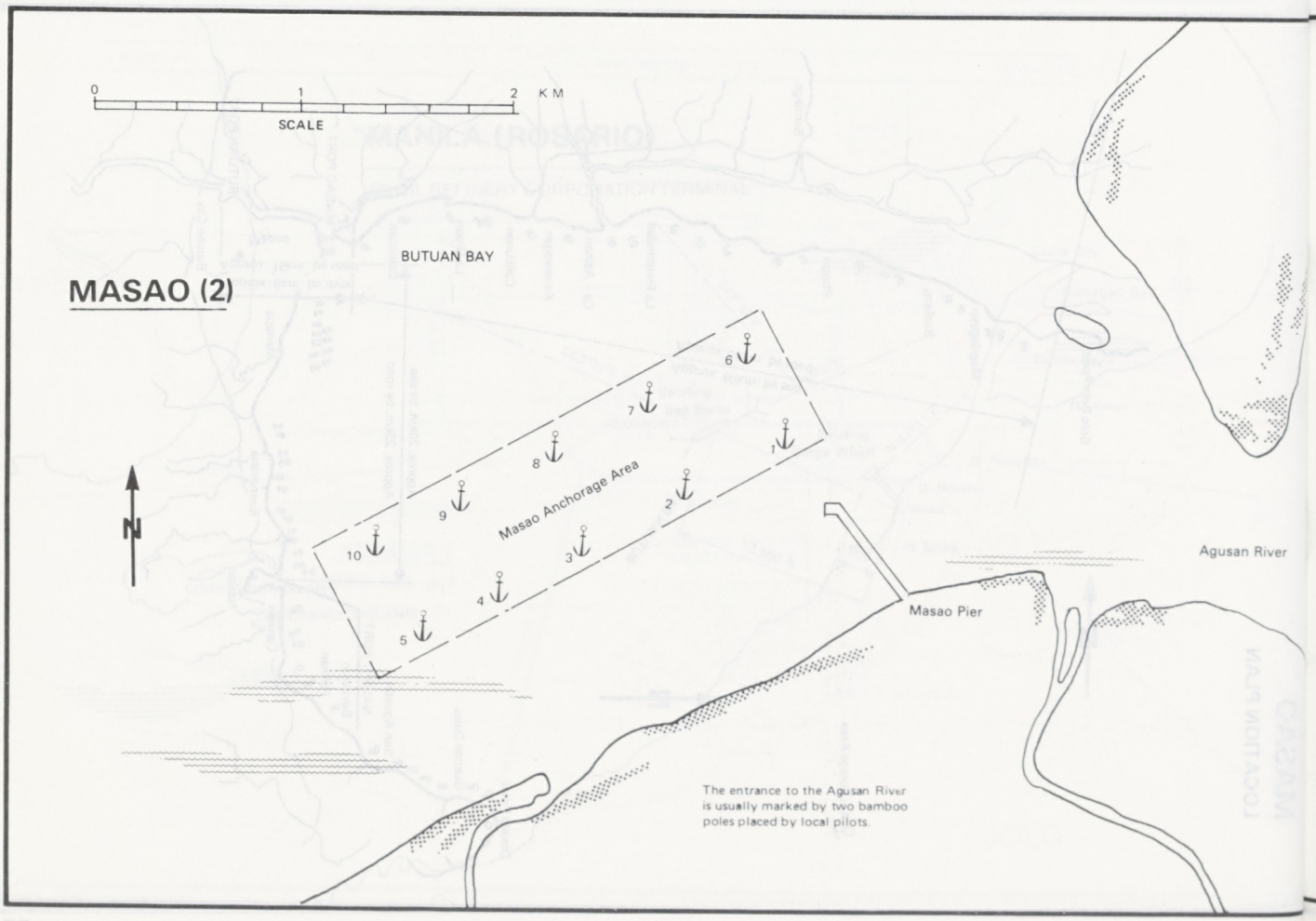


MASAO
LOCATION PLAN



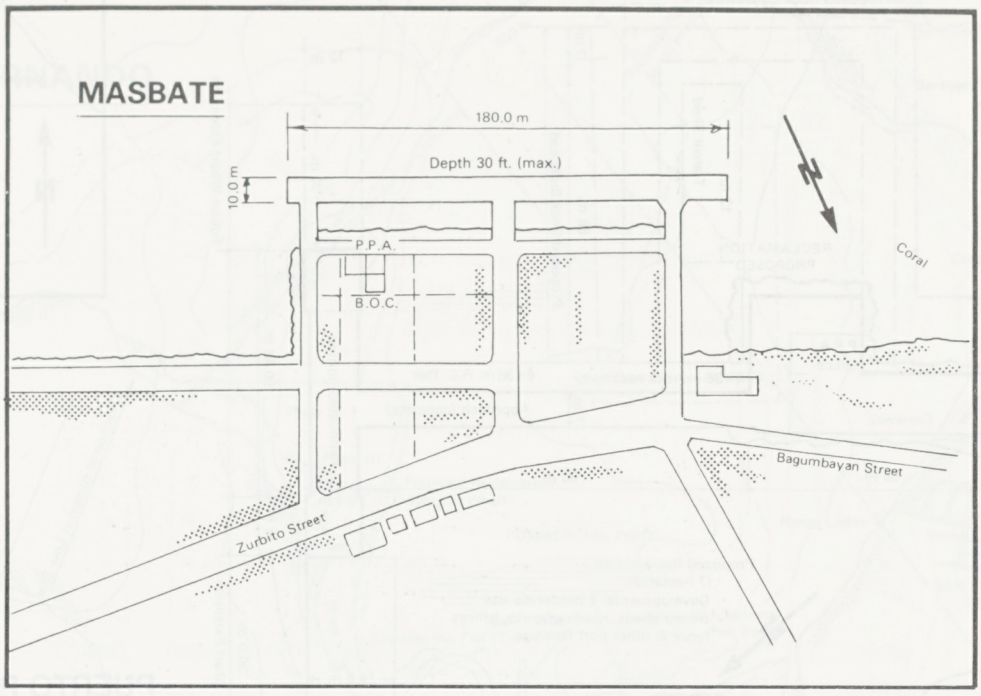
MASAO (1)

NASIPIT

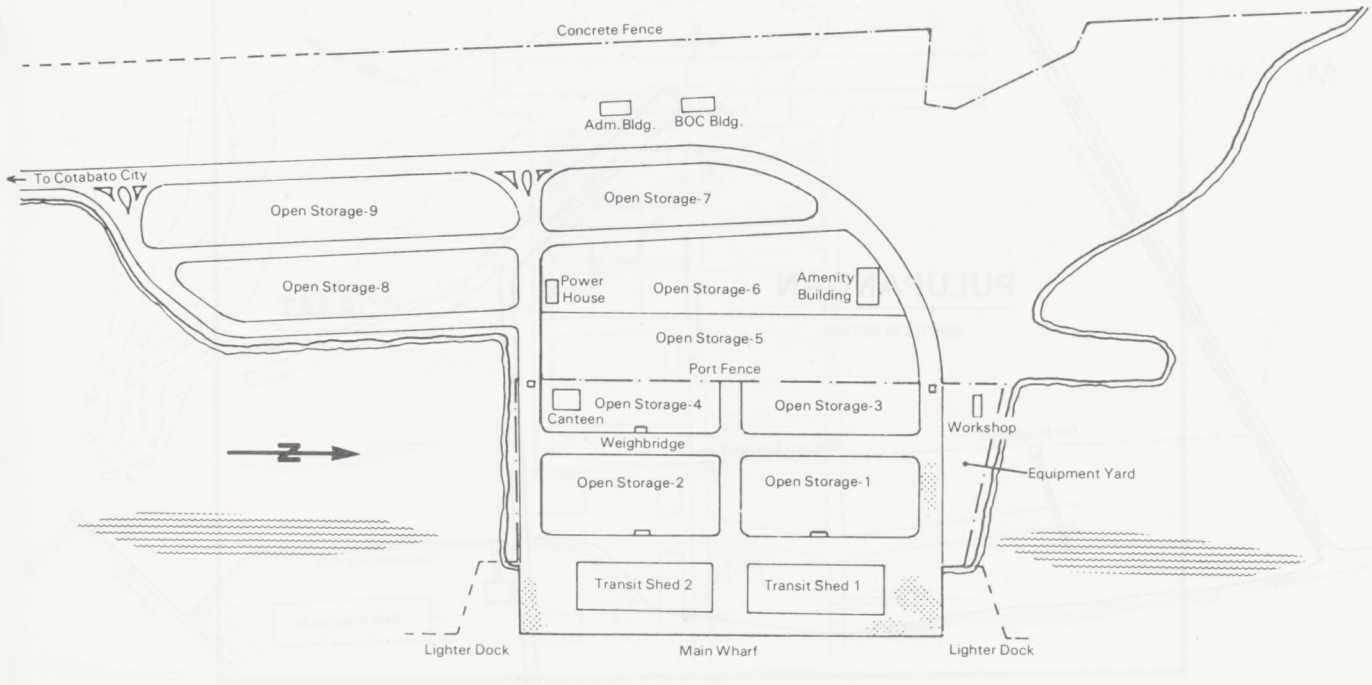


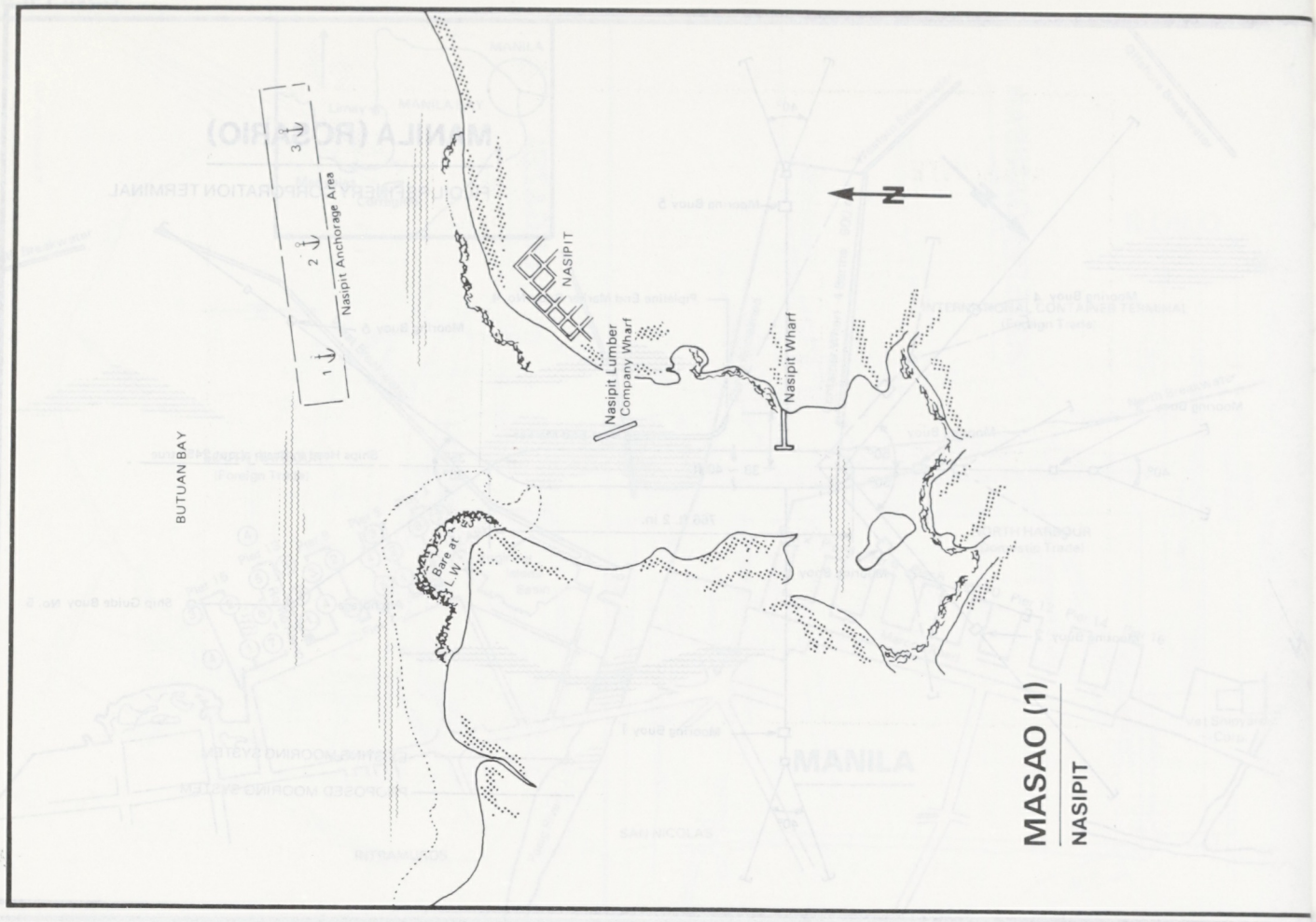
MASAO (2)

MASBATE



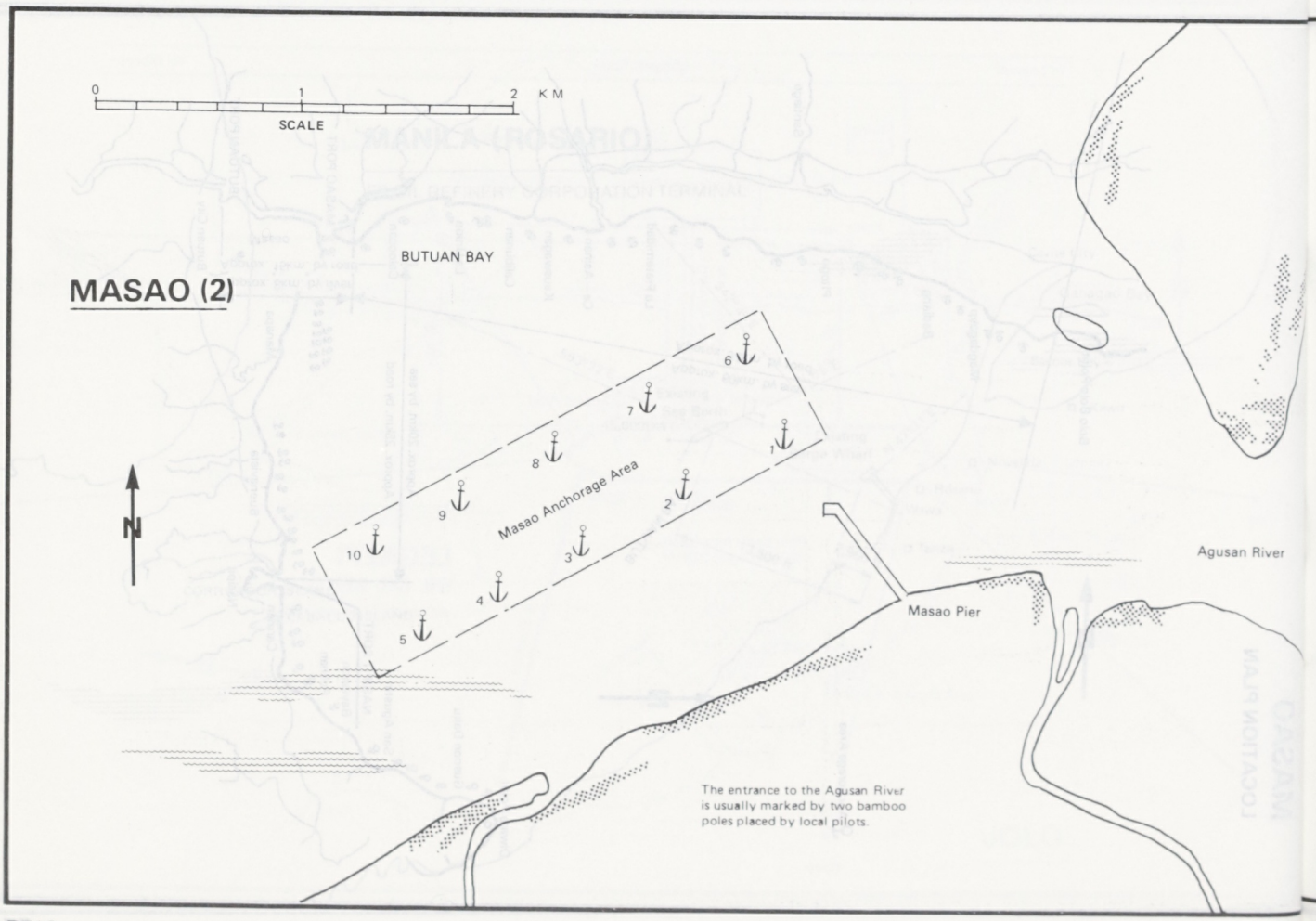
POLLOC





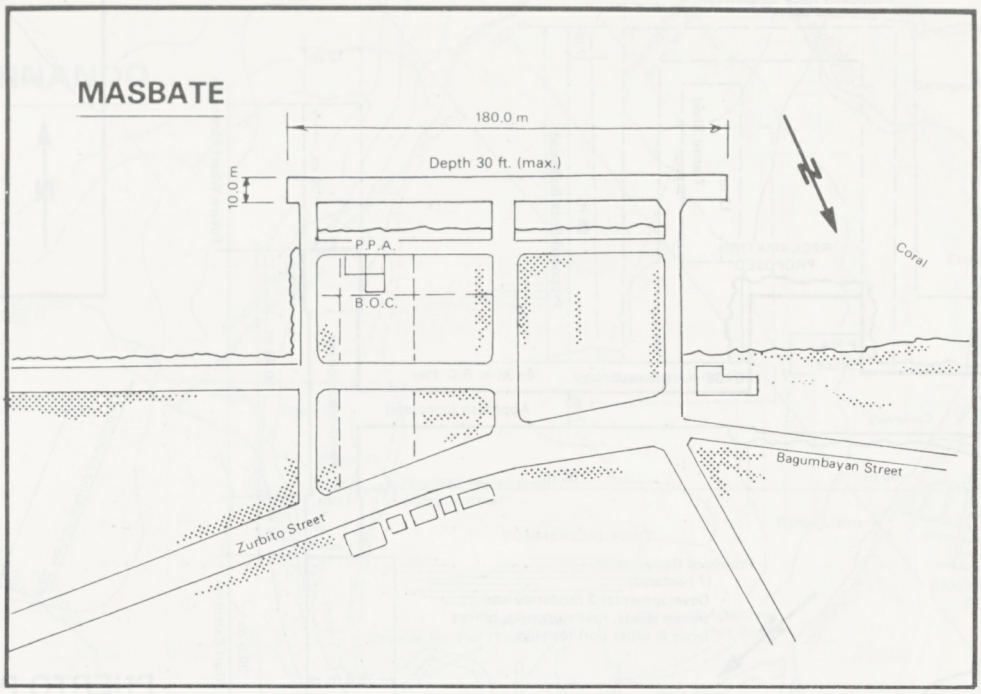
MASAO (1)

NASIPIT

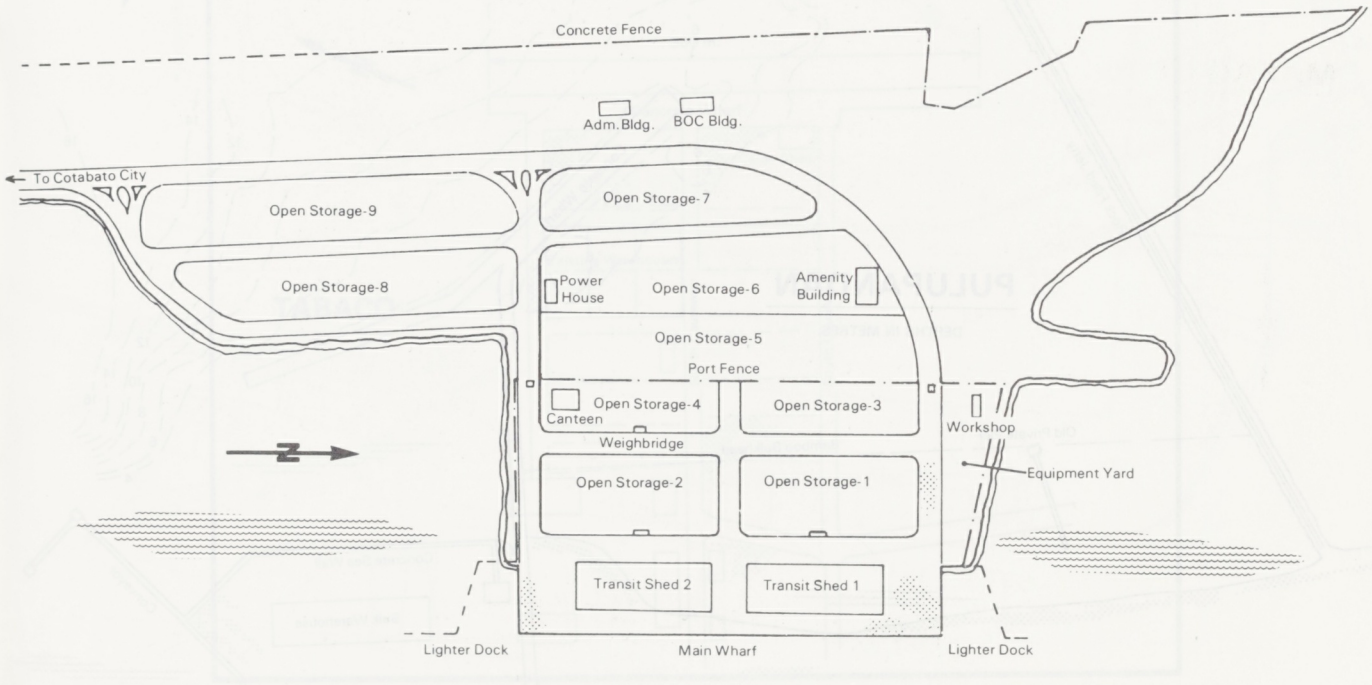


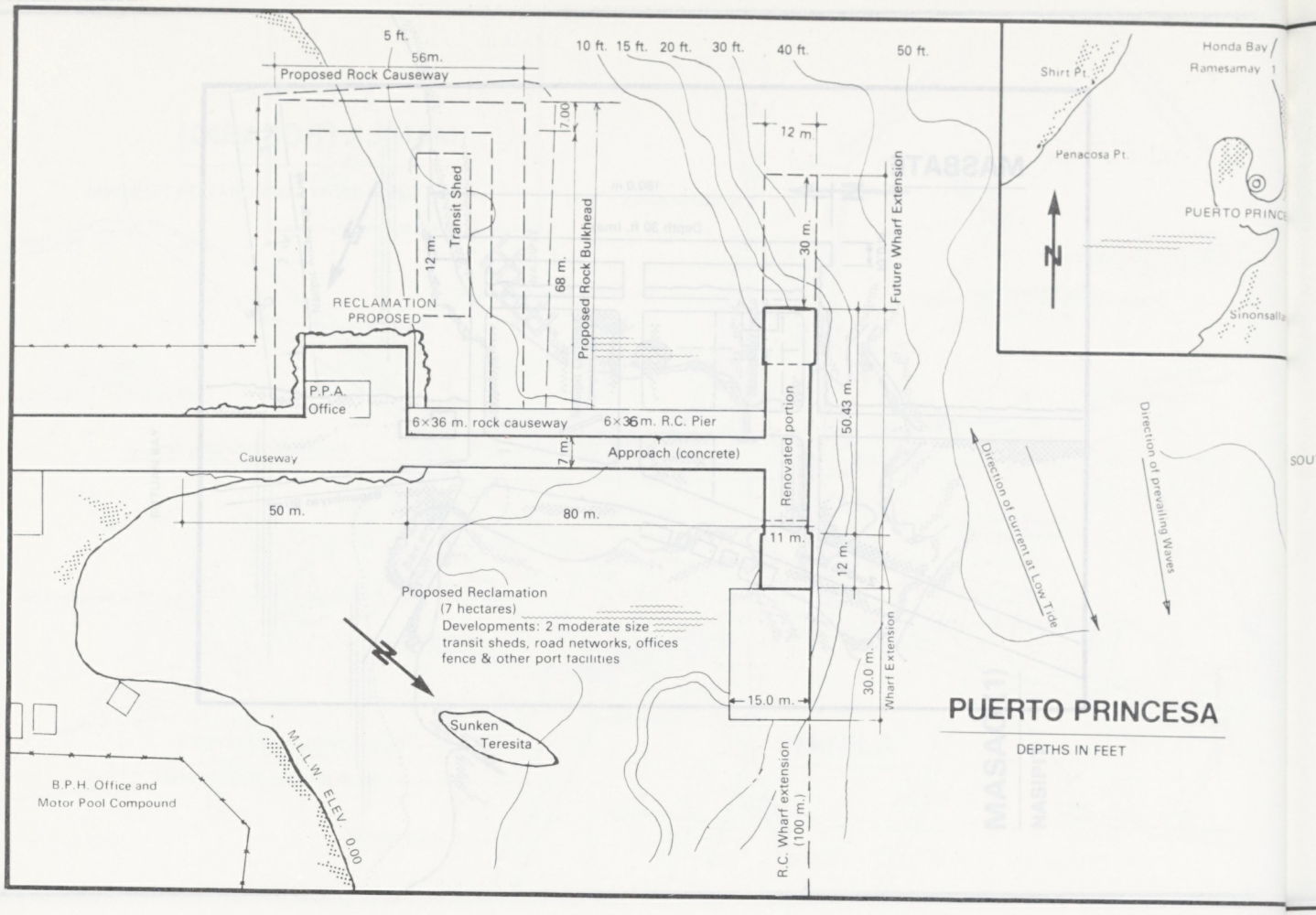
MASAO (2)

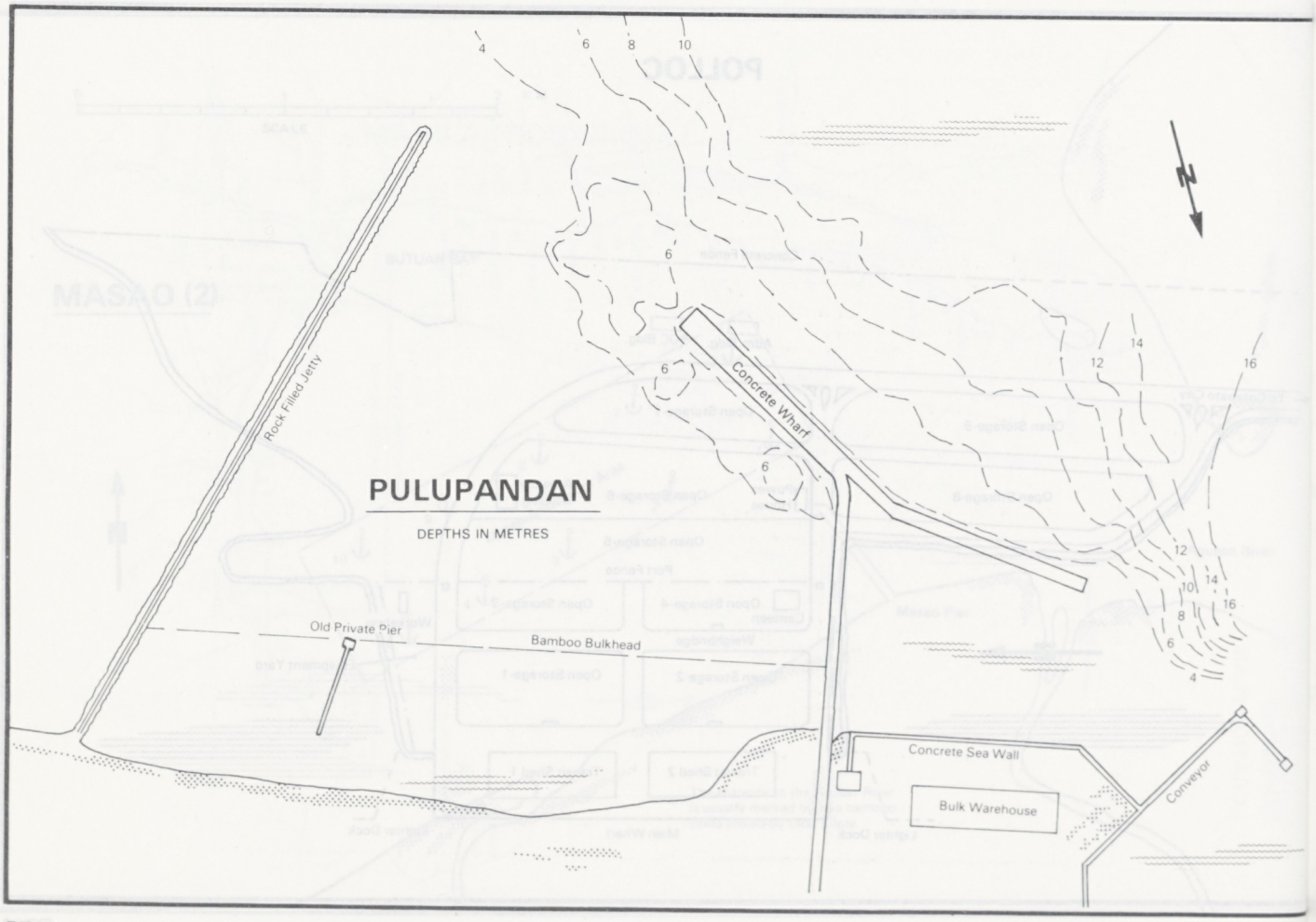
MASBATE

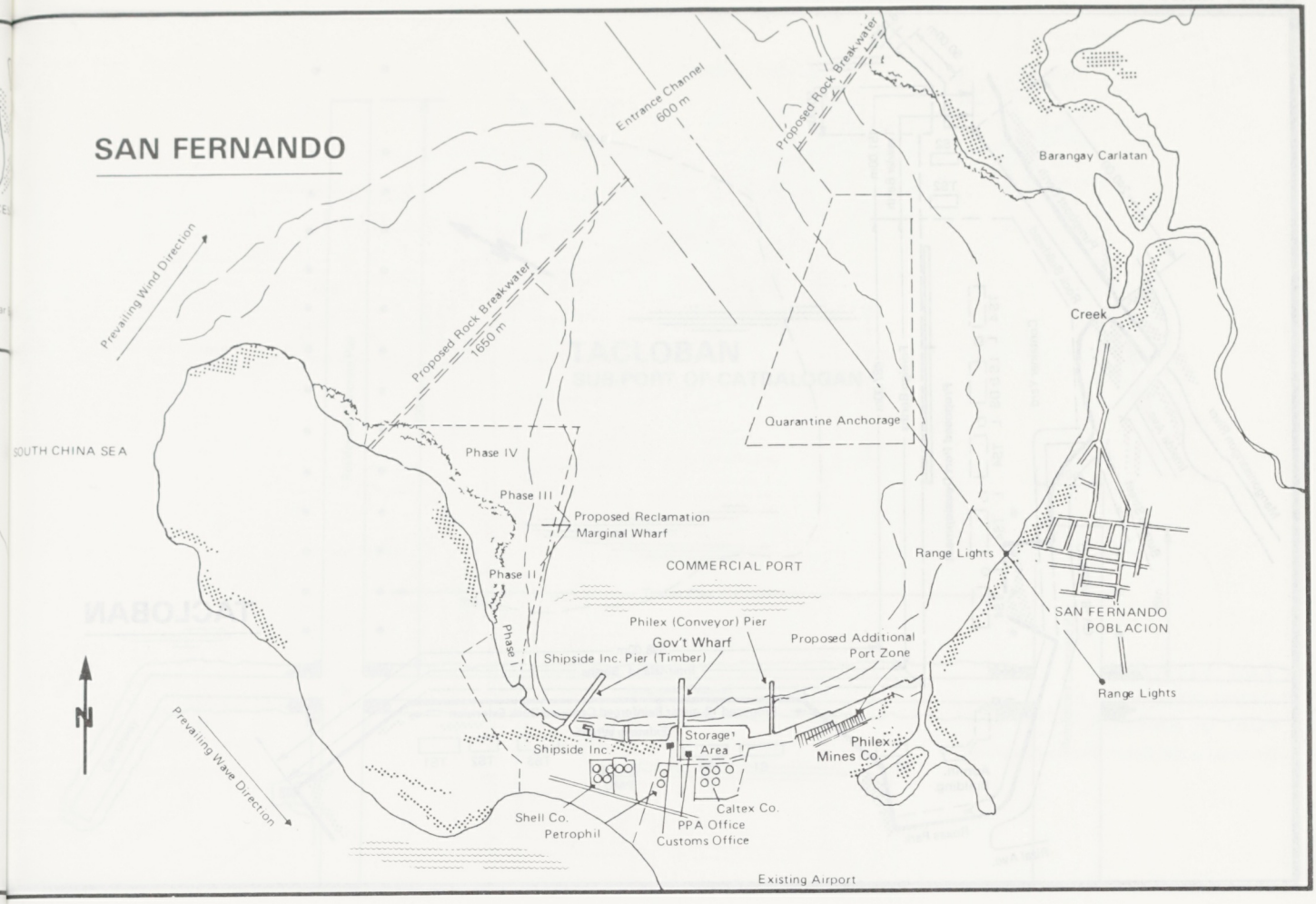


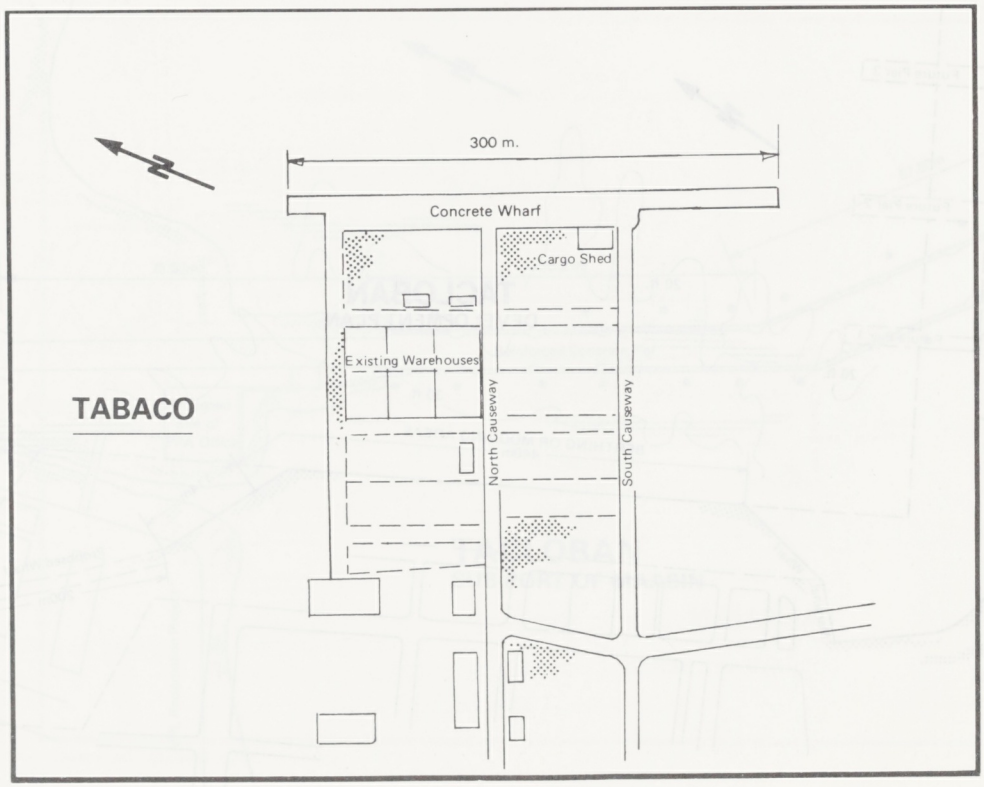
POLLOC

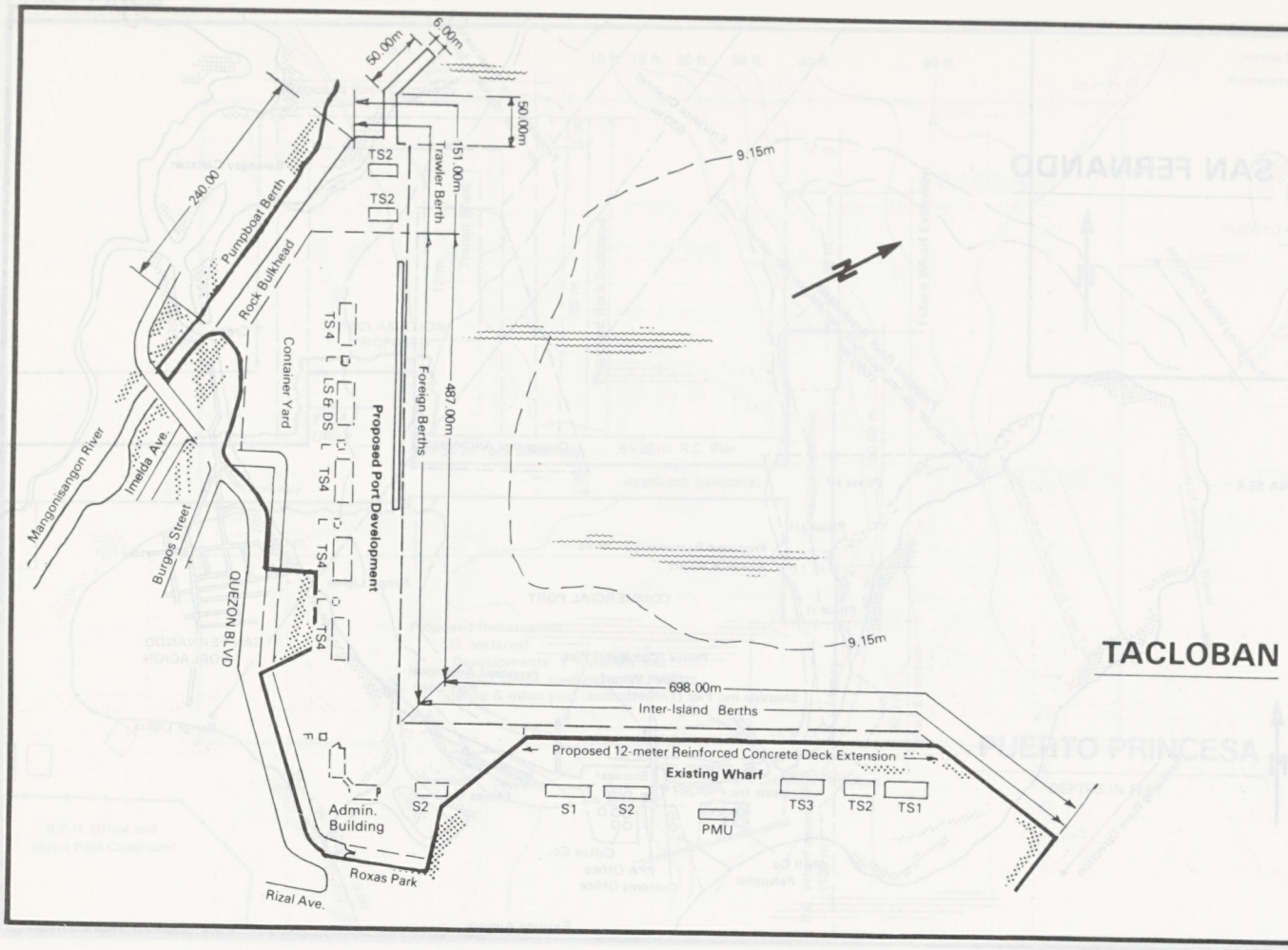


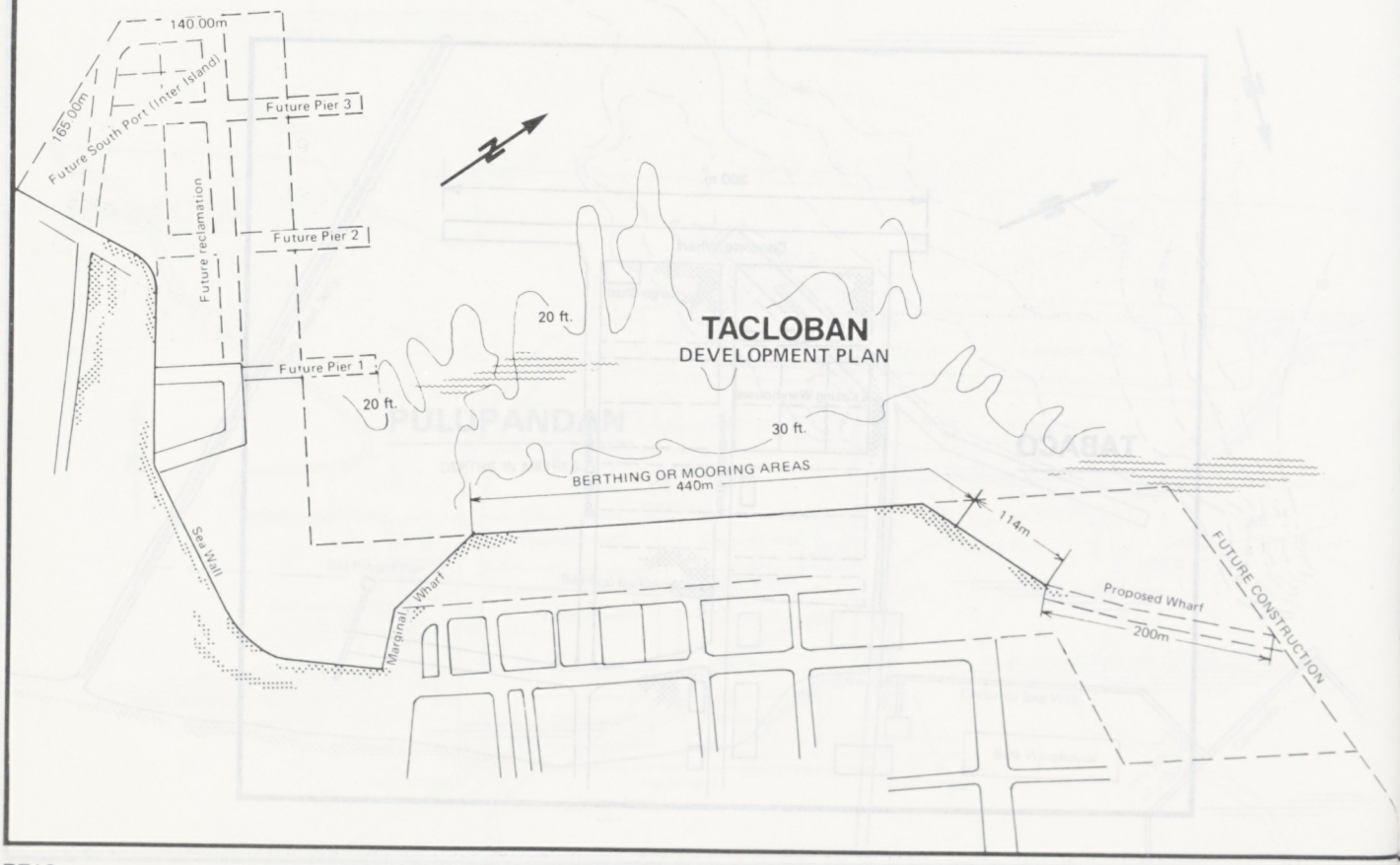

5 ft.
56m.
Proposed Rock Causeway
10 ft. 15 ft. 20 ft. 30 ft. 40 ft. 50 ft.
7.00
12 m.
Transit Shed
12 m.
68 m.
Proposed Rock Bulkhead
30 m.
Future Wharf Extension
RECLAMATION PROPOSED
P.P.A. Office
6×36 m. rock causeway
6×36 m. R.C. Pier
7 m.
Approach (concrete)
Renovated portion
50.43 m.
Causeway
50 m.
80 m.
11 m.
12 m.
Proposed Reclamation
(7 hectares)
Developments: 2 moderate size transit sheds, road networks, offices fence & other port facilities
30.0 m.
Wharf Extension
15.0 m.
Sunken Teresita
M.L.L.W. ELEV. 0.00
B.P.H. Office and Motor Pool Compound
R.C. Wharf extension (100 m.)
Direction of current at Low Tide
Direction of prevailing Waves
PUERTO PRINCESA
DEPTHS IN FEET
Honda Bay
Ramesamay I.
Shirt Pt.
Penacosa Pt.
PUERTO PRINCE
Sinonsalla
N

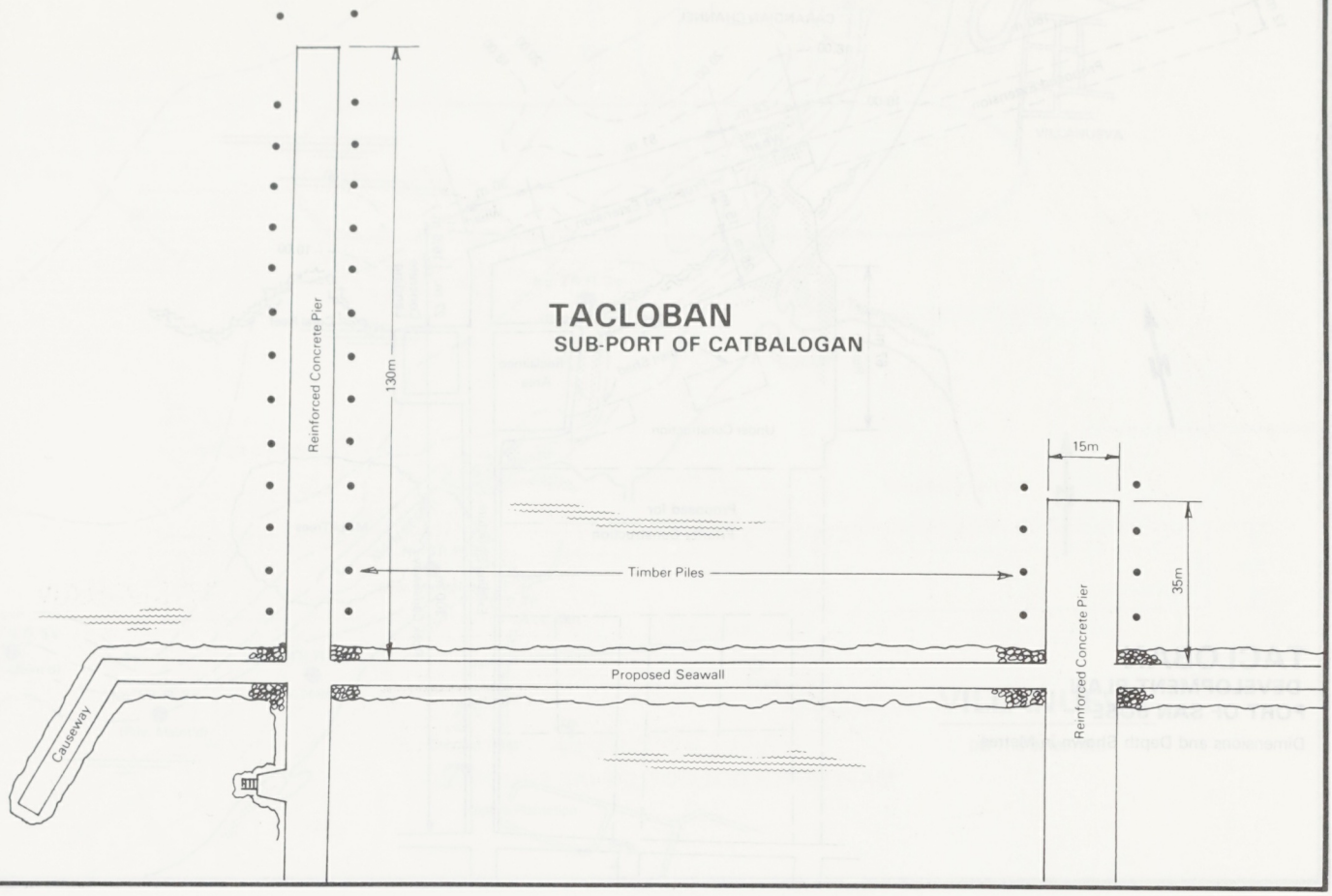

4
6
8
10
6
6
6
6
12
14
16
12
10
14
16
8
6
4
Rock Filled Jetty
Concrete Wharf
PULUPANDAN
DEPTHS IN METRES
Old Private Pier
Bamboo Bulkhead
Concrete Sea Wall
Bulk Warehouse
Conveyor
N


SAN FERNANDO
Entrance Channel 600 m
Proposed Rock Breakwater
Barangay Carlatan
Creek
Prevailing Wind Direction
Proposed Rock Breakwater 1650 m
SOUTH CHINA SEA
Quarantine Anchorage
Phase IV
Phase III
Proposed Reclamation
Marginal Wharf
COMMERCIAL PORT
Range Lights
Phase II
Phase I
SAN FERNANDO POBLACION
Philex (Conveyor) Pier
Gov't Wharf
Proposed Additional Port Zone
Shipside Inc. Pier (Timber)
N
Storage Area
Shipside Inc.
Philex Mines Co.
Range Lights
Prevailing Wave Direction
Caltex Co.
Shell Co.
Petrophil
PPA Office
Customs Office
Existing Airport

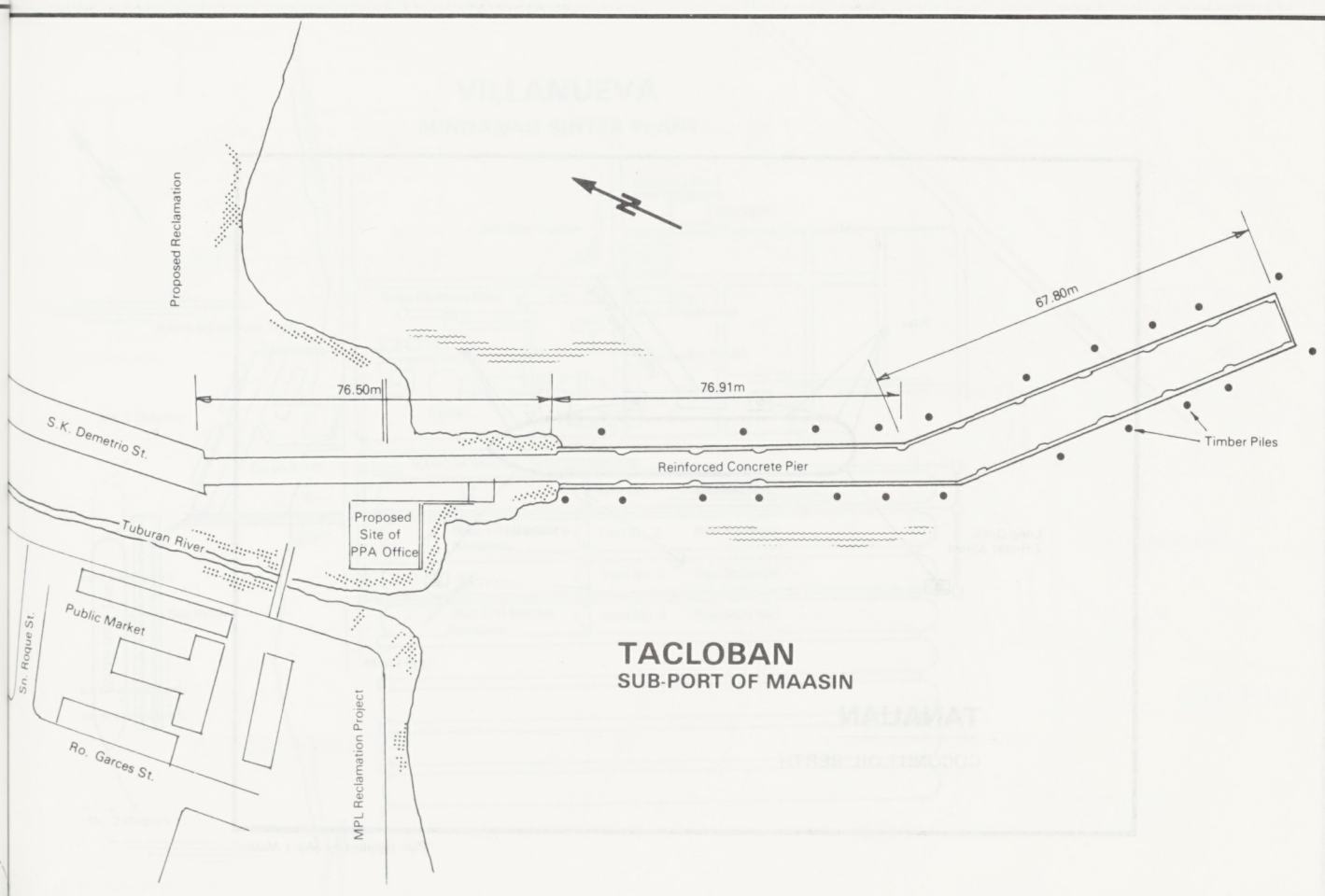

TABACO
N
300 m.
Concrete Wharf
Cargo Shed
Existing Warehouses
North Causeway
South Causeway


TACLOBAN
50.00m
6.00m
50.00m
151.00m
Trawler Berth
TS2
TS2
240.00
Pumpboat Berth
Rock Bulkhead
9.15m
Container Yard
TS4
LS&DS
TS4
TS4
TS4
Proposed Port Development
Foreign Berths
487.00m
Mangonisangon River
Imelda Ave.
Burgos Street
QUEZON BLVD
9.15m
698.00m
Inter-Island Berths
Proposed 12-meter Reinforced Concrete Deck Extension
Existing Wharf
Admin. Building
S2
S1
S2
PMU
TS3
TS2
TS1
Roxas Park
Rizal Ave.

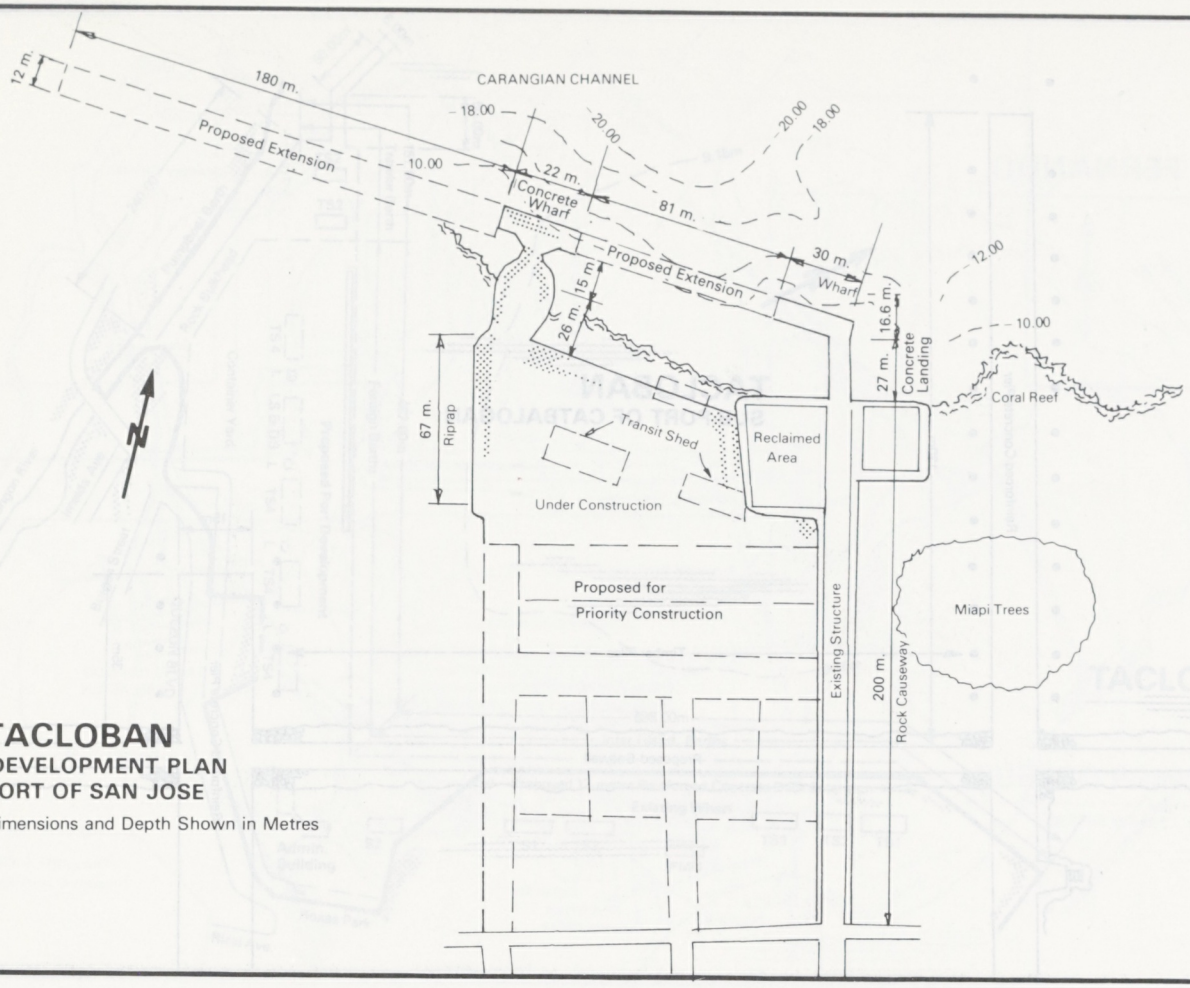

TACLOBAN
DEVELOPMENT PLAN
140.00m
165.00m
Future South Port (Inter Island)
Future Pier 3
Future reclamation
Future Pier 2
Future Pier 1
20 ft.
20 ft.
30 ft.
BERTHING OR MOORING AREAS
440m
114m
Proposed Wharf
200m
FUTURE CONSTRUCTION
Sea Wall
Marginal Wharf



TACLOBAN
SUB-PORT OF CATBALOGAN



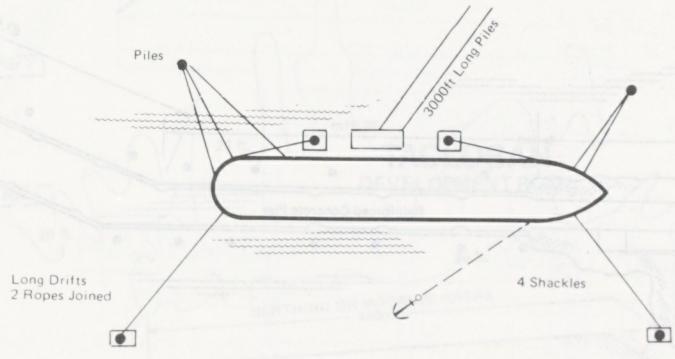
TACLOBAN
SUB-PORT OF MAASIN



TACLOBAN

DEVELOPMENT PLAN
PORT OF SAN JOSE

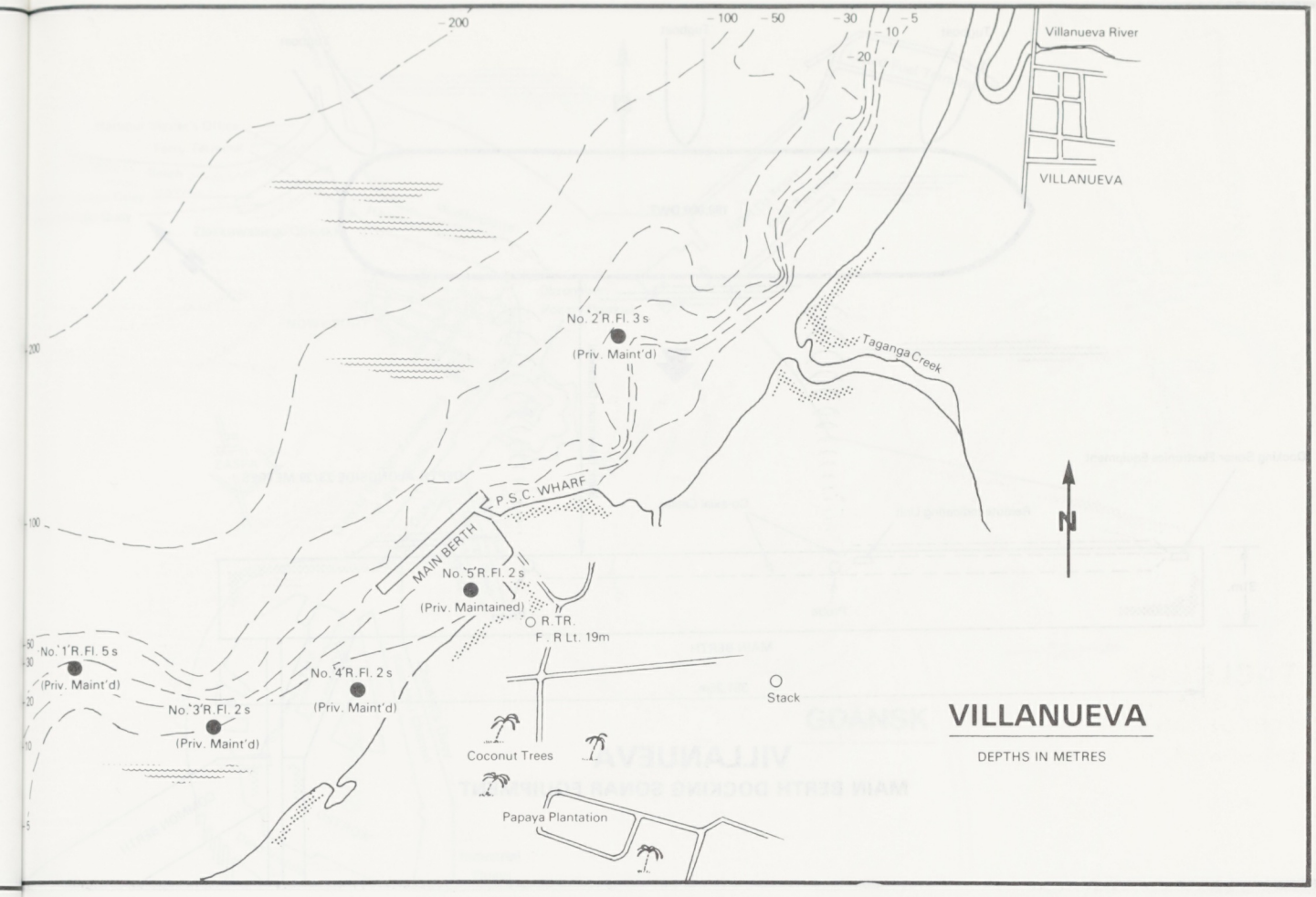
Dimensions and Depth Shown in Metres

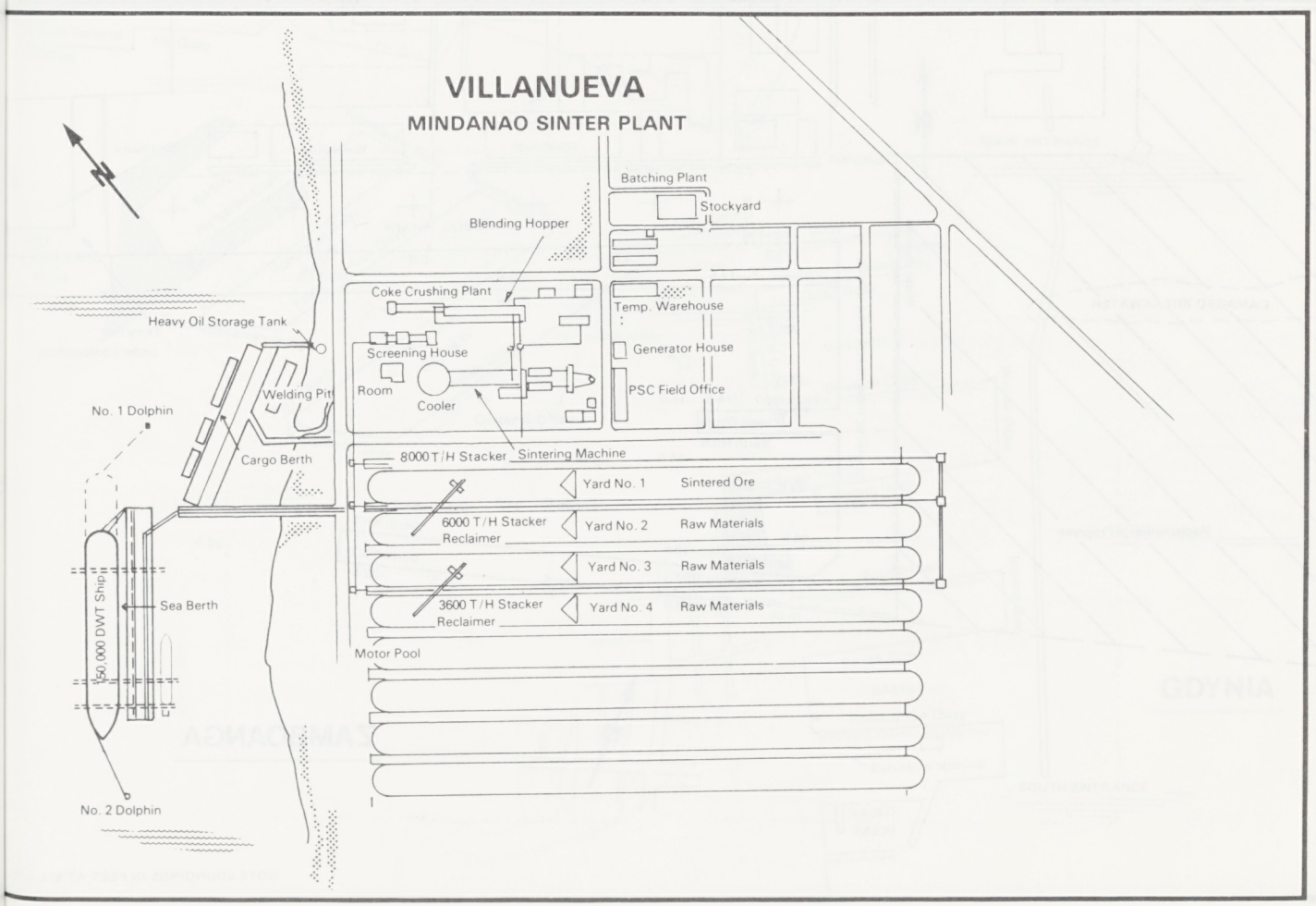


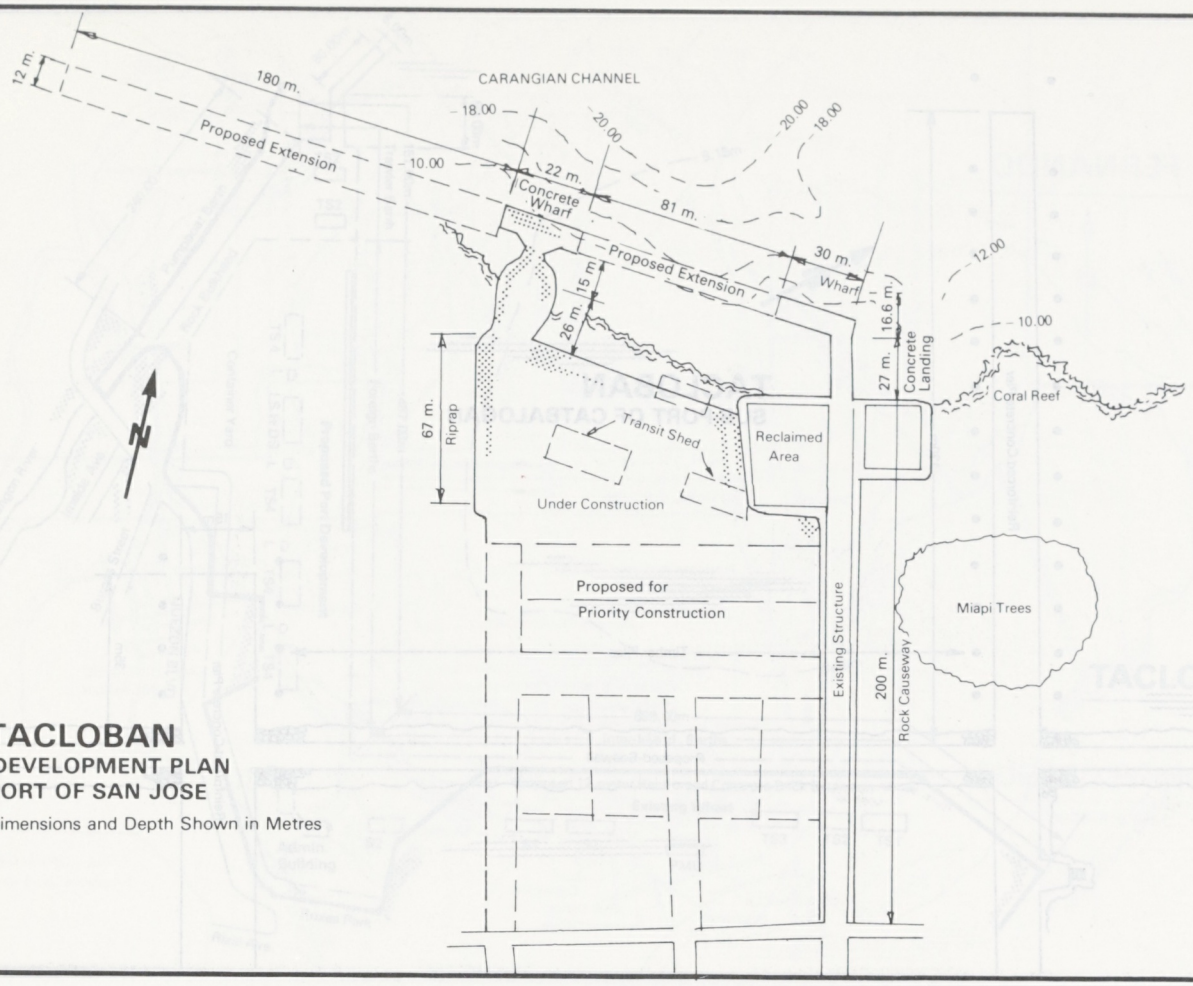
TANAUAN

COCONUT OIL BERTH

"Plan supplied by Ship's Master"


-200
-100
-50
-30
-10
-5
-20
Villanueva River
VILLANUEVA
No. 2 R.Fl. 3 s
(Priv. Maint'd)
Taganga Creek
P.S.C. WHARF
MAIN BERTH
No. 5 R.Fl. 2 s
(Priv. Maintained)
R.TR.
F. R Lt. 19m
No. 1 R.Fl. 5 s
(Priv. Maint'd)
No. 4 R.Fl. 2 s
(Priv. Maint'd)
No. 3 R.Fl. 2 s
(Priv. Maint'd)
Stack
Coconut Trees
Papaya Plantation
N
VILLANUEVA
DEPTHS IN METRES

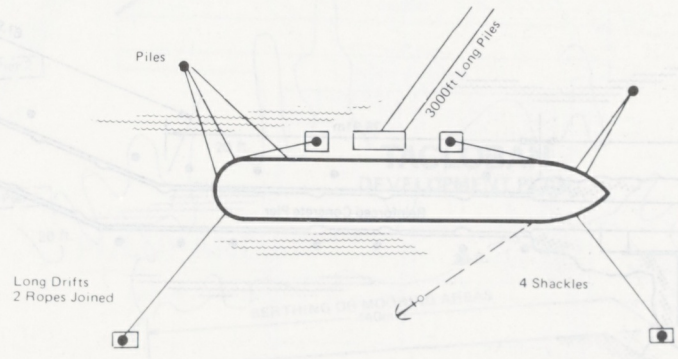

VILLANUEVA
MINDANAO SINTER PLANT
N
Batching Plant
Stockyard
Blending Hopper
Coke Crushing Plant
Temp. Warehouse
Heavy Oil Storage Tank
Screening House
Generator House
Room
Cooler
PSC Field Office
Welding Pit
No. 1 Dolphin
Cargo Berth
8000 T/H Stacker
Sintering Machine
Yard No. 1
Sintered Ore
6000 T/H Stacker
Reclaimer
Yard No. 2
Raw Materials
Yard No. 3
Raw Materials
3600 T/H Stacker
Reclaimer
Yard No. 4
Raw Materials
Sea Berth
50,000 DWT Ship
Motor Pool
No. 2 Dolphin



TACLOBAN

DEVELOPMENT PLAN
PORT OF SAN JOSE

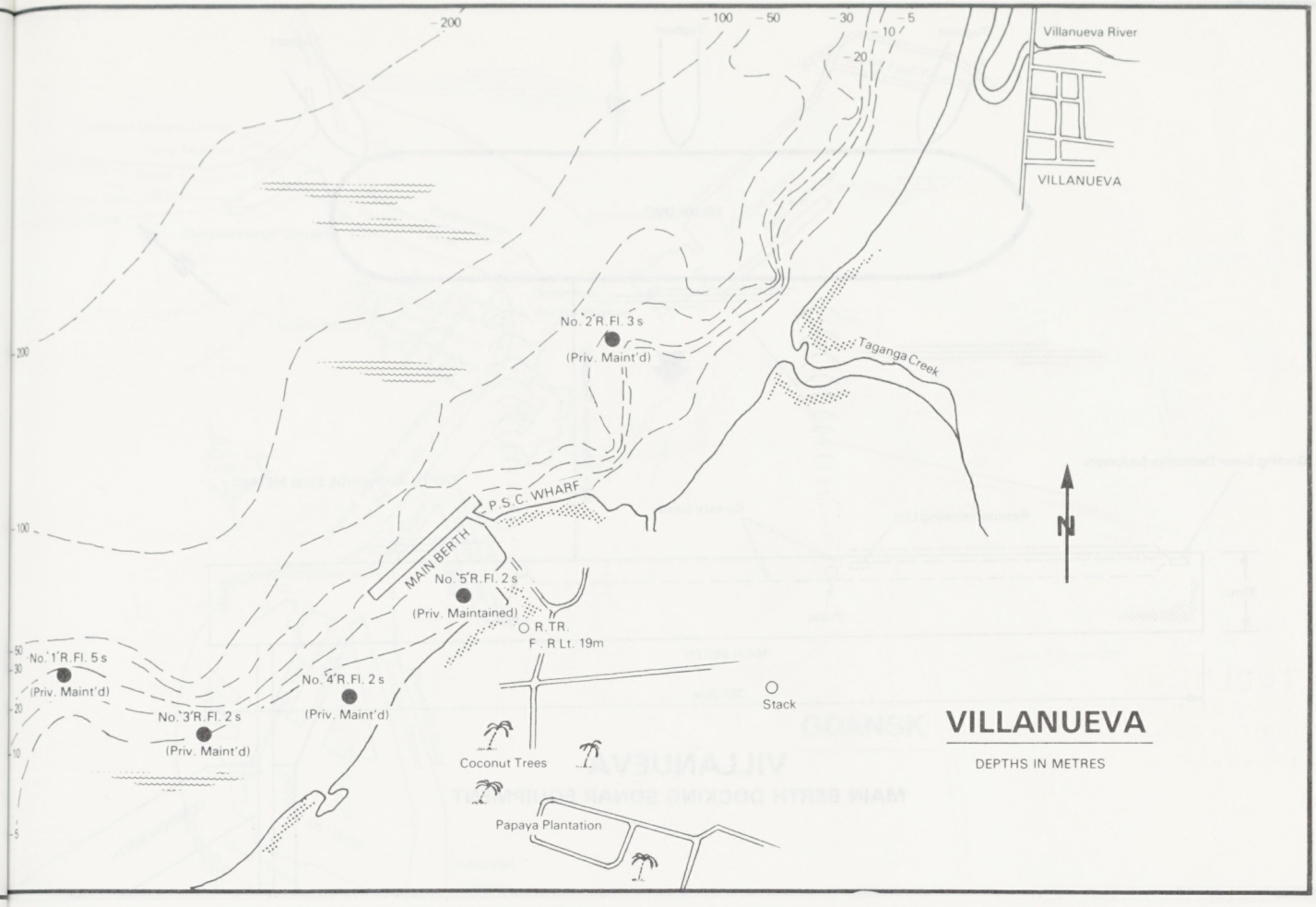
Dimensions and Depth Shown in Metres

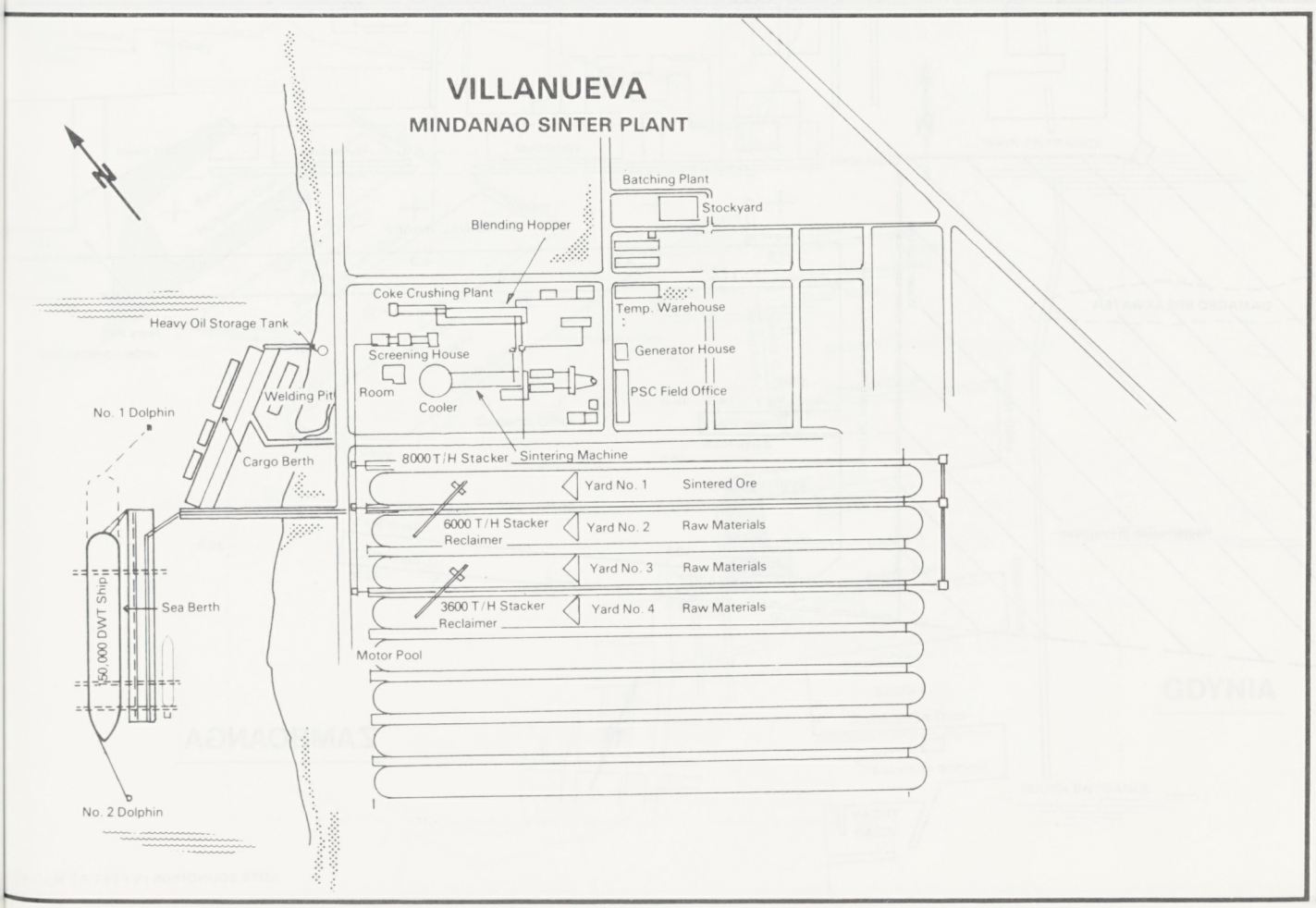


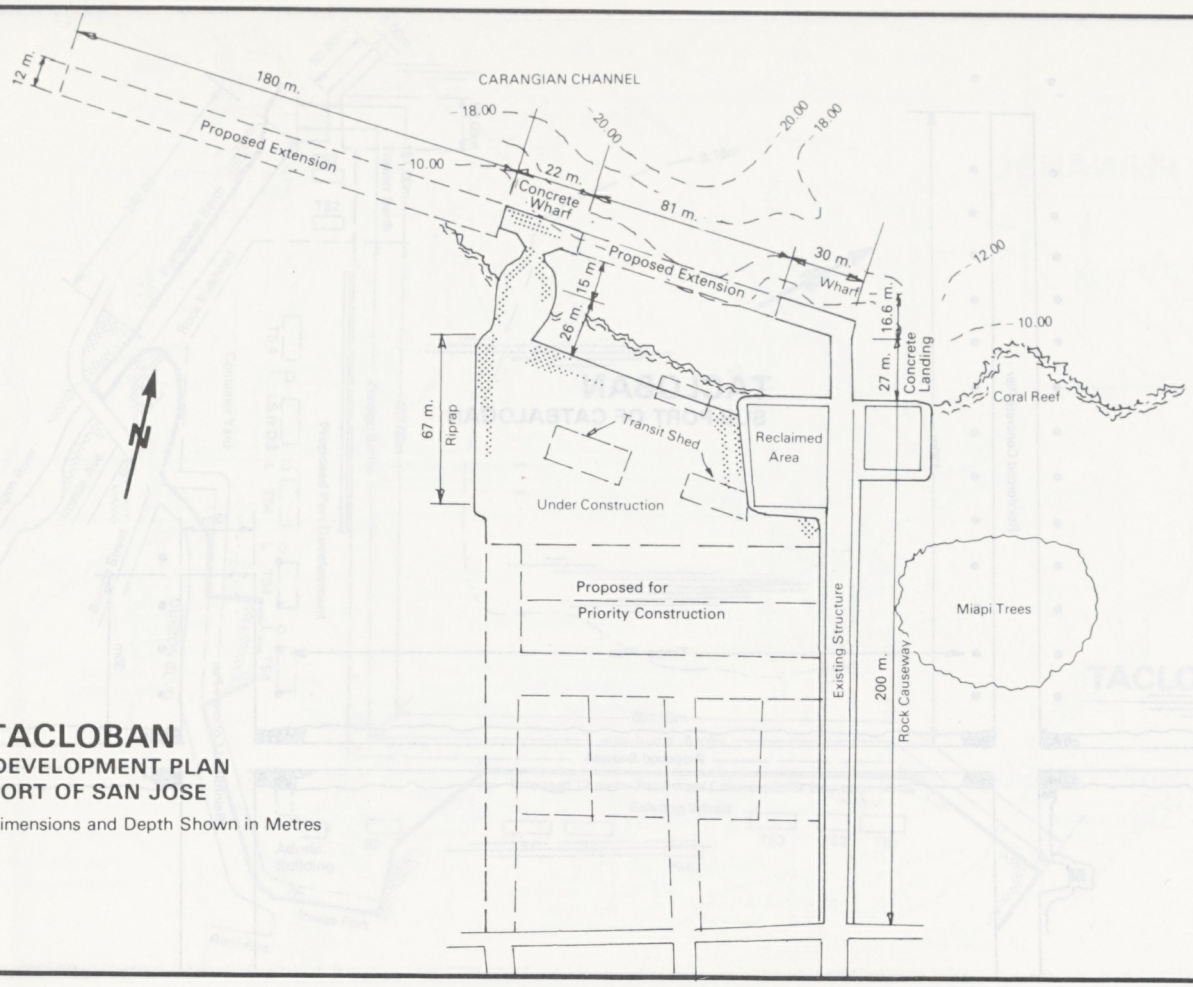
TANAUAN

COCONUT OIL BERTH

"Plan supplied by Ship's Master"


-200
-100
-50
-30
-10
-5
-20
Villanueva River
VILLANUEVA
No. 2 R. Fl. 3 s
(Priv. Maint'd)
Taganga Creek
P.S.C. WHARF
MAIN BERTH
N
No. 5 R. Fl. 2 s
(Priv. Maintained)
R.TR.
F. R Lt. 19m
No. 1 R. Fl. 5 s
(Priv. Maint'd)
No. 4 R. Fl. 2 s
(Priv. Maint'd)
No. 3 R. Fl. 2 s
(Priv. Maint'd)
Stack
Coconut Trees
Papaya Plantation
VILLANUEVA
DEPTHS IN METRES

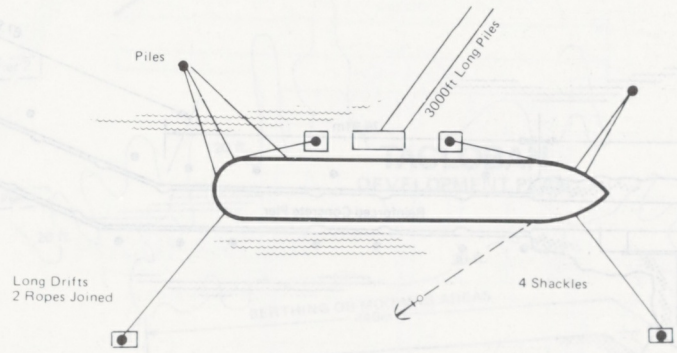

VILLANUEVA
MINDANAO SINTER PLANT
N
Batching Plant
Stockyard
Blending Hopper
Coke Crushing Plant
Temp. Warehouse
Heavy Oil Storage Tank
Screening House
Generator House
Room
Cooler
PSC Field Office
Welding Pit
No. 1 Dolphin
Cargo Berth
8000 T/H Stacker
Sintering Machine
Yard No. 1
Sintered Ore
6000 T/H Stacker Reclaimer
Yard No. 2
Raw Materials
Yard No. 3
Raw Materials
3600 T/H Stacker Reclaimer
Yard No. 4
Raw Materials
Sea Berth
150,000 DWT Ship
Motor Pool
No. 2 Dolphin



TACLOBAN

DEVELOPMENT PLAN
PORT OF SAN JOSE

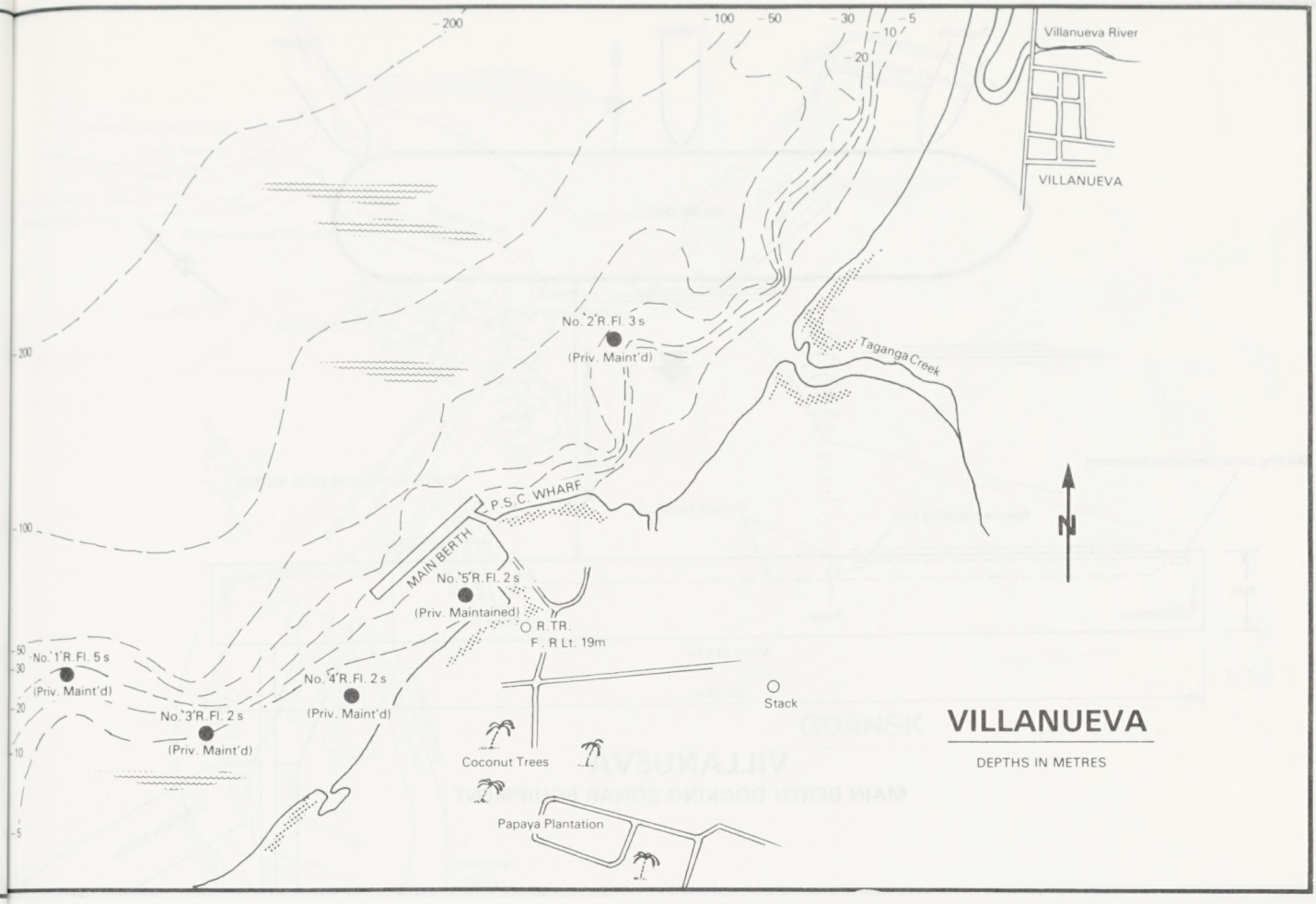
Dimensions and Depth Shown in Metres

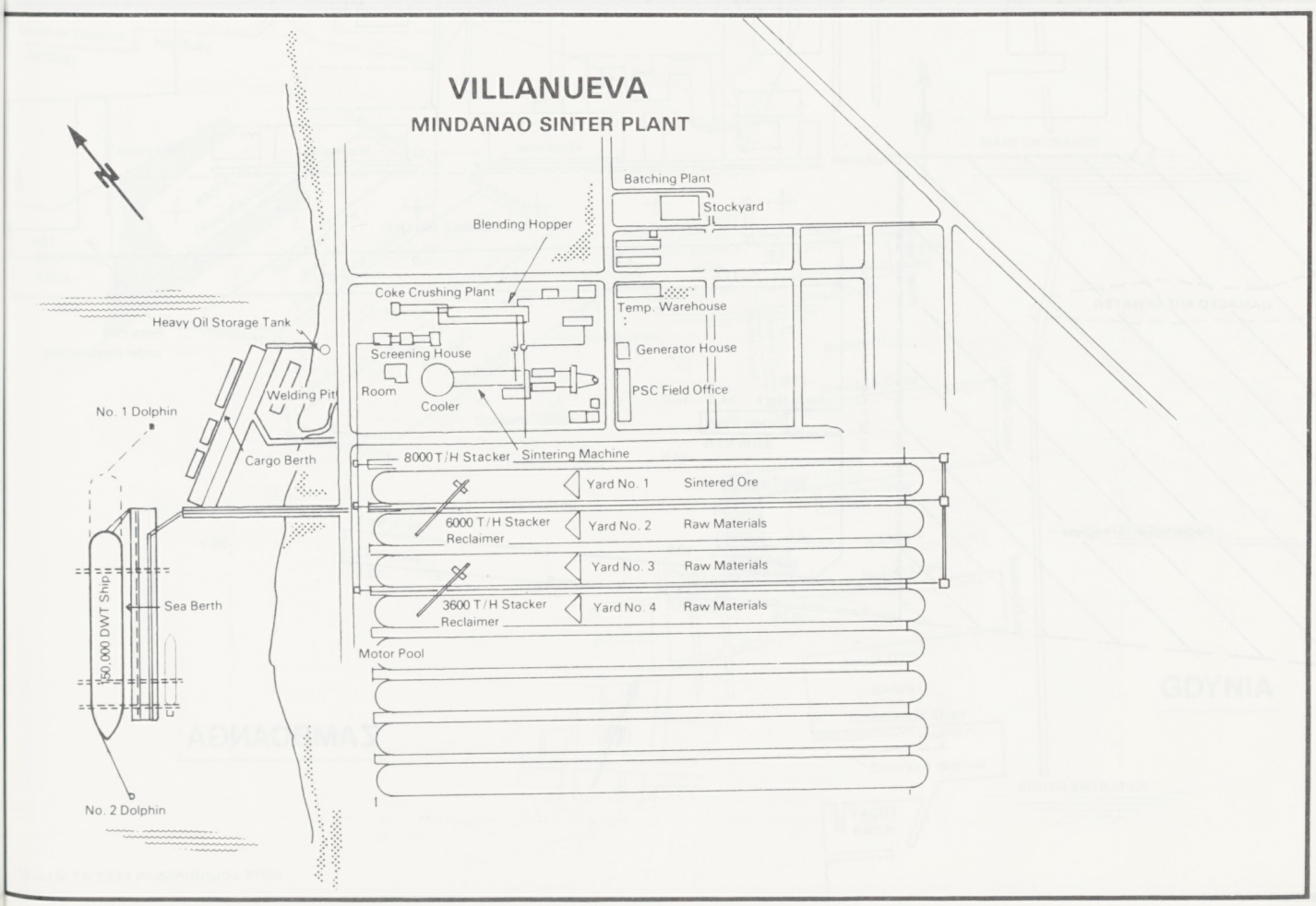


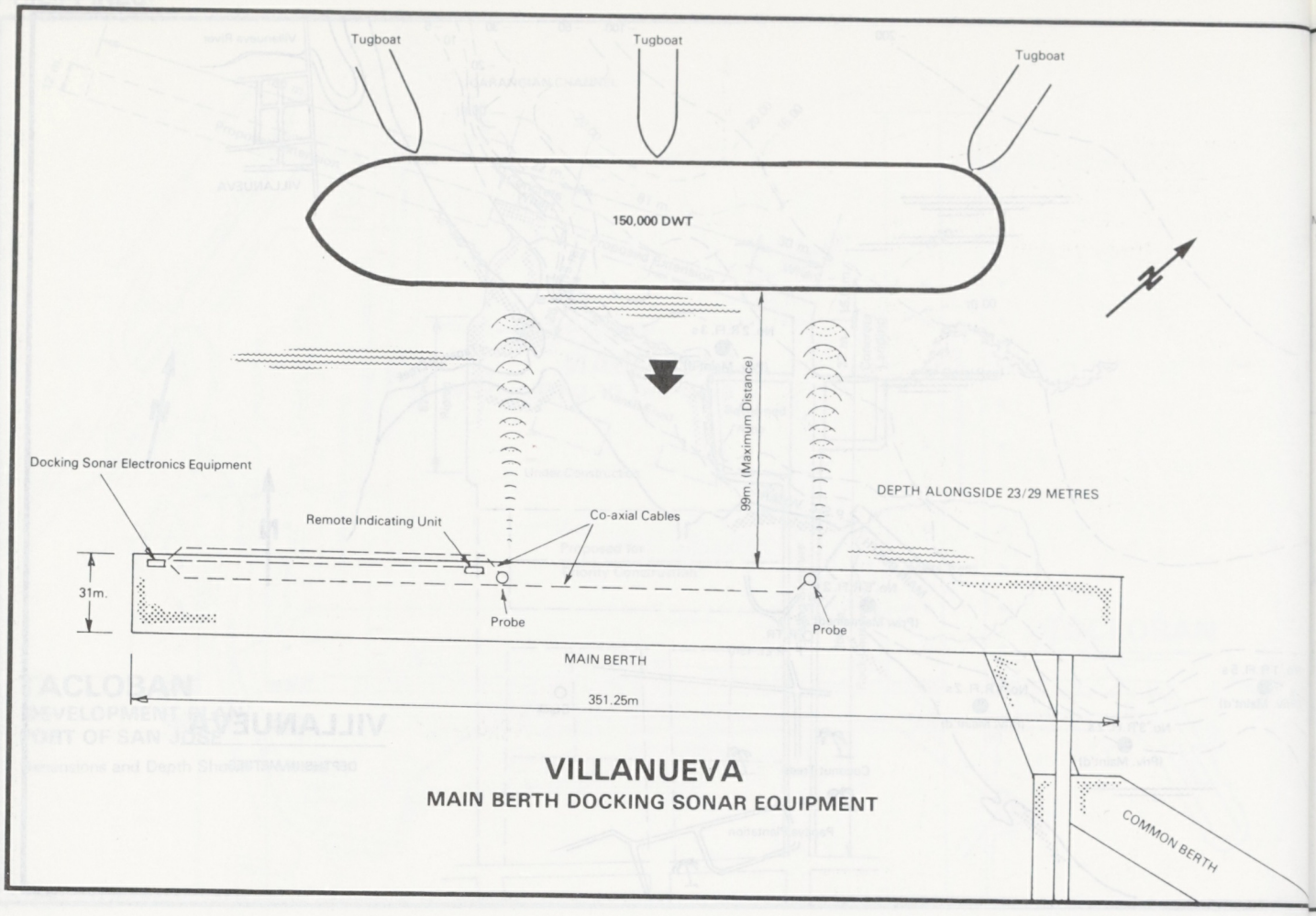
TANAUAN

COCONUT OIL BERTH

"Plan supplied by Ship's Master"

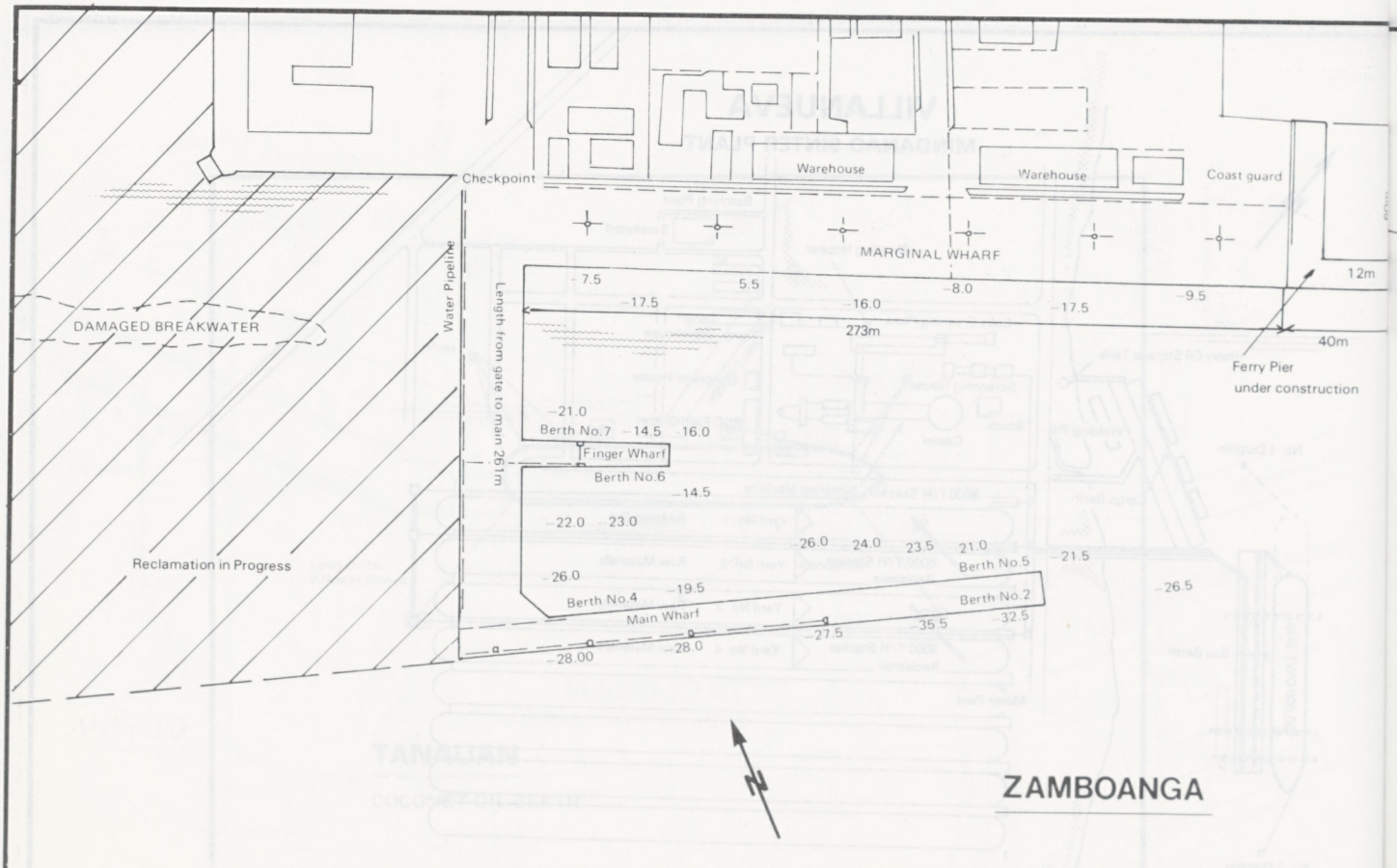

-200
-100
-50
-30
-10
-5
-20
Villanueva River
VILLANUEVA
No. 2 R.Fl. 3 s
(Priv. Maint'd)
Taganga Creek
P.S.C. WHARF
MAIN BERTH
No. 5 R.Fl. 2 s
(Priv. Maintained)
R.TR.
F. R Lt. 19m
No. 1 R.Fl. 5 s
(Priv. Maint'd)
No. 4 R.Fl. 2 s
(Priv. Maint'd)
No. 3 R.Fl. 2 s
(Priv. Maint'd)
Stack
Coconut Trees
Papaya Plantation
N
VILLANUEVA
DEPTHS IN METRES


VILLANUEVA
MINDANAO SINTER PLANT
N
Batching Plant
Stockyard
Blending Hopper
Coke Crushing Plant
Temp. Warehouse
Heavy Oil Storage Tank
Screening House
Generator House
Welding Pit
Room
Cooler
PSC Field Office
No. 1 Dolphin
Cargo Berth
8000 T/H Stacker
Sintering Machine
Yard No. 1
Sintered Ore
6000 T/H Stacker
Reclaimer
Yard No. 2
Raw Materials
Yard No. 3
Raw Materials
Sea Berth
150,000 DWT Ship
3600 T/H Stacker
Reclaimer
Yard No. 4
Raw Materials
Motor Pool
No. 2 Dolphin



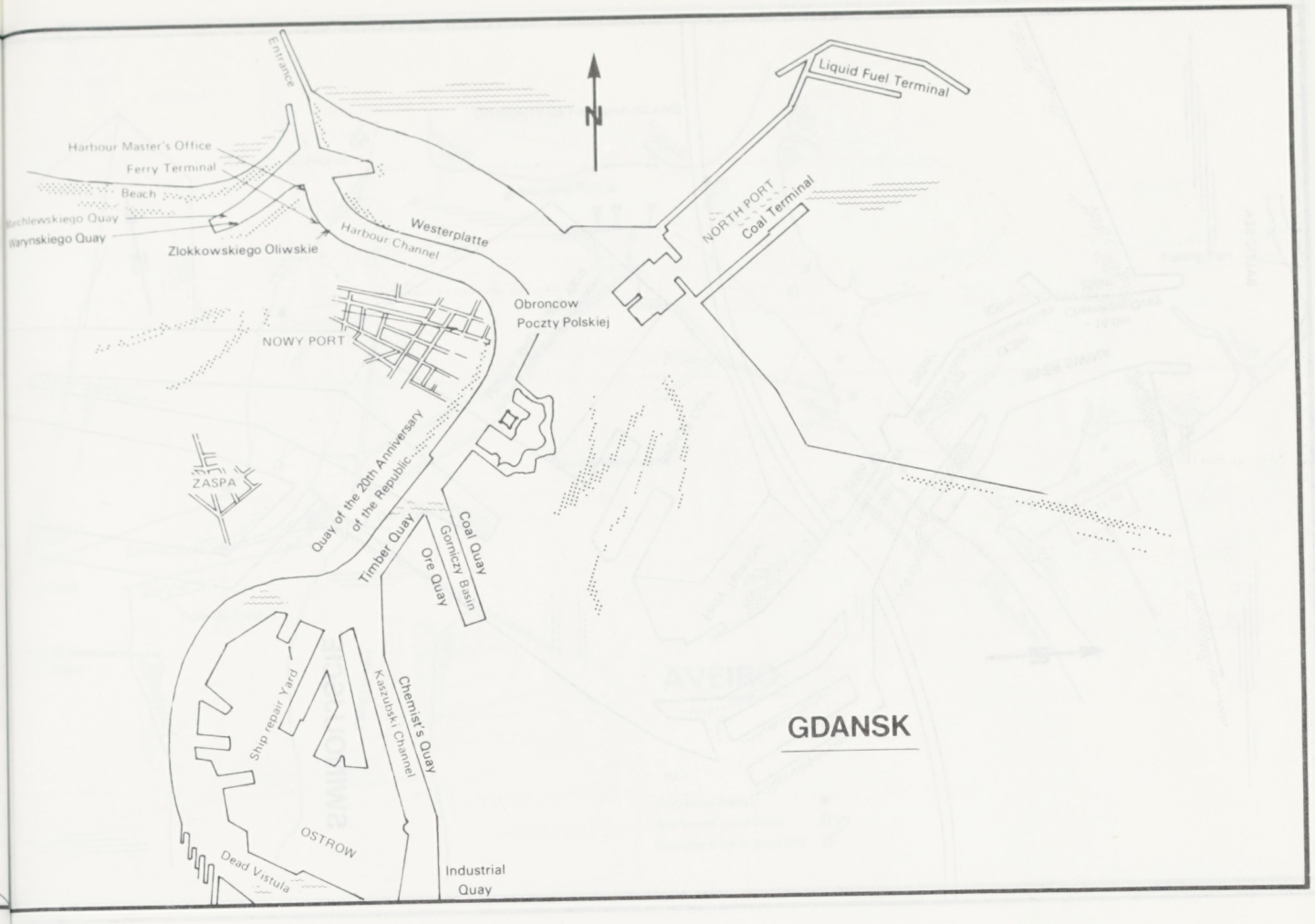
VILLANUEVA

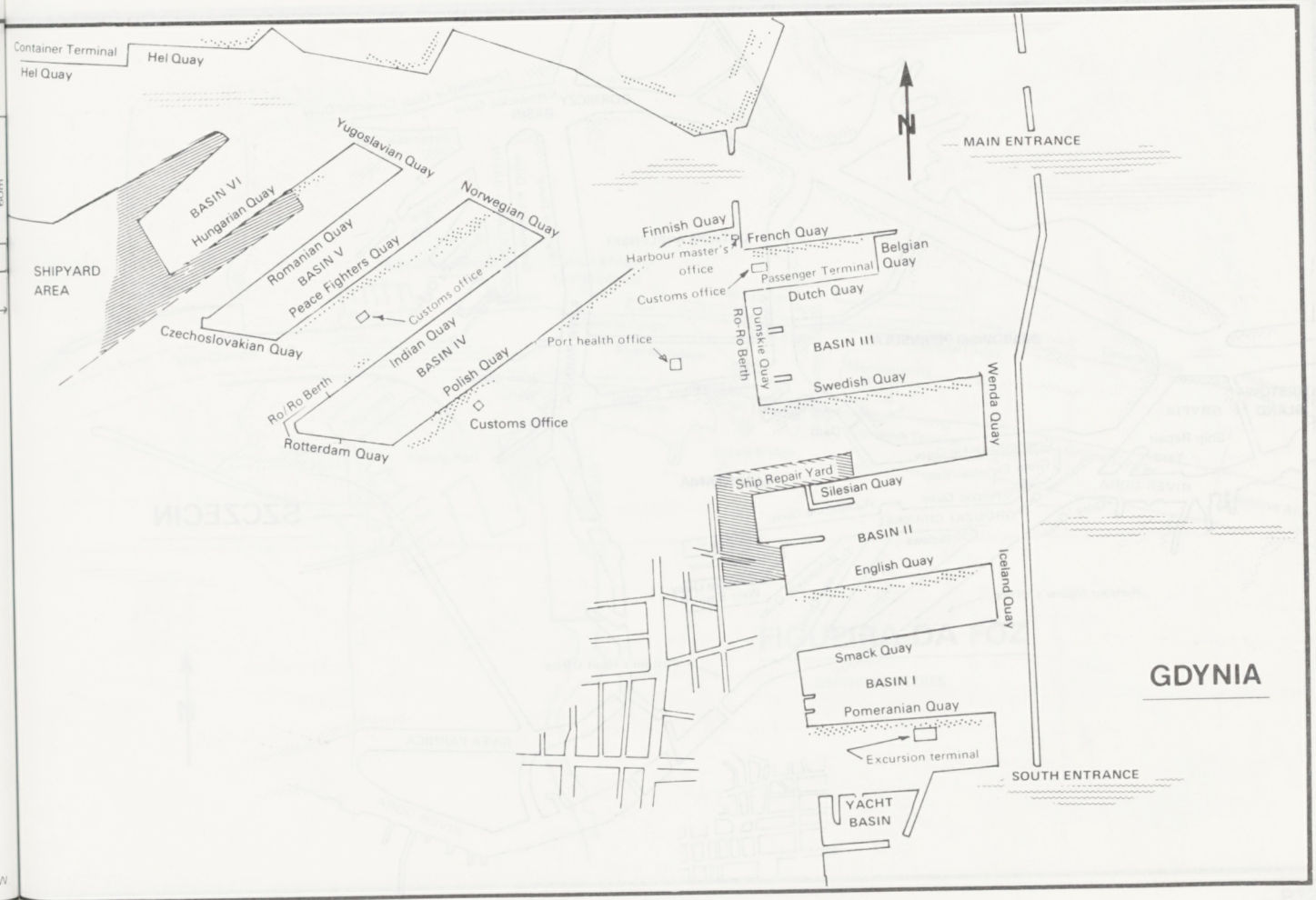
MAIN BERTH DOCKING SONAR EQUIPMENT

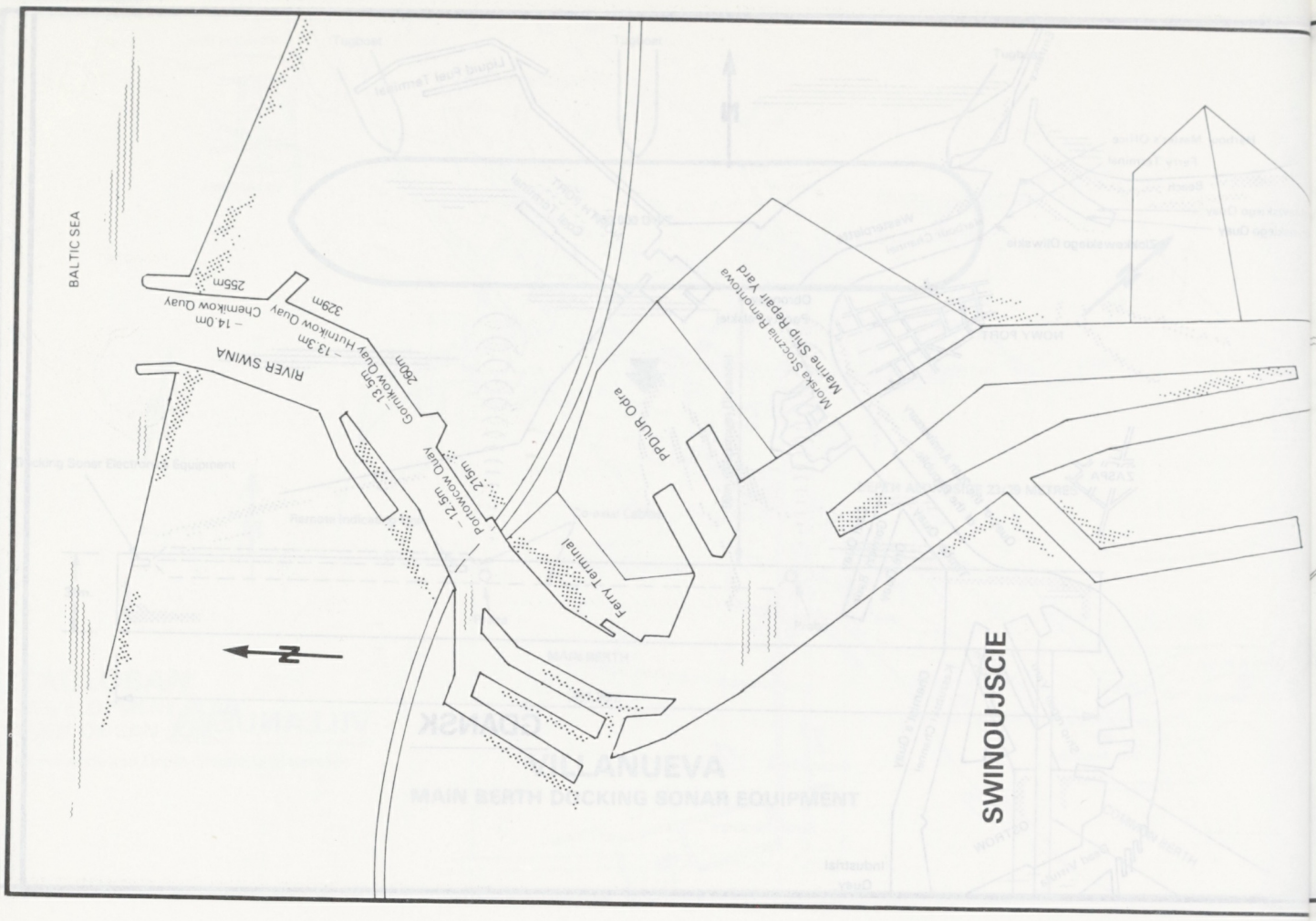


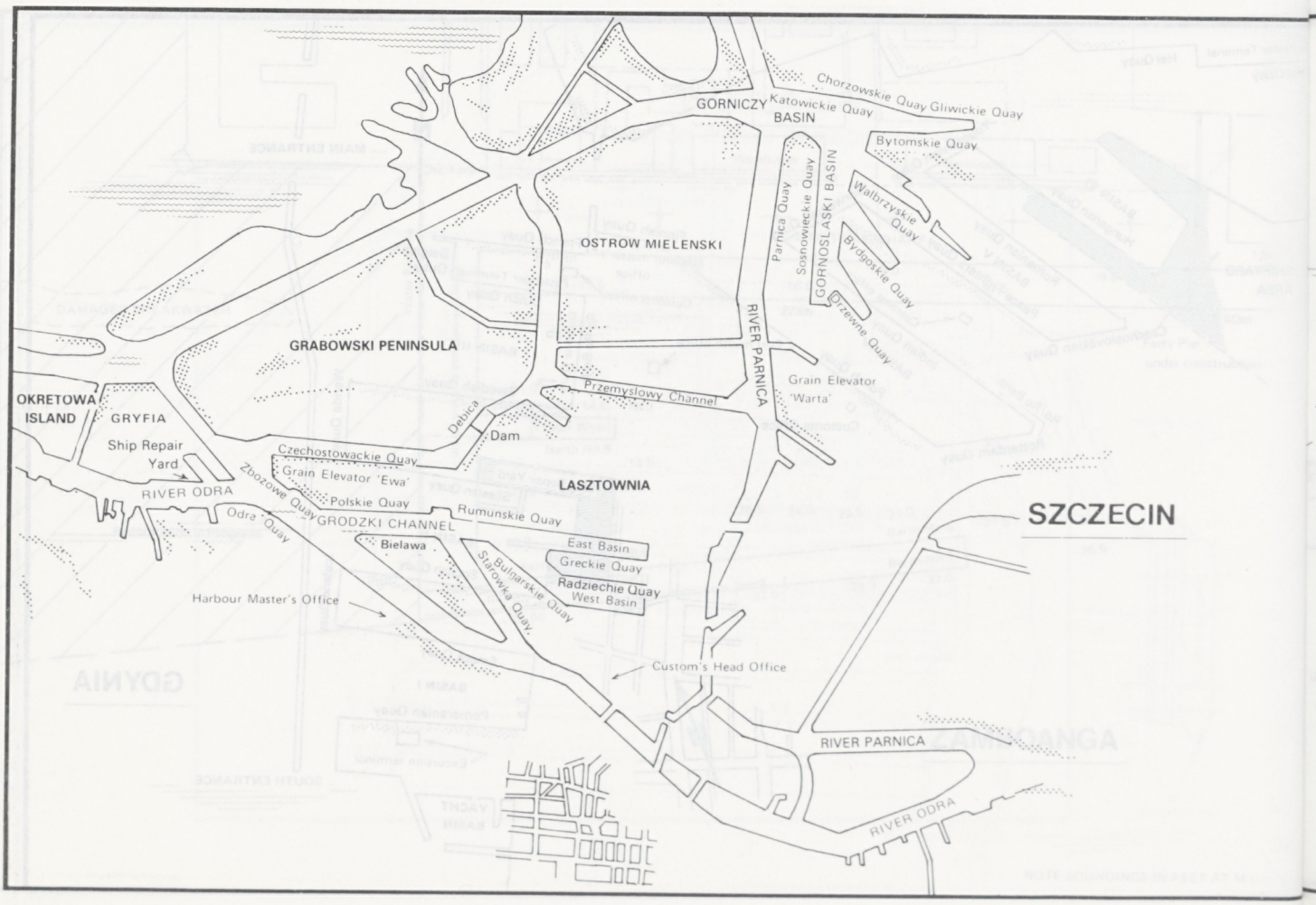
ZAMBOANGA

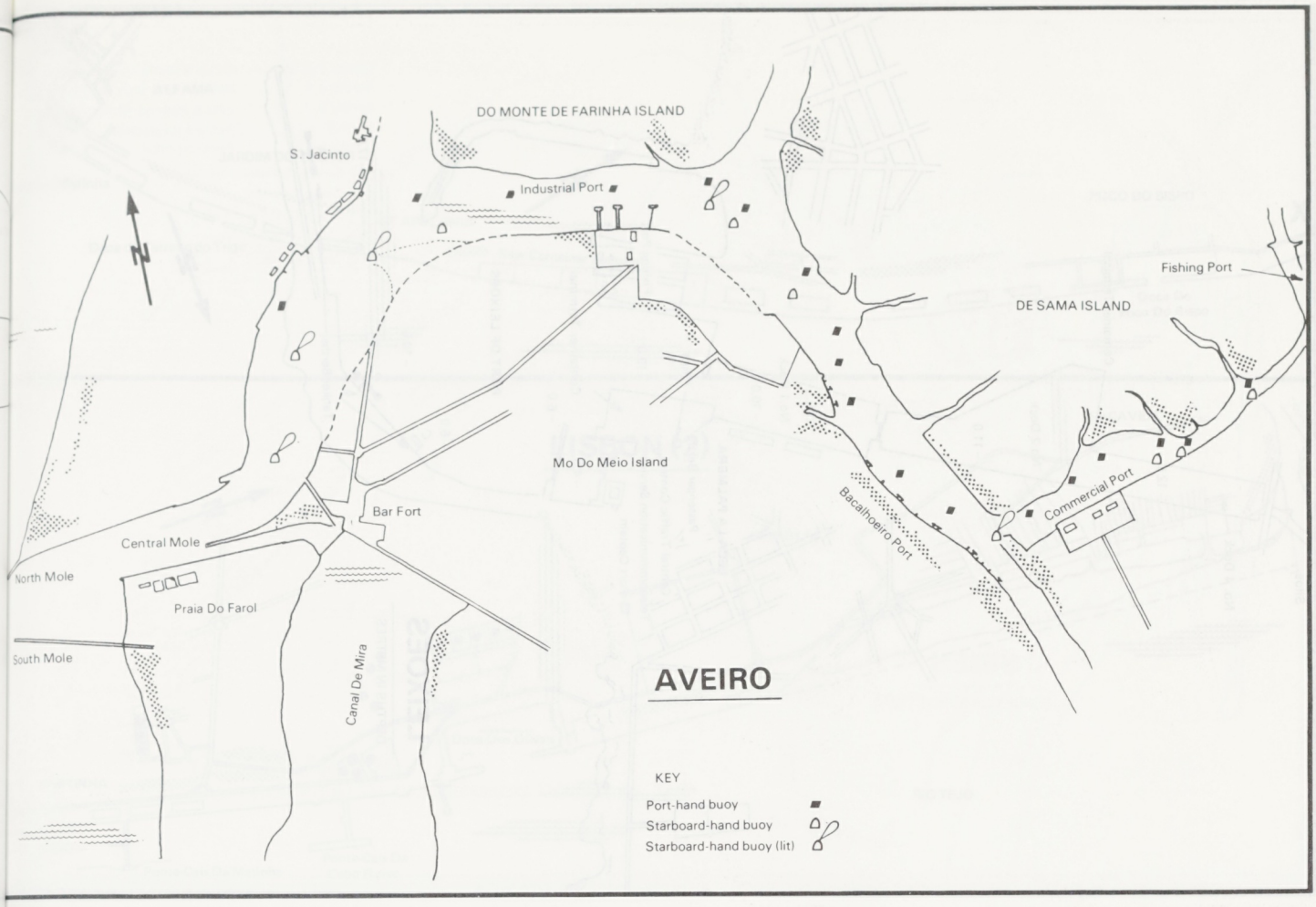
NOTE SOUNDINGS IN FEET AT M.L.L.W.


Entrance
N
Liquid Fuel Terminal
Harbour Master's Office
Ferry Terminal
Beach
Warynskiego Quay
Ziokkowskiego Oliwskie
Harbour Channel
Westerplatte
NORTH PORT
Coal Terminal
Obroncow
Poczty Polskiej
NOWY PORT
ZASPA
Quay of the 20th Anniversary of the Republic
Timber Quay
Ore Quay
Gorniczy Basin
Coal Quay
Ship repair Yard
Kaszubski Channel
Chemist's Quay
OSTROW
Dead Vistula
Industrial Quay
GDANSK

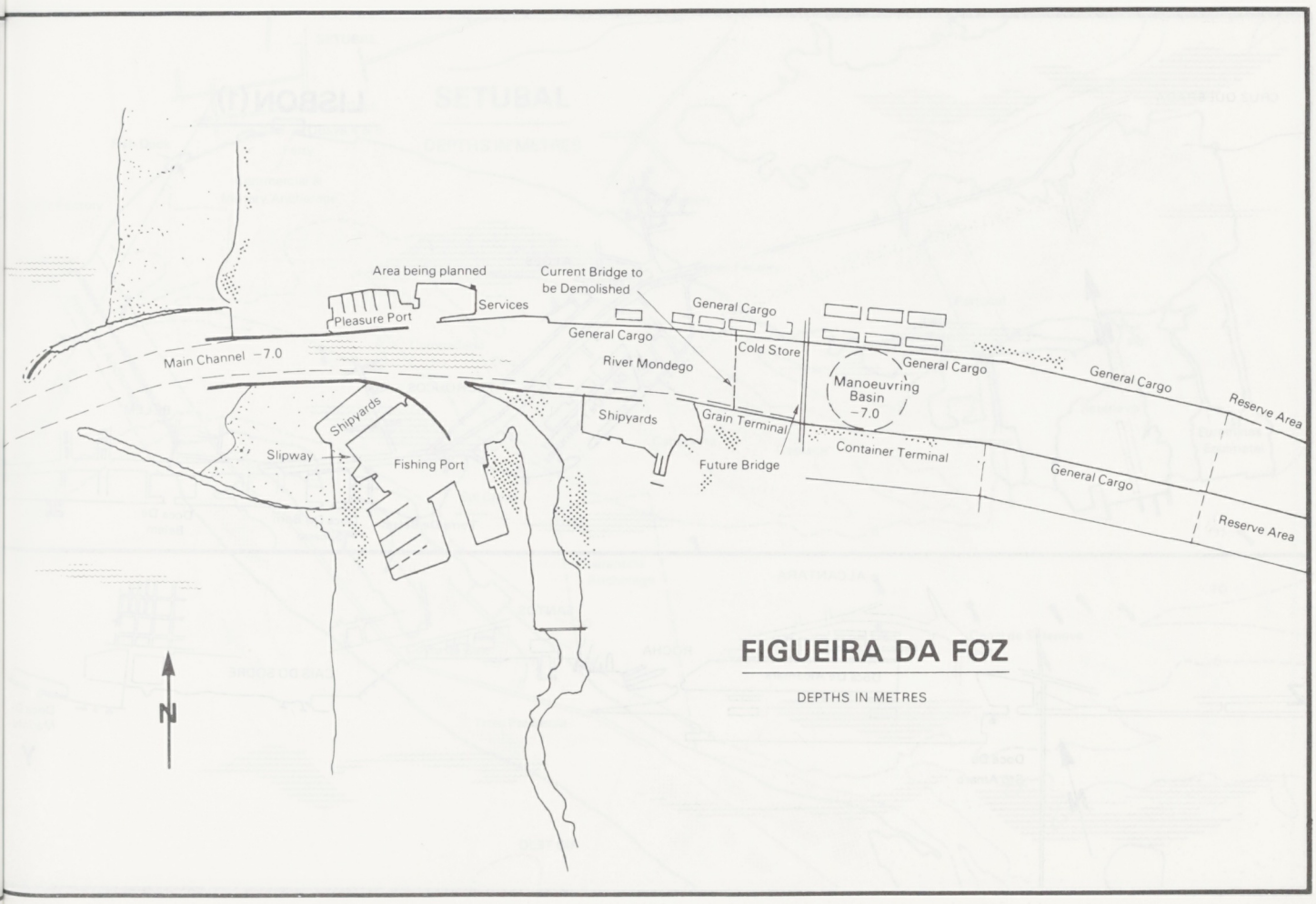

Container Terminal
Hel Quay
Hel Quay
Yugoslavian Quay
BASIN VI
Hungarian Quay
Norwegian Quay
Romanian Quay
BASIN V
Peace Fighters Quay
SHIPYARD AREA
Customs office
Czechoslovakian Quay
Indian Quay
BASIN IV
Polish Quay
Port health office
Ro/Ro Berth
Rotterdam Quay
Customs Office
N
MAIN ENTRANCE
Finnish Quay
French Quay
Harbour master's office
Passenger Terminal
Belgian Quay
Customs office
Dutch Quay
Ro-Ro Berth
Dunskie Quay
BASIN III
Swedish Quay
Wenda Quay
Ship Repair Yard
Silesian Quay
BASIN II
English Quay
Iceland Quay
Smack Quay
BASIN I
Pomeranian Quay
Excursion terminal
SOUTH ENTRANCE
YACHT BASIN
GDYNIA


BALTIC SEA
RIVER SWINA
255m
Chemikow Quay
– 14.0m
329m
– 13.3m
Hutnikow Quay
260m
– 13.5m
Gornikow Quay
215m
– 12.5m
Pomorzow Quay
Ferry Terminal
PPD.UR Odra
Morska Stocznia Remontowa
Marine Ship Repair Yard
SWINOUJSCIE


GORNICZY BASIN
Chorzowskie Quay
Katowickie Quay
Gliwickie Quay
Bytomskie Quay
Wałbrzyskie Quay
Bydgoskie Quay
Drzewne Quay
Parnica Quay
Sosnowieckie Quay
GORNOSLASKI BASIN
OSTROW MIELENSKI
RIVER PARNICA
Grain Elevator 'Warta'
Przemysłowy Channel
GRABOWSKI PENINSULA
OKRETOWA ISLAND
GRYFIA
Ship Repair Yard
Debica
Dam
Czechostowackie Quay
Grain Elevator 'Ewa'
Zbozowe Quay
RIVER ODRA
Odra Quay
Polskie Quay
GRODZKI CHANNEL
Rumunskie Quay
LASZTOWNIA
Bielawa
East Basin
Greckie Quay
Radziechie Quay
West Basin
Bulgarskie Quay
Stalowka Quay
Harbour Master's Office
Custom's Head Office
SZCZECIN
RIVER PARNICA
RIVER ODRA

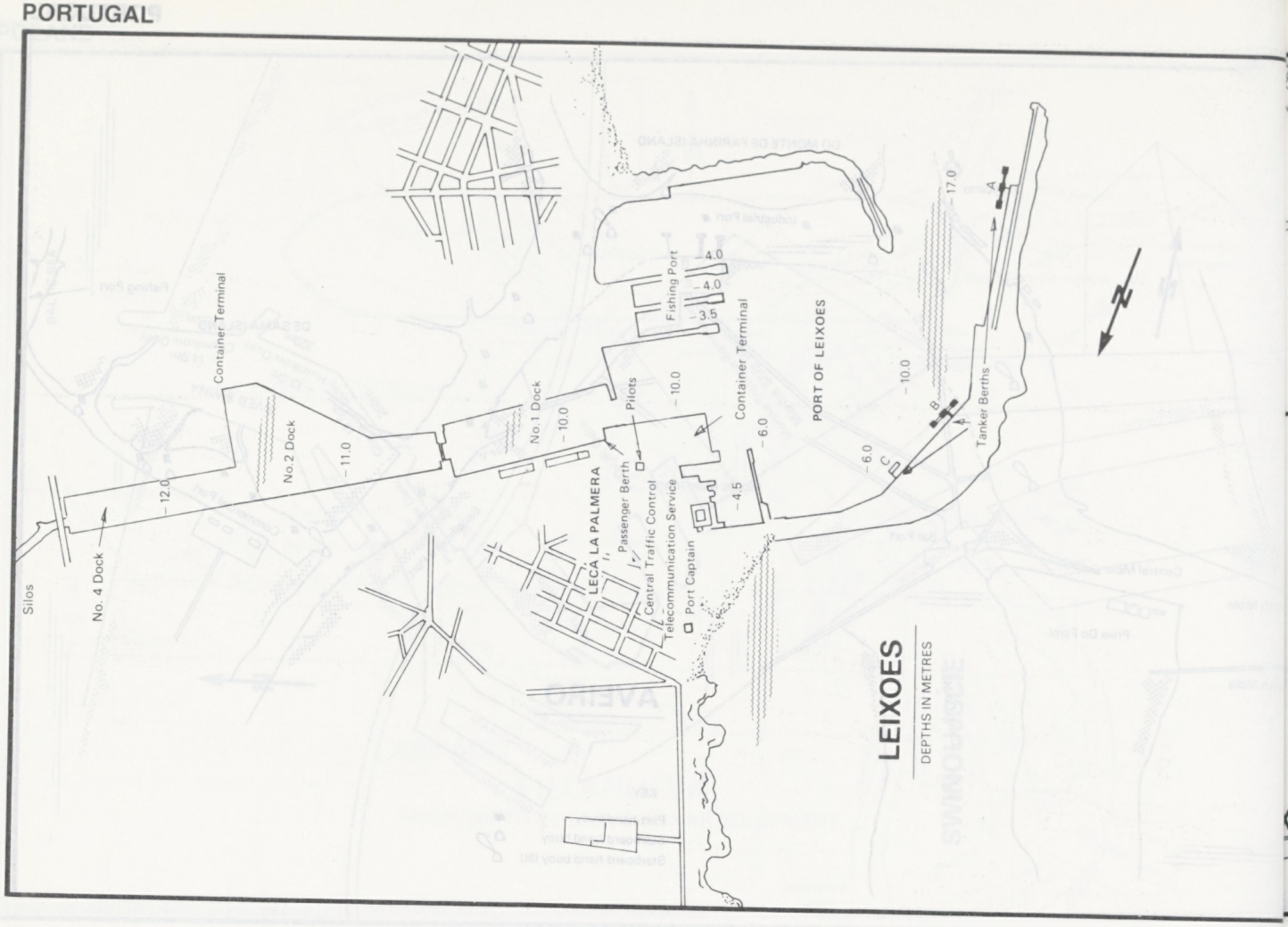


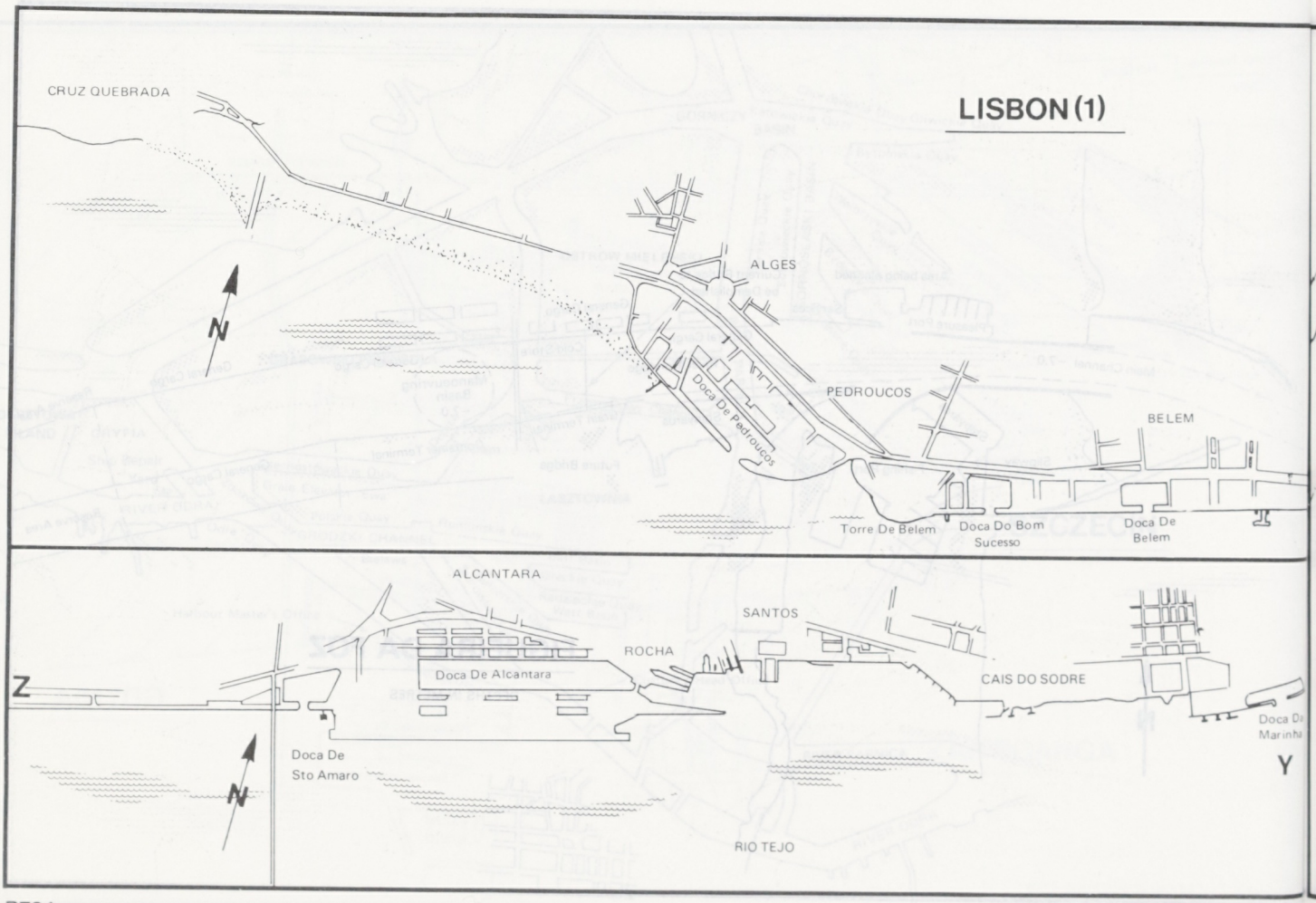
AVEIRO

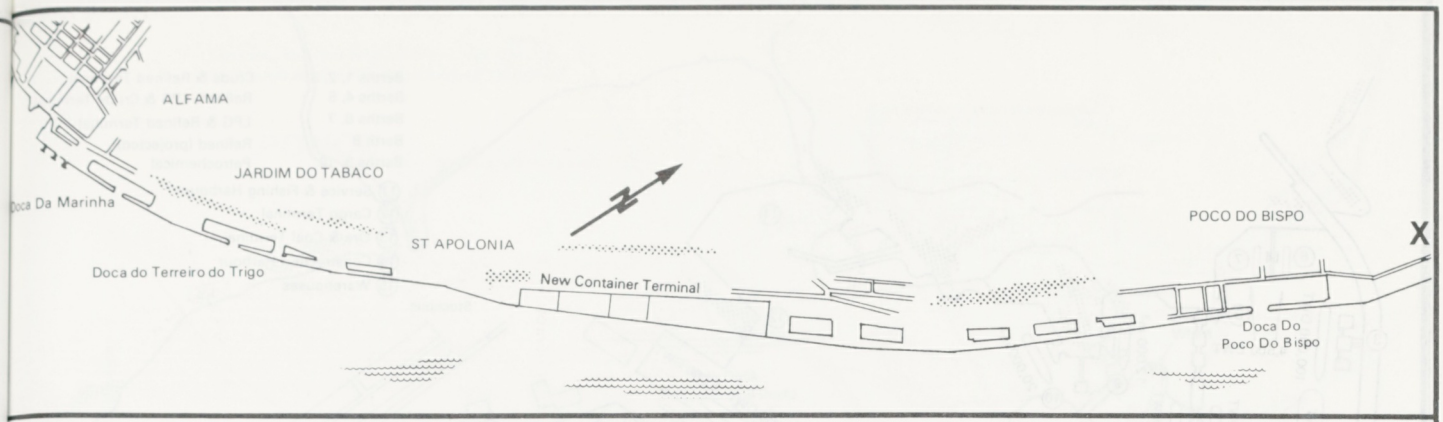


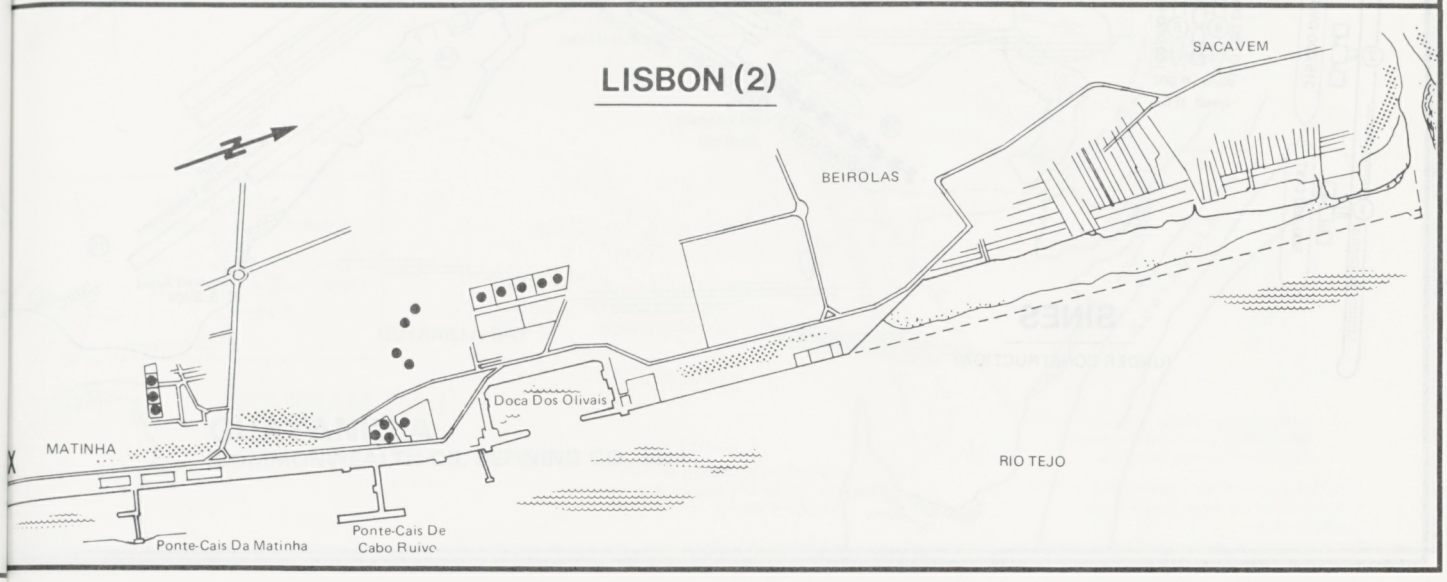
FIGUEIRA DA FOZ

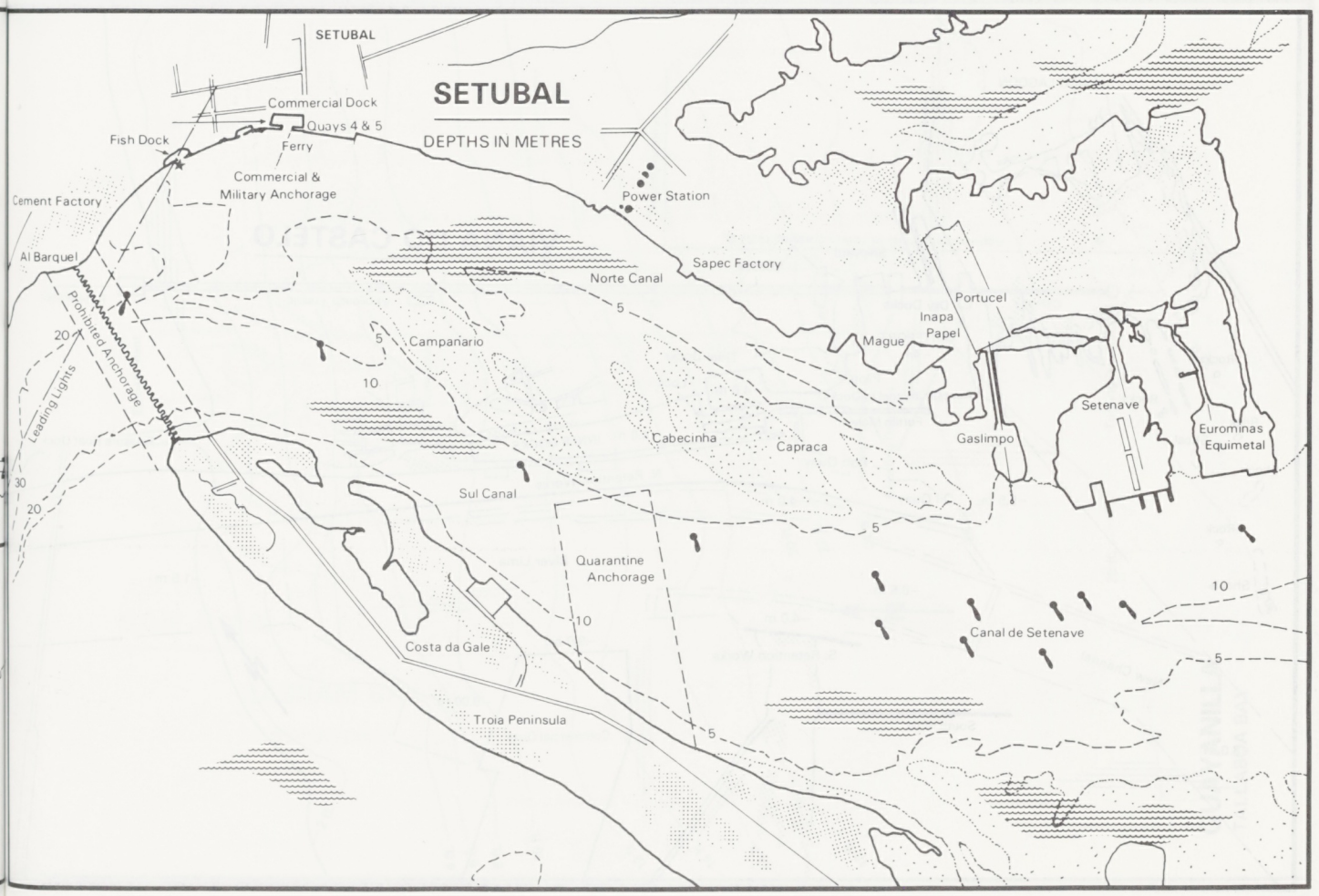
DEPTHS IN METRES

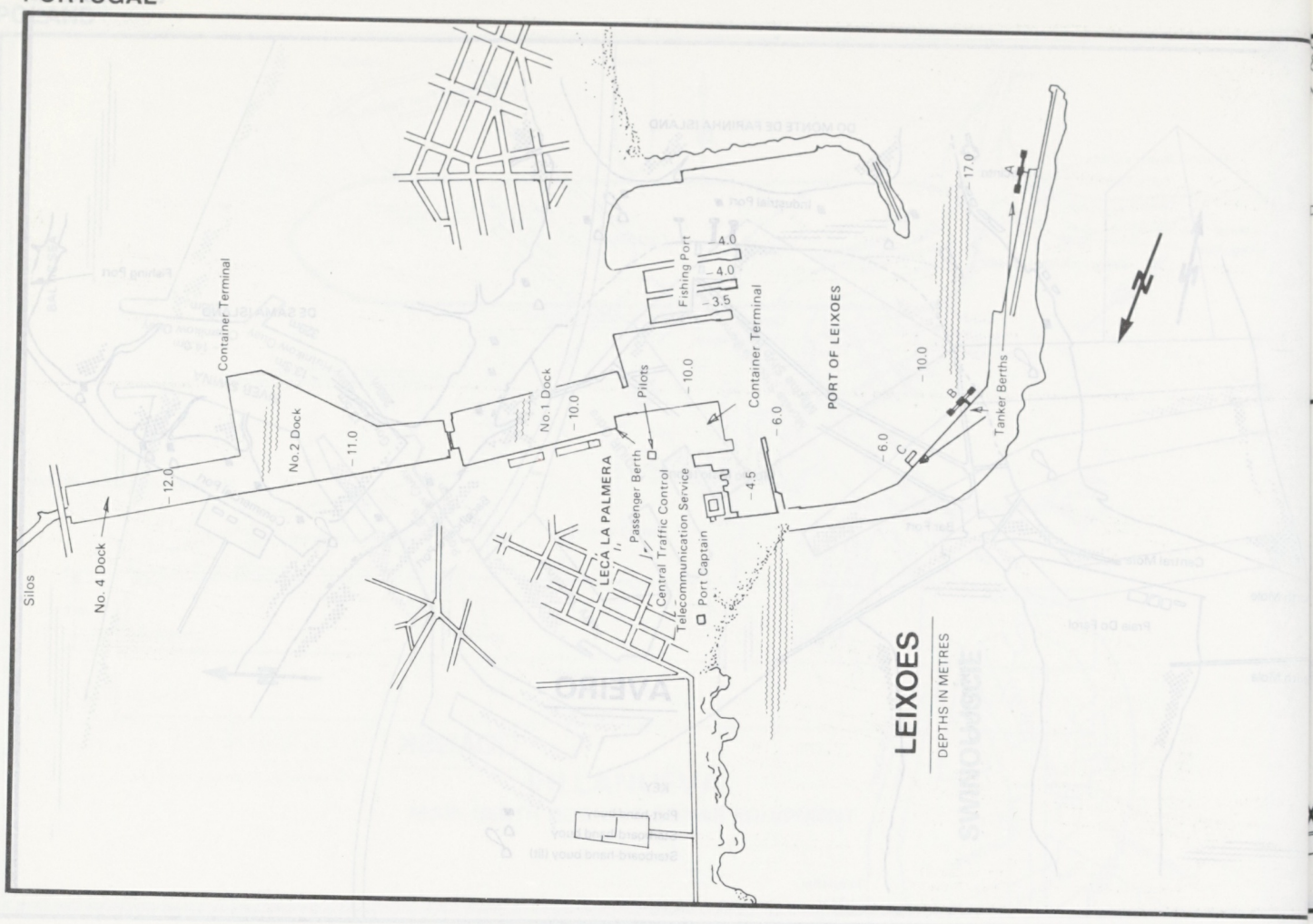

Container Terminal
No. 2 Dock
No. 4 Dock
Silos
– 12.0
– 11.0
No. 1 Dock
– 10.0
Pilots
Passenger Berth
LECA LA PALMERA
Central Traffic Control
Telecommunication Service
Port Captain
Fishing Port
– 4.0
– 4.0
– 3.5
Container Terminal
– 6.0
– 4.5
PORT OF LEIXOES
– 10.0
– 6.0
– 17.0
A
B
C
Tanker Berths
N
LEIXOES
DEPTHS IN METRES

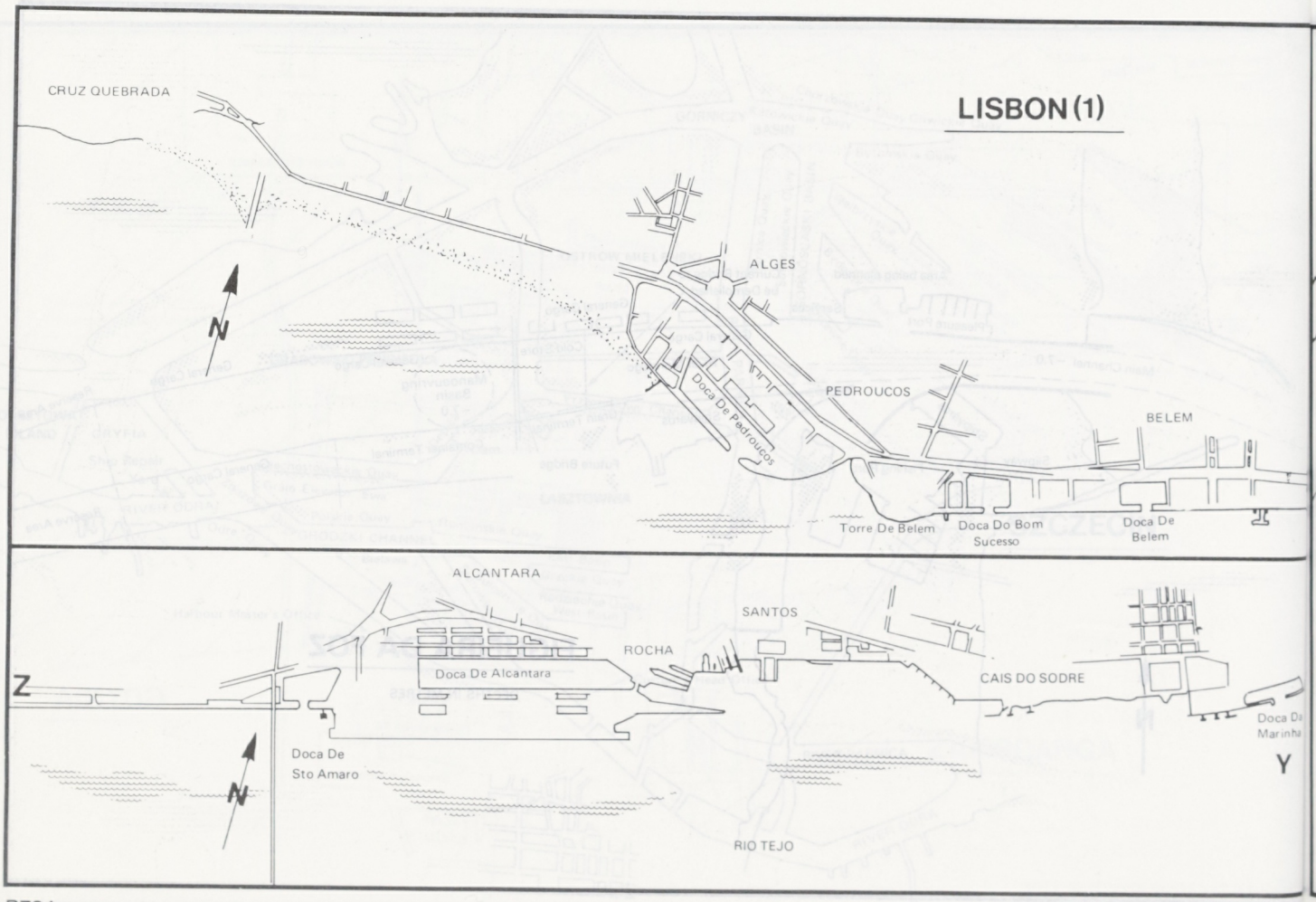

LISBON (1)
CRUZ QUEBRADA
N
ALGES
Doca De Pedroucos
PEDROUCOS
BELEM
Torre De Belem
Doca Do Bom Sucesso
Doca De Belem
ALCANTARA
Doca De Alcantara
ROCHA
SANTOS
CAIS DO SODRE
Z
Y
Doca De Sto Amaro
RIO TEJO

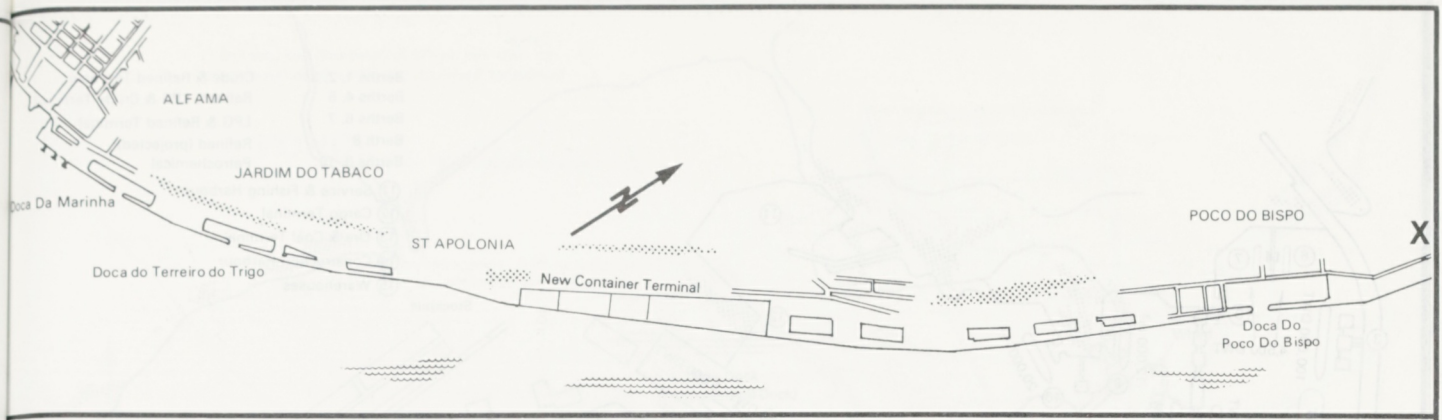

ALFAMA
JARDIM DO TABACO
Doca Da Marinha
ST APOLONIA
POCO DO BISPO
X
Doca do Terreiro do Trigo
New Container Terminal
Doca Do
Poco Do Bispo


LISBON (2)
SACAVEM
BEIROLAS
Doca Dos Olivais
MATINHA
X
RIO TEJO
Ponte-Cais Da Matinha
Ponte-Cais De
Cabo Ruivo

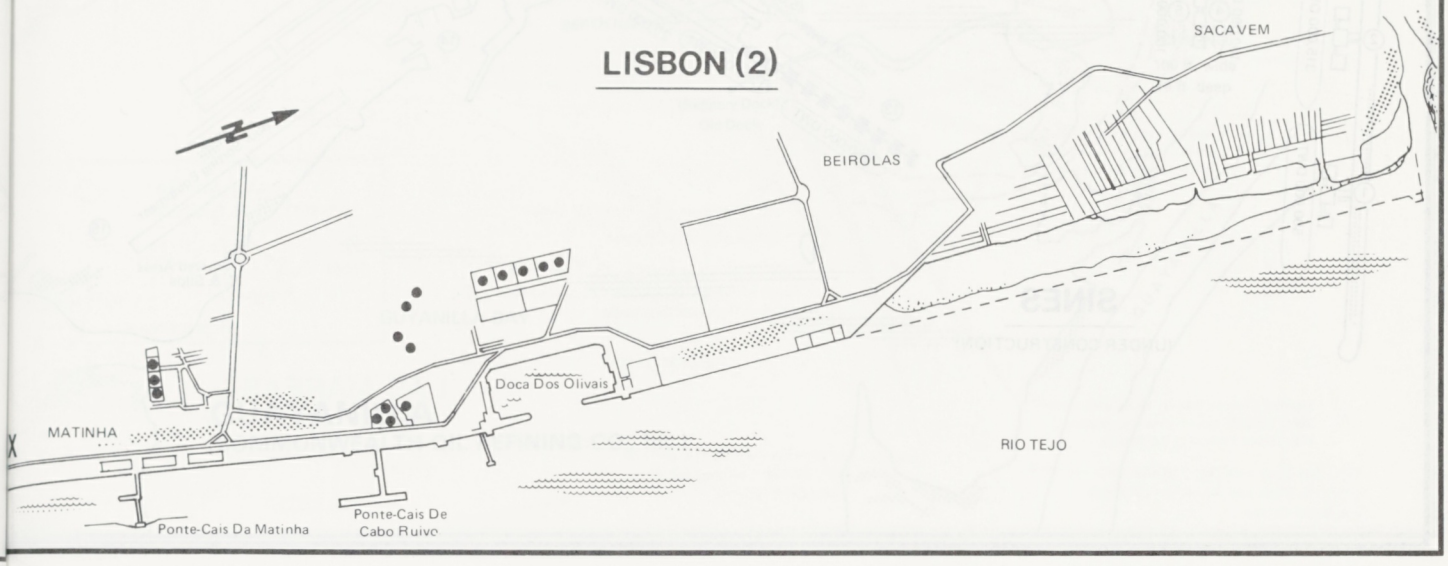

SETUBAL
SETUBAL
DEPTHS IN METRES
Commercial Dock
Quays 4 & 5
Fish Dock
Ferry
Commercial &
Military Anchorage
Cement Factory
Power Station
Al Barquel
Sapec Factory
Norte Canal
Portucel
Inapa
Papel
Mague
Campanario
Prohibited Anchorage
Leading Lights
Setenave
Cabecinha
Capraca
Gaslimpo
Euromínas
Equimetal
Sul Canal
Quarantine
Anchorage
Canal de Setenave
Costa da Gale
Troia Peninsula


Container Terminal
No.2 Dock
No.1 Dock
No. 4 Dock
Silos
Fishing Port
Pilots
Passenger Berth
Central Traffic Control
Telecommunication Service
Port Captain
LECA LA PALMERA
Container Terminal
PORT OF LEIXOES
Tanker Berths
LEIXOES
DEPTHS IN METRES


LISBON (1)
CRUZ QUEBRADA
ALGES
PEDROUCOS
Doca De Pedroucos
BELEM
Torre De Belem
Doca Do Bom Sucesso
Doca De Belem
ALCANTARA
Doca De Alcantara
ROCHA
SANTOS
CAIS DO SODRE
Doca De Sto Amaro
RIO TEJO

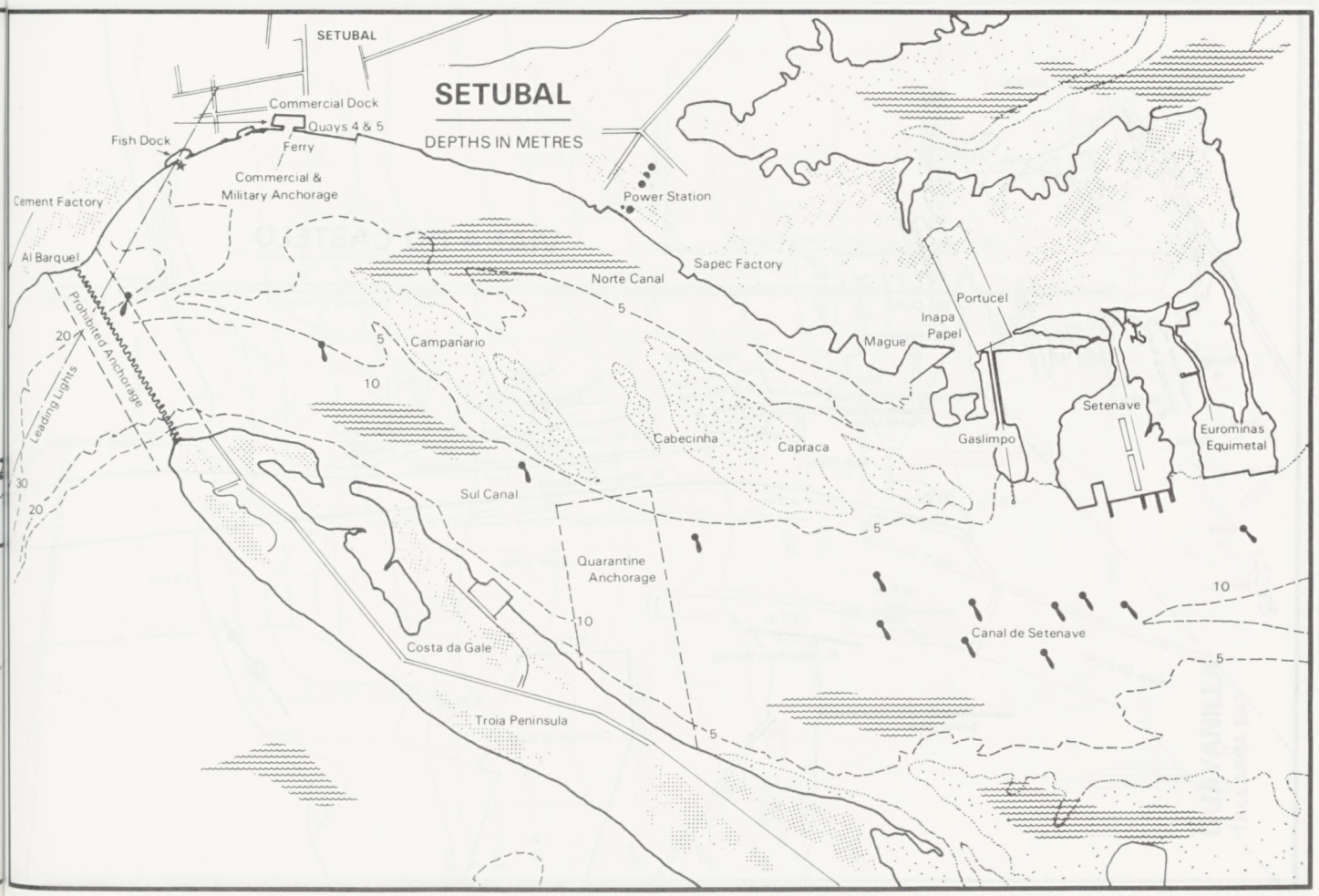


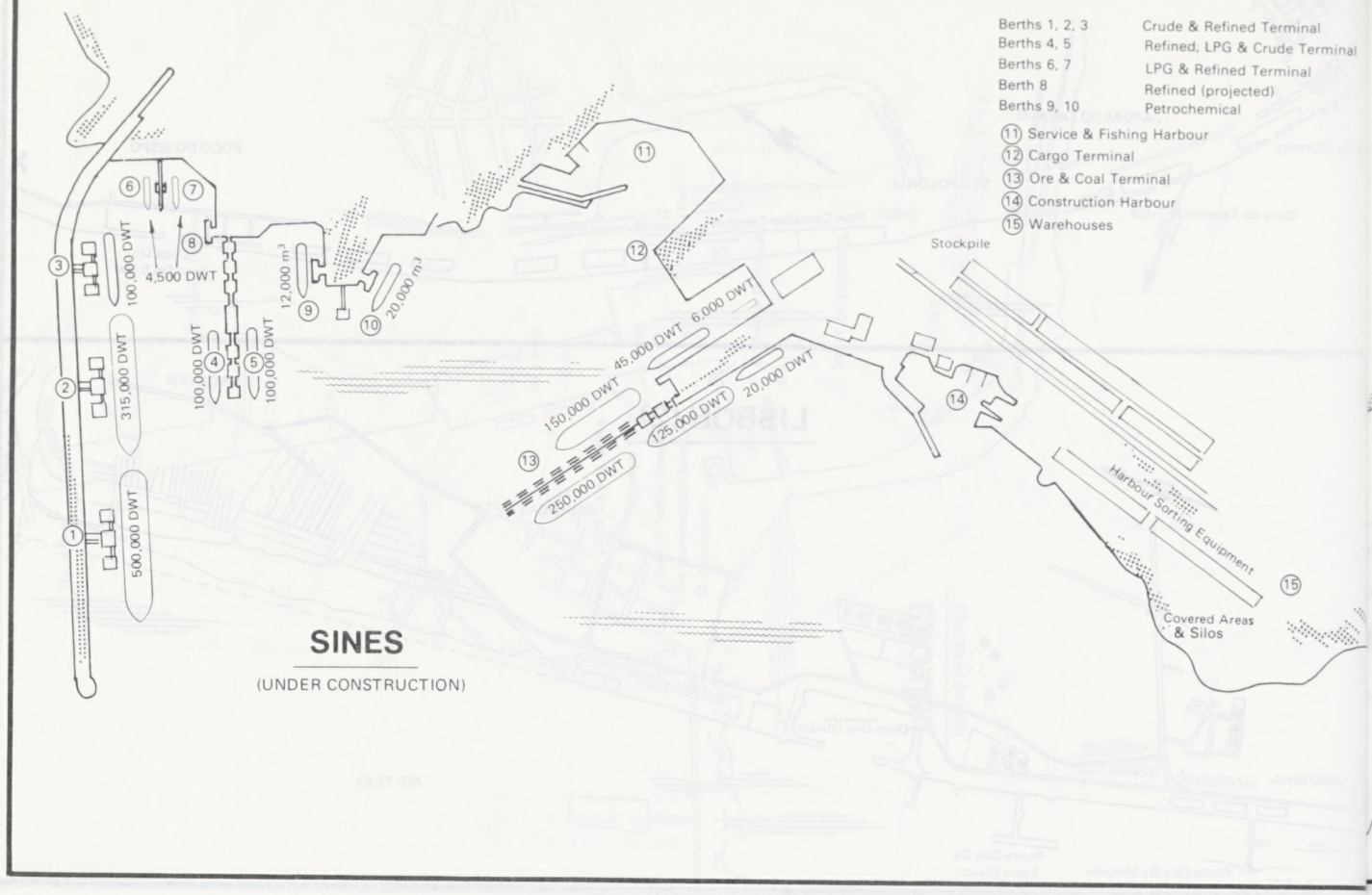
LISBON (2)



SETUBAL

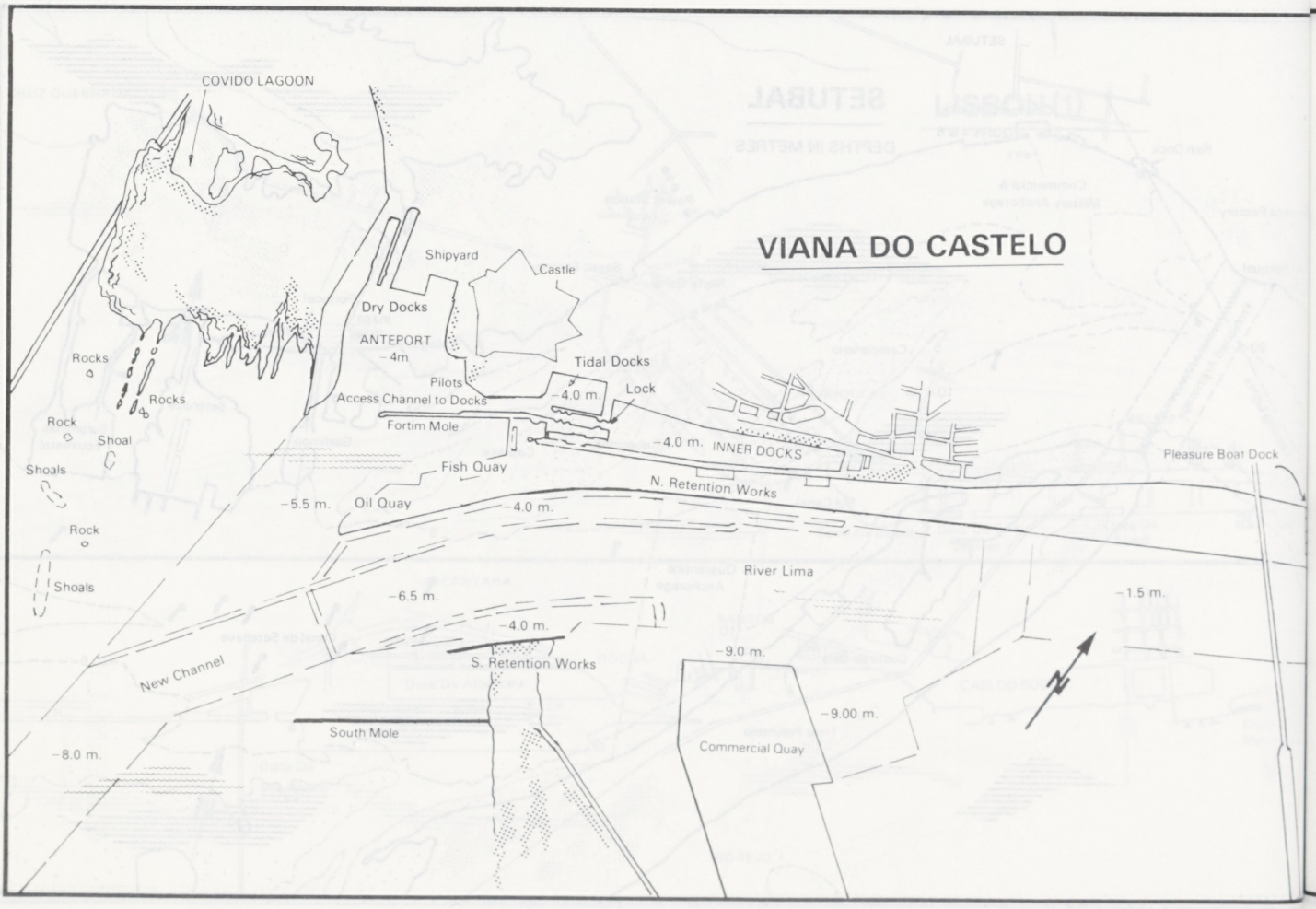
DEPTHS IN METRES



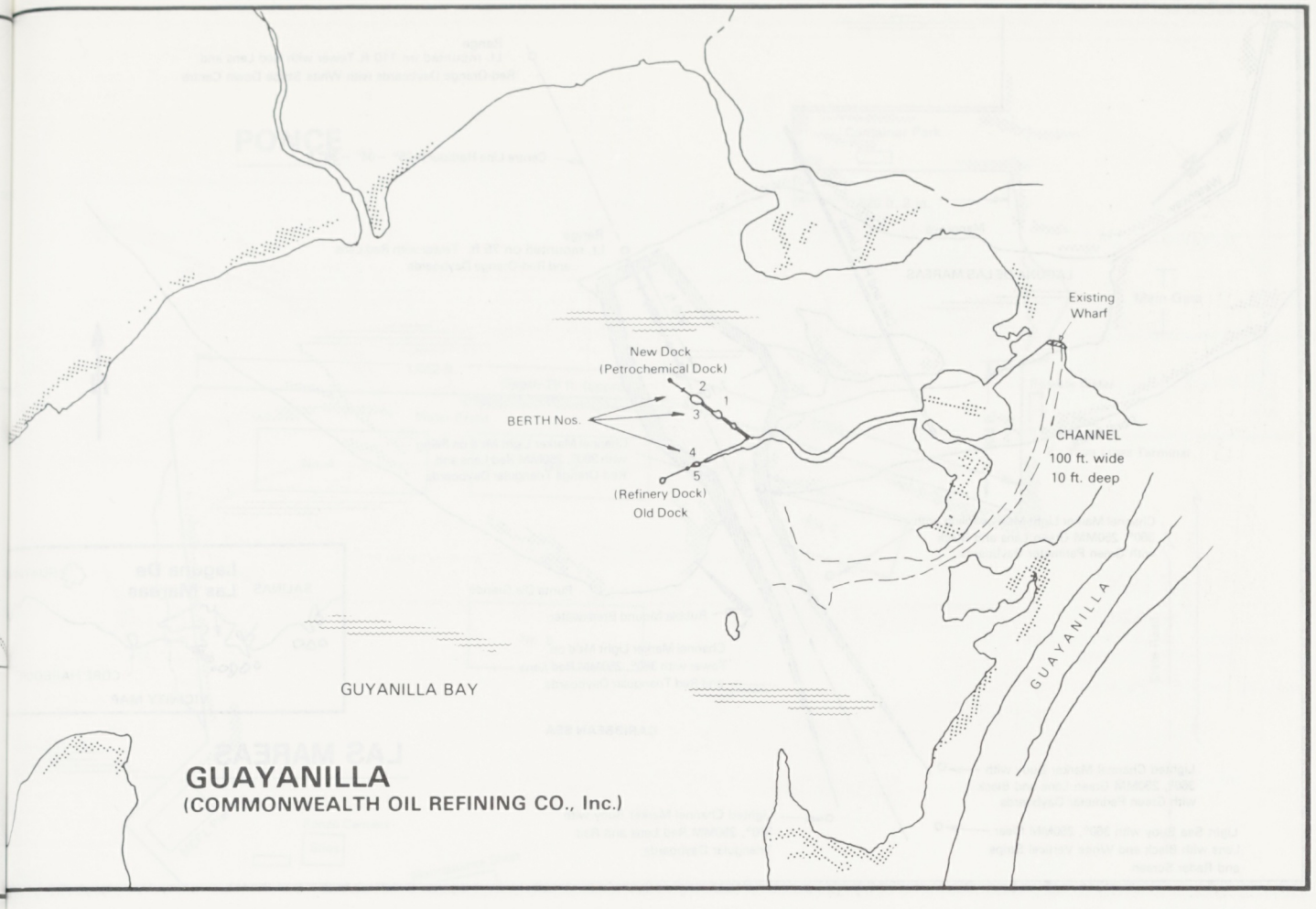


SINES

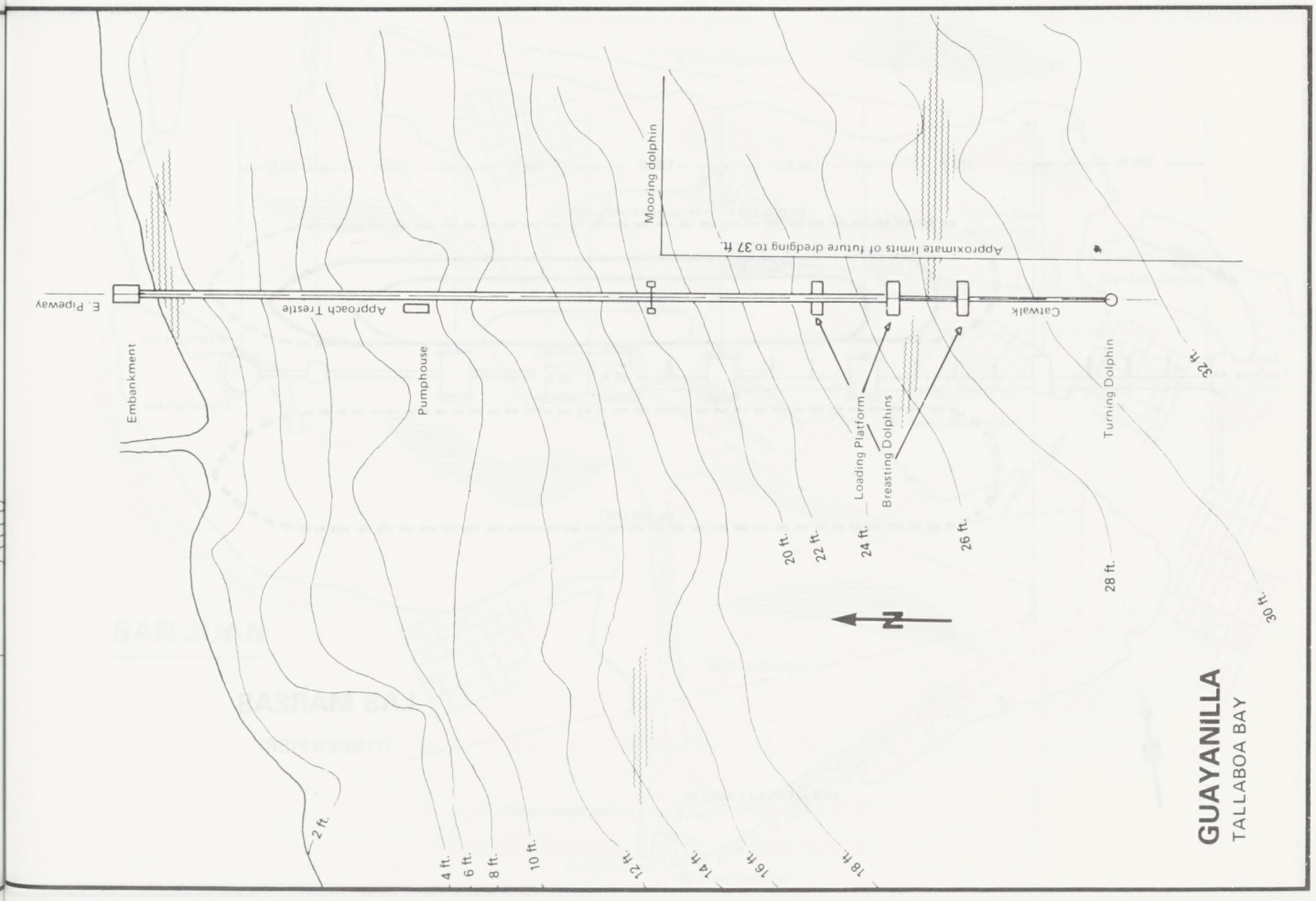
(UNDER CONSTRUCTION)



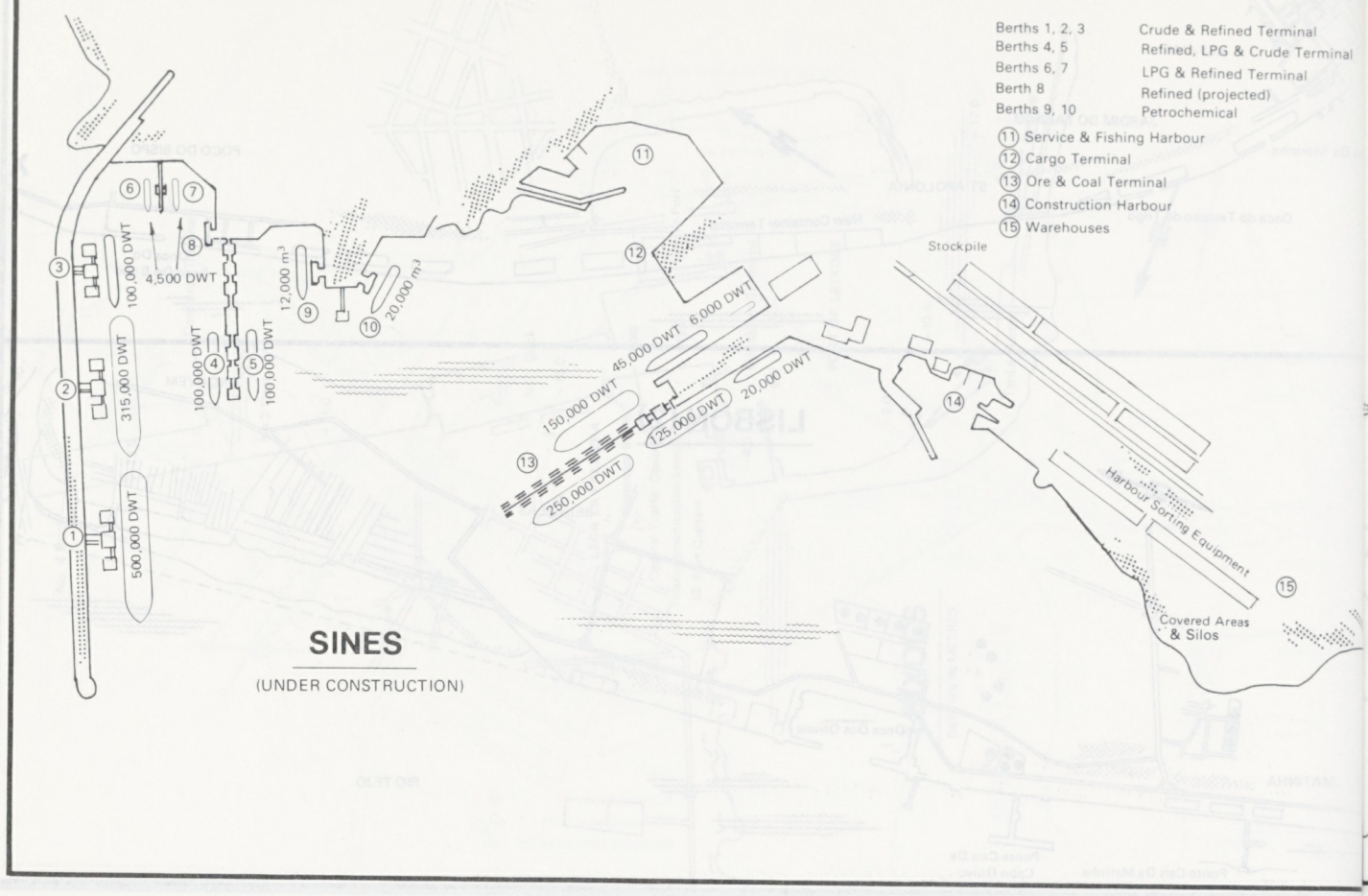
VIANA DO CASTELO



GUAYANILLA
(COMMONWEALTH OIL REFINING CO., Inc.)

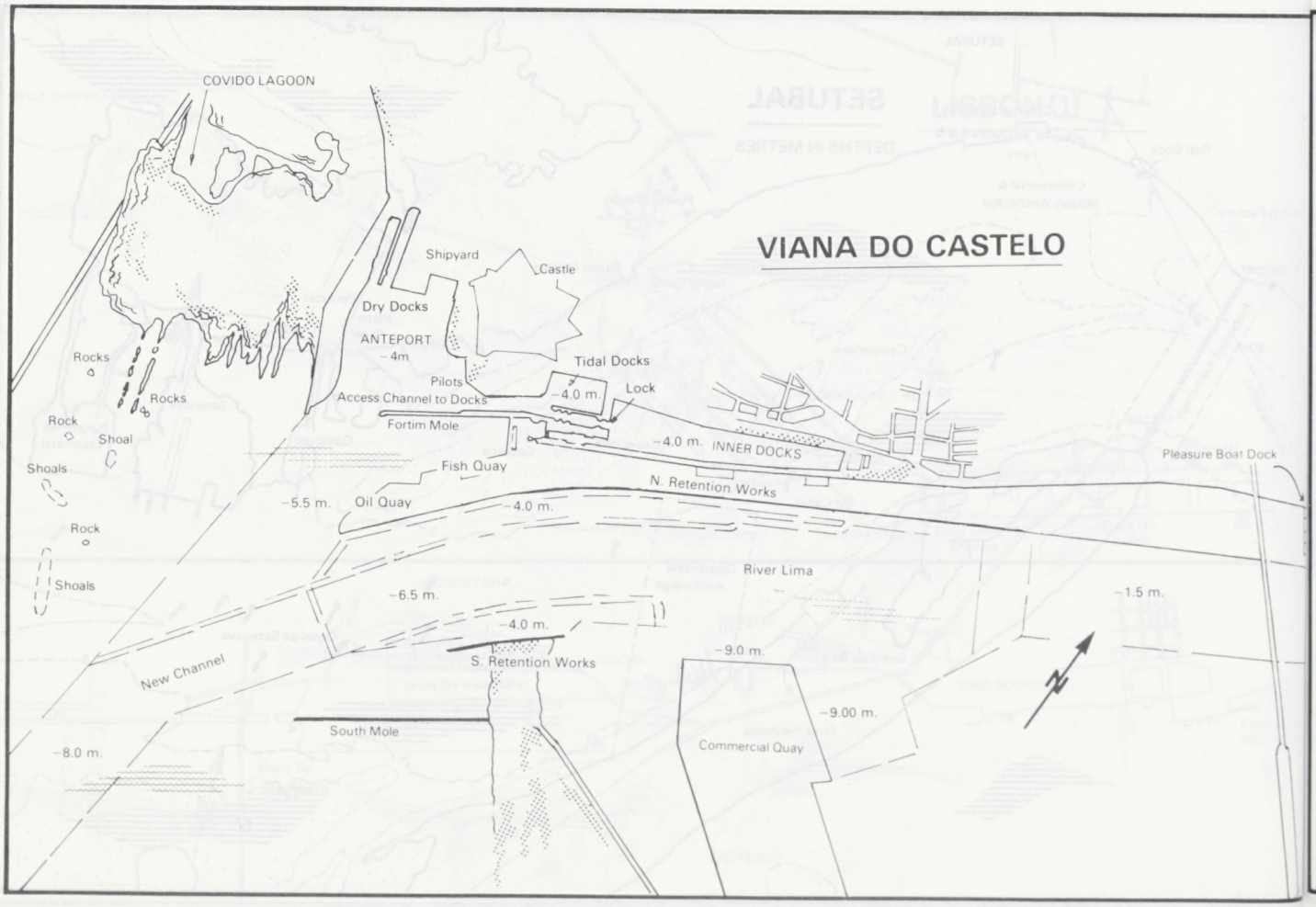


GUAYANILLA
TALLABOA BAY

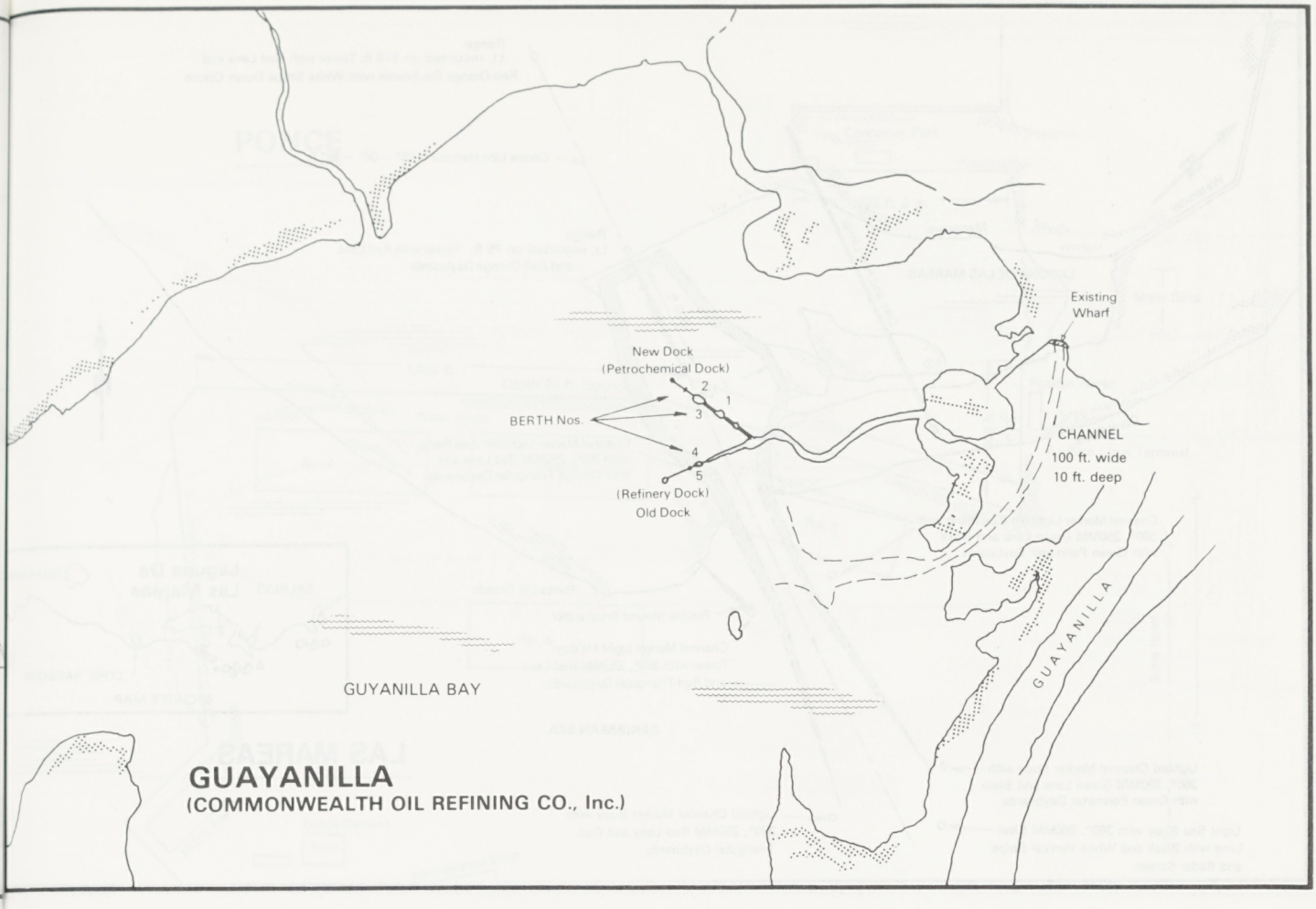


SINES

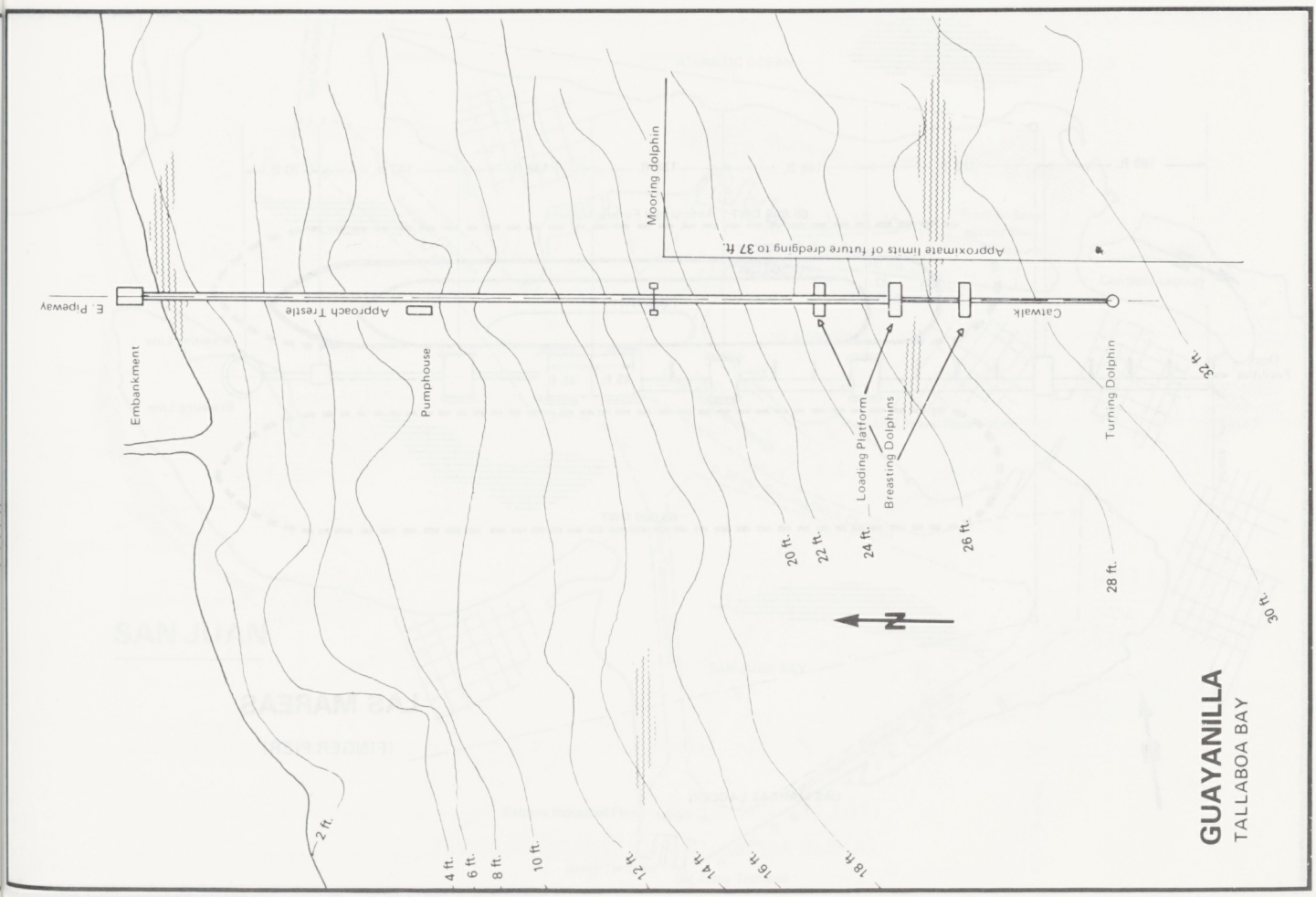
(UNDER CONSTRUCTION)



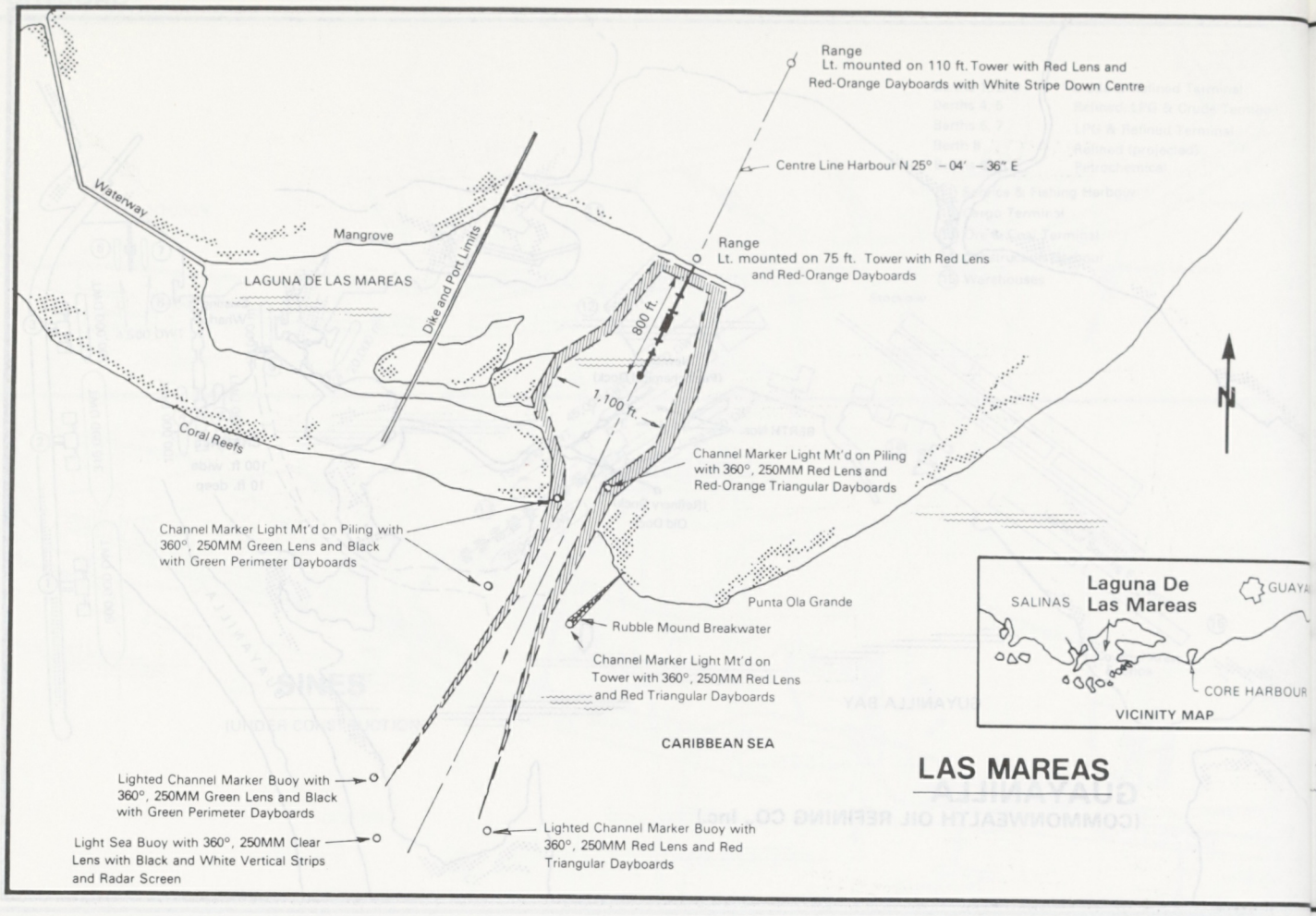
VIANA DO CASTELO



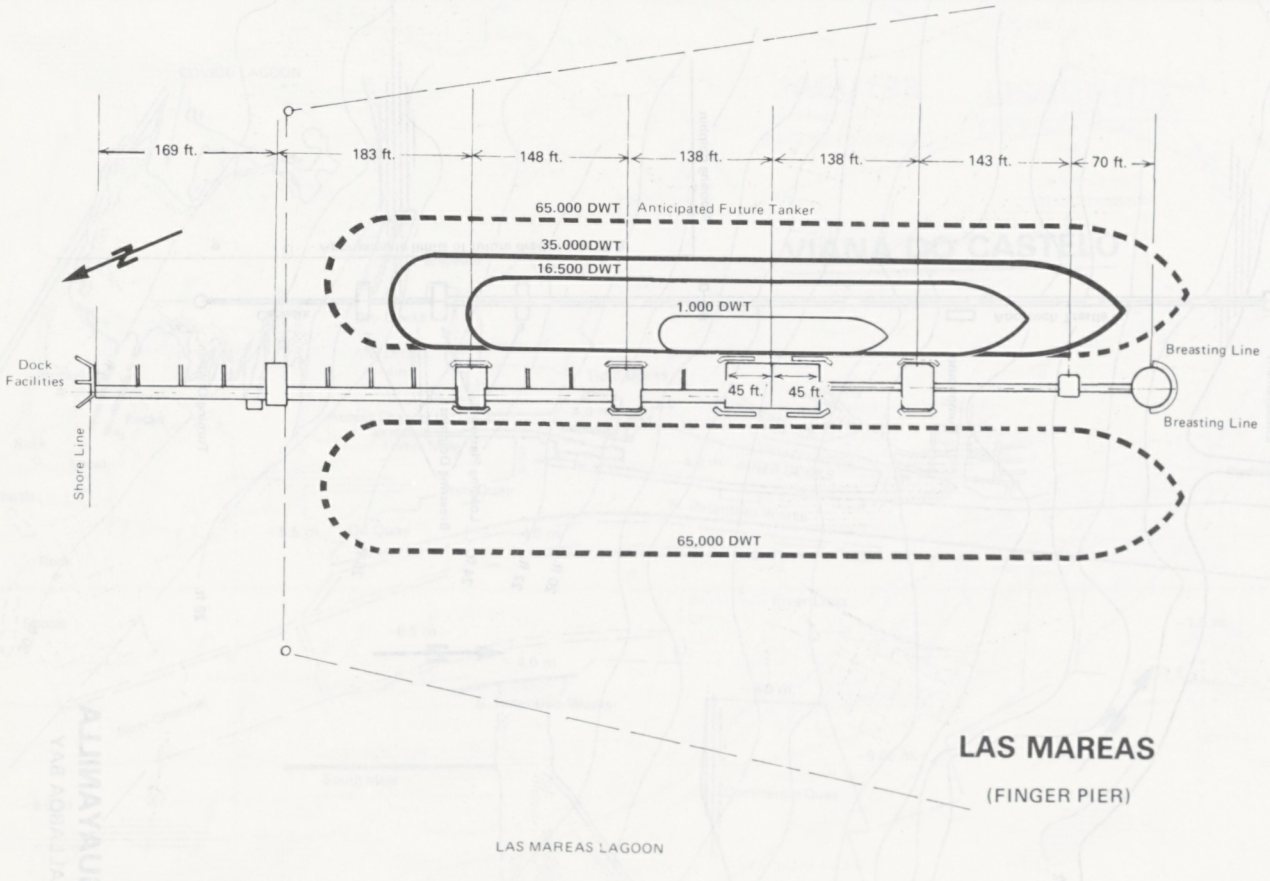
GUAYANILLA
(COMMONWEALTH OIL REFINING CO., Inc.)



GUAYANILLA
TALLABOA BAY

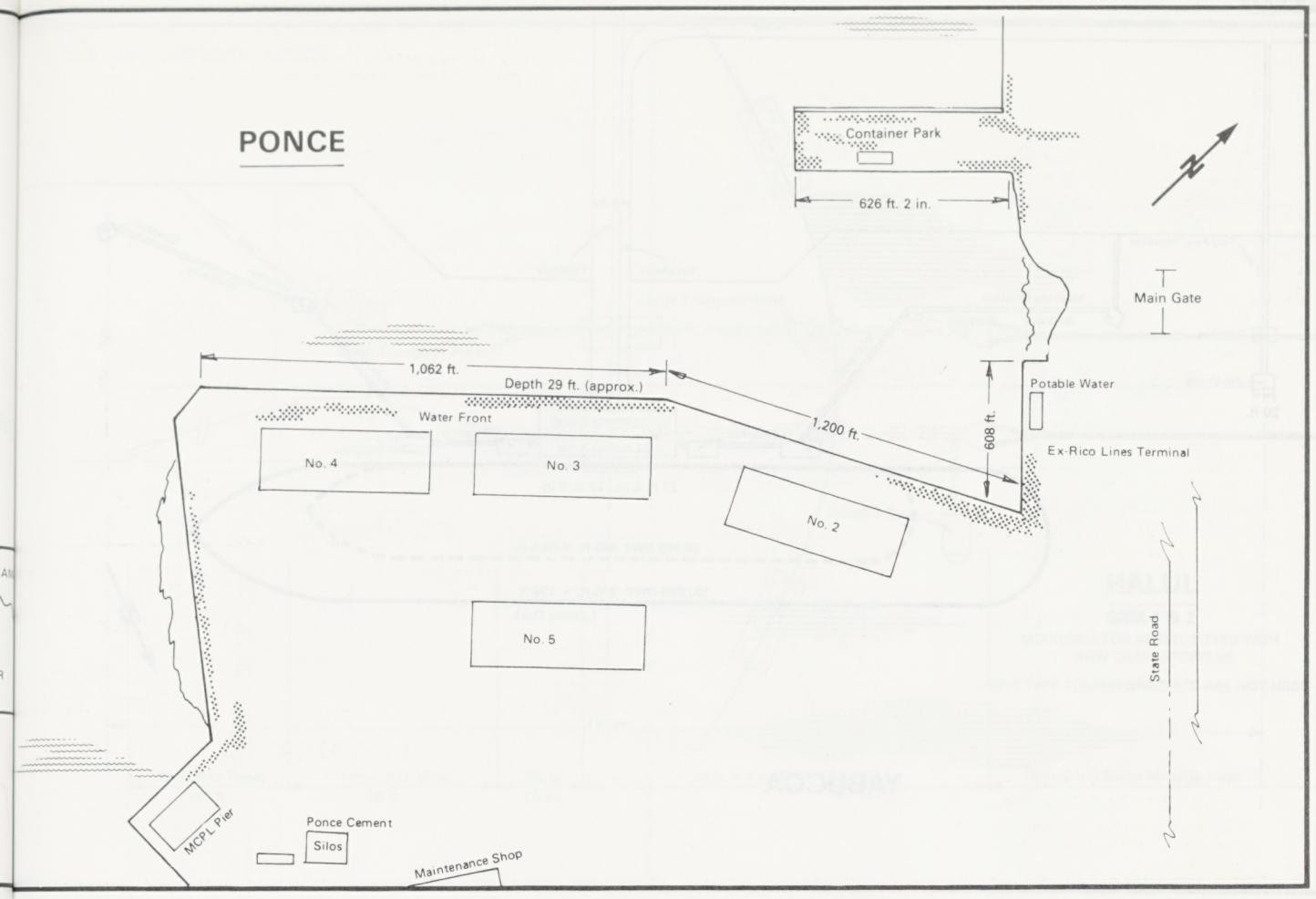


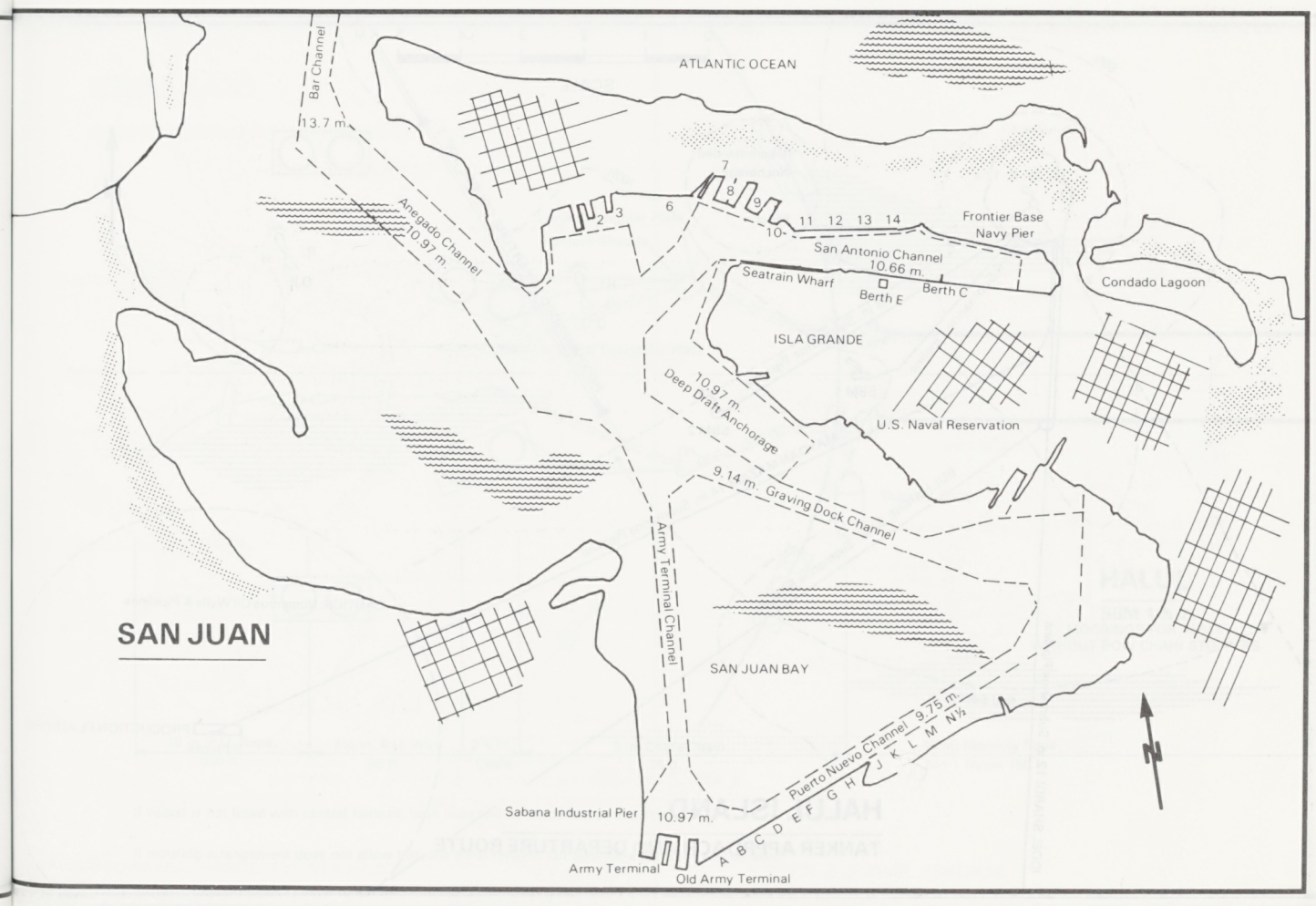
LAS MAREAS

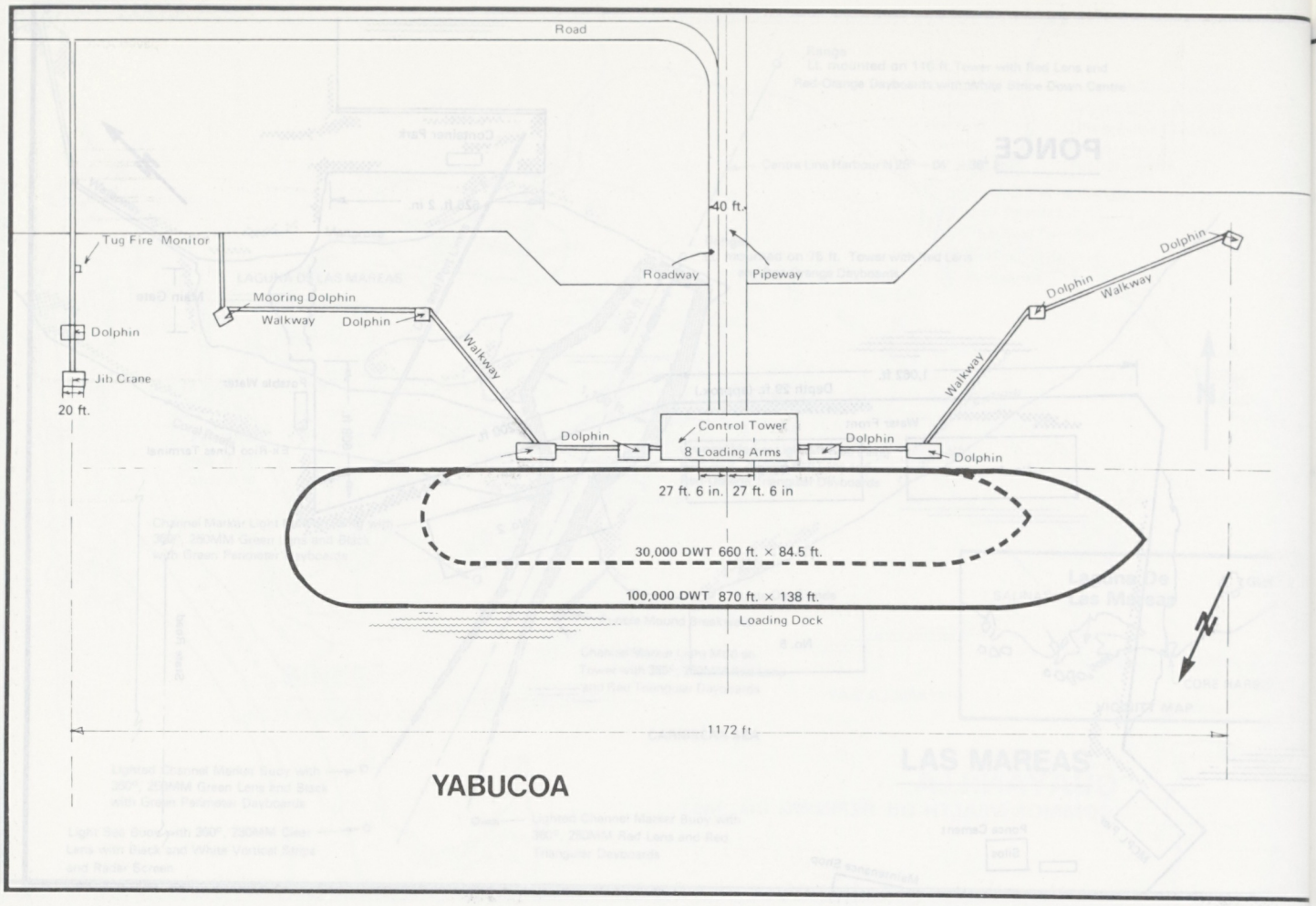


LAS MAREAS

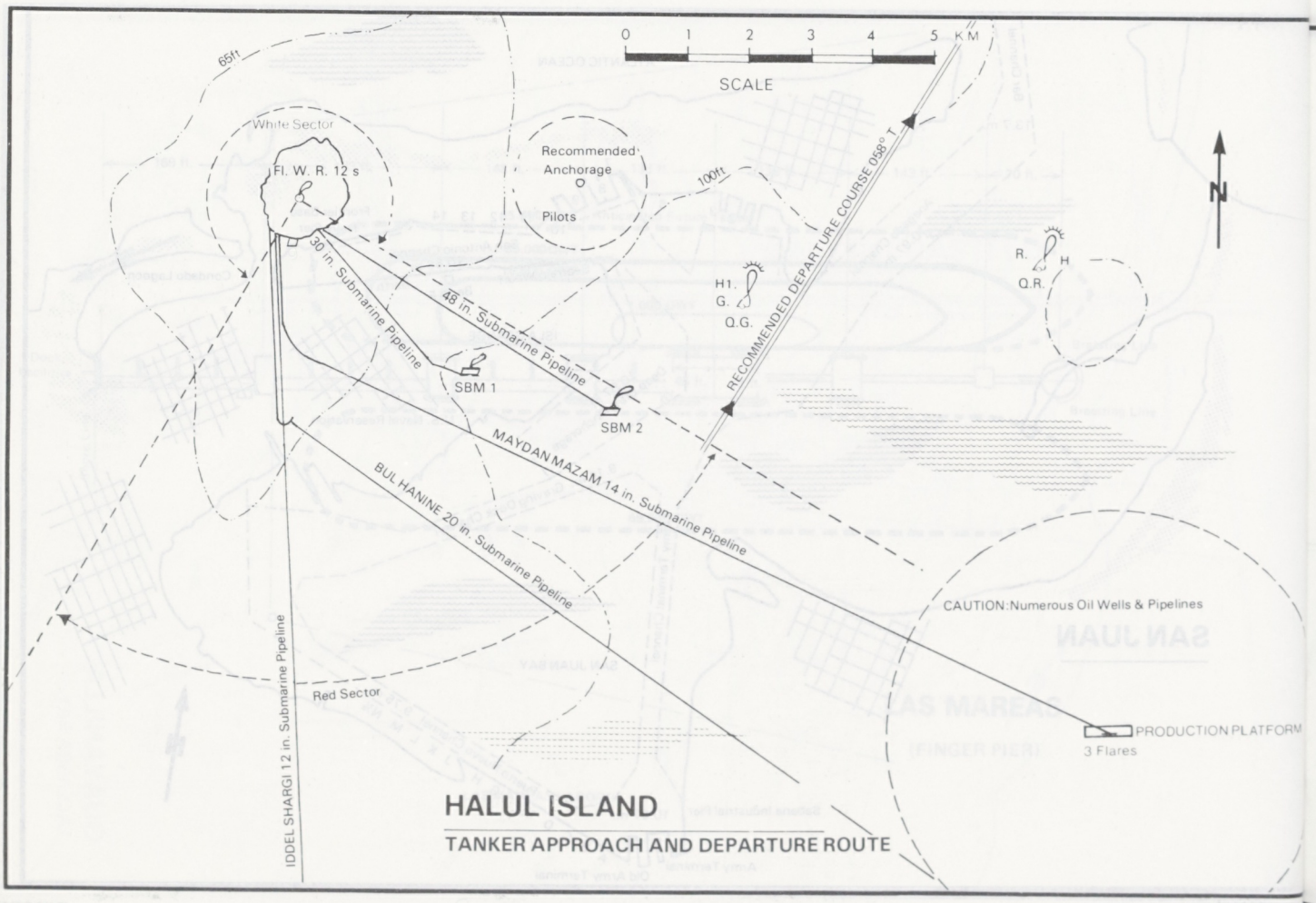
(FINGER PIER)


PONCE
Container Park
626 ft. 2 in.
Main Gate
1,062 ft.
Depth 29 ft. (approx.)
Water Front
1,200 ft.
608 ft.
Potable Water
Ex-Rico Lines Terminal
No. 4
No. 3
No. 2
No. 5
State Road
MCPL Pier
Ponce Cement
Silos
Maintenance Shop


SAN JUAN
Bar Channel
13.7 m.
ATLANTIC OCEAN
Anegado Channel
10.97 m.
Frontier Base
Navy Pier
San Antonio Channel
10.66 m.
Seatrain Wharf
Berth E
Berth C
Condado Lagoon
ISLA GRANDE
10.97 m.
Deep Draft Anchorage
U.S. Naval Reservation
9.14 m. Graving Dock Channel
Army Terminal Channel
SAN JUAN BAY
Puerto Nuevo Channel 9.75 m.
Sabana Industrial Pier
10.97 m.
Army Terminal
Old Army Terminal

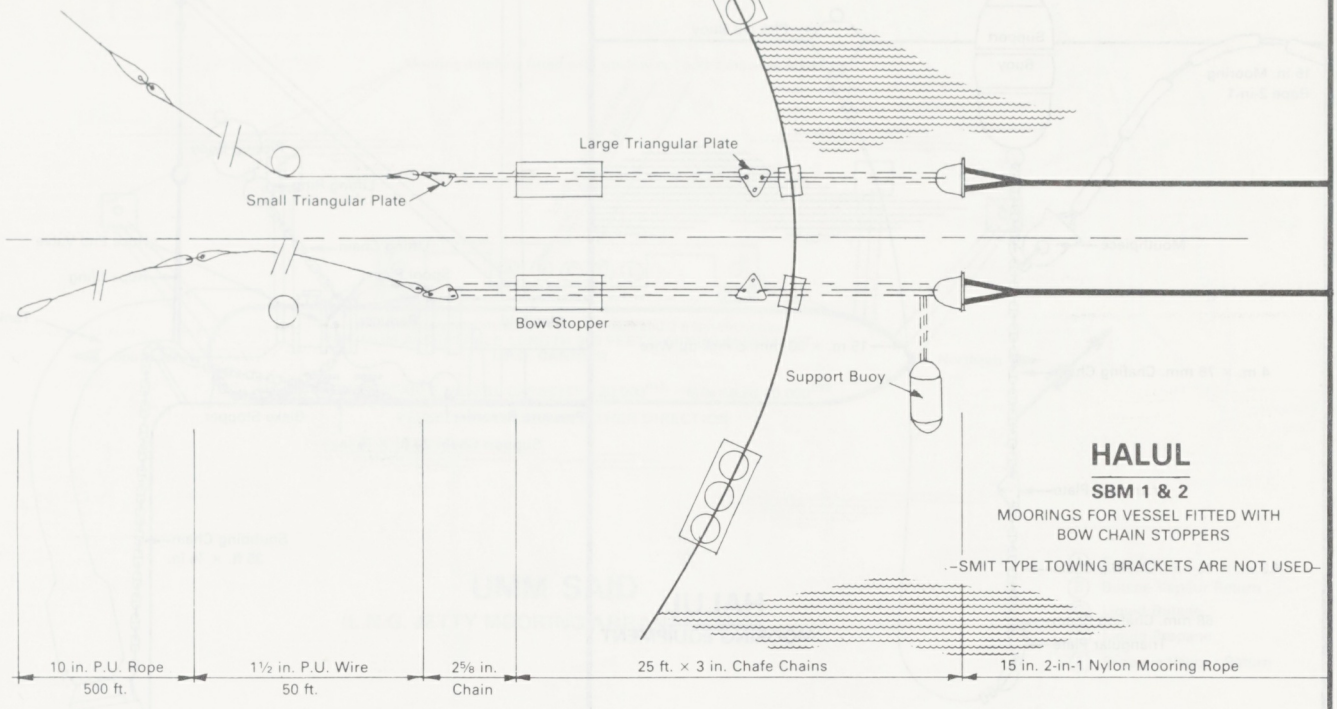


YABUCOA



HALUL ISLAND

TANKER APPROACH AND DEPARTURE ROUTE

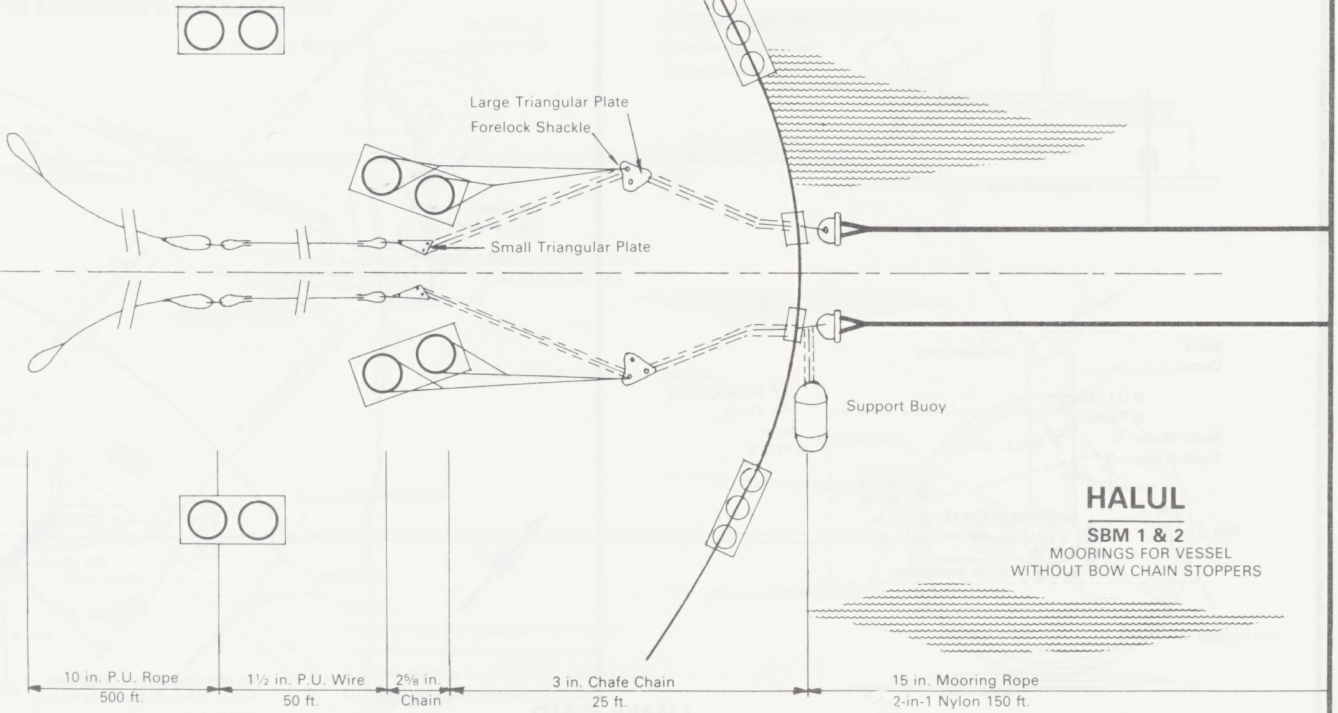


HALUL

SBM 1 & 2

MOORINGS FOR VESSEL FITTED WITH BOW CHAIN STOPPERS

–SMIT TYPE TOWING BRACKETS ARE NOT USED–



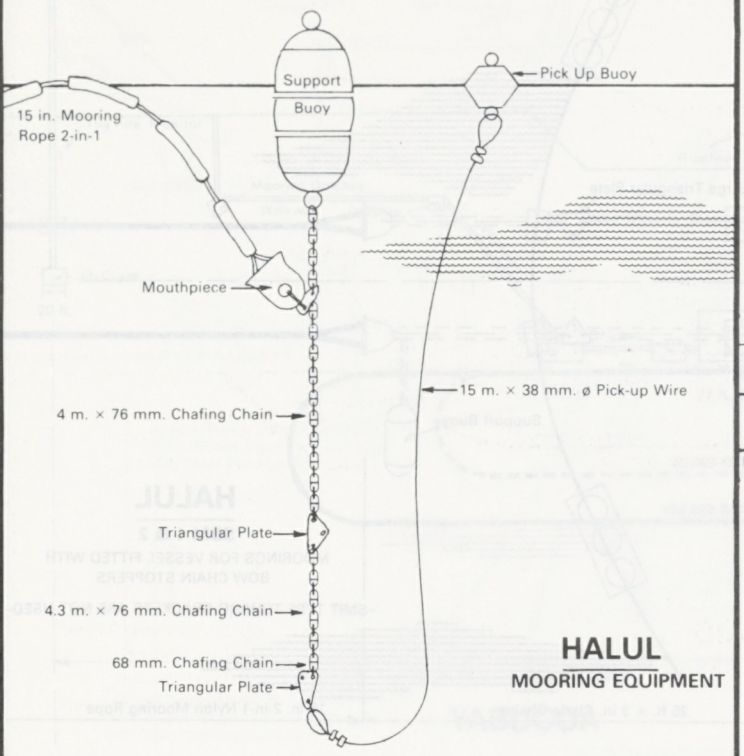
HALUL

SBM 1 & 2

MOORINGS FOR VESSEL WITHOUT BOW CHAIN STOPPERS

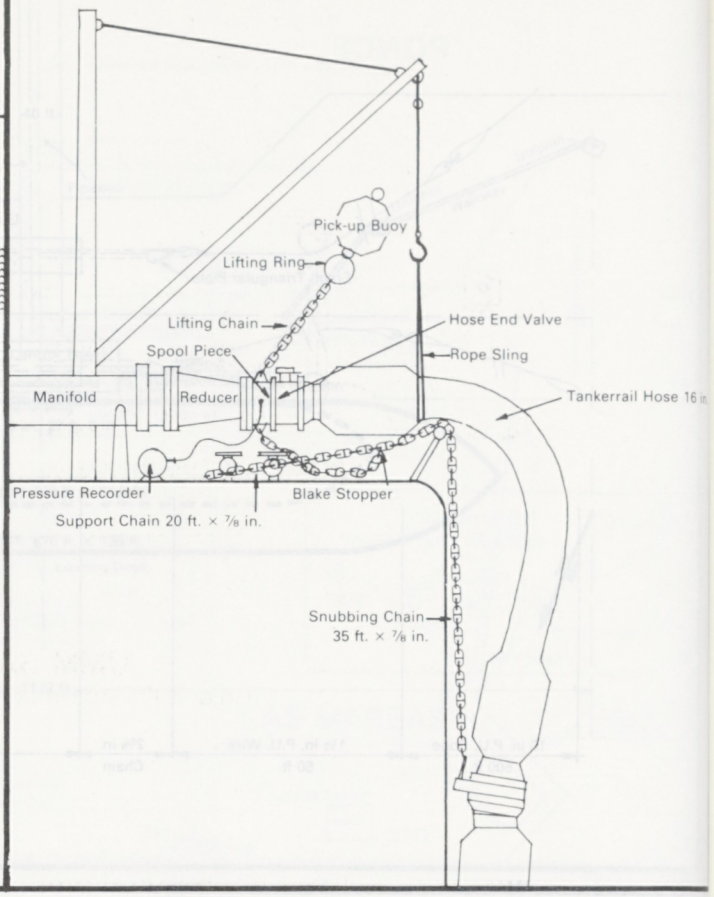
If vessel is not fitted with central fairlead, both lines will be made fast at one side:

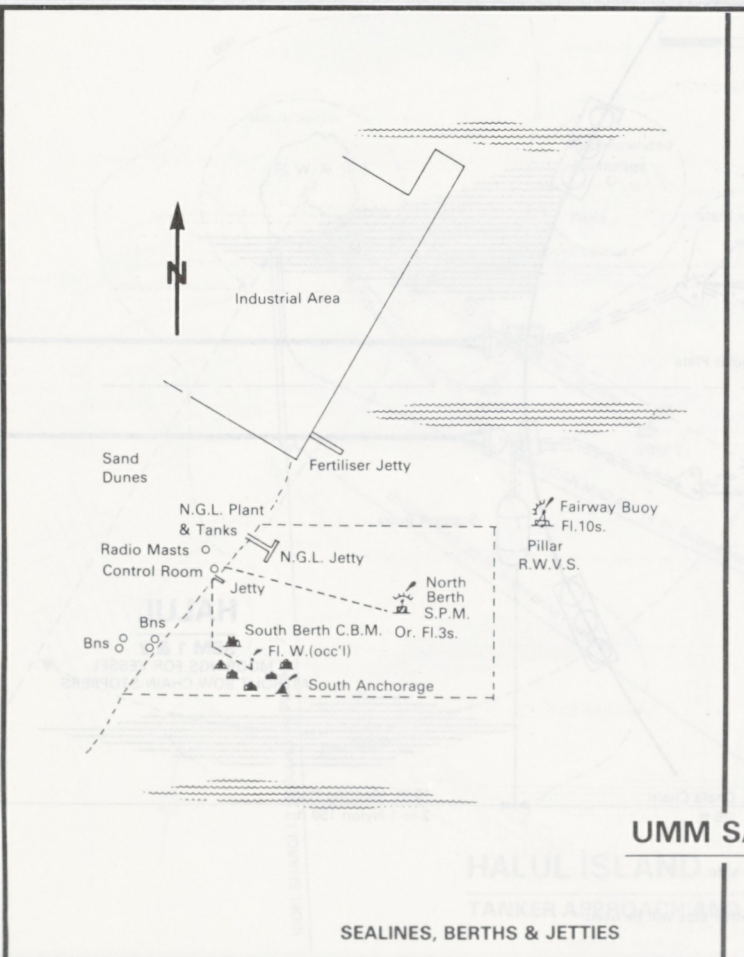
If mooring arrangement does not allow this, the most forward fairleads on either side will be used.



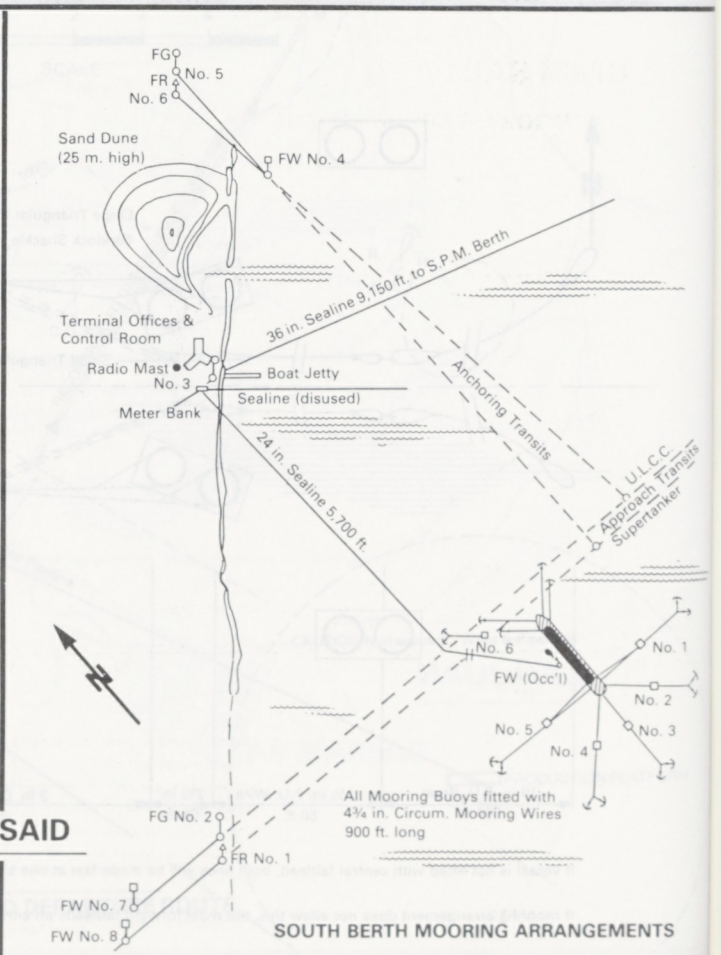
HALUL
MOORING EQUIPMENT

HOSE SUPPORTING ARRANGEMENT

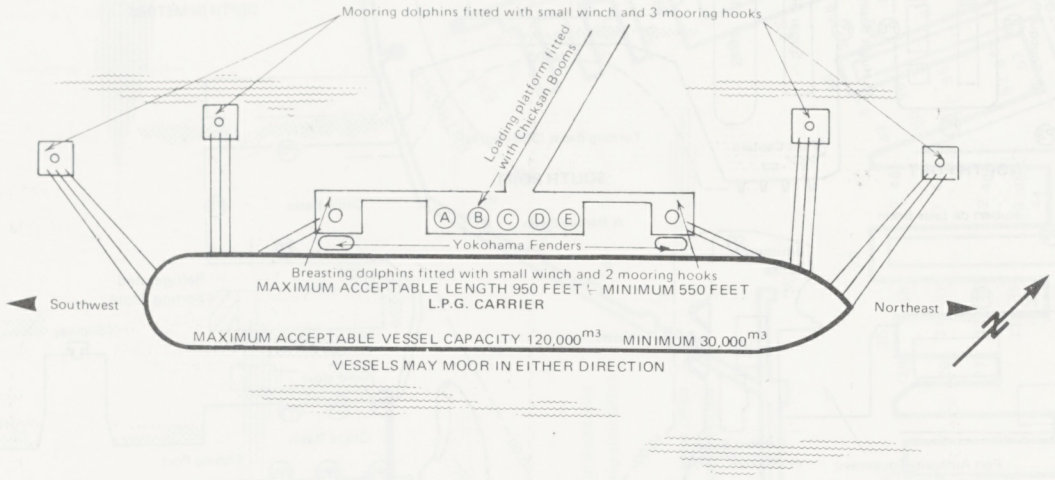




UMM SAID
SEALINES, BERTHS & JETTIES



SOUTH BERTH MOORING ARRANGEMENTS



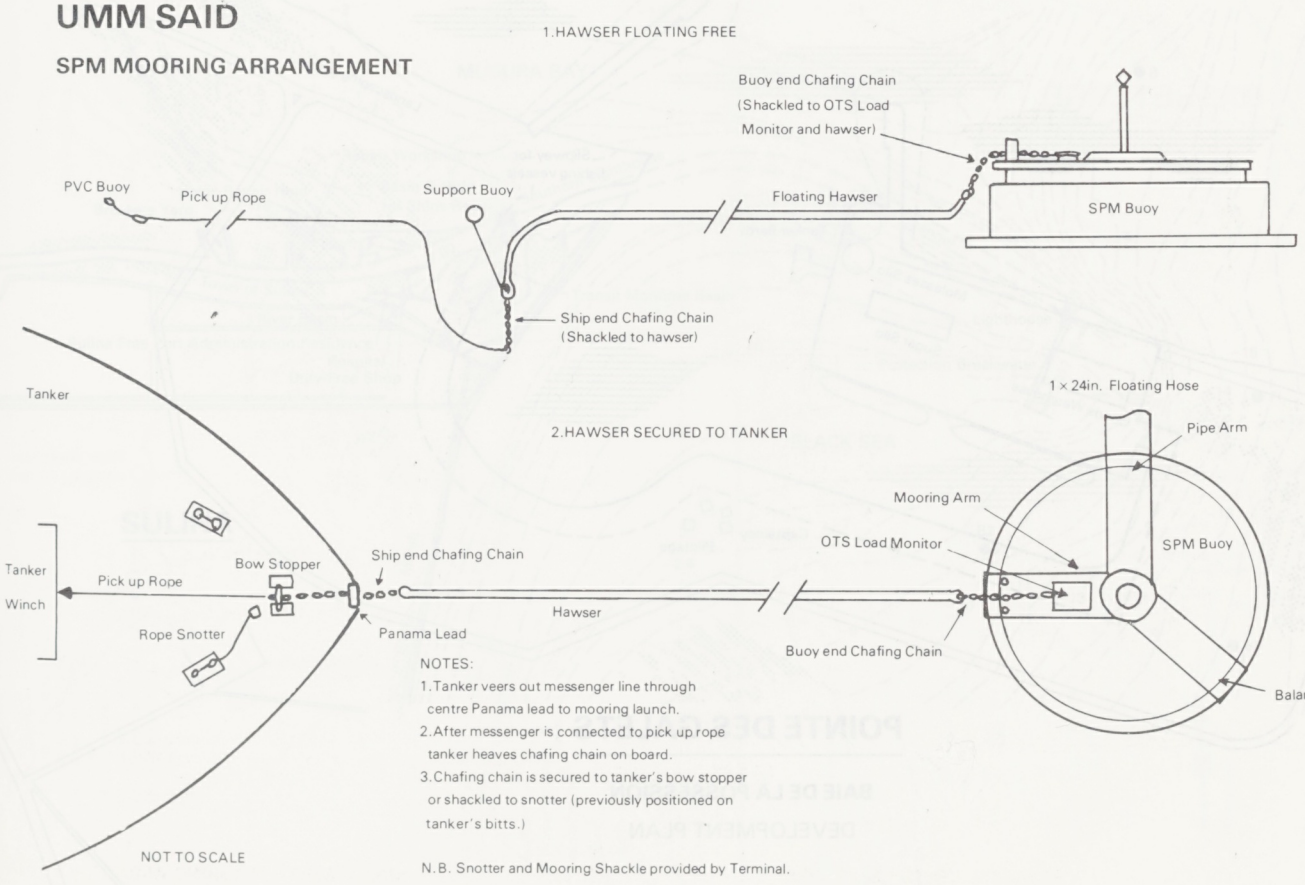
UMM SAID

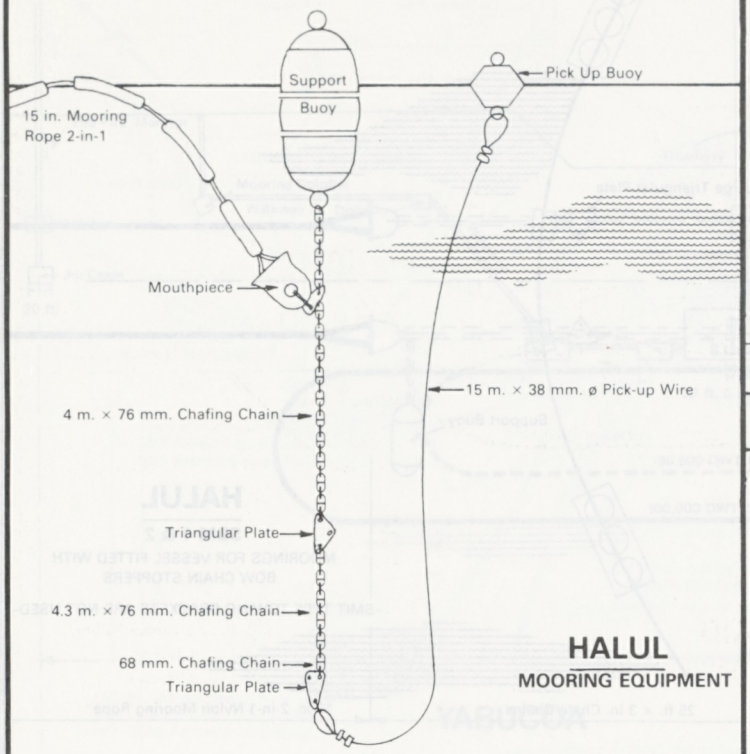
(L.N.G. JETTY MOORING ARRANGEMENT)

(A) Gasoline
(B) Butane Vapour Return
(C) Liquid Butane
(D) Liquid Propane
(E) Propane Vapour Return

UMM SAID

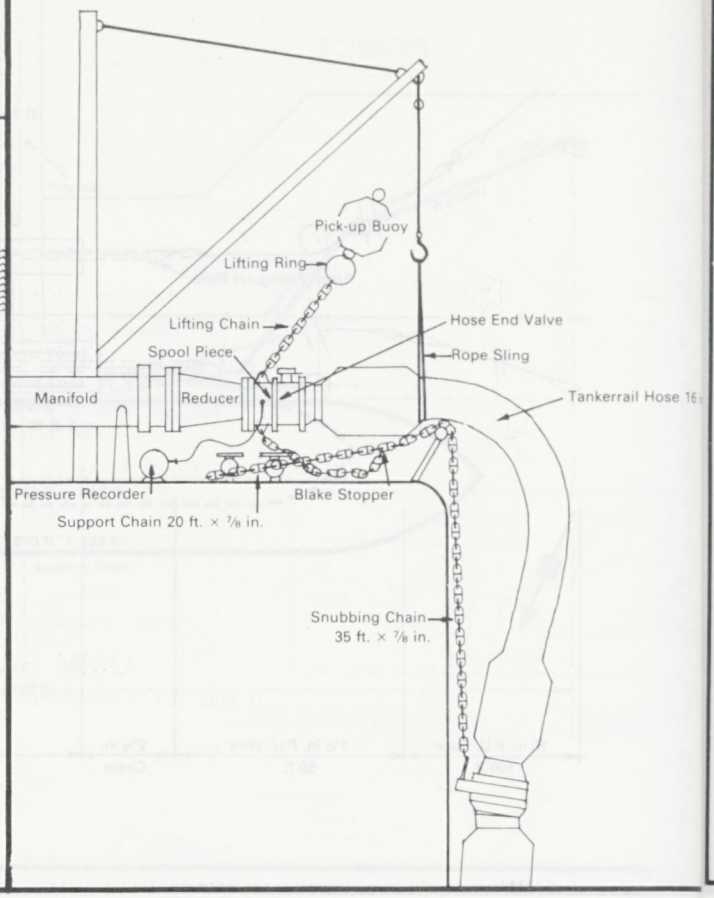
SPM MOORING ARRANGEMENT

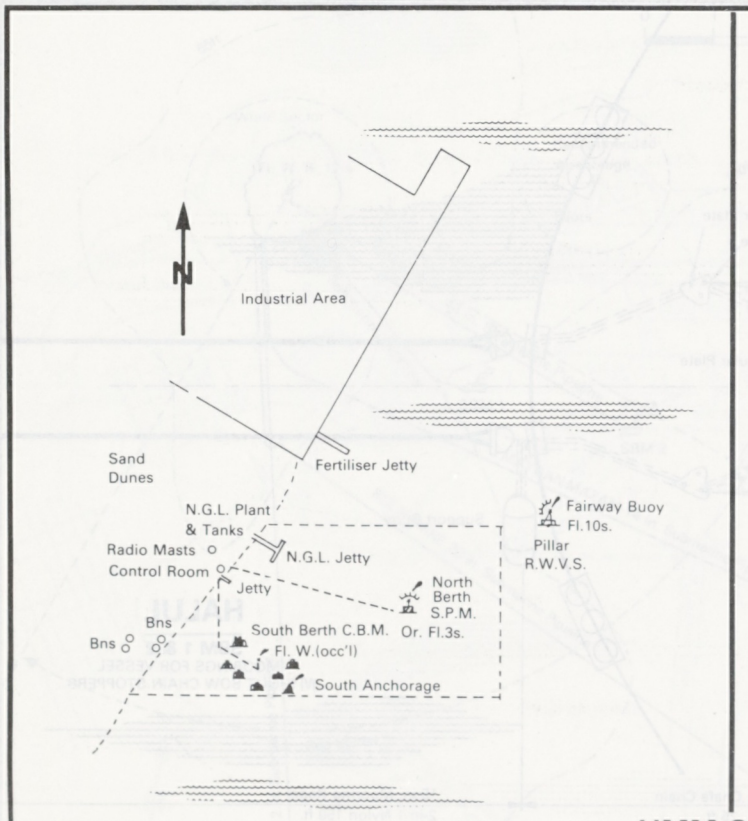




HALUL
MOORING EQUIPMENT

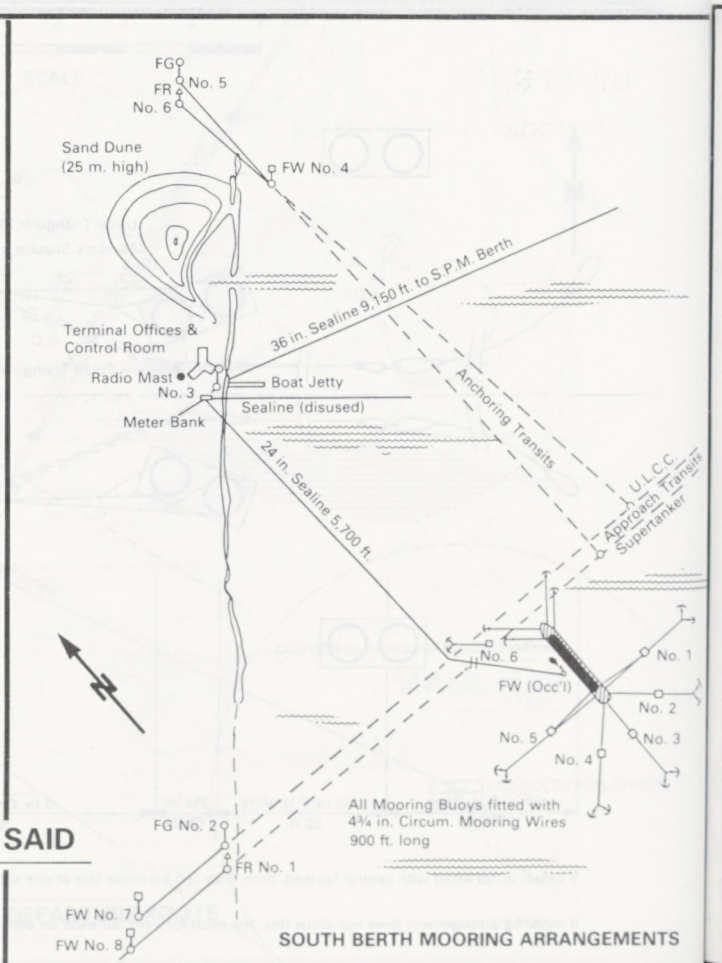
HOSE SUPPORTING ARRANGEMENT



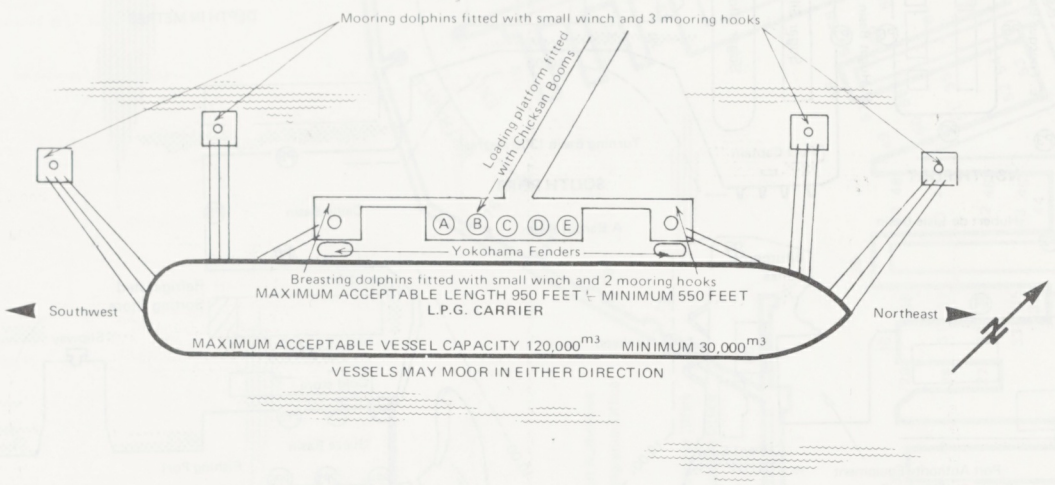


UMM SAID

SEALINES, BERTHS & JETTIES



SOUTH BERTH MOORING ARRANGEMENTS



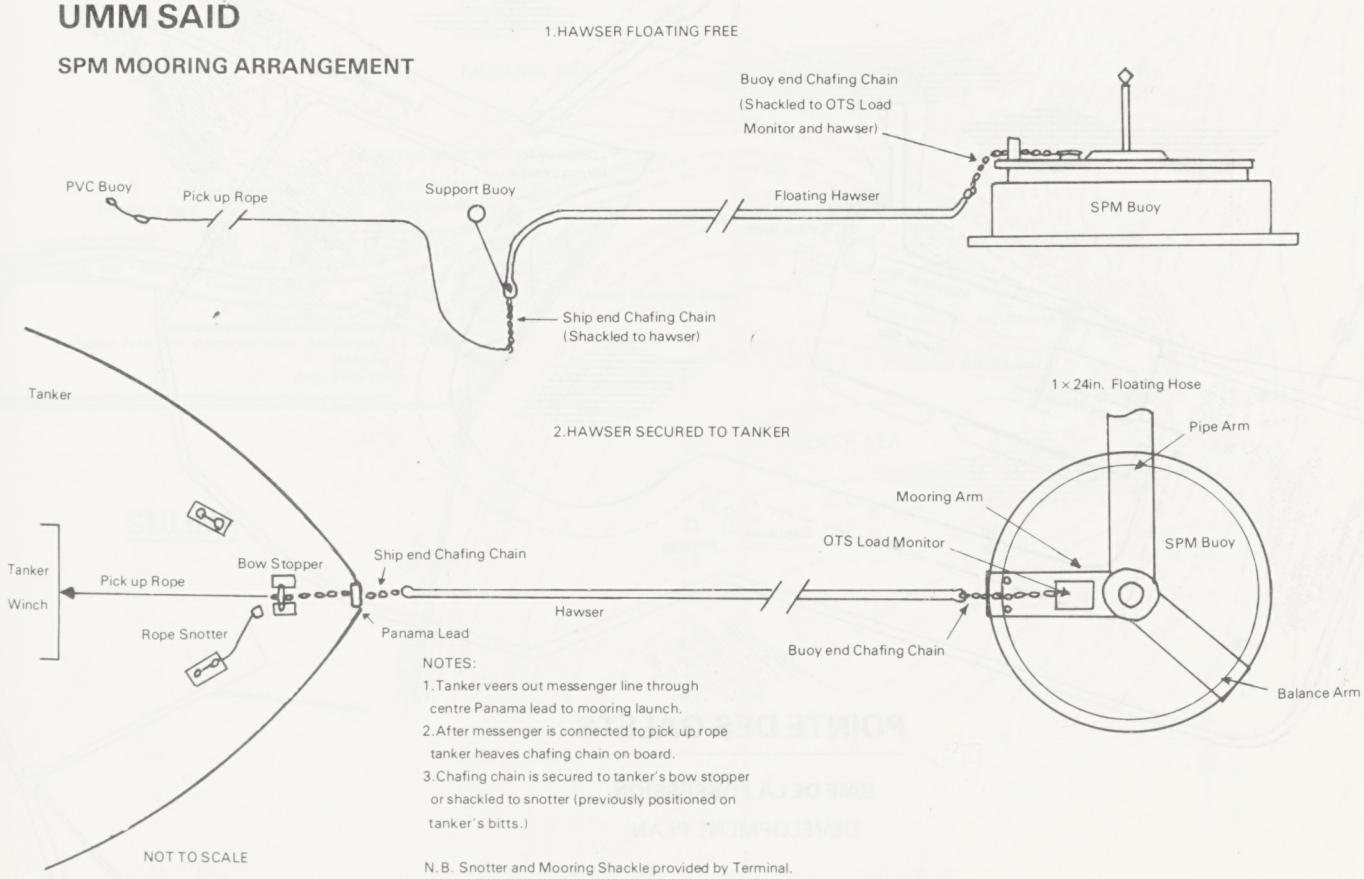
UMM SAID

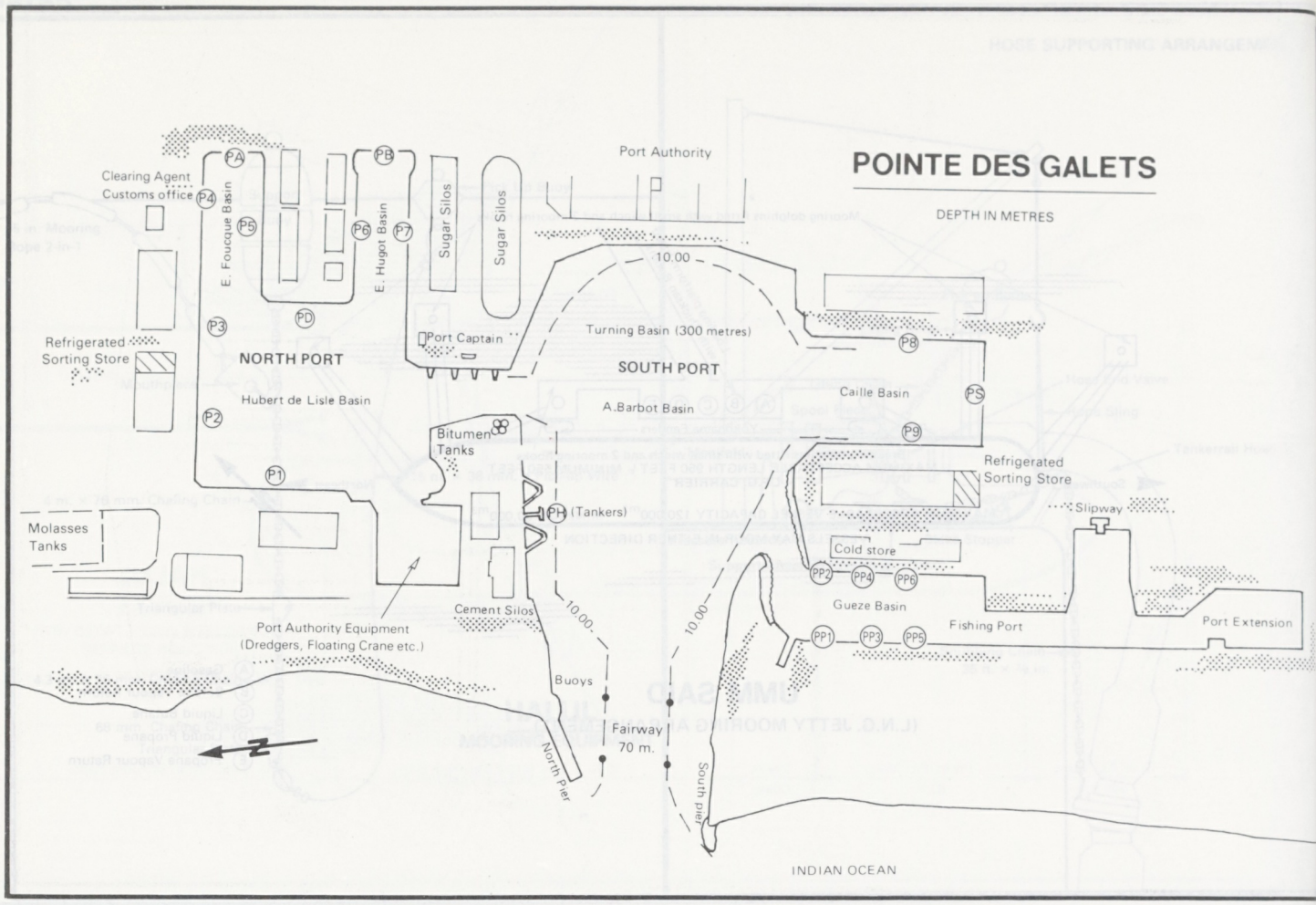
(L.N.G. JETTY MOORING ARRANGEMENT)

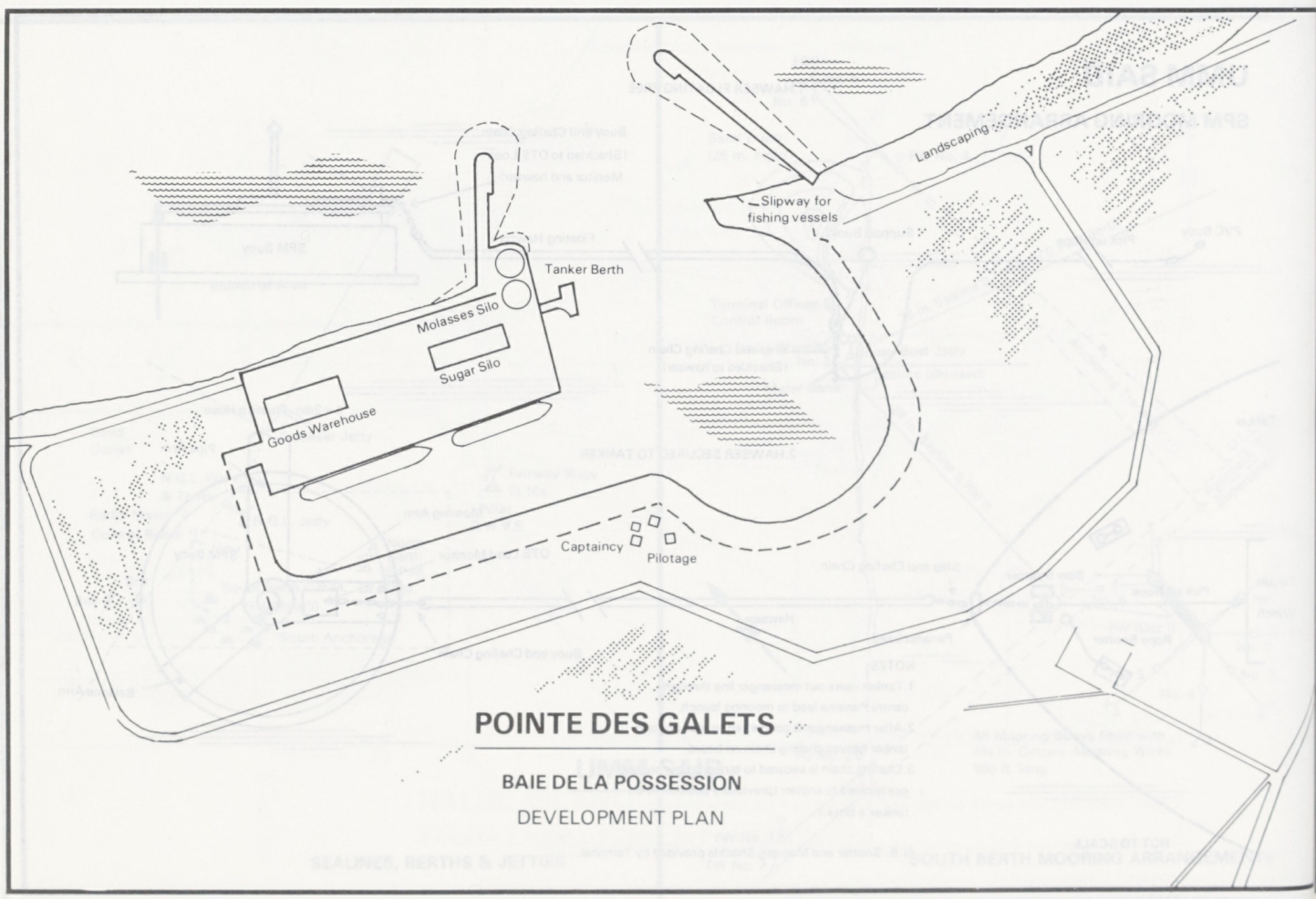
(A) Gasoline
(B) Butane Vapour Return
(C) Liquid Butane
(D) Liquid Propane
(E) Propane Vapour Return

UMM SAID

SPM MOORING ARRANGEMENT



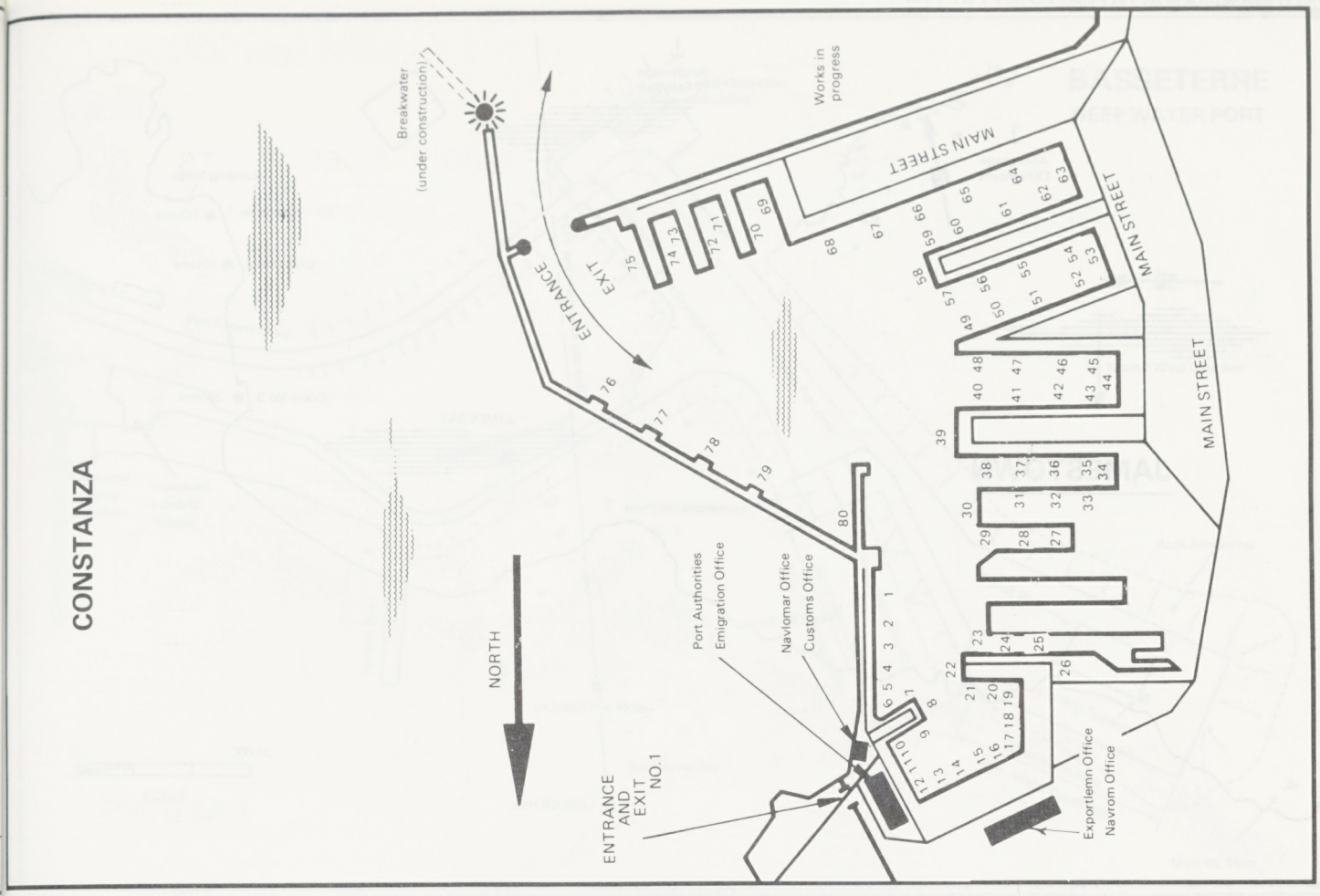


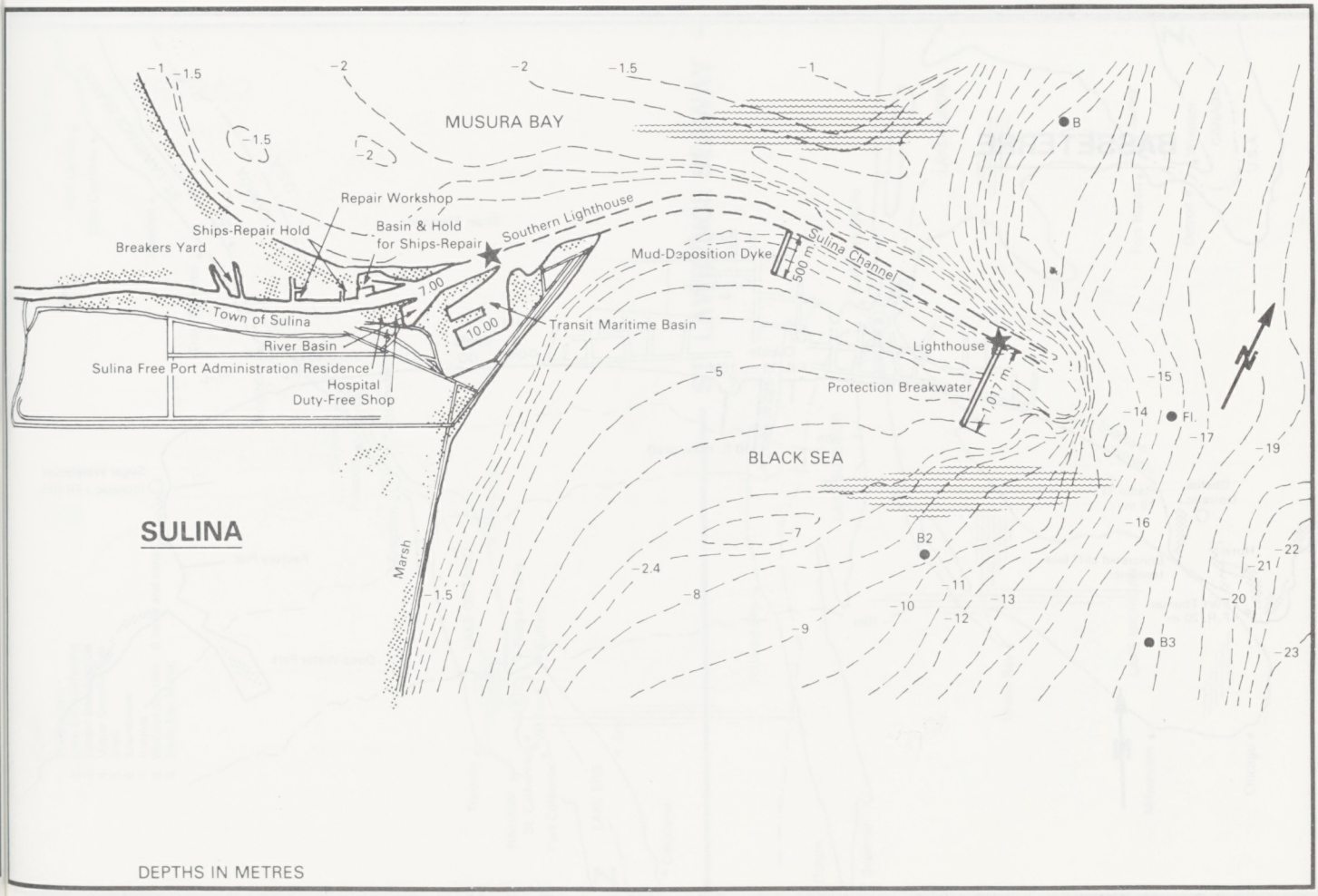


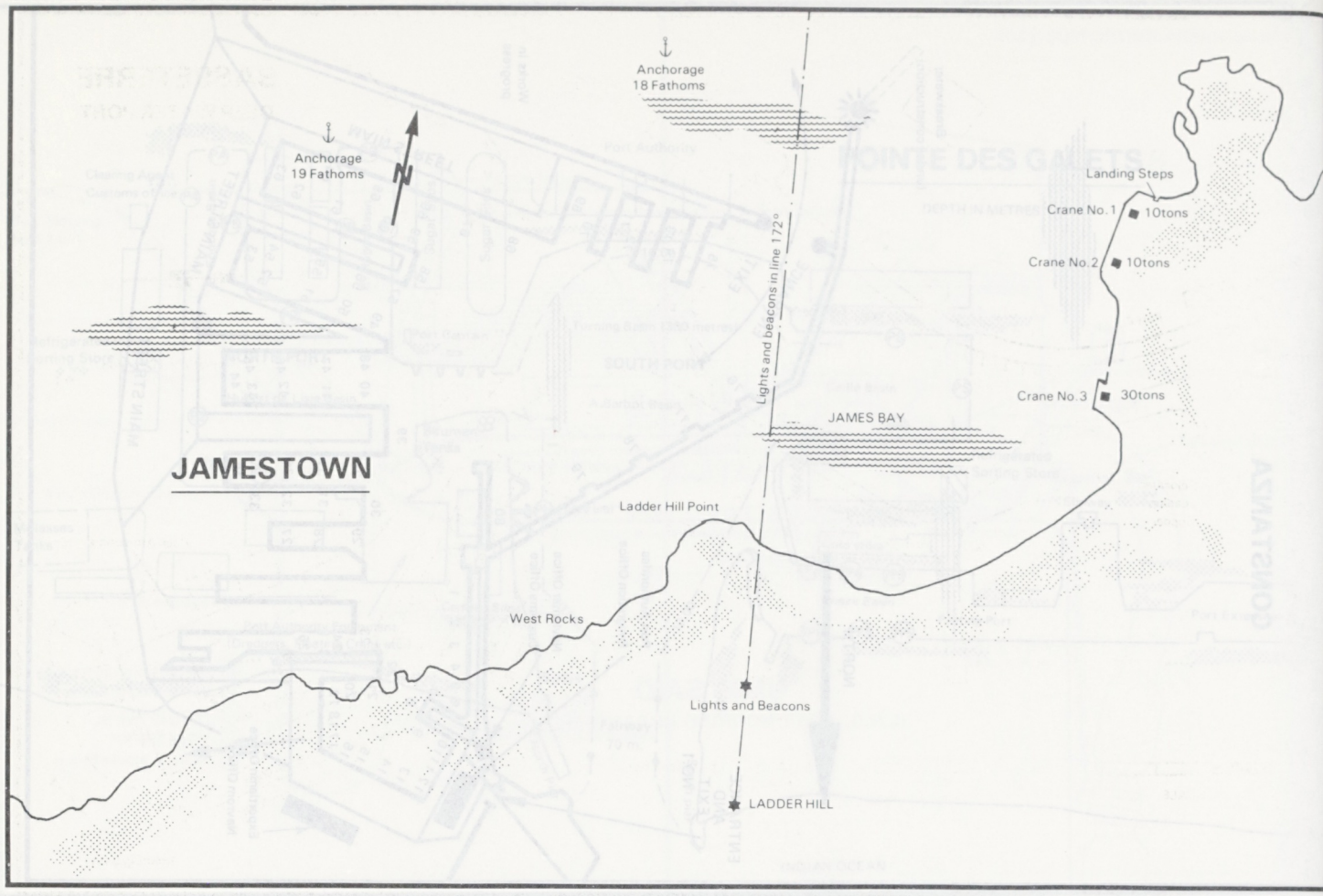
POINTE DES GALETS

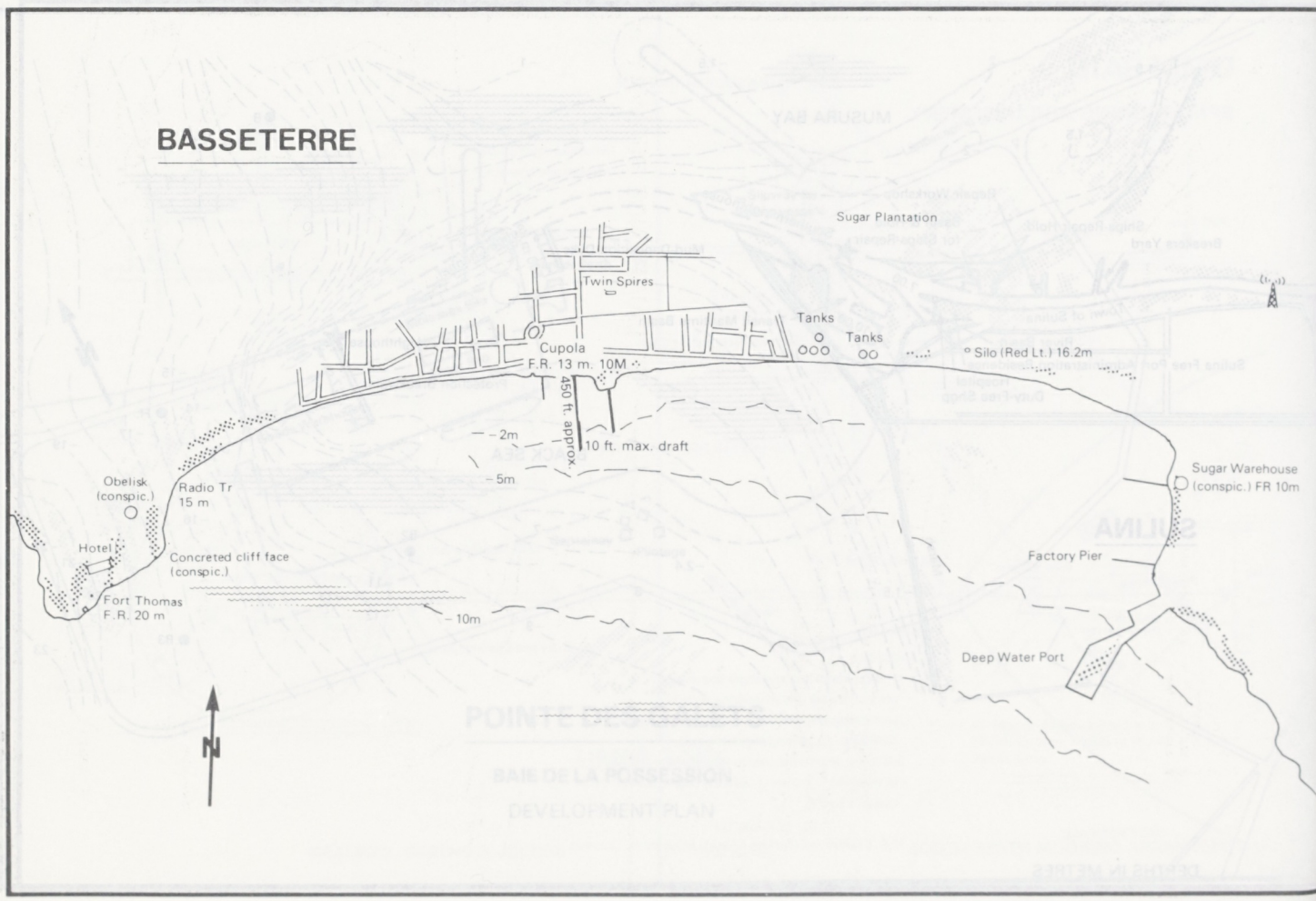
BAIE DE LA POSSESSION

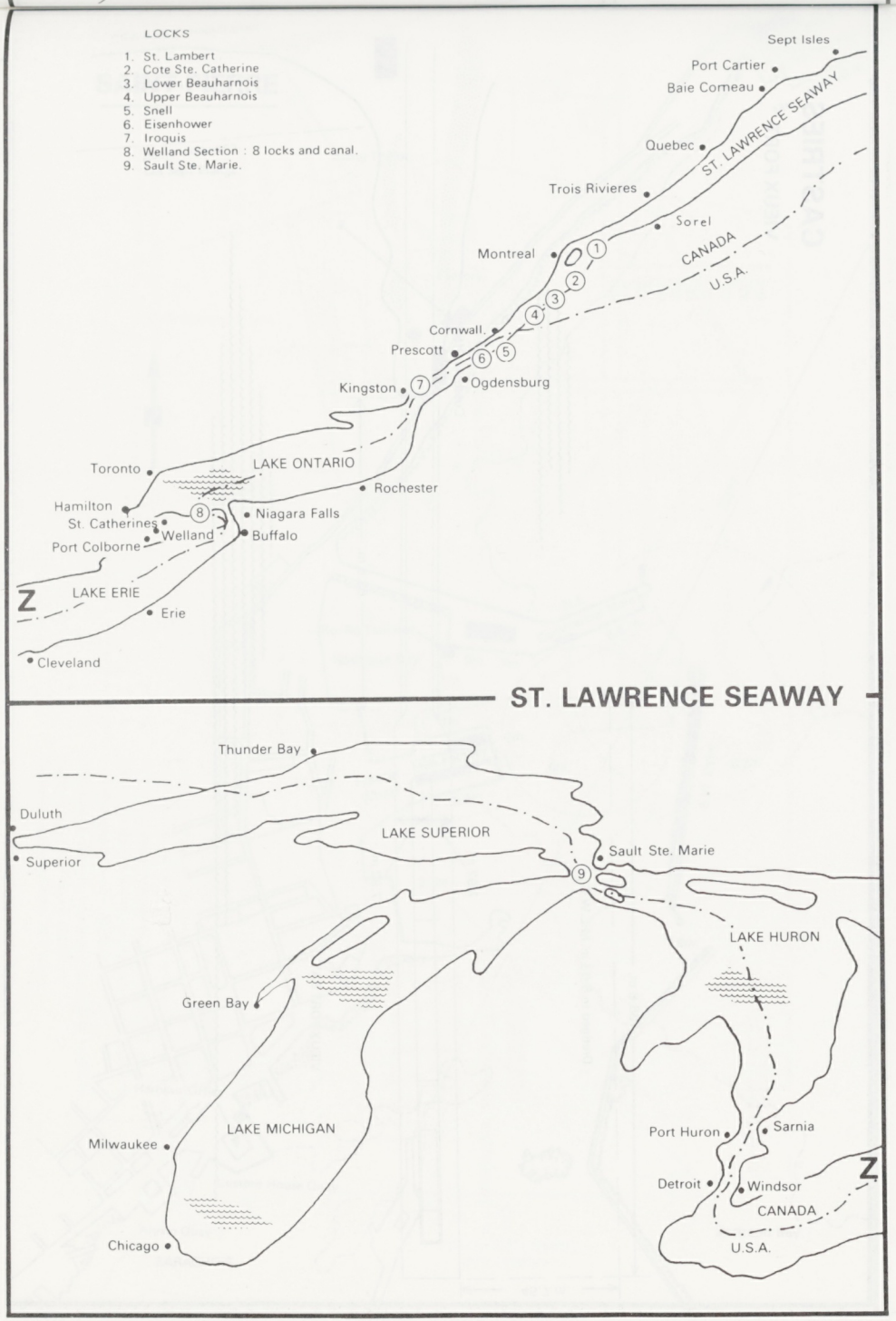
DEVELOPMENT PLAN

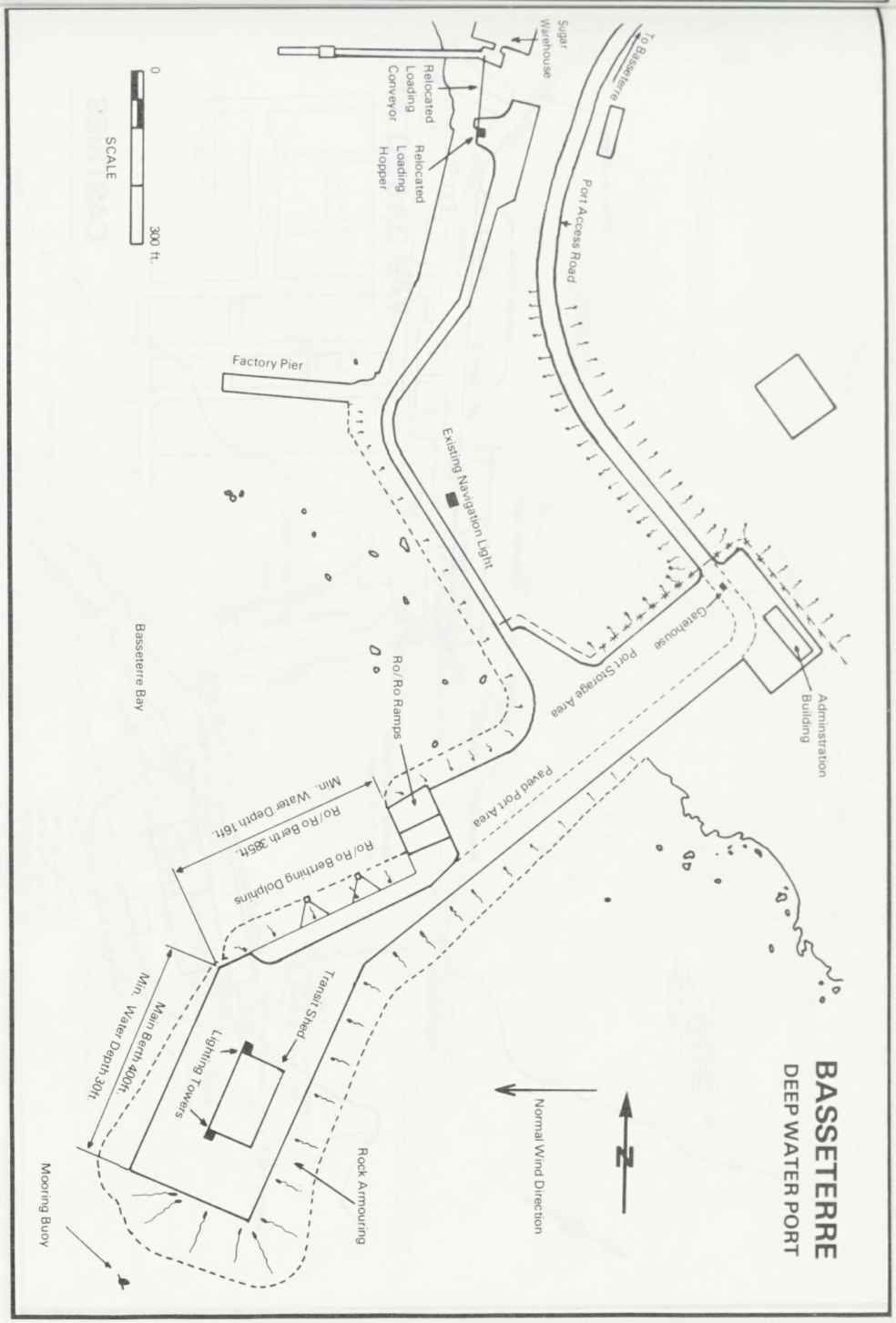

CONSTANZA
Breakwater (under construction)
Works in progress
MAIN STREET
MAIN STREET
ENTRANCE
EXIT
NORTH
Port Authorities
Emigration Office
Navlomar Office
Customs Office
ENTRANCE AND EXIT NO.1
Exportlemn Office
Navrom Office


SULINA
MUSURA BAY
BLACK SEA
Repair Workshop
Ships-Repair Hold
Breakers Yard
Basin & Hold for Ships-Repair
Southern Lighthouse
Mud-Deposition Dyke
Sulina Channel
500 m
Town of Sulina
River Basin
Sulina Free Port Administration Residence
Hospital
Duty-Free Shop
Transit Maritime Basin
Lighthouse
Protection Breakwater
1,017 m
Marsh
B
B2
B3
Fl.
7.00
10.00
DEPTHS IN METRES


Anchorage
18 Fathoms
Anchorage
19 Fathoms
Landing Steps
Crane No. 1
10tons
Crane No. 2
10tons
Crane No. 3
30tons
Lights and beacons in line 172°
JAMES BAY
JAMESTOWN
Ladder Hill Point
West Rocks
Lights and Beacons
LADDER HILL

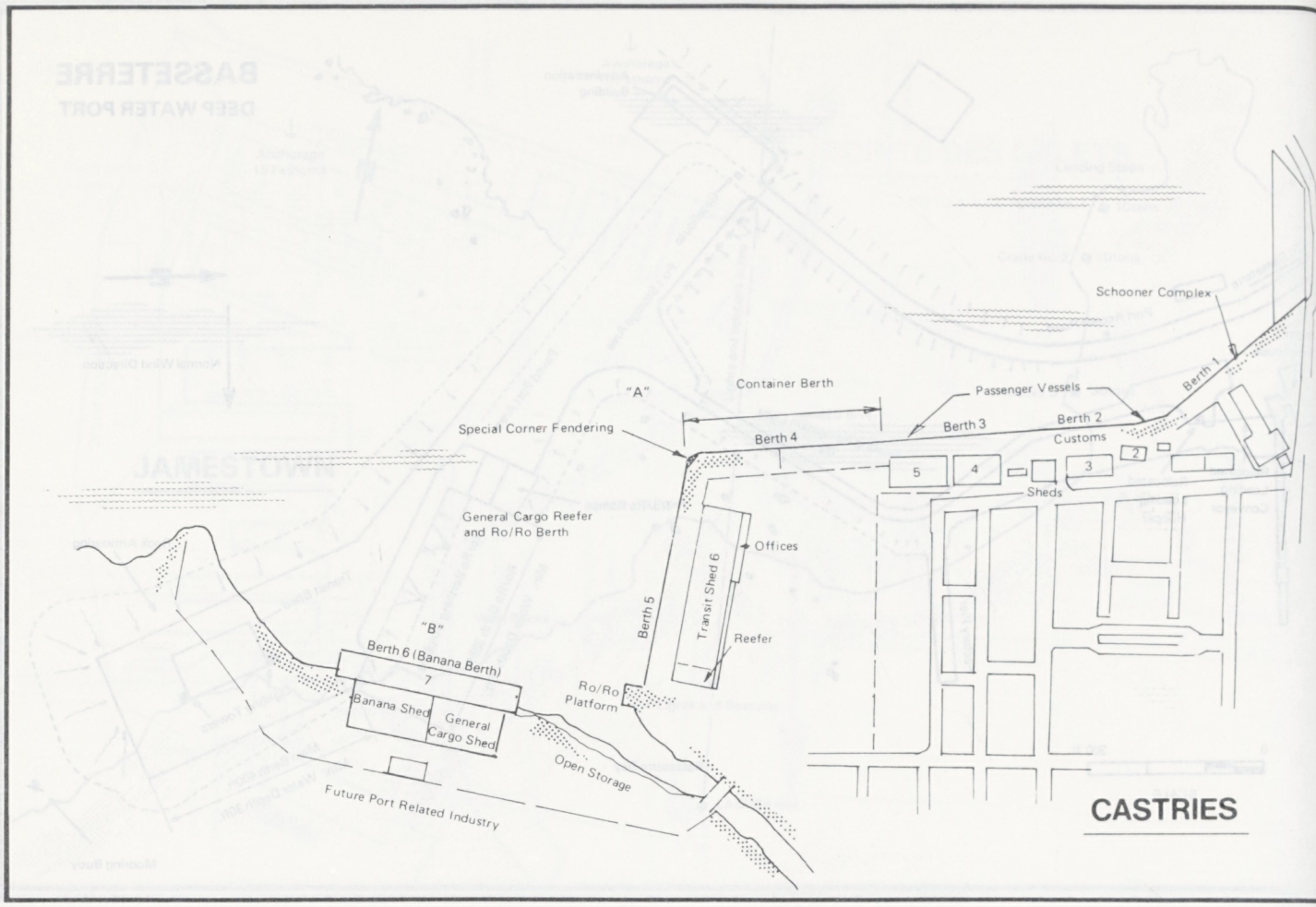

BASSETERRE
Sugar Plantation
Twin Spires
Tanks
Tanks
Cupola
F.R. 13 m. 10M
Silo (Red Lt.) 16.2m
450 ft. approx.
10 ft. max. draft
2m
5m
Obelisk
(conspic.)
Radio Tr
15 m
Hotel
Concreted cliff face
(conspic.)
Fort Thomas
F.R. 20 m
10m
Sugar Warehouse
(conspic.) FR 10m
Factory Pier
Deep Water Port

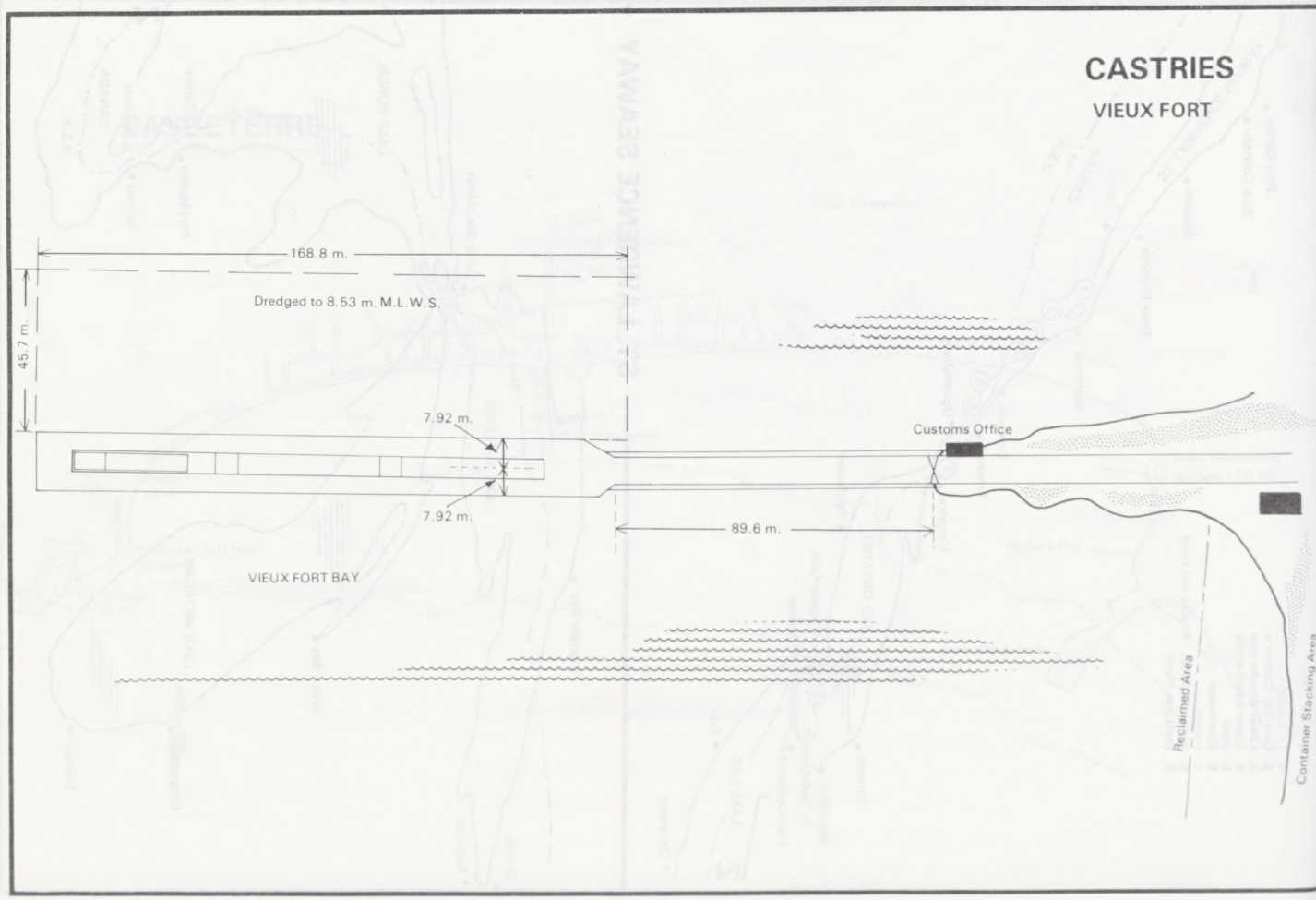


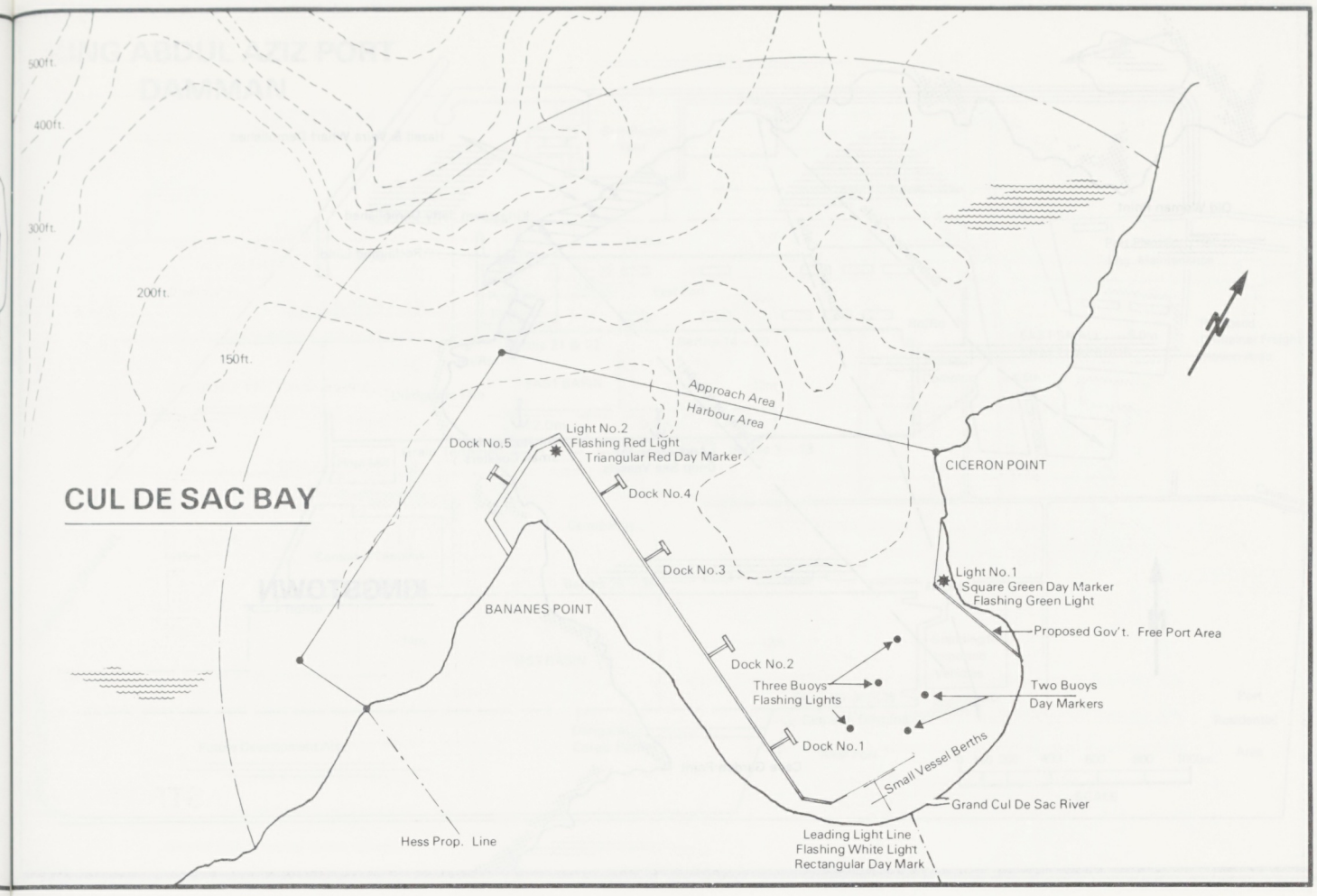


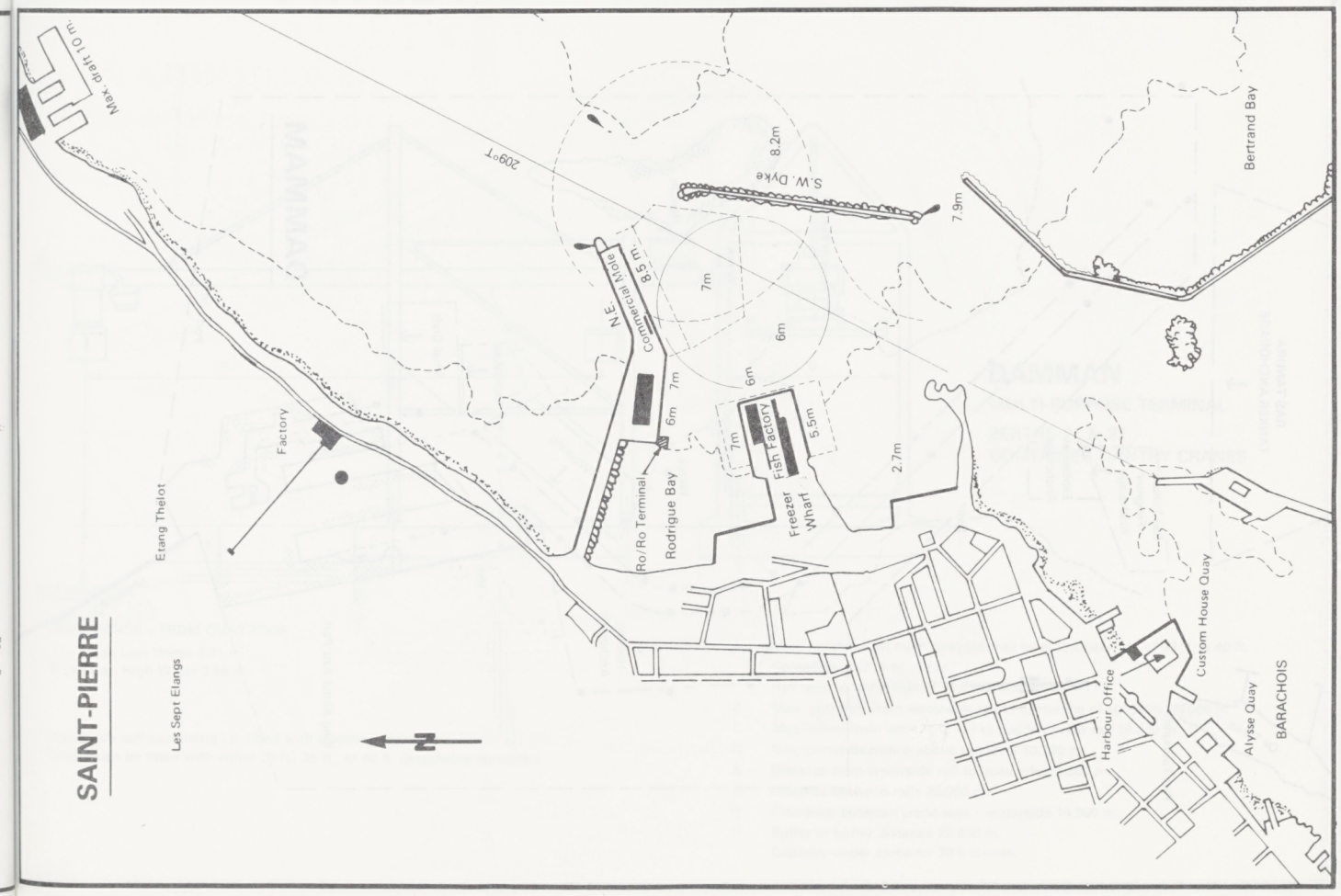
P737

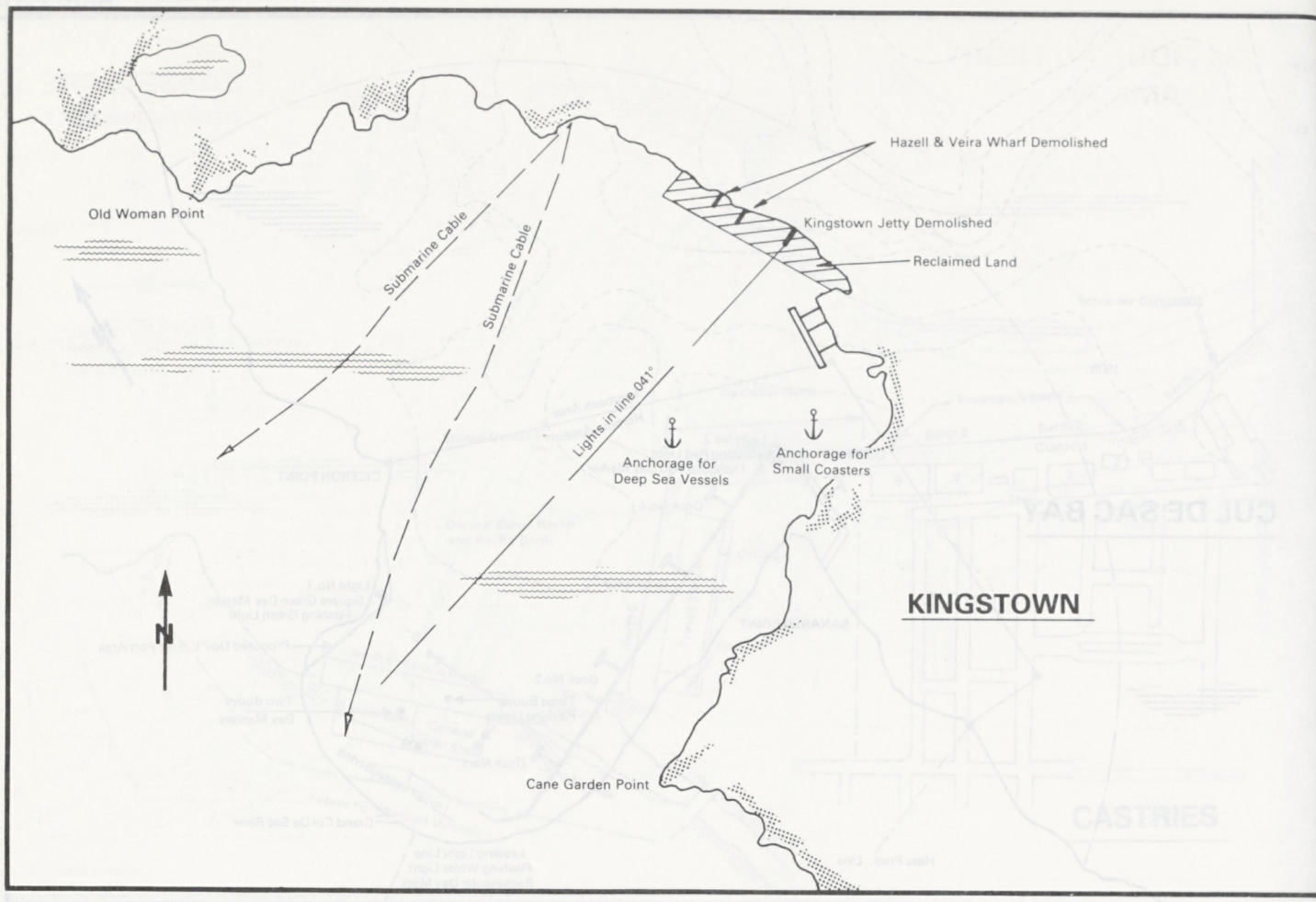
Based on map supplied by St. Lawrence Seaway Authority.

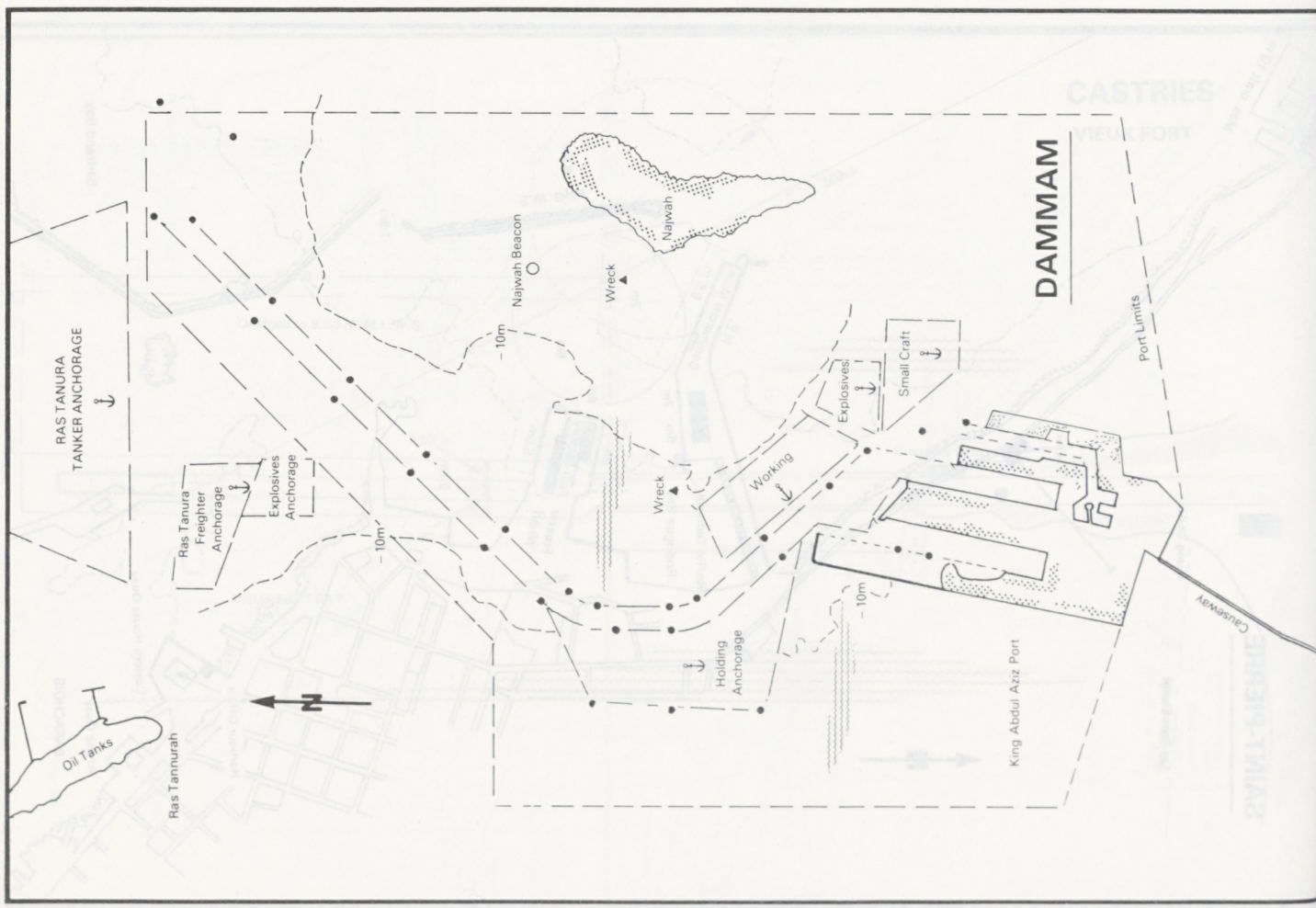

Schooner Complex
Berth 1
Passenger Vessels
Container Berth
"A"
Special Corner Fendering
Berth 4
Berth 3
Berth 2
Customs
5
4
3
2
Sheds
General Cargo Reefer
and Ro/Ro Berth
Offices
Transit Shed 6
Reefer
Berth 5
"B"
Berth 6 (Banana Berth)
7
Banana Shed
General
Cargo Shed
Ro/Ro
Platform
Open Storage
Future Port Related Industry
CASTRIES


CASTRIES
VIEUX FORT
168.8 m.
Dredged to 8.53 m. M.L.W.S.
45.7 m.
7.92 m.
7.92 m.
Customs Office
89.6 m.
VIEUX FORT BAY
Reclaimed Area
Container Stacking Area

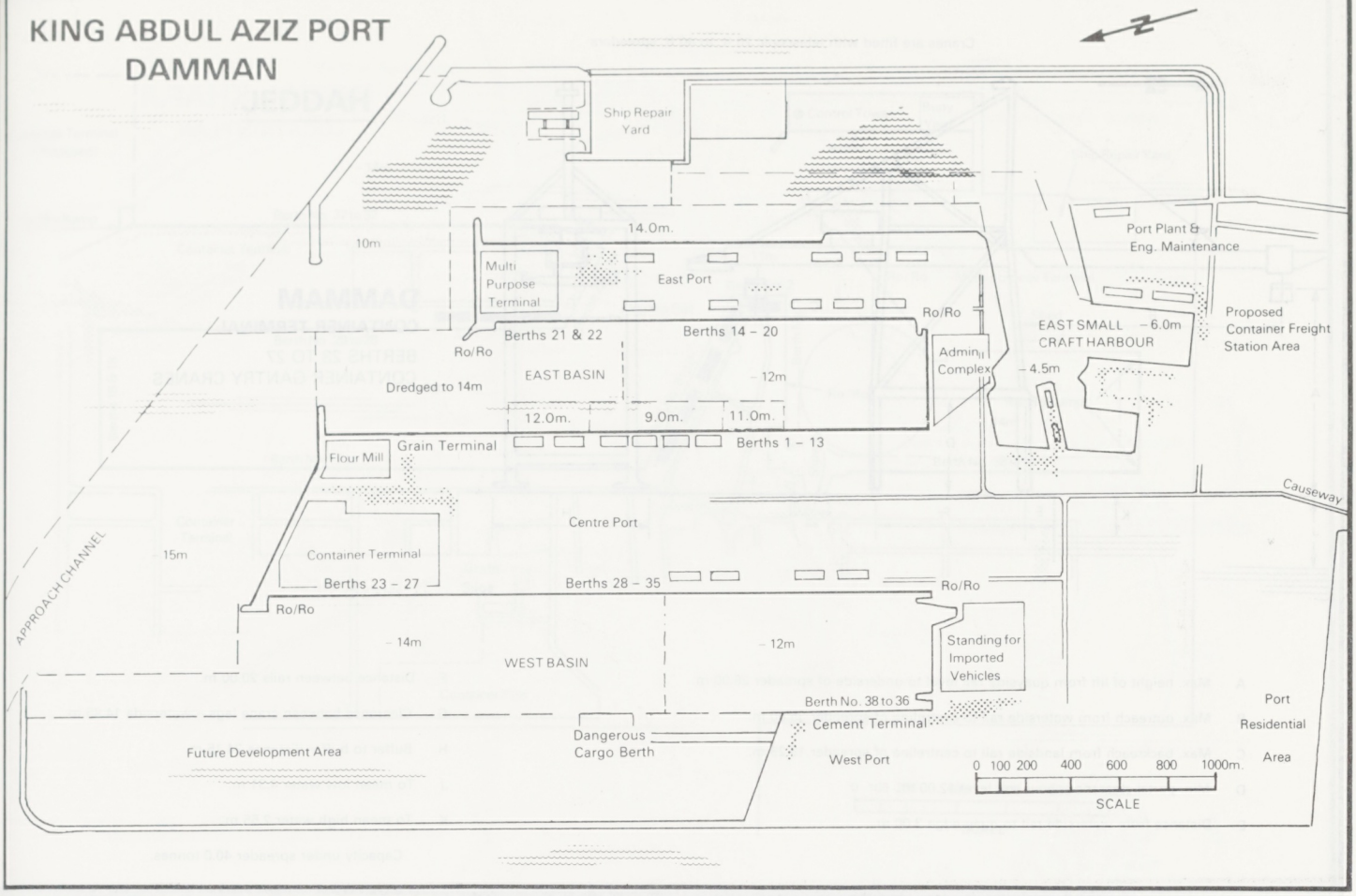

500ft.
400ft.
300ft.
200ft.
150ft.
CUL DE SAC BAY
Approach Area
Harbour Area
Dock No.5
Light No.2
Flashing Red Light
Triangular Red Day Marker
Dock No.4
Dock No.3
Dock No.2
Dock No.1
CICERON POINT
Light No.1
Square Green Day Marker
Flashing Green Light
Proposed Gov't. Free Port Area
BANANES POINT
Three Buoys
Flashing Lights
Two Buoys
Day Markers
Small Vessel Berths
Grand Cul De Sac River
Hess Prop. Line
Leading Light Line
Flashing White Light
Rectangular Day Mark

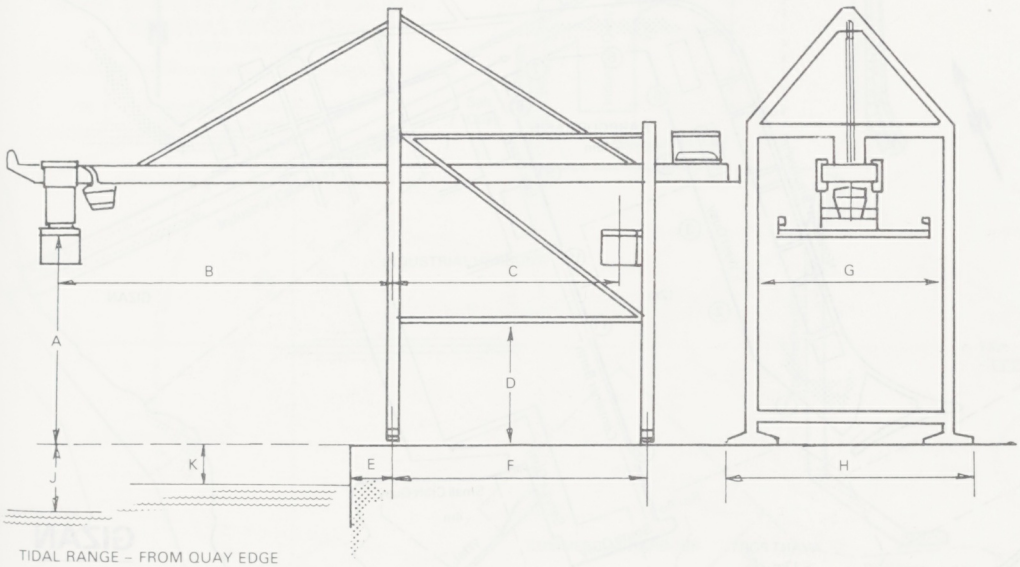

SAINT-PIERRE
Max. draft 10 m.
209°T
8.2m
S.W. Dyke
Bertrand Bay
7.9m
N.E. Commercial Mole
8.5m
7m
6m
Factory
Etang Thelot
Ro/Ro Terminal
Rodrigue Bay
Fish Factory
Freezer Wharf
5.5m
2.7m
Harbour Office
Custom House Quay
Alysse Quay
BARACHOIS
Les Sept Etangs


Hazell & Veira Wharf Demolished
Old Woman Point
Kingstown Jetty Demolished
Reclaimed Land
Submarine Cable
Submarine Cable
Lights in line 041°
Anchorage for Deep Sea Vessels
Anchorage for Small Coasters
N
KINGSTOWN
Cane Garden Point


DAMMAM
Najwah
Najwah Beacon
Wreck
10m
RAS TANURA TANKER ANCHORAGE
Ras Tanura Freighter Anchorage
Explosives Anchorage
10m
Wreck
Working
Explosives
Small Craft
Port Limits
Causeway
10m
Holding Anchorage
King Abdul Aziz Port
N
Oil Tanks
Ras Tannurah

KING ABDUL AZIZ PORT
DAMMAN





DAMMAN

MULTI-PURPOSE TERMINAL

BERTHS 21 & 22
CONTAINER GANTRY CRANES

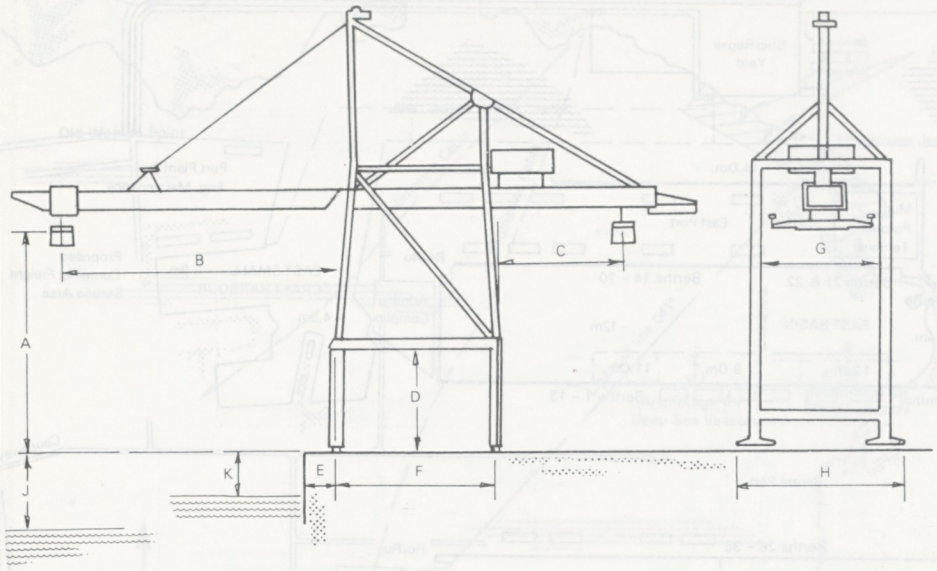
TIDAL RANGE – FROM QUAY EDGE

J to Mean Low Water 4.31 m.
K to Mean High Water 2.55 m.

Cranes are self-sustaining i.e. fitted with electric generators
Cranes can be fitted with either 20 ft., 35 ft., or 40 ft. detachable spreaders.

A Max. height of lift from quayside rail level to underside of 35 ft. & 40 ft. Spreaders 20.715 m.
Rail level to underside of 20 ft. spreaders 19.624 m.
B Max. outreach from waterside rail to centreline of spreader 35.000 m.
C Max. travel from waterside rail to inside of rear rail 18.000 m.
D Min. portal clearance above rail level 10.700 m.
E Distance from waterside rail to quay edge 2.000 m.
F Distance between rails 20.000 m.
G Clearance between crane legs – waterside 14.300 m.
H Buffer to buffer distance 22.000 m.
Capacity under spreader 30.5 tonnes.

Cranes are fitted with telescopic 20 ft. to 40 ft. spreaders



DAMMAM

CONTAINER TERMINAL

BERTHS 23 TO 27
CONTAINER GANTRY CRANES

A Max. height of lift from quayside rail level to underside of spreader 26.00 m.

B Max. outreach from waterside rail to centreline of spreader 35.00 m.

C Max. backreach from landside rail to centreline of spreader 15.25 m.

D Min. portal clearance above rail level 12.00 m.

E Distance from waterside rail to quay edge 3.00 m.

F Distance between rails 20.00 m.

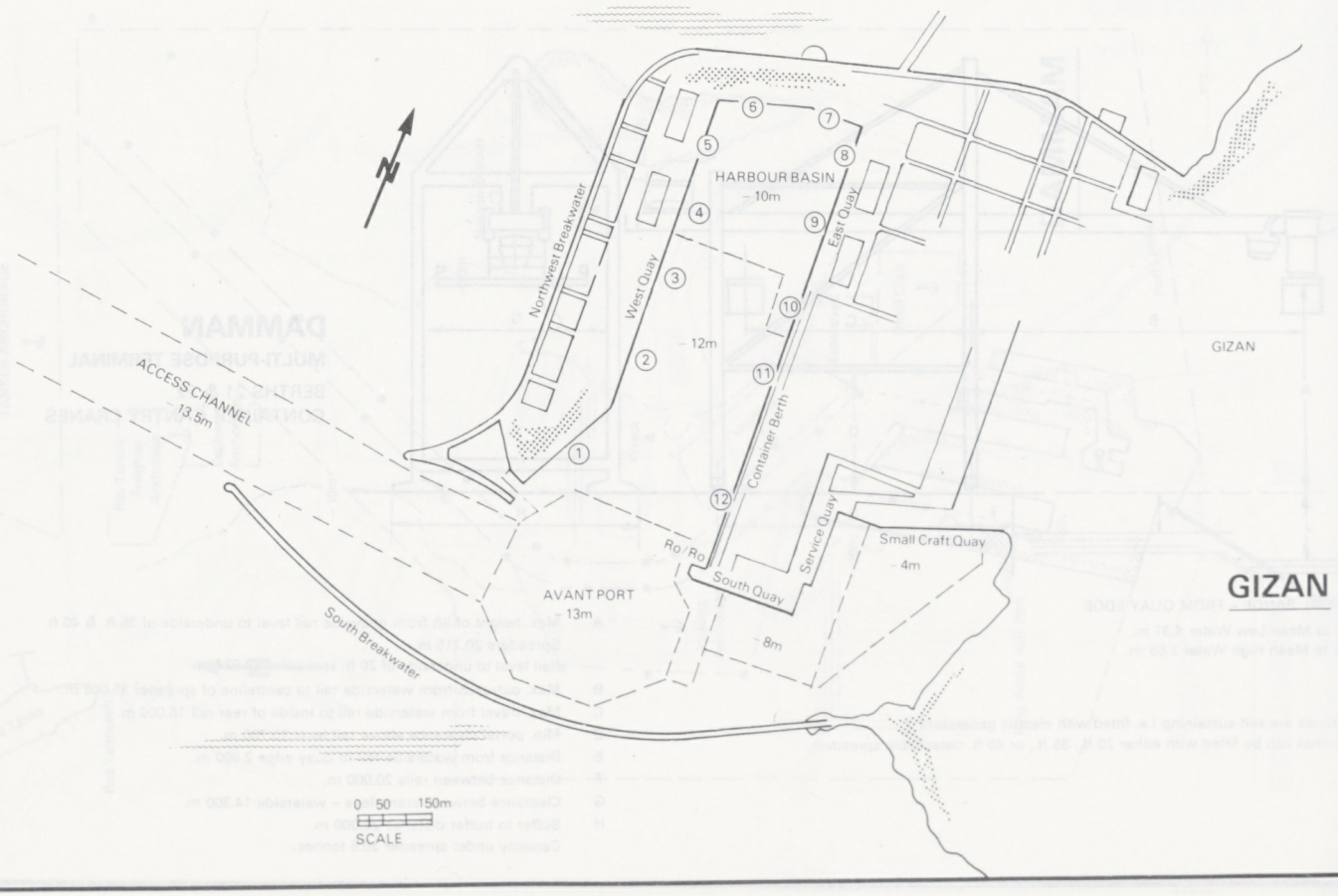
G Clearance between crane legs – waterside 14.95 m.

H Buffer to buffer distance 24.15 m.

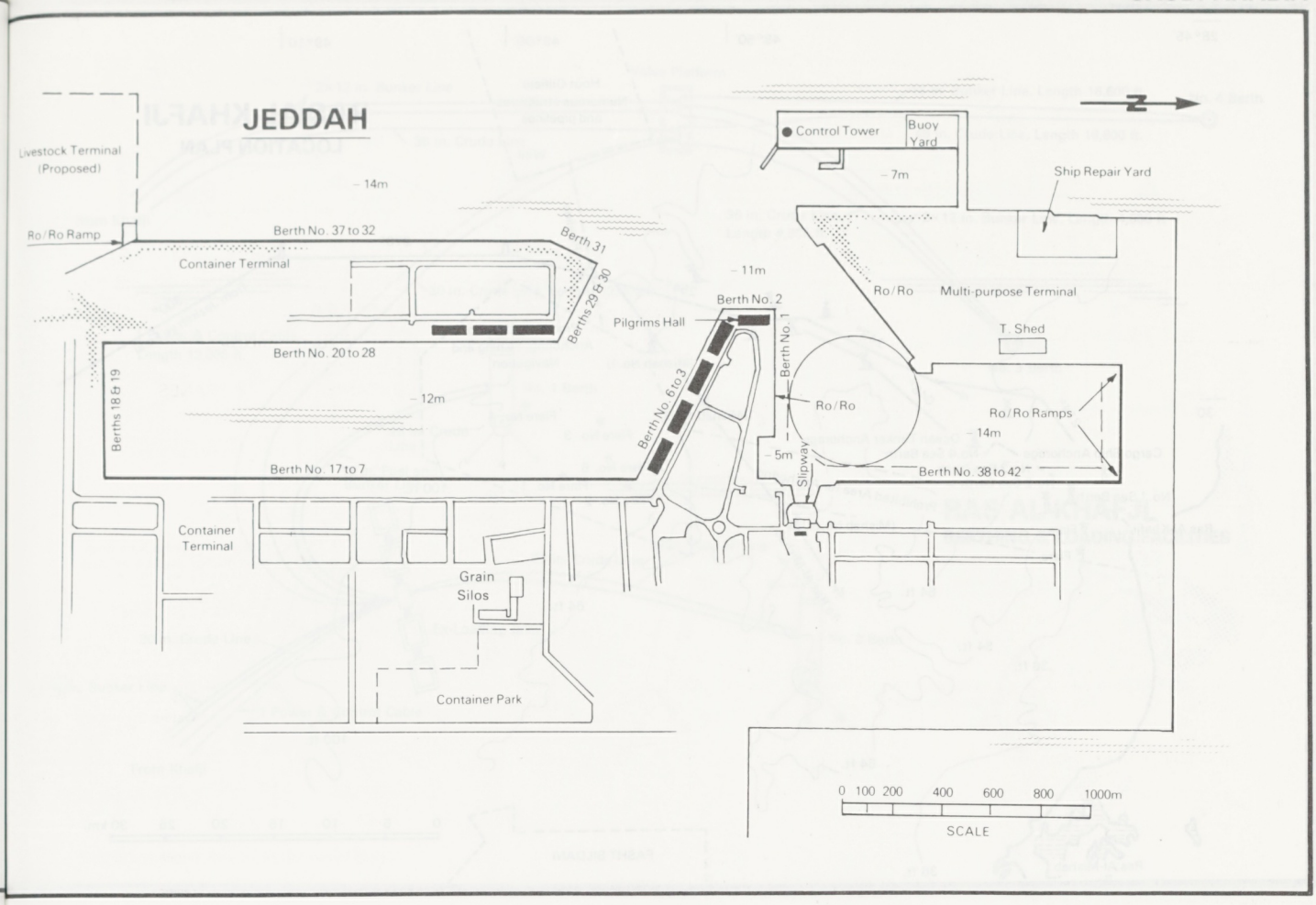
J To mean low water 4.31 m.

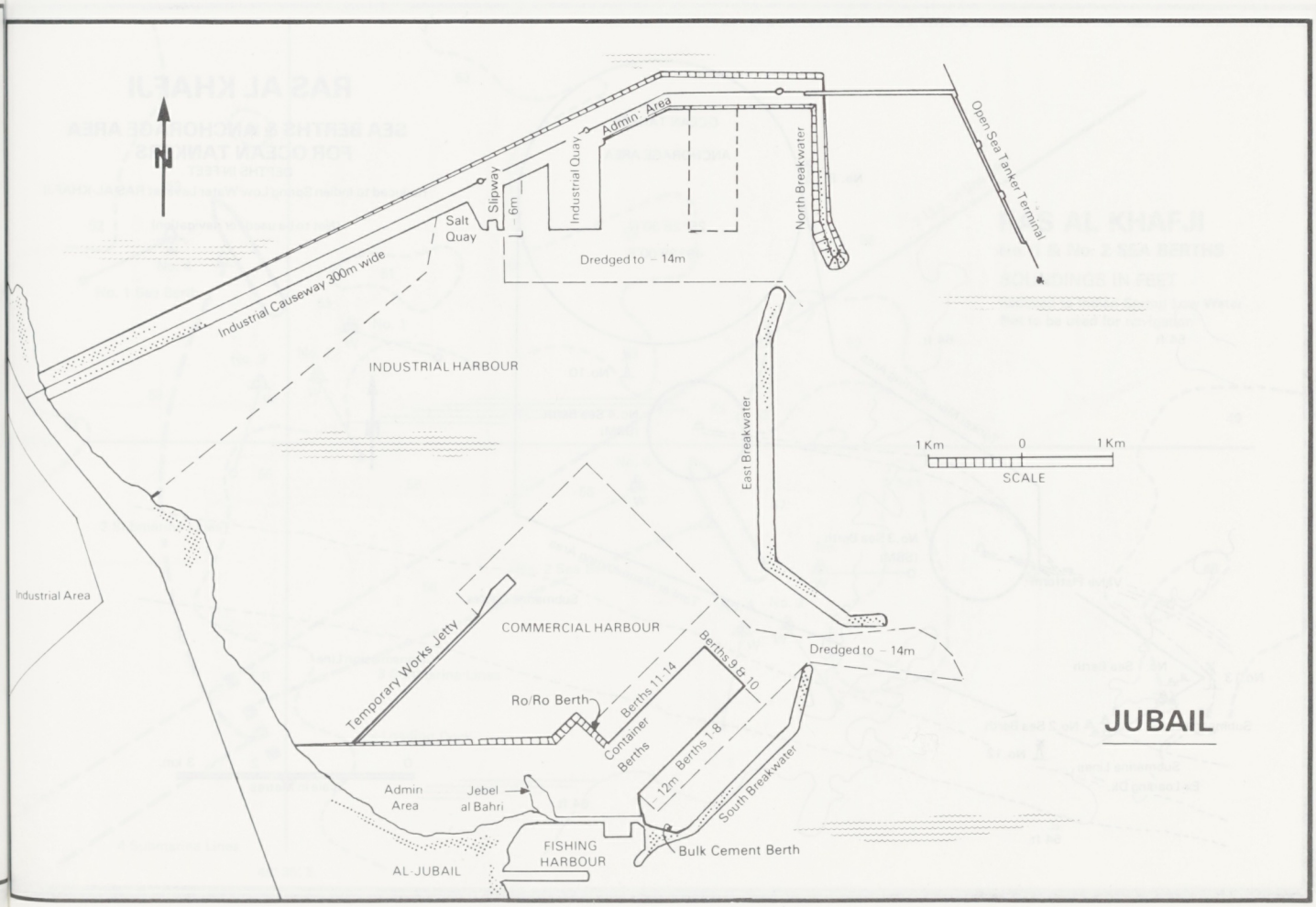
K To mean high water 2.55 m.

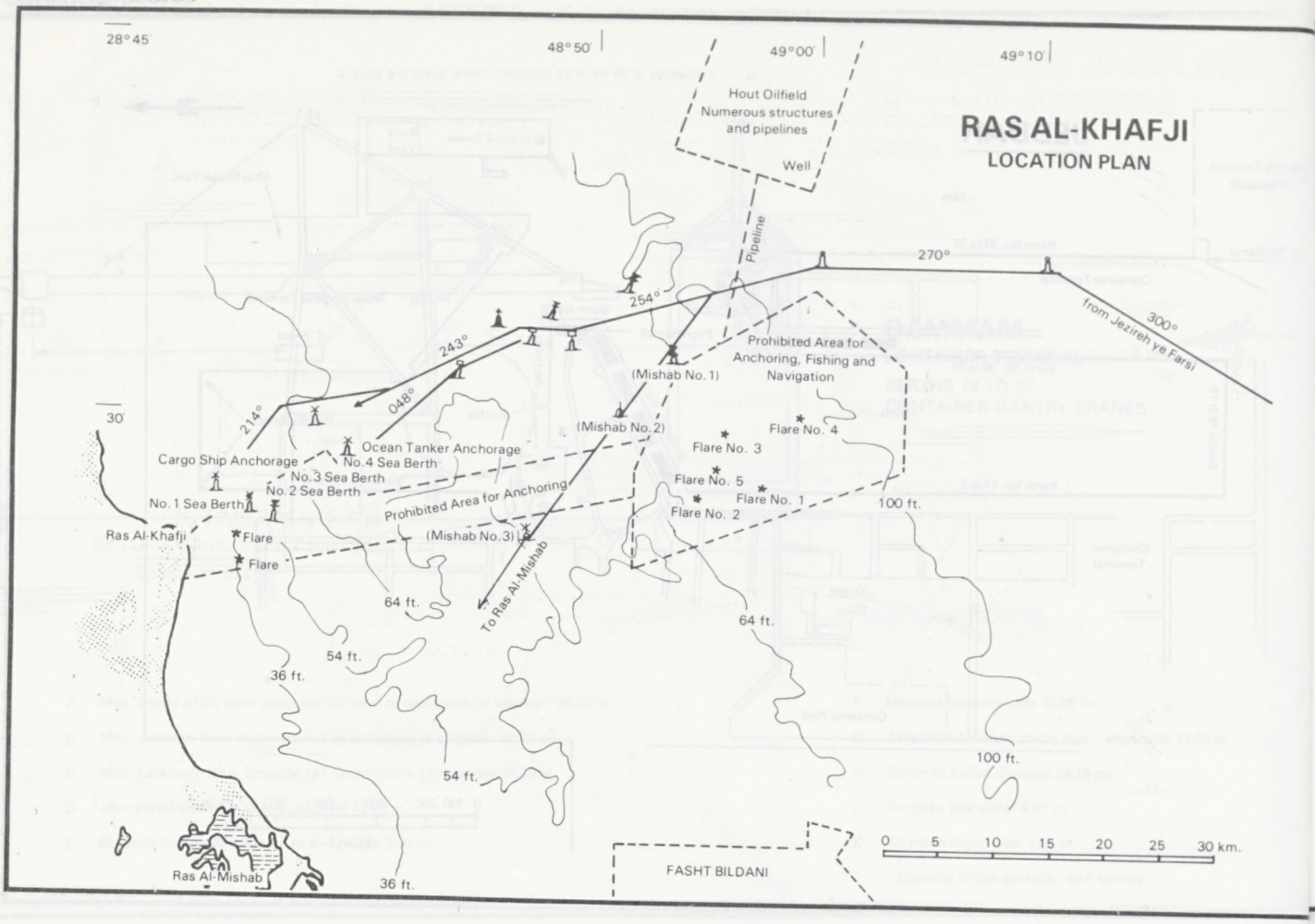
Capacity under spreader 40.0 tonnes.

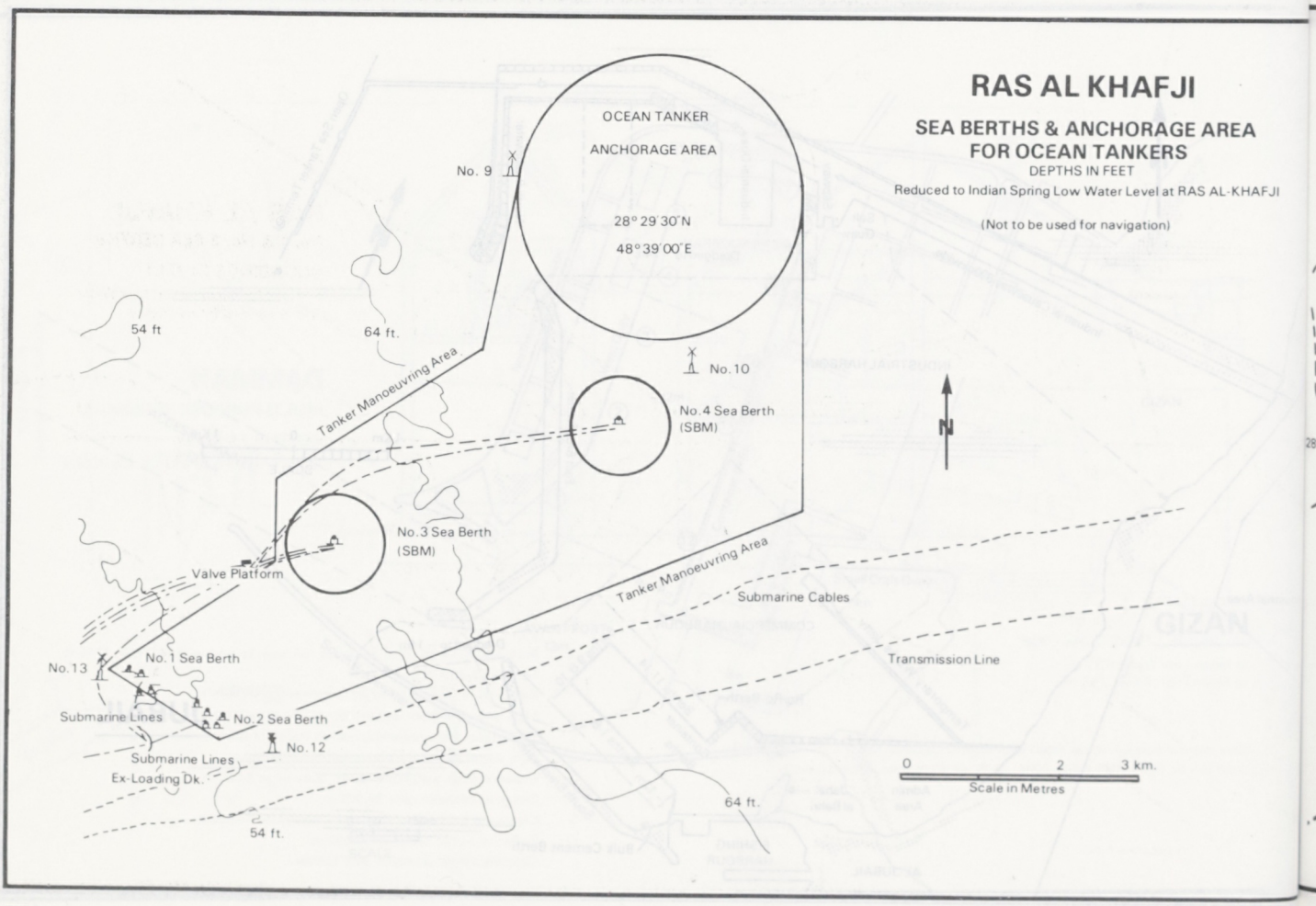


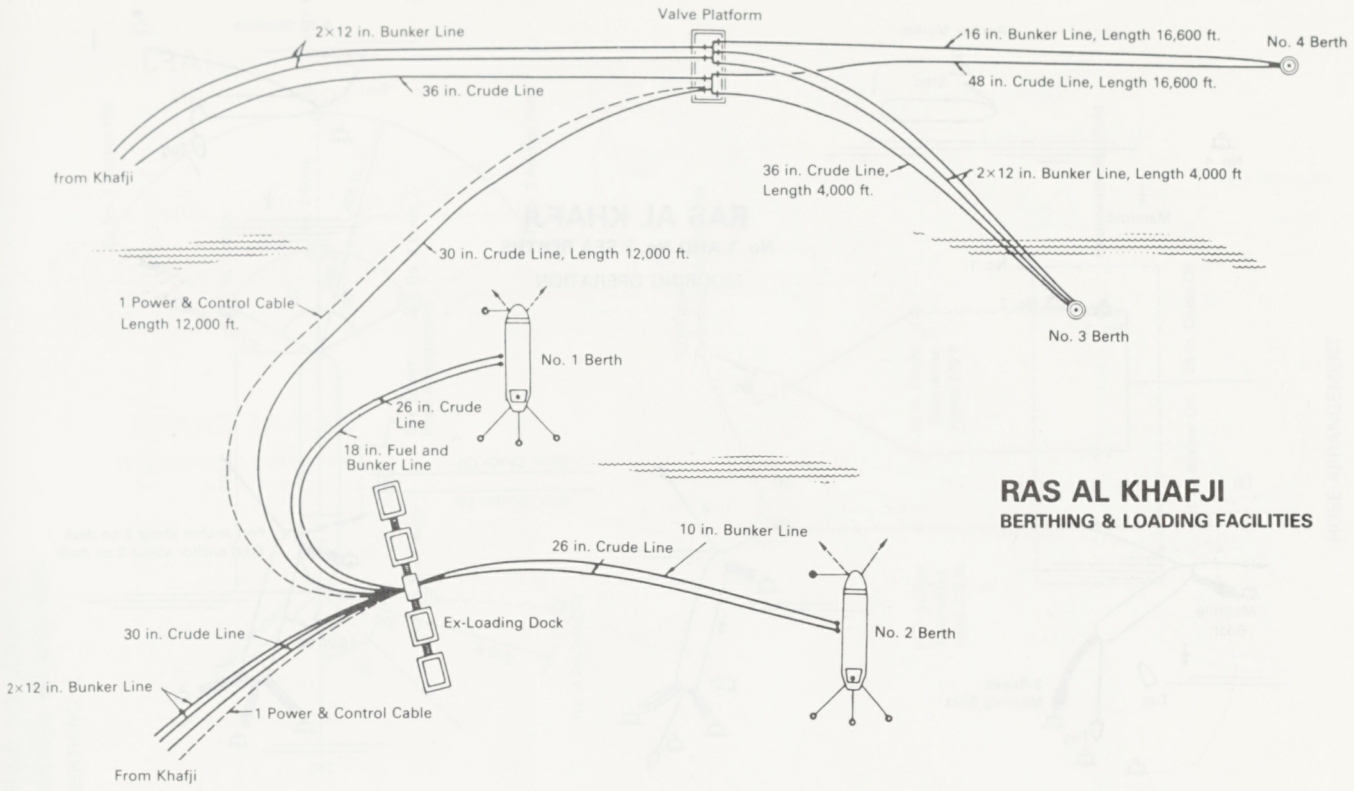
GIZAN


JEDDAH
N
Livestock Terminal (Proposed)
– 14m
Ro/Ro Ramp
Berth No. 37 to 32
Berth 31
Container Terminal
Berths 29 & 30
Control Tower
Buoy Yard
– 7m
Ship Repair Yard
– 11m
Berth No. 2
Pilgrims Hall
Berth No. 1
Ro/Ro Multi-purpose Terminal
T. Shed
Berth No. 20 to 28
Berths 18 & 19
– 12m
Berth No. 6 to 3
Ro/Ro
Ro/Ro Ramps
– 14m
– 5m
Slipway
Berth No. 17 to 7
Berth No. 38 to 42
Container Terminal
Grain Silos
Container Park
0 100 200 400 600 800 1000m
SCALE

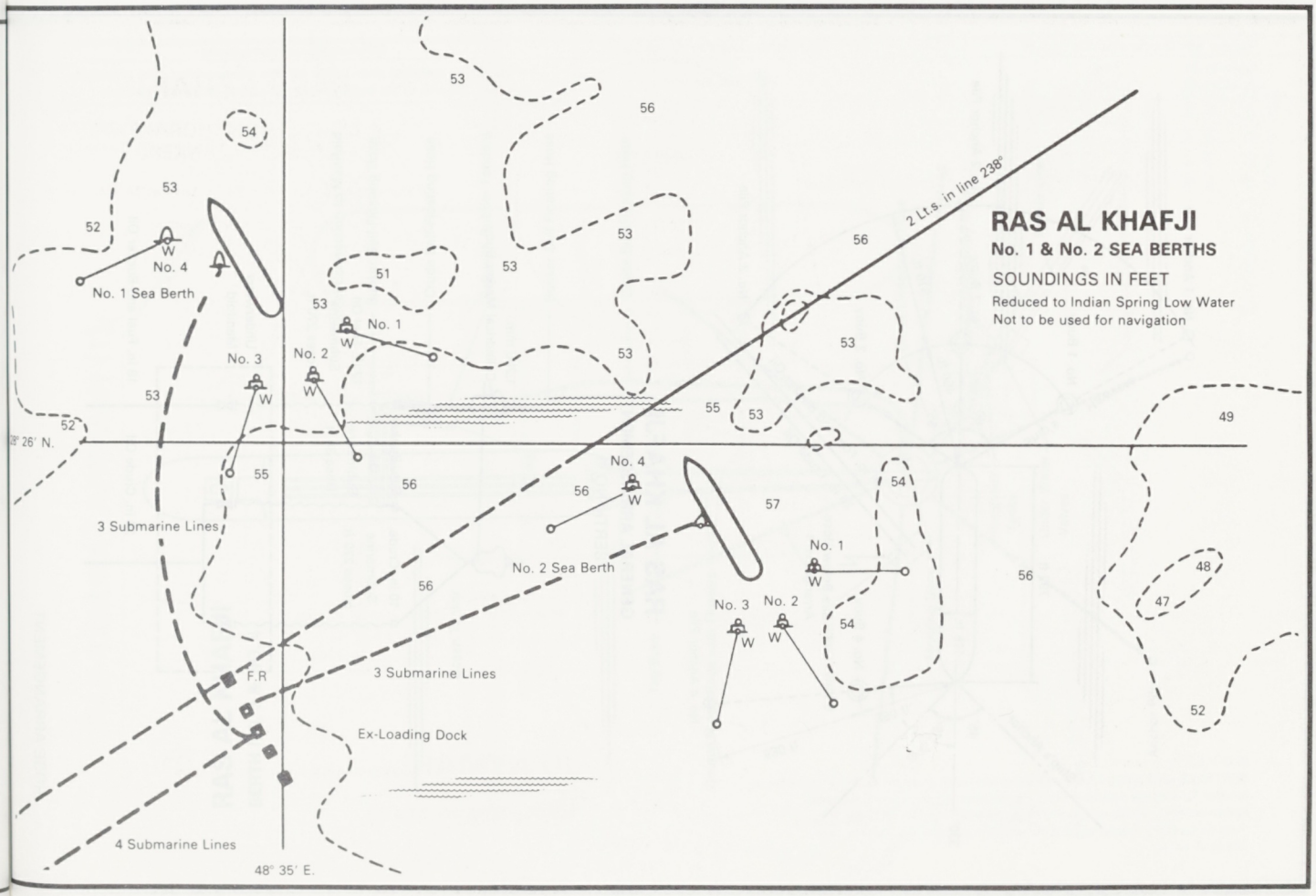

N
Admin. Area
Industrial Quay
Slipway
– 6m
Salt Quay
North Breakwater
Open Sea Tanker Terminal
Dredged to – 14m
Industrial Causeway 300m wide
INDUSTRIAL HARBOUR
East Breakwater
1 Km 0 1 Km
SCALE
Industrial Area
COMMERCIAL HARBOUR
Temporary Works Jetty
Berths 9 & 10
Berths 11-14
Dredged to – 14m
Ro/Ro Berth
Container Berths
– 12m Berths 1-8
South Breakwater
Admin Area
Jebel al Bahri
FISHING HARBOUR
Bulk Cement Berth
AL-JUBAIL
JUBAIL


28°45'
48°50'
49°00'
49°10'
30'
Hout Oilfield
Numerous structures
and pipelines
Well
Pipeline
RAS AL-KHAFJI
LOCATION PLAN
270°
254°
243°
214°
048°
300°
from Jezireh ye Farsi
(Mishab No. 1)
Prohibited Area for
Anchoring, Fishing and
Navigation
(Mishab No. 2)
Flare No. 4
Flare No. 3
Flare No. 5
Flare No. 1
Flare No. 2
100 ft.
Cargo Ship Anchorage
Ocean Tanker Anchorage
No.4 Sea Berth
No.3 Sea Berth
No.2 Sea Berth
No.1 Sea Berth
Prohibited Area for Anchoring
Ras Al-Khafji
Flare
Flare
(Mishab No.3)
To Ras Al-Mishab
64 ft.
54 ft.
36 ft.
64 ft.
54 ft.
100 ft.
Ras Al-Mishab
36 ft.
FASHT BILDANI
0 5 10 15 20 25 30 km.


RAS AL KHAFJI
SEA BERTHS & ANCHORAGE AREA
FOR OCEAN TANKERS
DEPTHS IN FEET
Reduced to Indian Spring Low Water Level at RAS AL-KHAFJI
(Not to be used for navigation)
OCEAN TANKER
ANCHORAGE AREA
No. 9
28° 29' 30" N
48° 39' 00" E
No.10
No.4 Sea Berth
(SBM)
No.3 Sea Berth
(SBM)
54 ft
64 ft.
Tanker Manoeuvring Area
Valve Platform
Tanker Manoeuvring Area
Submarine Cables
Transmission Line
No.13
No.1 Sea Berth
Submarine Lines
No.2 Sea Berth
No.12
Submarine Lines
Ex-Loading Dk.
64 ft.
54 ft.
N
0 2 3 km.
Scale in Metres



RAS AL KHAFJI
BERTHING & LOADING FACILITIES

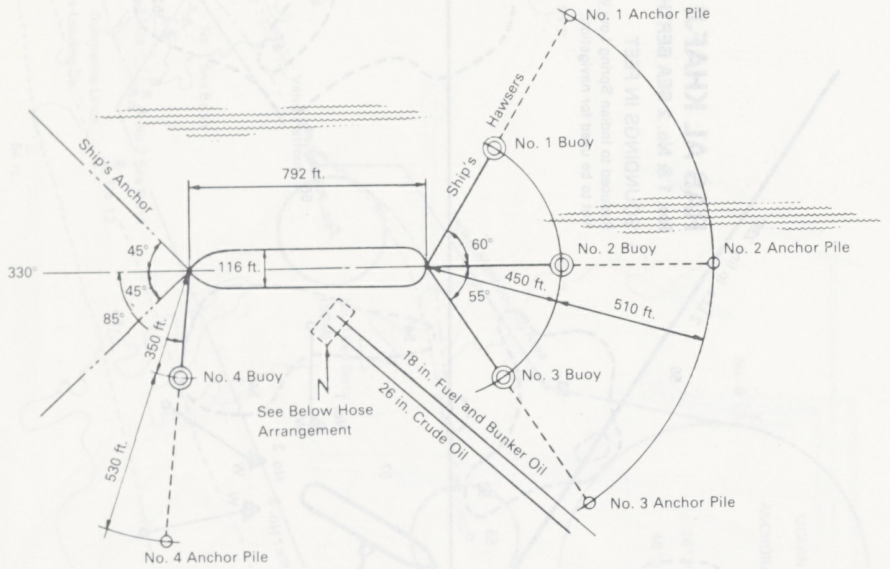


RAS AL KHAFJI
No. 1 & No. 2 SEA BERTHS

SOUNDINGS IN FEET

Reduced to Indian Spring Low Water

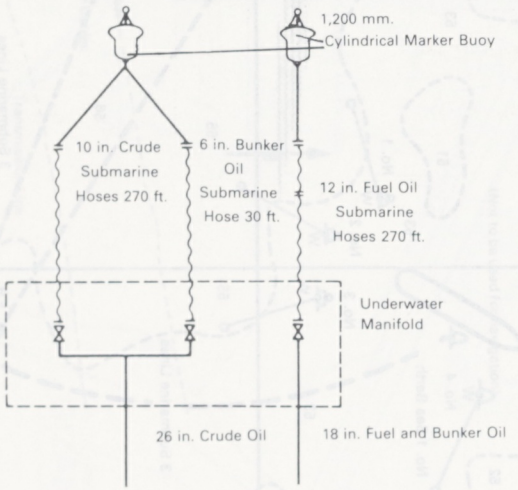
Not to be used for navigation



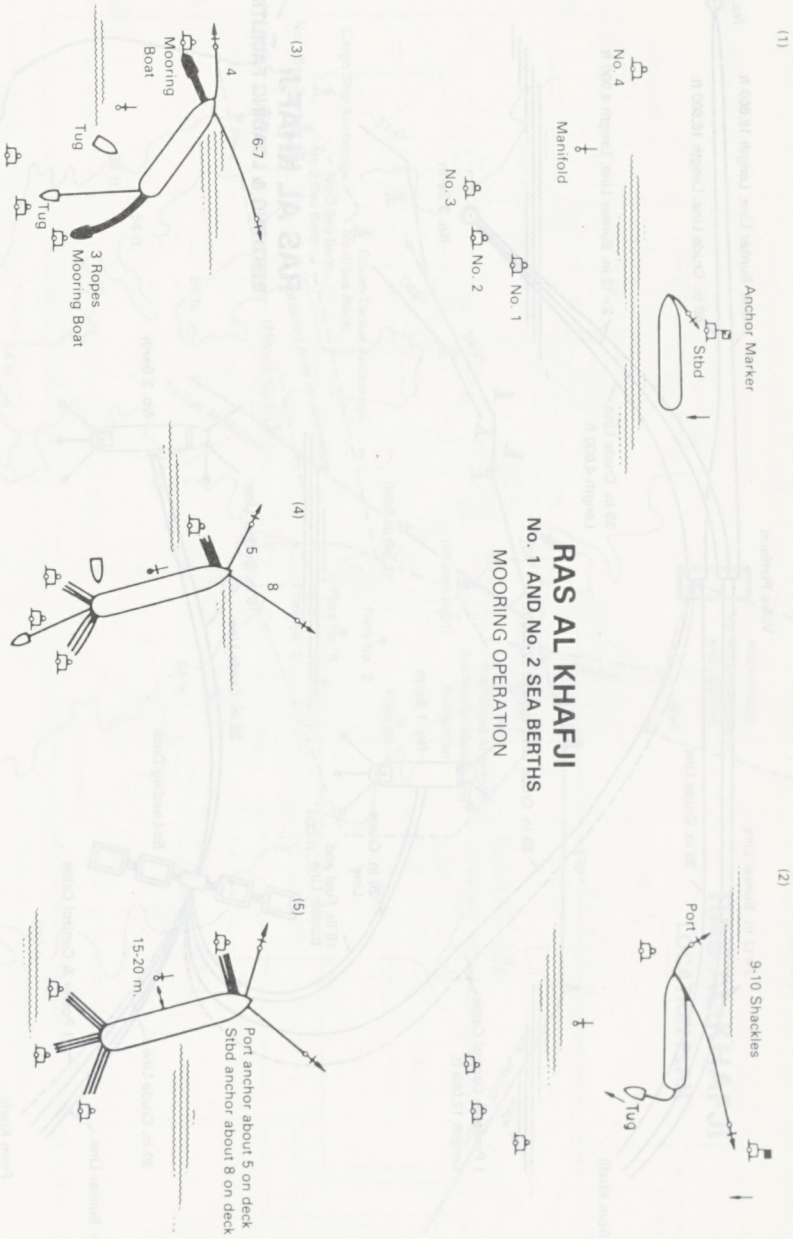
RAS AL KHAFJI

GENERAL ARRANGEMENT

BERTH NO. 1



HOSE ARRANGEMENT



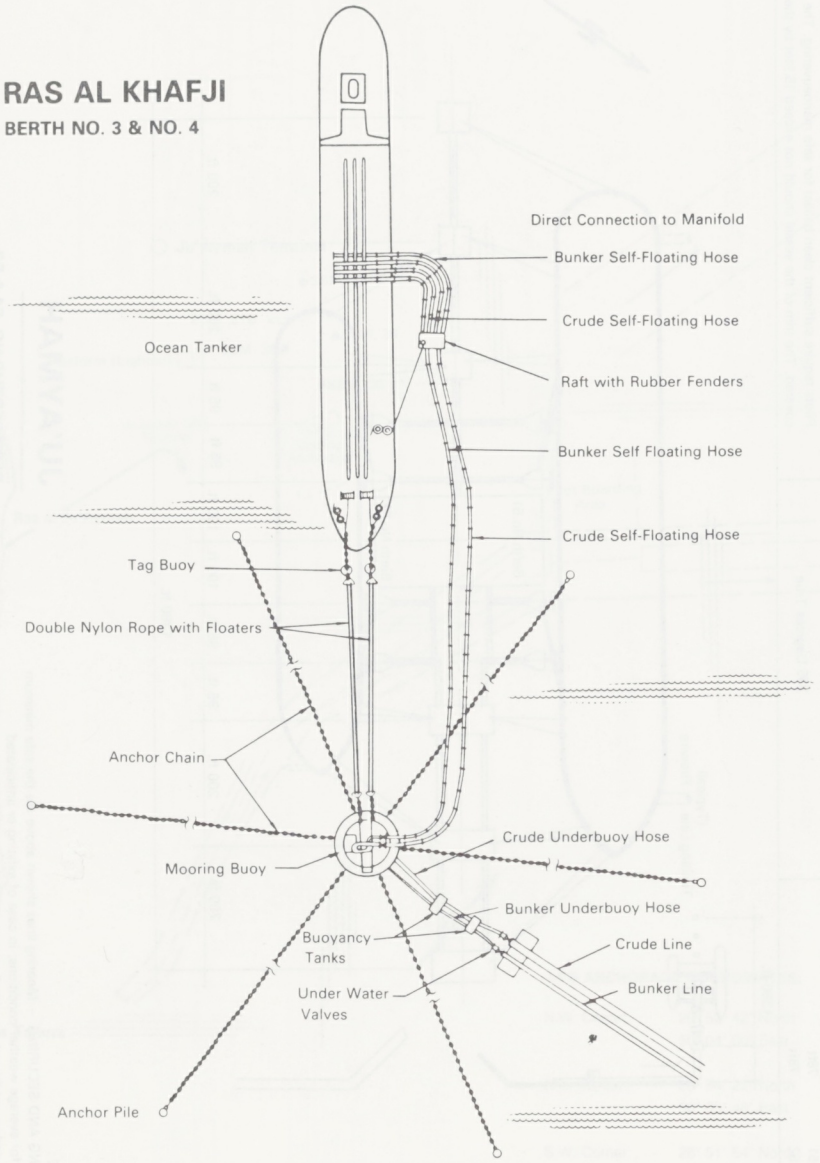
RAS AL KHAFJI

No. 1 AND No. 2 SEA BERTHS

MOORING OPERATION

RAS AL KHAFJI

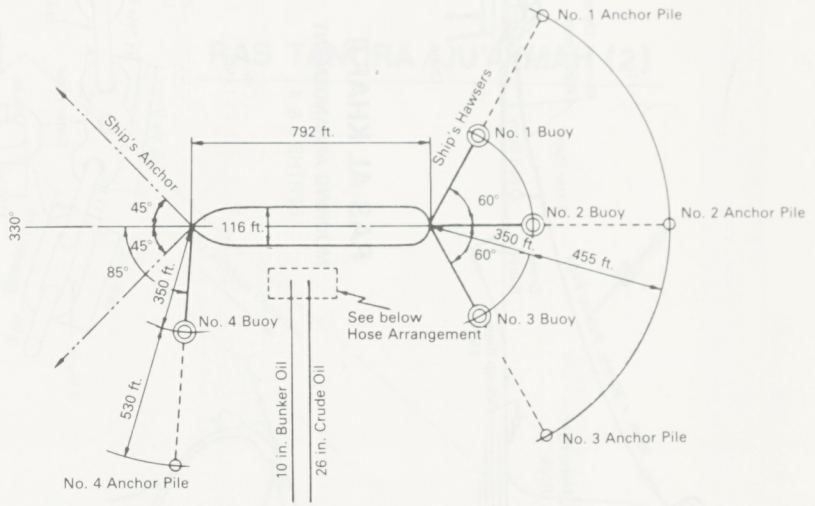
BERTH NO. 3 & NO. 4

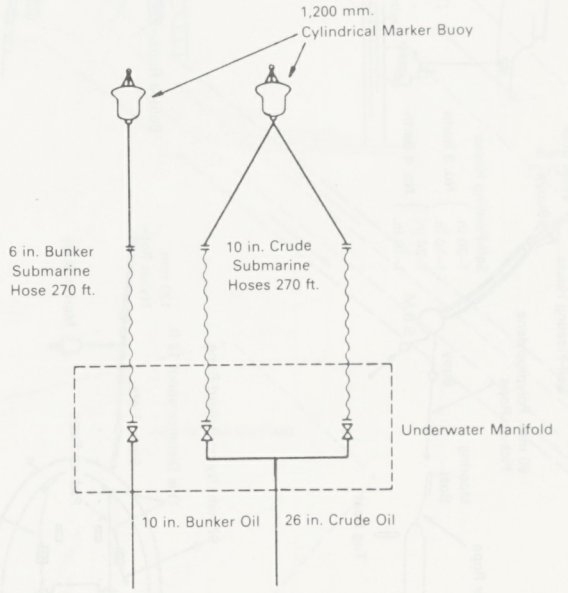


RAS AL KHAFJI

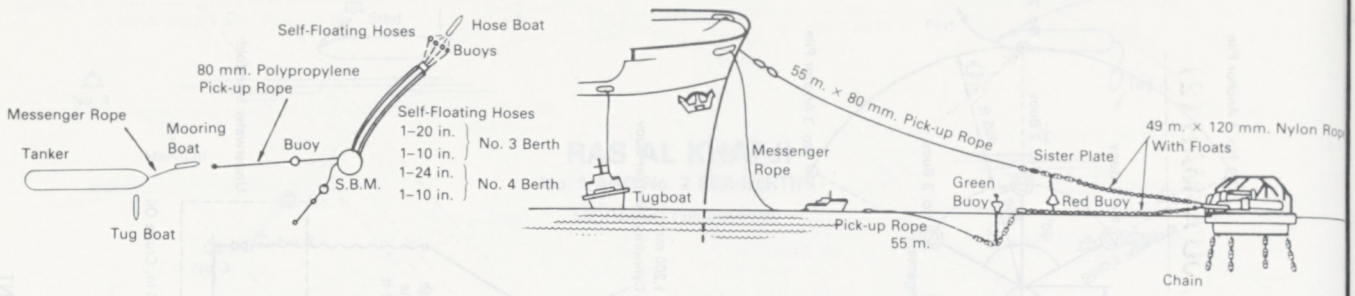
GENERAL ARRANGEMENT

BERTH NO. 2





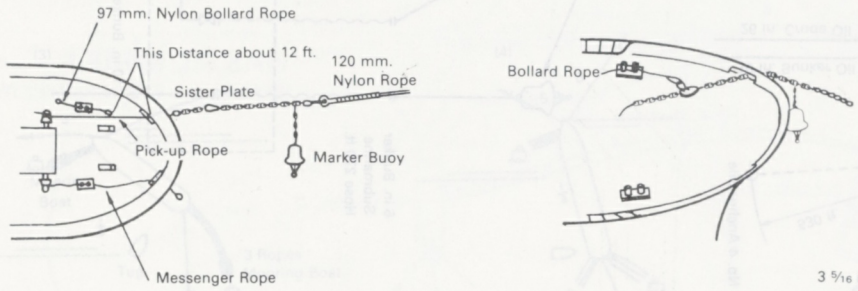
HOSE ARRANGEMENT

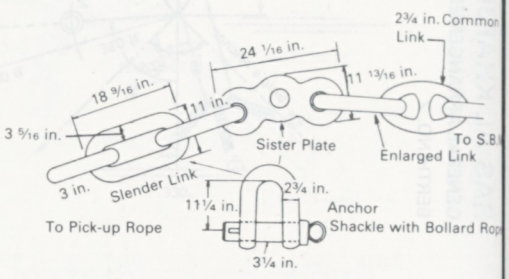


RAS AL KHAFJI

MOORING ARRANGEMENT

BERTHS 3 & 4

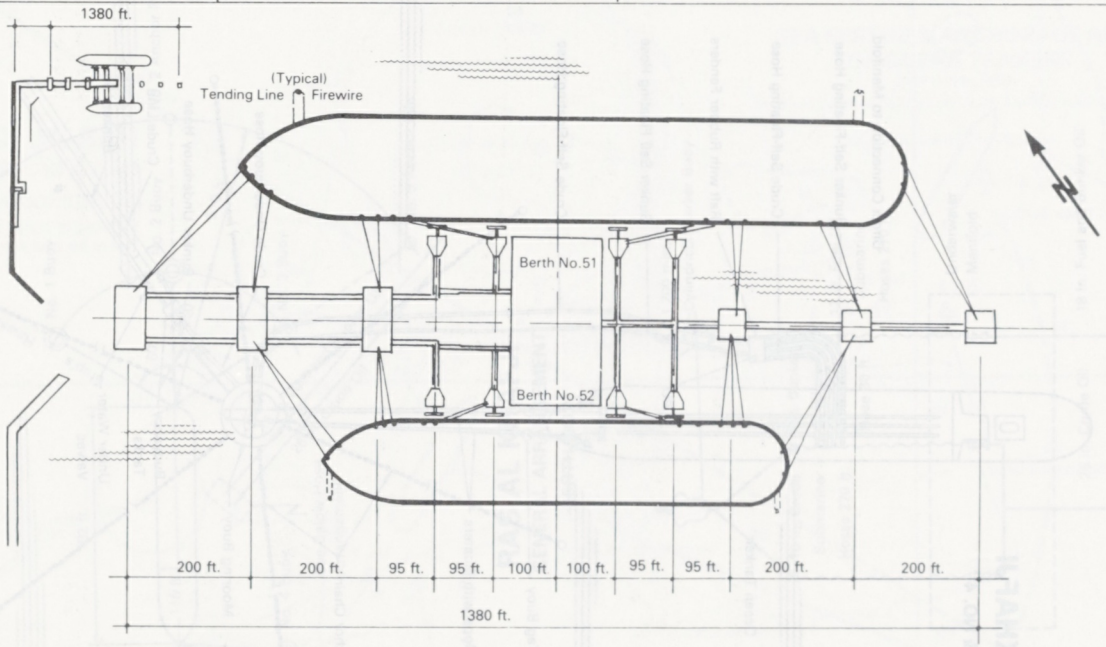




DIMENSIONS OF SISTER PLATE ASSEMBLY

Mooring Diagram Ju'aymah RLPG Berth 51 and 52

Approx. Min Depths at Berths I.S.L.W.	Approximate Direction of Sea Island	Minimum Manoeuvering Drafts
Berth No.51 78ft Berth No.52 78ft	335 Degrees True	Pilots require sufficient clean ballast for safe manoeuvering. The propellers should be covered. The trim of the vessel should not exceed 15 feet by the stern.

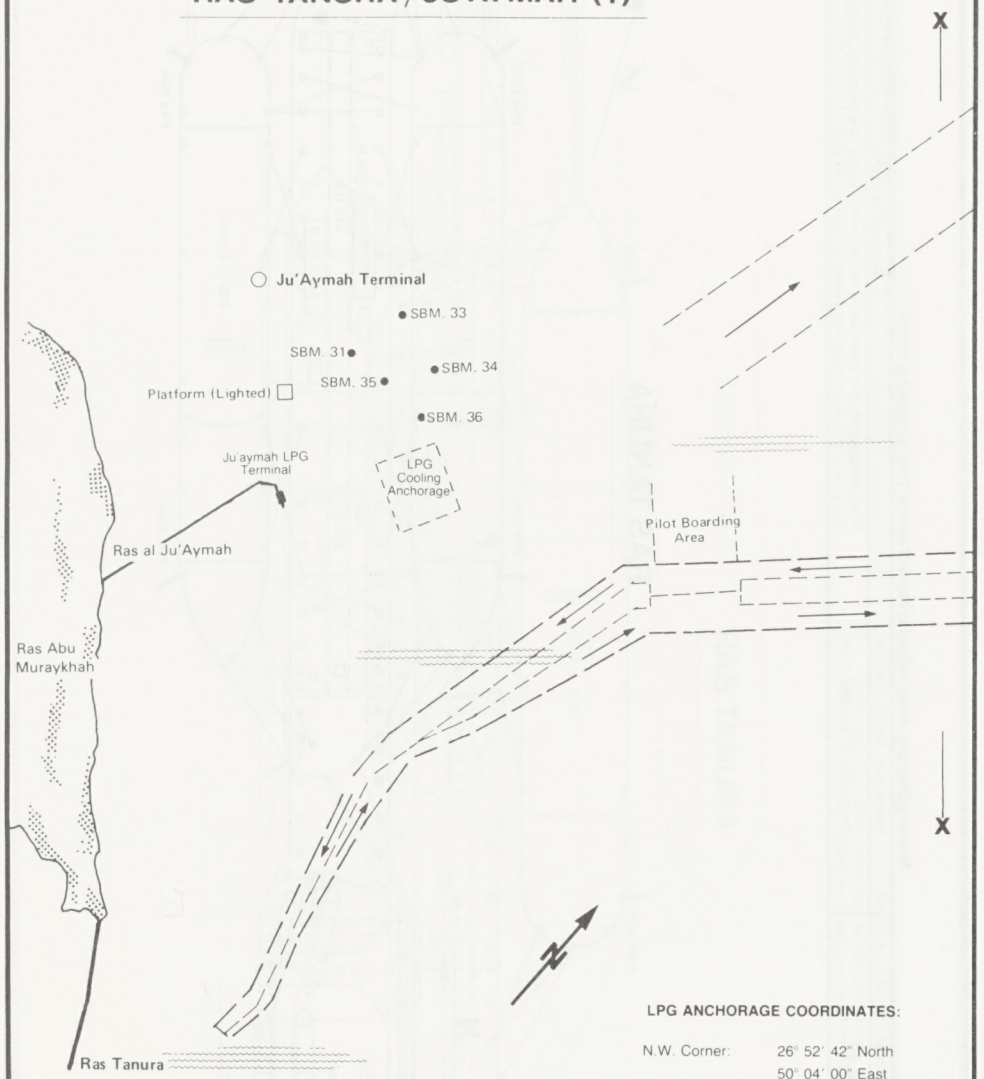


NOTE:
BERTHING AND SECURING – Mooring lines shown above are the safe minimum number for average weather conditions; in case of existing or anticipated severe weather, additional mooring lines may be required. Mooring lines must be carefully tended to hold the vessel in position and close to the pier at all times.

JU'AYMAH

RLPG BERTHS NO. 51 & 52

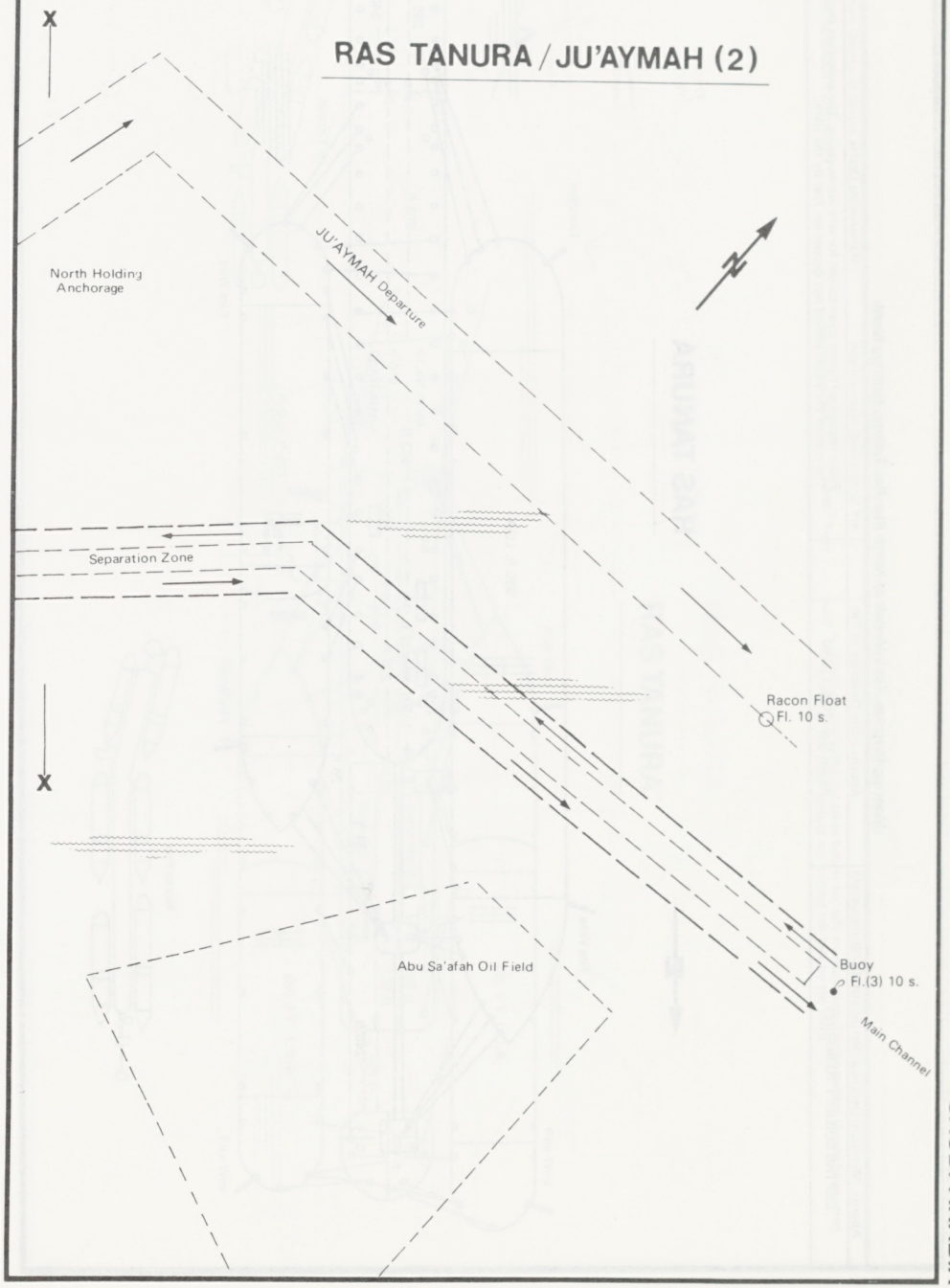
RAS TANURA / JU'AYMAH (1)



LPG ANCHORAGE COORDINATES:

N.W. Corner:	26° 52' 42" North 50° 04' 00" East
N.E. Corner:	26° 54' 22" North 50° 05' 48" East
S.W. Corner:	26° 51' 54" North 50° 05' 00" East
S.E. Corner:	26° 52' 36" North 50° 06' 48" East

RAS TANURA / JU'AYMAH (2)

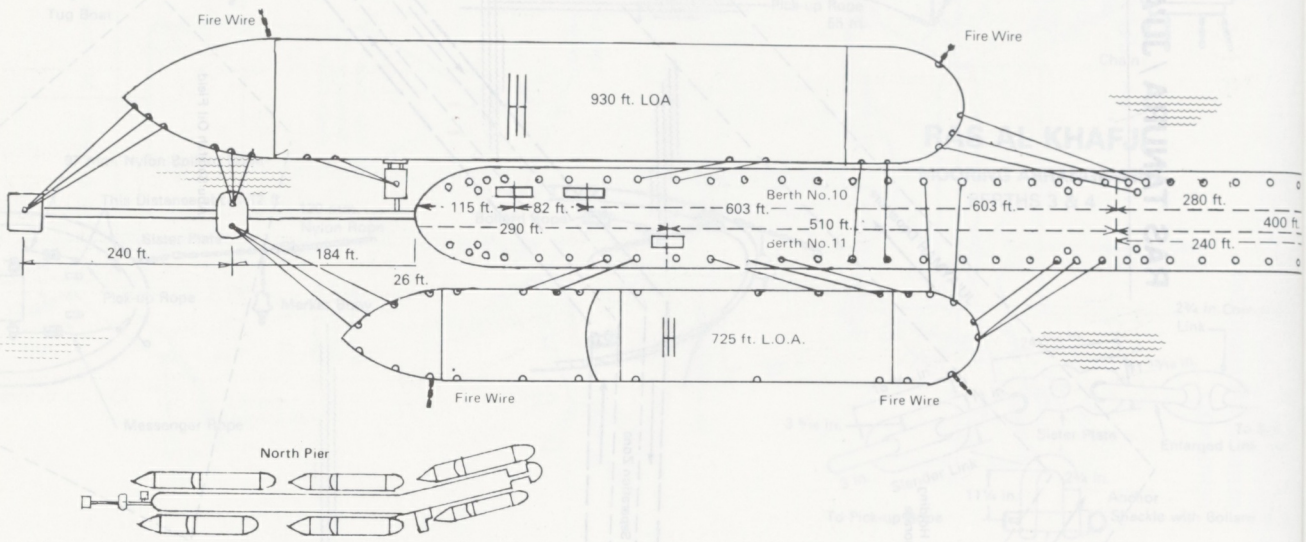


SAUDI ARABIA

Mooring-Diagram Tank-Vessels at North Pier Ras Tanura, Heading North

Approx. Minimum Depths at Berths at I.S.L.W.	Approximate Direction of Pier	Maneuvering Drafts
DEPTHS SUBJECT TO SURVEY	Berths Nos. 10 & 11-360° True	Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed ten feet by the stern.

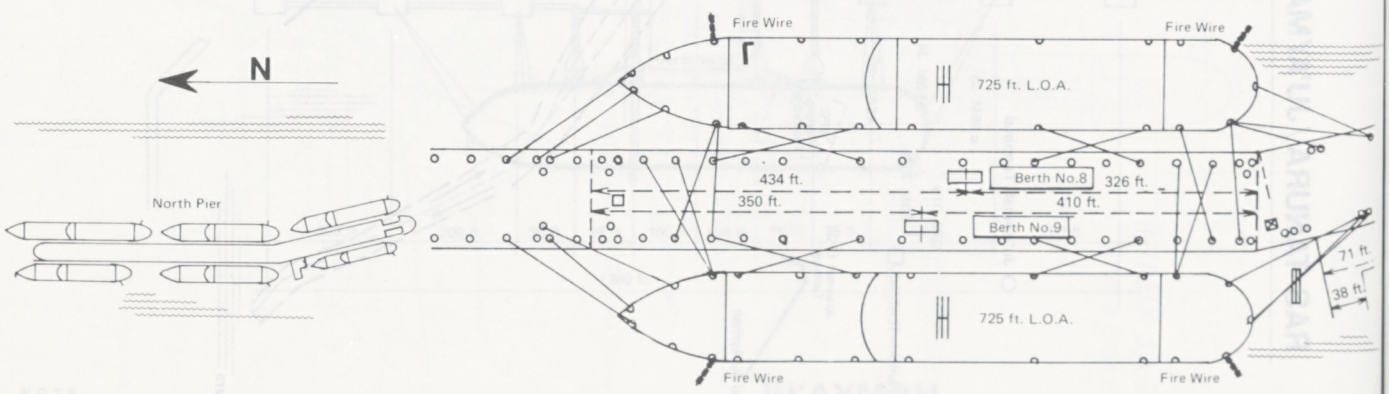
RAS TANURA



Mooring-Diagram Tank-Vessels at North Pier Ras Tanura, Heading North

Approx. Minimum Depths at Berths at I.S.L.W.	Approximate Direction of Pier	Maneuvering Drafts
DEPTHS SUBJECT TO SURVEY	Berths Nos. 8, 9 – 360° True	Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed ten feet by the stern.

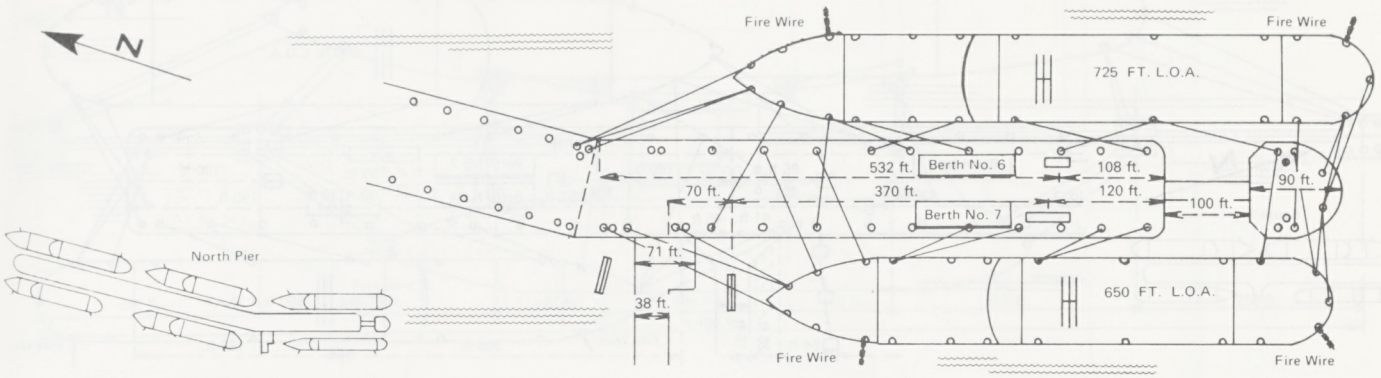
RAS TANURA



Mooring-Diagram Tank-Vessels at North Pier Ras Tanura, Heading North

Approx. Minimum Depths at Berths at I.S.L.W.	Approximate Direction of Pier	Maneuvering Drafts
DEPTHS SUBJECT TO SURVEY	Berths Nos. 6 & 7 —346° True	Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed ten feet by the stern.

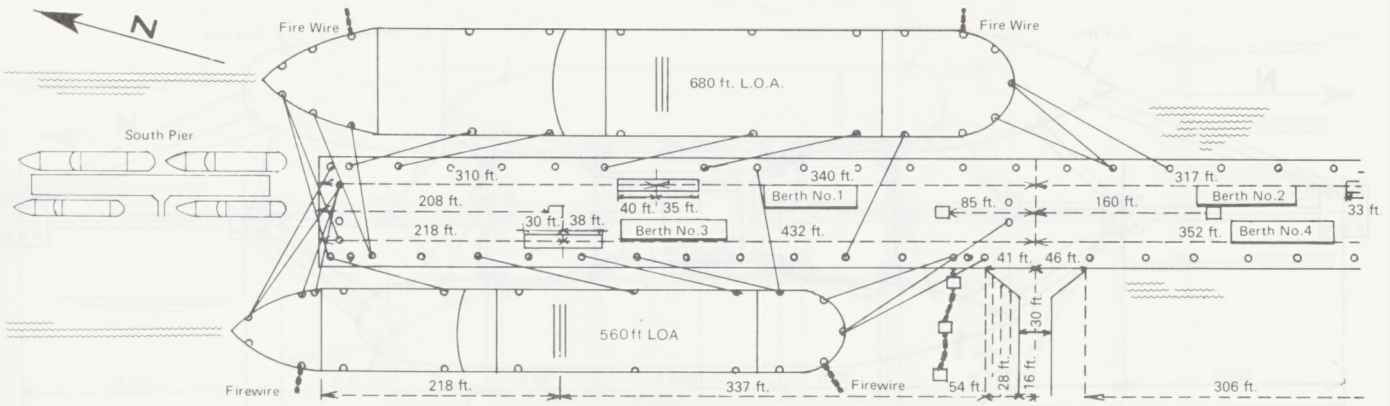
RAS TANURA



Mooring-Diagram Tank-Vessels at South Pier Ras Tanura, Heading North.

Approx. Min. Depths at Berths at I.S.L.W.	Approximate Direction of Pier	Maneuvering Drafts
DEPTHS SUBJECT TO SURVEY	346 Degrees True	Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed ten feet by the stern.

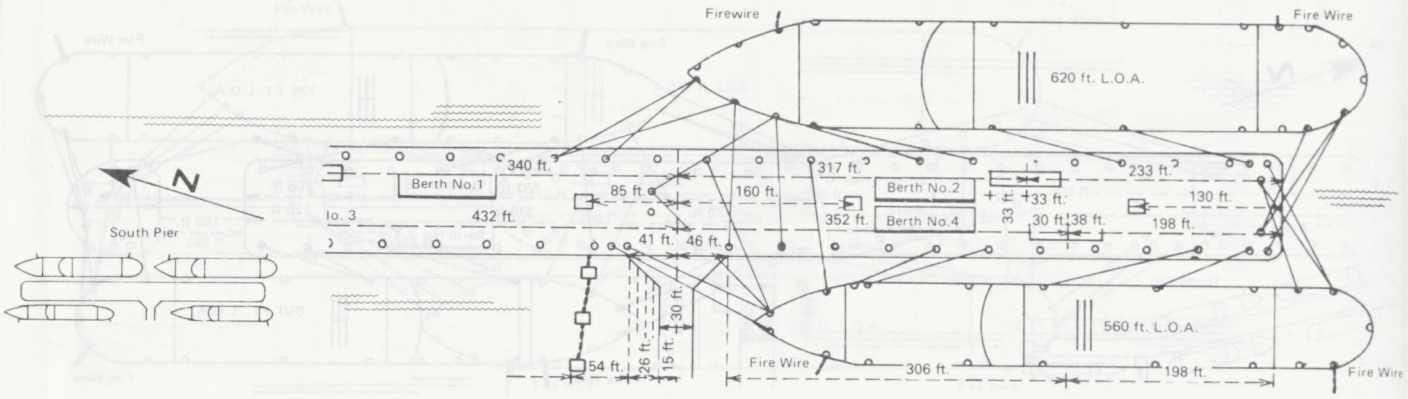
RAS TANURA



Mooring-Diagram Tank-Vessels at South Pier Ras Tanura, Heading North.

Approx. Minimum Depths at Berths at I.S.L.W.	Approximate Direction of Pier	Maneuvering Drafts
DEPTHS SUBJECT TO SURVEY	346 Degrees True	Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed ten feet by the stern.

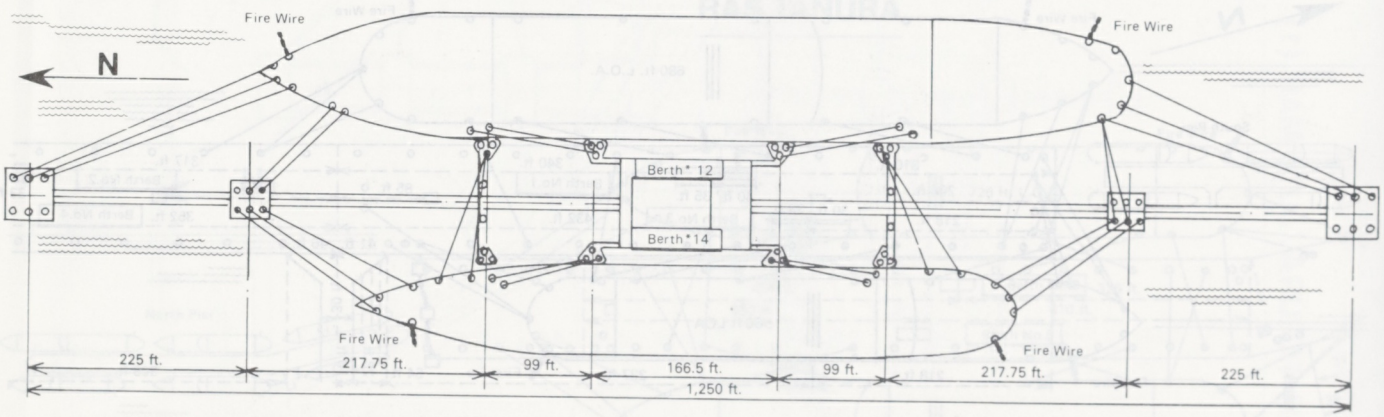
RAS TANURA



Mooring-Diagram Tank-Vessels at Sea Island No. 1 Ras Tanura, Heading North.

Approx. Minimum Depths at Berths at I.S.L.W.	Approx. Direction of Sea Island	Minimum Maneuvering Drafts
Berth No.12 ..... 85 feet Berth No.14 ..... 85 feet	356 Degrees True	*Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed fifteen feet by the stern.

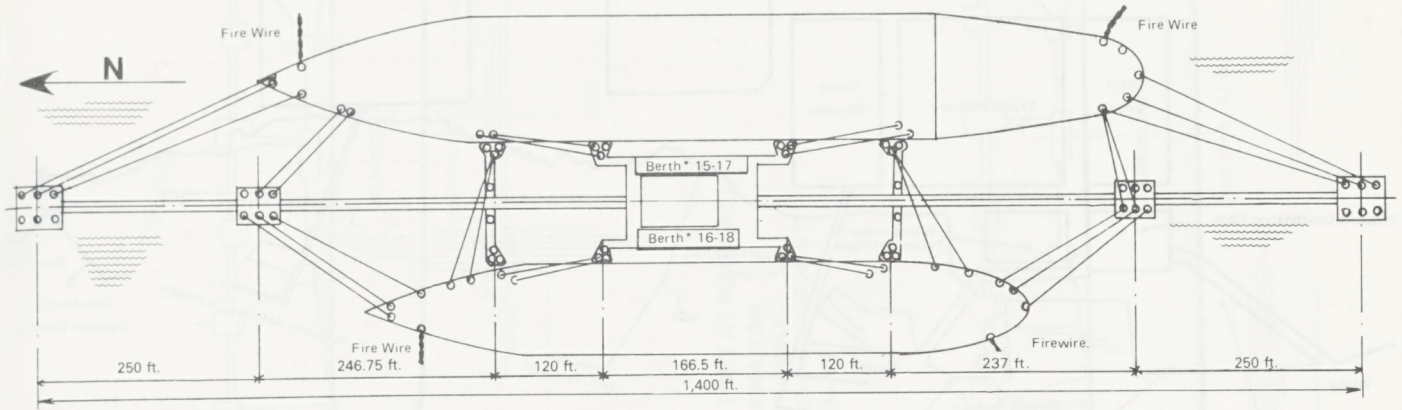
RAS TANURA



Mooring-Diagram Tank-Vessels at Sea Islands No. 2 and 3 Ras Tanura, Heading North

Approx. Min. Depths at Berths at I.S.L.W.	Approx. Direction of Sea Island	Minimum Maneuvering Drafts
Berth No.15 ..... 85 feet Berth No.17 ..... 85 feet Berth No.16 ..... 85 feet Berth No.18 ..... 85 feet	356 Degrees True	*Pilots require sufficient clean ballast for safe maneuvering. The propellers should be covered. The trim of the vessel should not exceed fifteen feet by the stern.

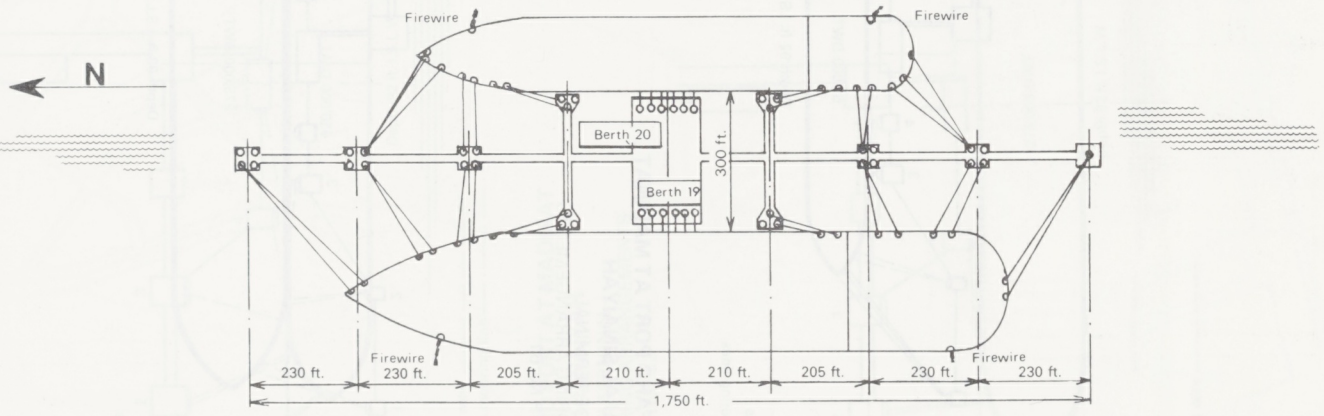
RAS TANURA



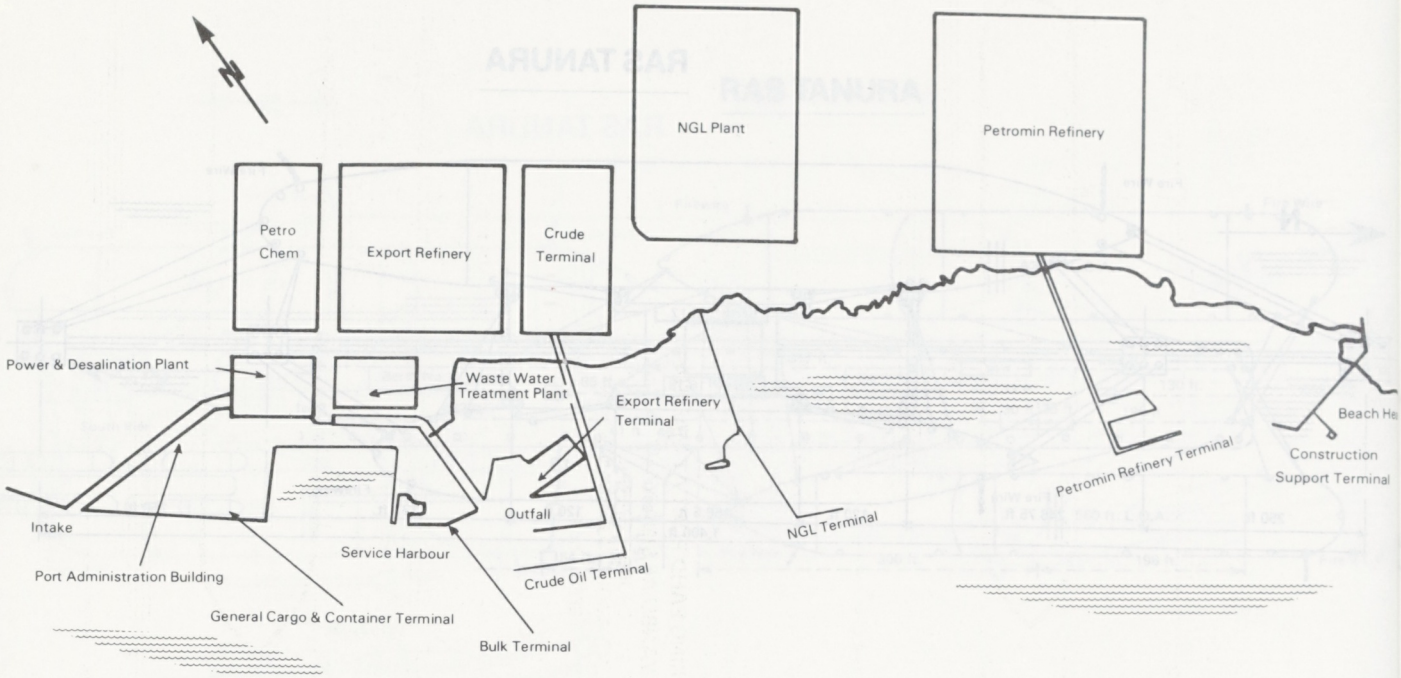
Mooring-Diagram Tank-Vessels at Sea Island No. 4 Ras Tanura Heading North

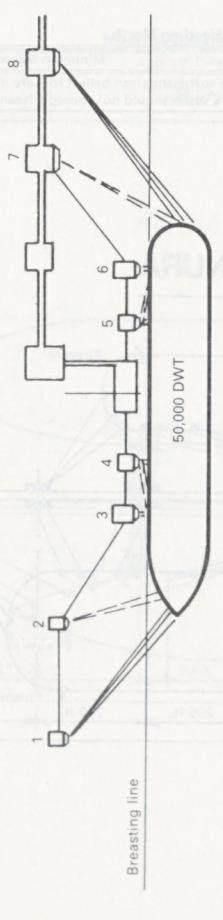
Approx. Min. Depths at Berths at I.S.L.W.	Approx. Direction of Sea Island	Minimum Maneuvering Drafts
Berth No.19 ..... 85 feet Berth No.20 ..... 85 feet	356 Degrees True	*Pilots require sufficient clean ballast for safe maneuvering. The propellers should not be covered. The trim of the vessel should not exceed fifteen (15) feet by the stern.

RAS TANURA



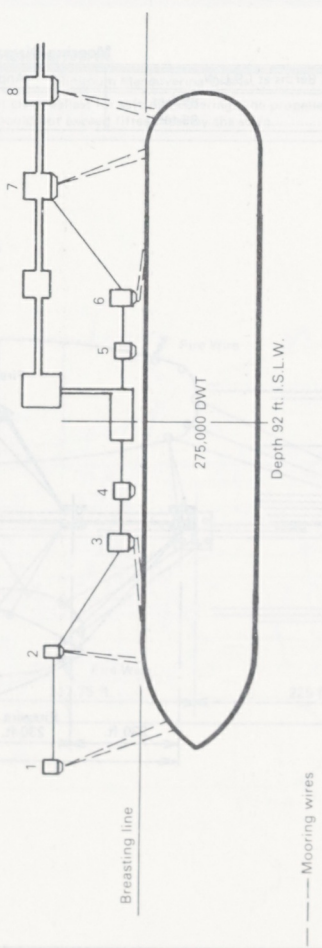
KING FAHD PORT AT MADINAT YANBU AL SINAIYAH

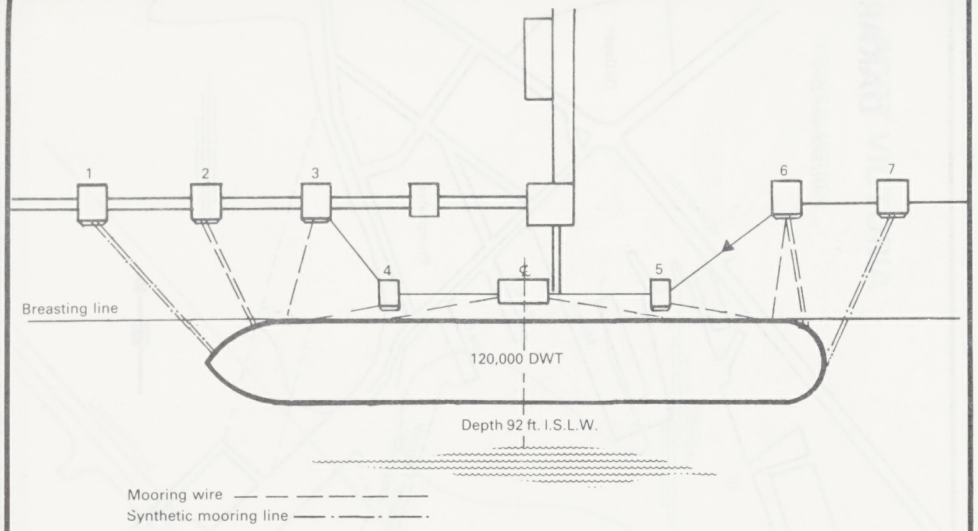




KING FAHD PORT AT MADINAT YANBU AL SINAIYAH

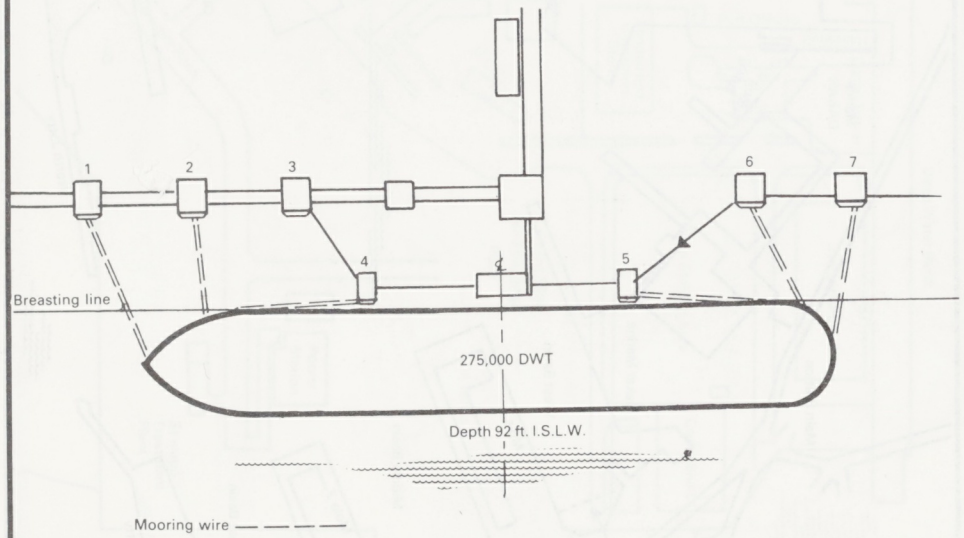
CRUDE TERMINAL-
MOORING ARRANGEMENTS
BERTH No. 61

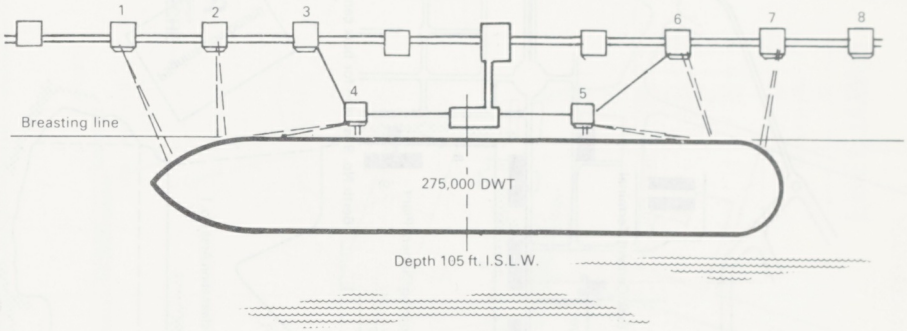




KING FAHD PORT AT MADINAT YANBU AL SINAIYAH

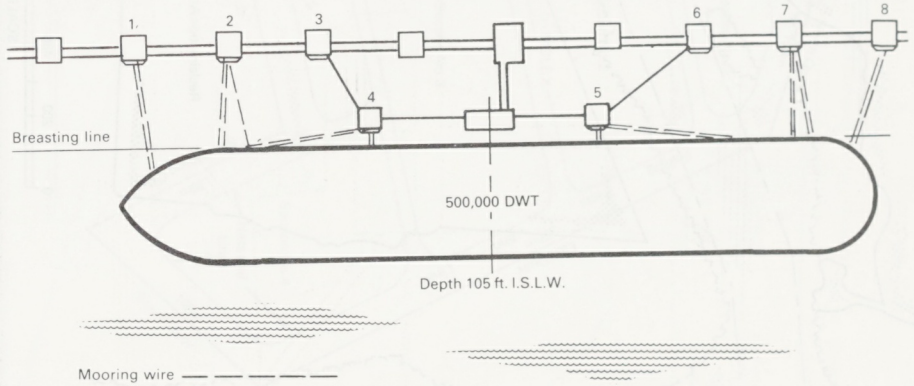
CRUDE TERMINAL-
MOORING ARRANGEMENTS
BERTH No.63

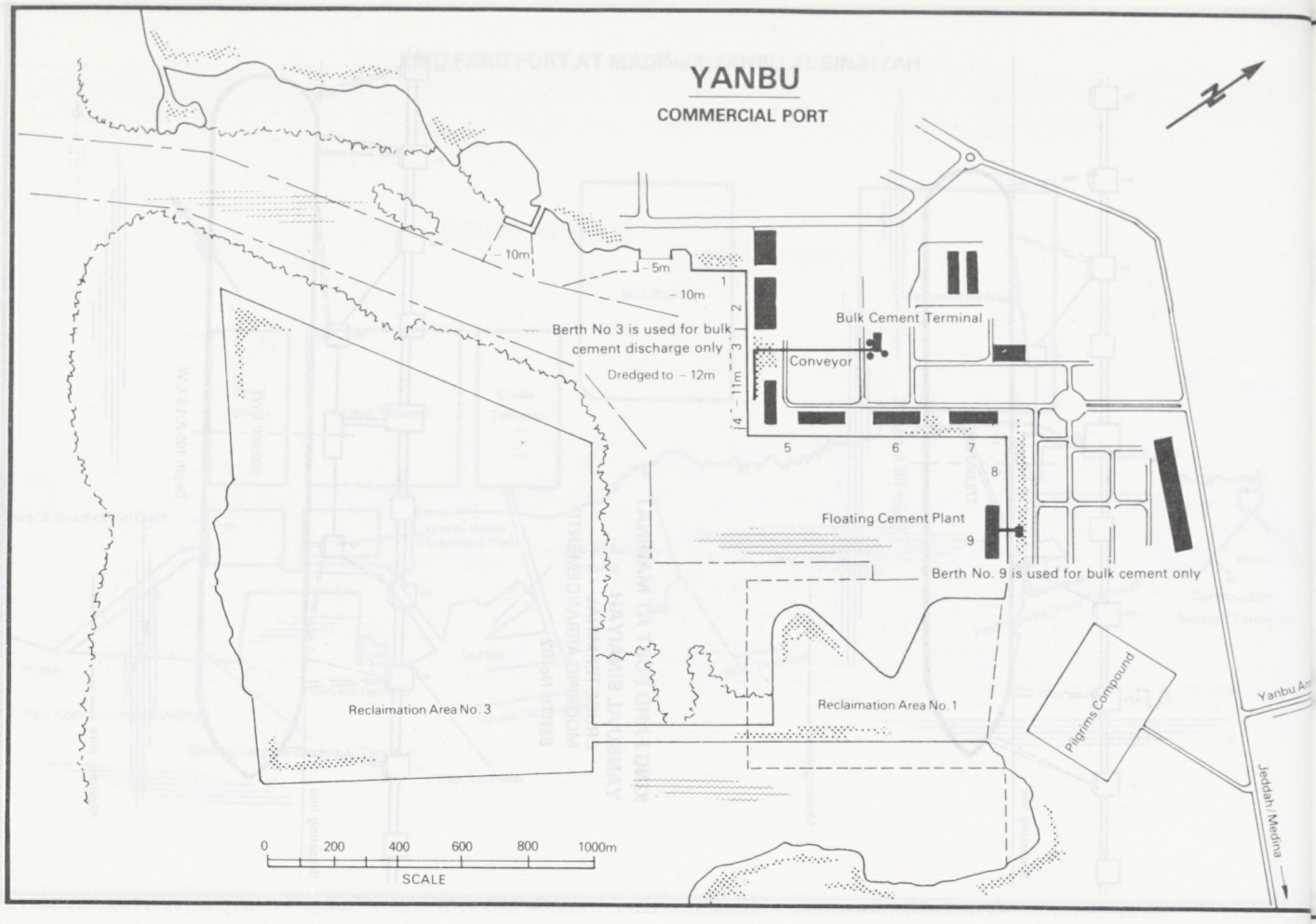


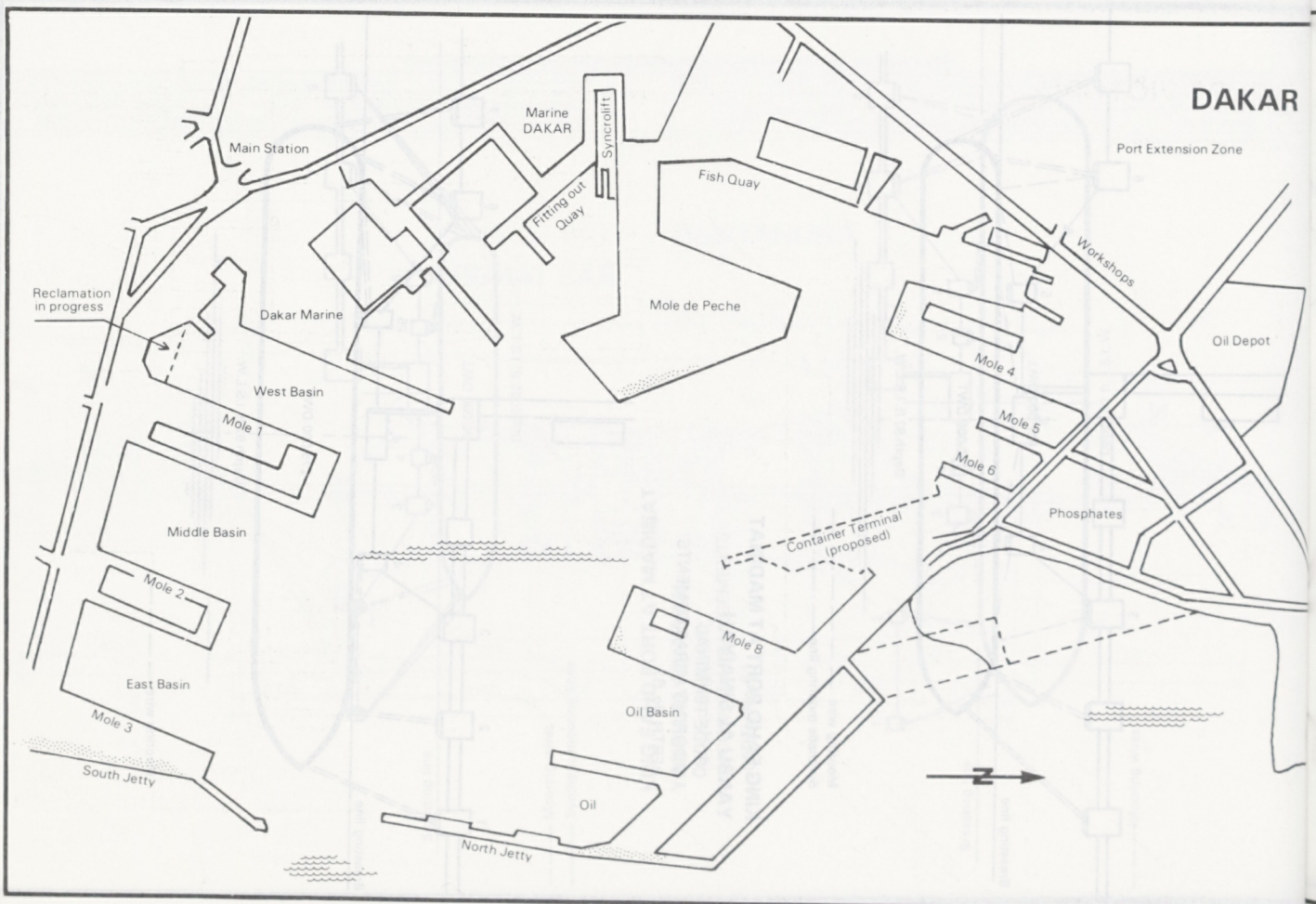


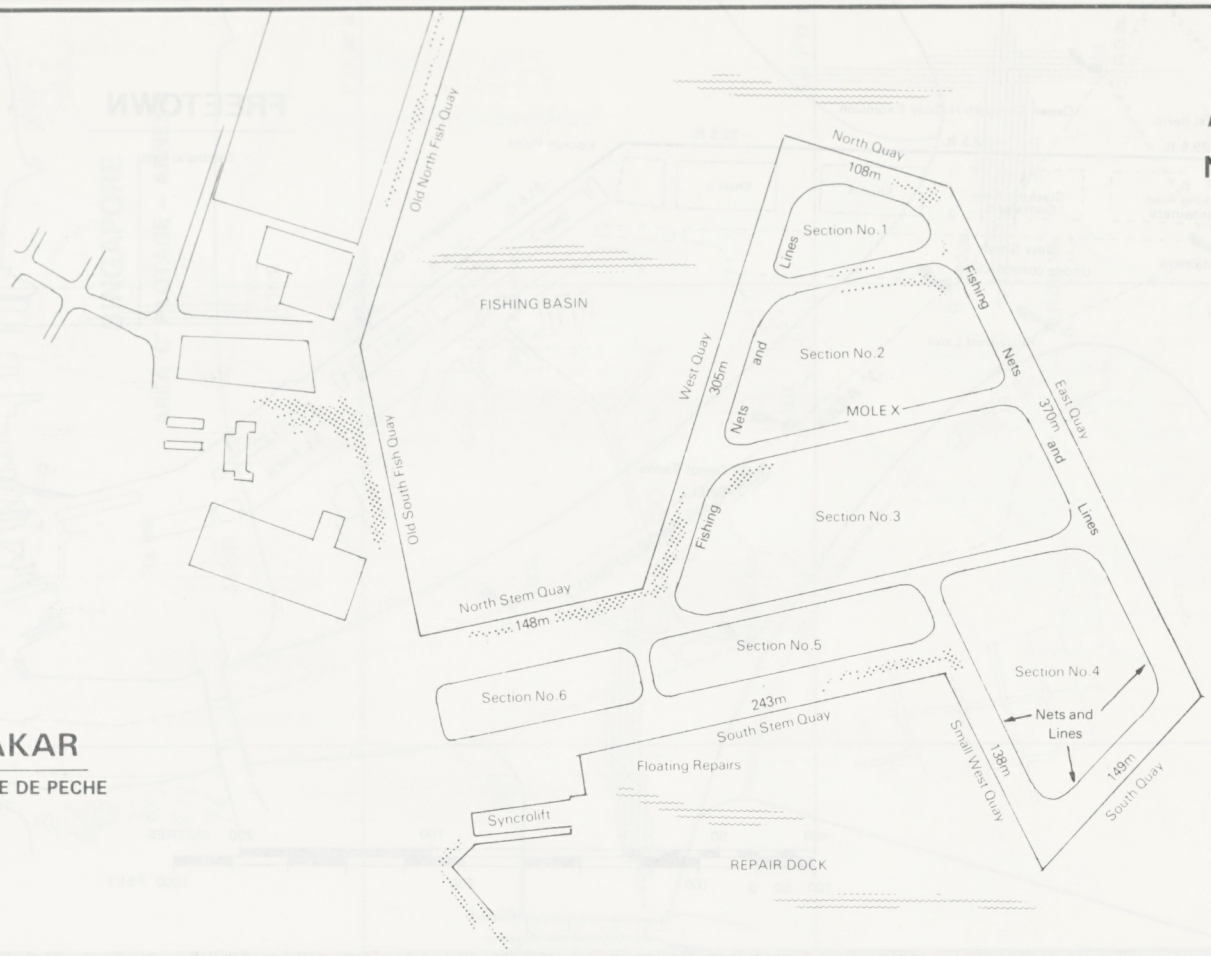
KING FAHD PORT AT MADINAT YANBU AL SINAIYAH

CRUDE TERMINAL-
MOORING ARRANGEMENTS
BERTH No.62




YANBU
COMMERCIAL PORT
N
– 10m
– 5m
– 10m
– 11m
1
2
3
4
Berth No 3 is used for bulk cement discharge only
Dredged to – 12m
Bulk Cement Terminal
Conveyor
5
6
7
8
9
Floating Cement Plant
Berth No. 9 is used for bulk cement only
Reclaimation Area No. 3
Reclaimation Area No. 1
Pilgrims Compound
Yanbu An
Jeddah / Medina
0
200
400
600
800
1000m
SCALE


DAKAR
Main Station
Marine DAKAR
Syncrolift
Fitting out Quay
Fish Quay
Port Extension Zone
Workshops
Reclamation in progress
Dakar Marine
Mole de Peche
Oil Depot
West Basin
Mole 1
Mole 4
Mole 5
Mole 6
Middle Basin
Phosphates
Container Terminal (proposed)
Mole 2
Mole 8
East Basin
Oil Basin
Mole 3
South Jetty
Oil
North Jetty
N

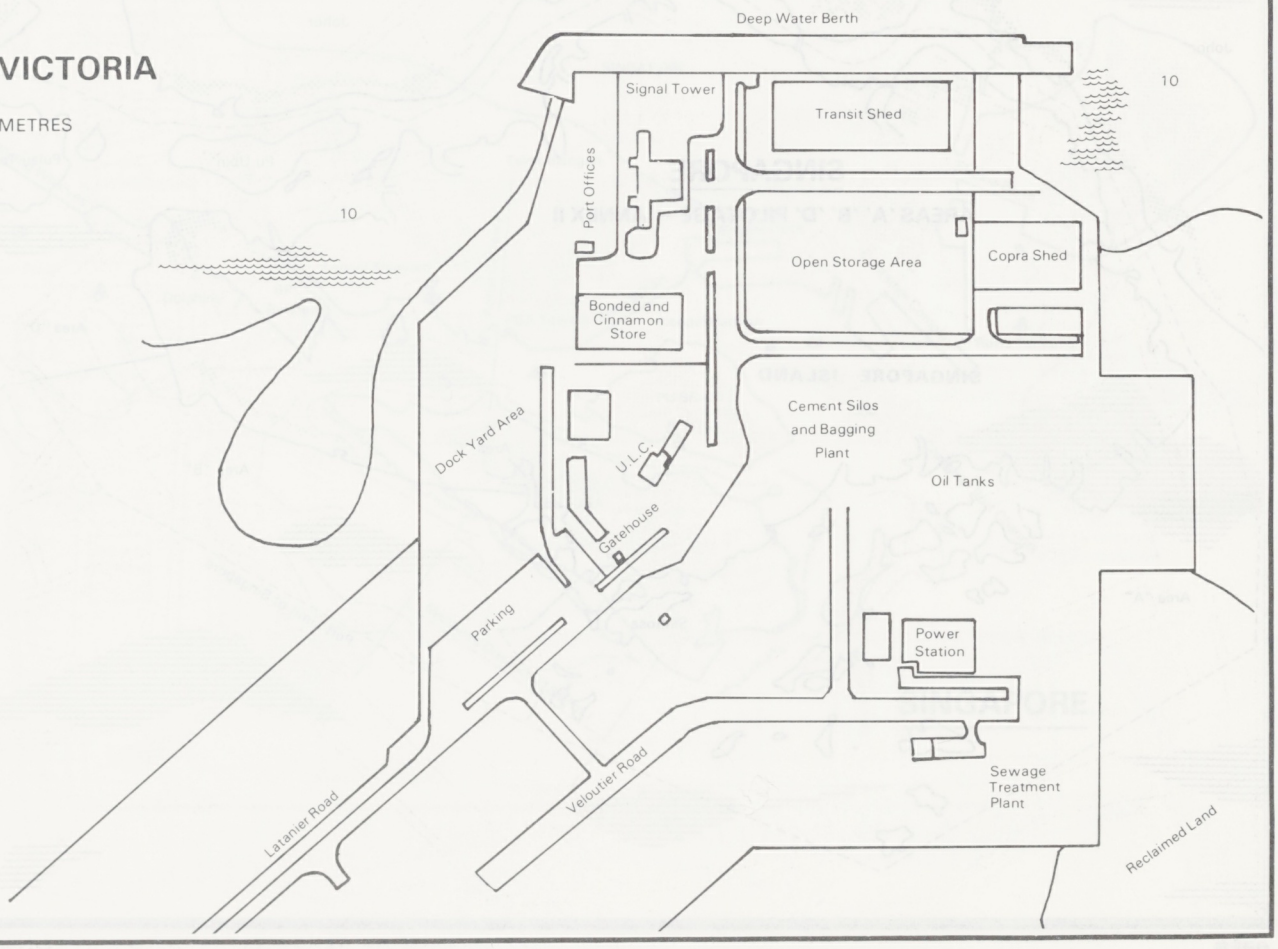


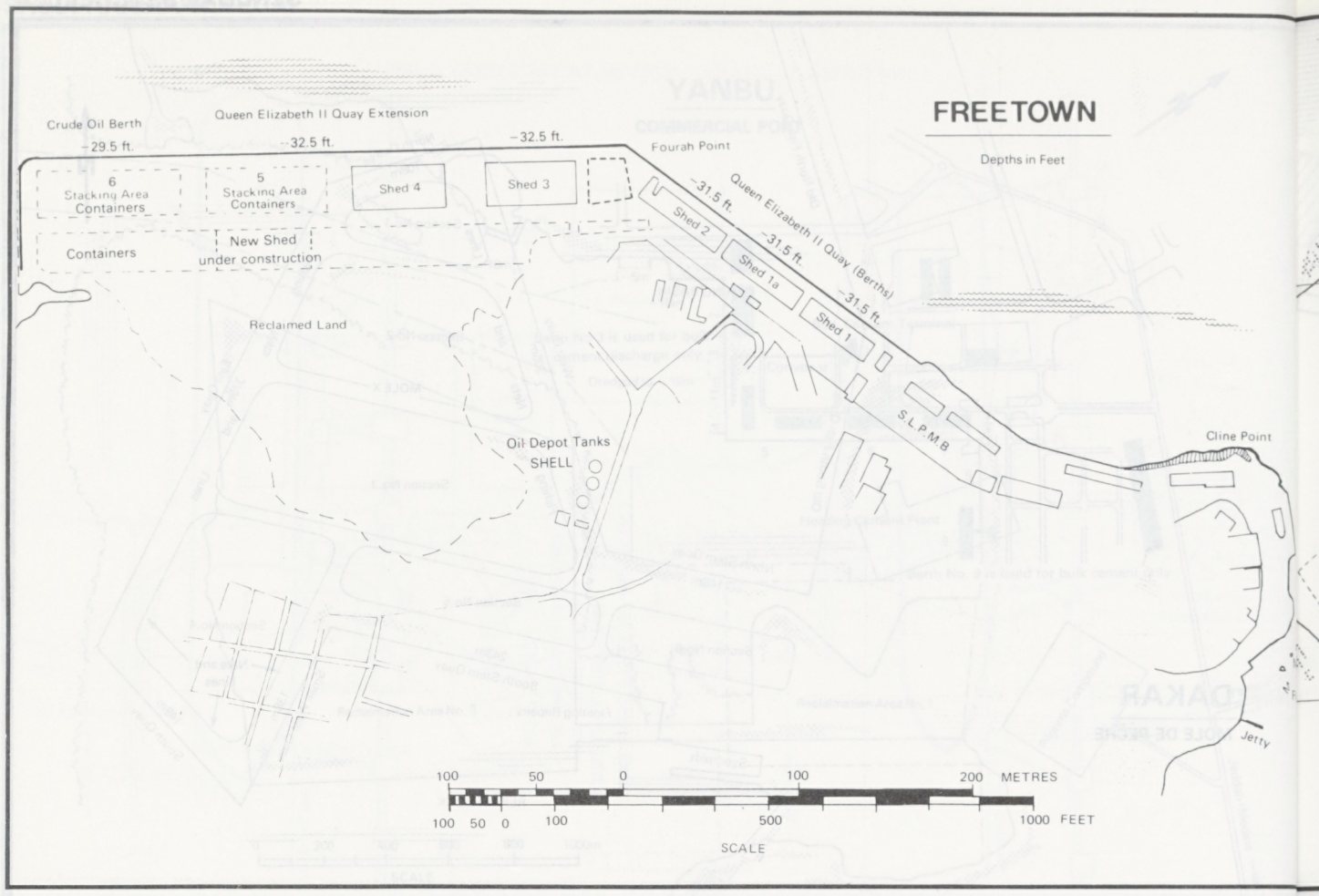
DAKAR

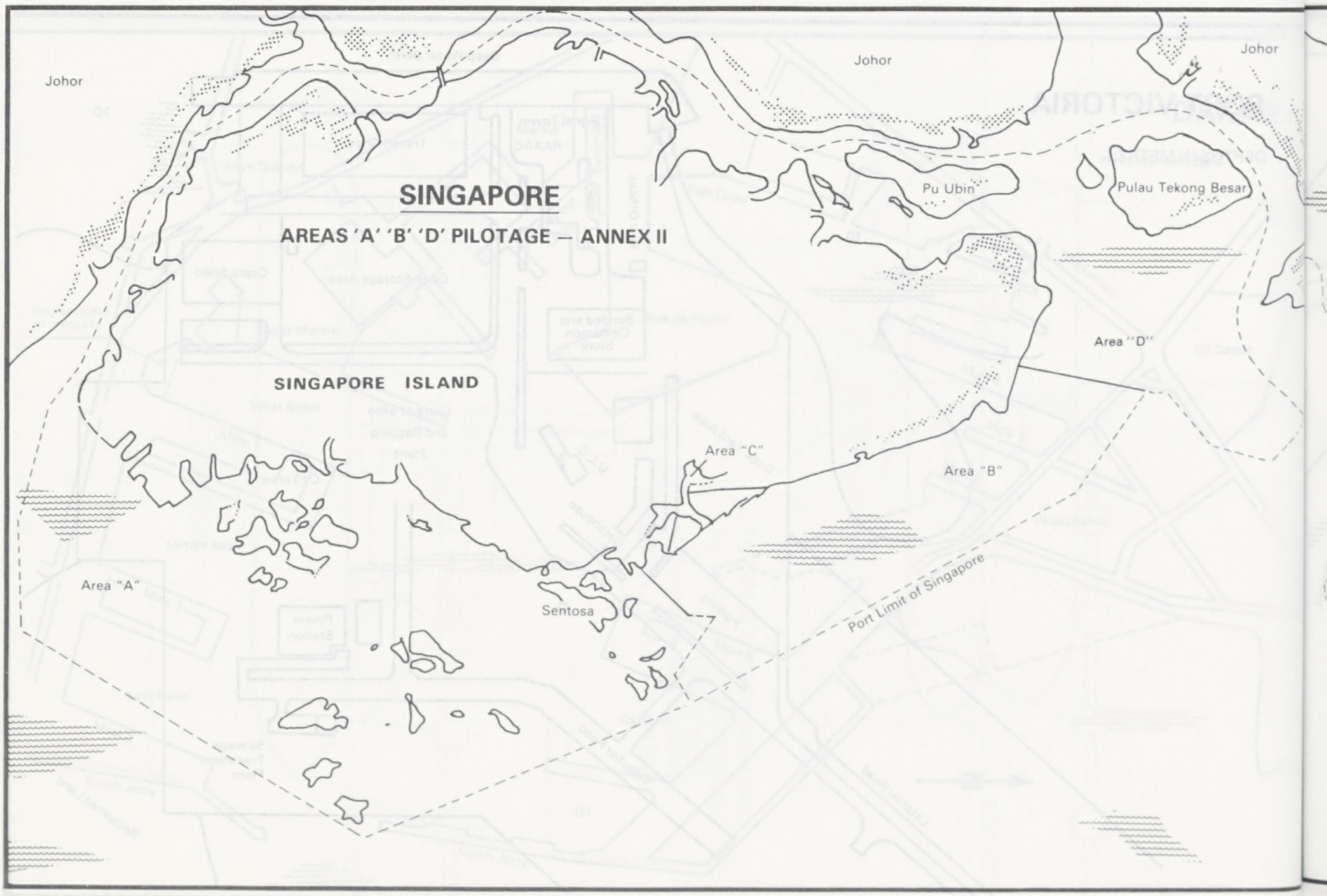
MOLE DE PECHE

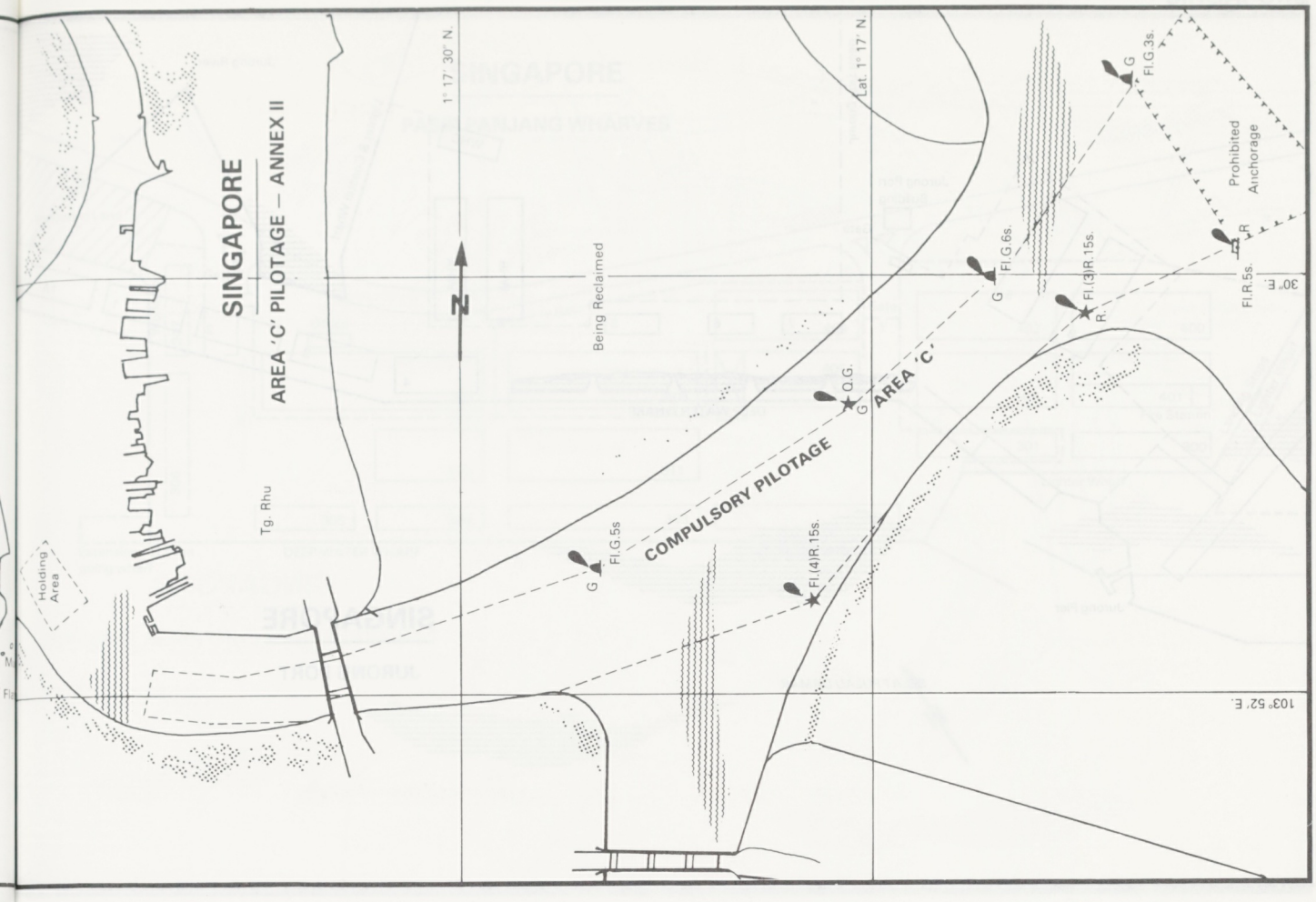
PORT VICTORIA

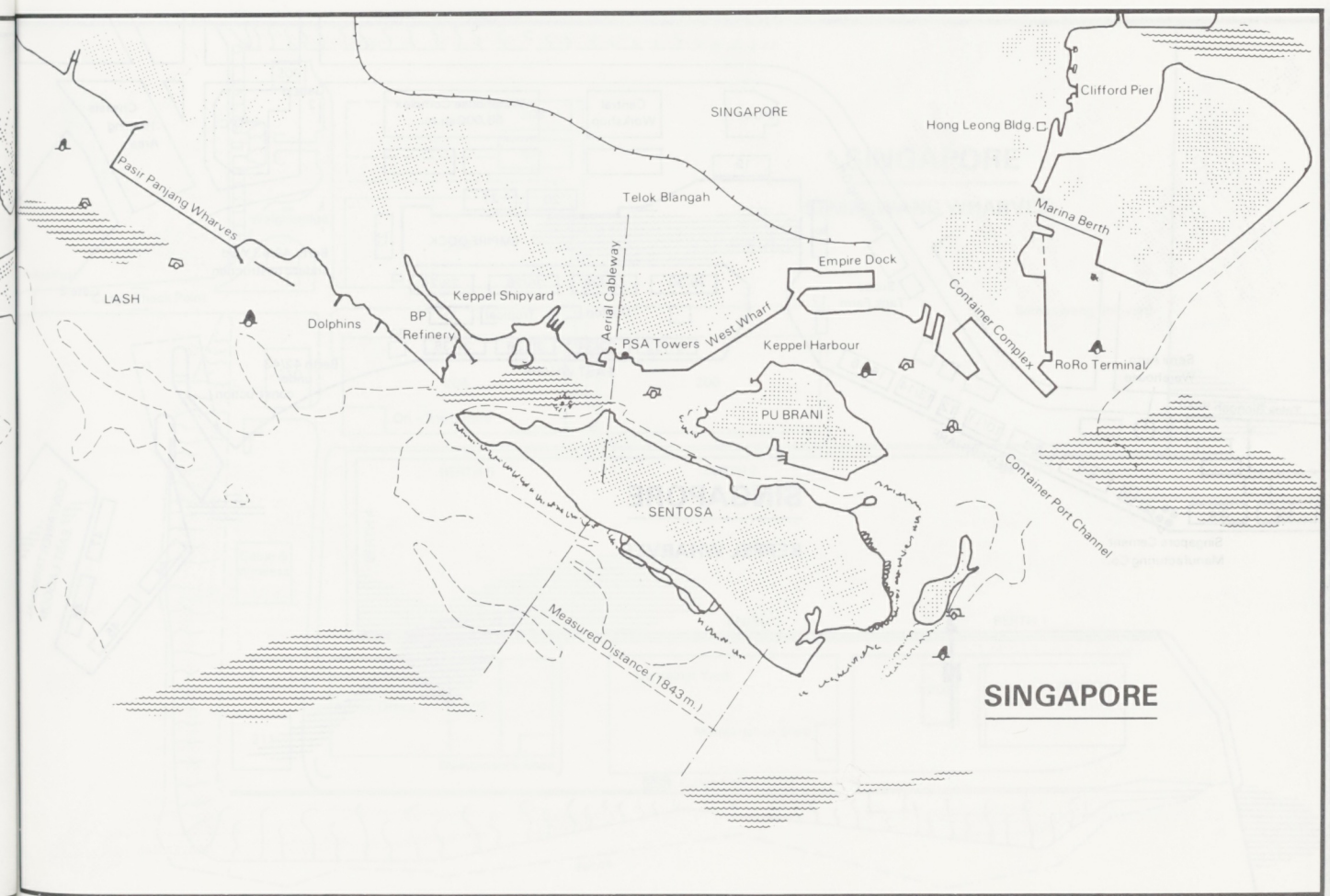
DEPTHS IN METRES

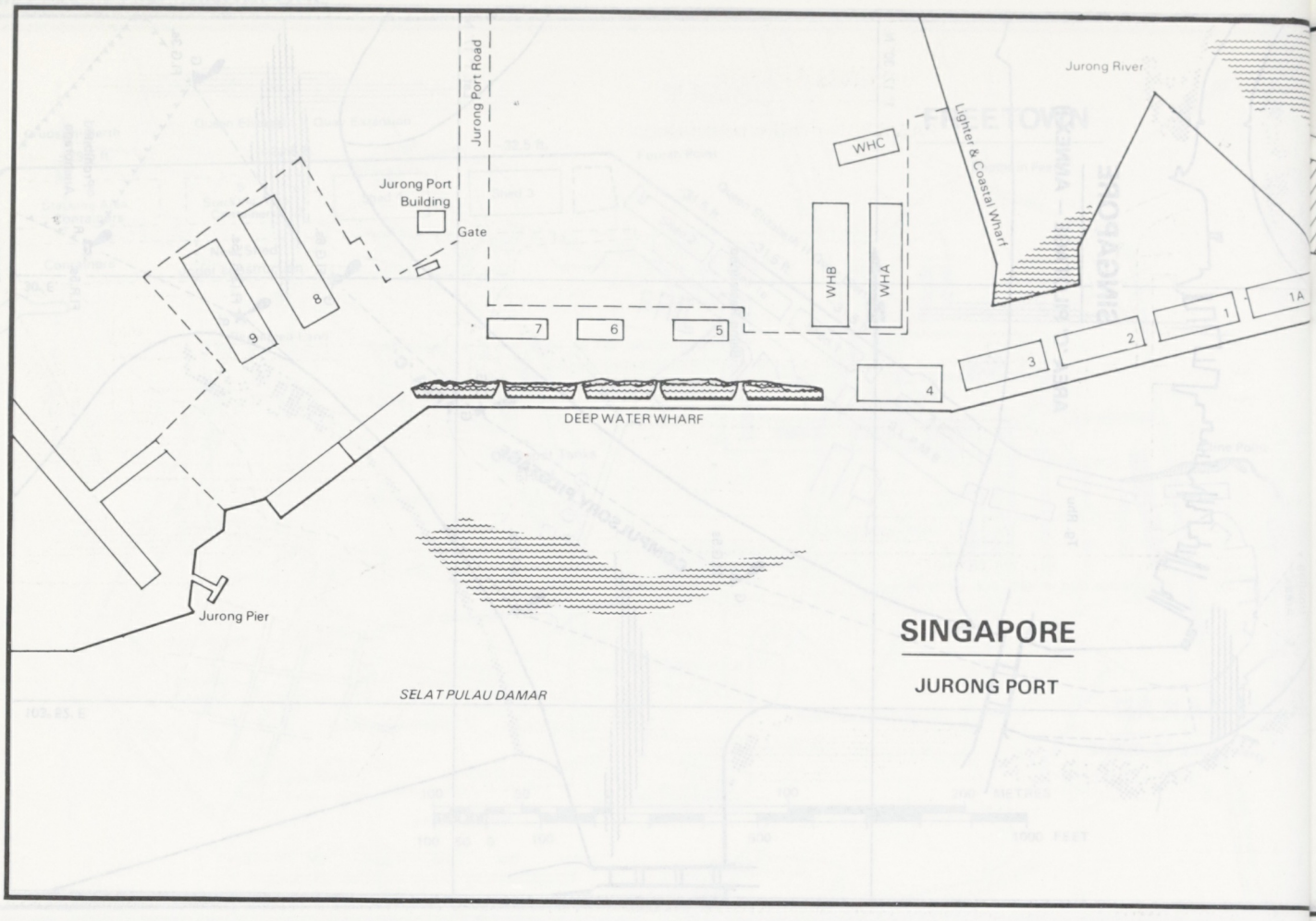


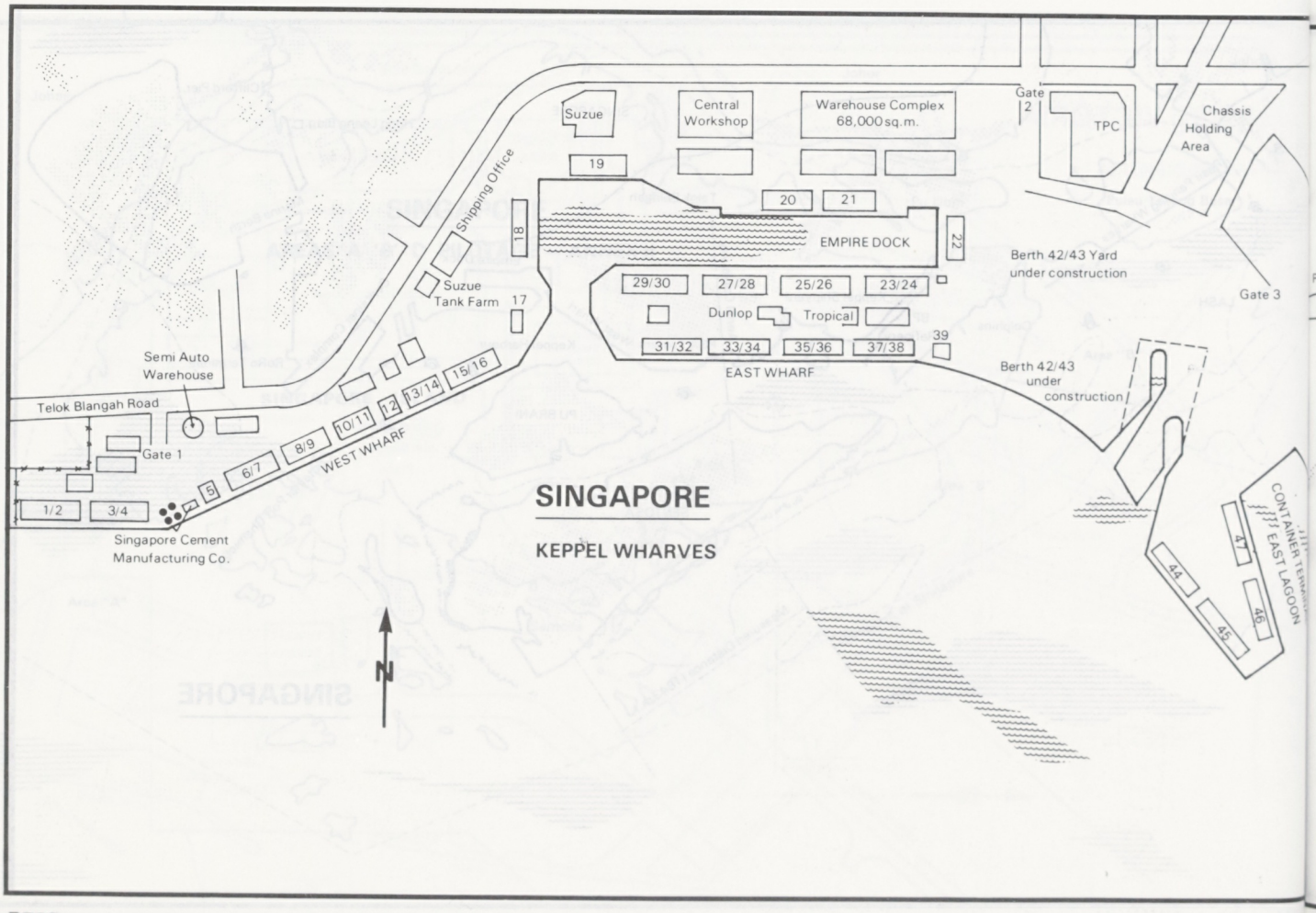

FREETOWN
Depths in Feet
Crude Oil Berth
-29.5 ft.
Queen Elizabeth II Quay Extension
-32.5 ft.
-32.5 ft.
Fourah Point
6
Stacking Area
Containers
5
Stacking Area
Containers
Shed 4
Shed 3
Containers
New Shed
under construction
Queen Elizabeth II Quay (Berths)
-31.5 ft.
-31.5 ft.
-31.5 ft.
Shed 2
Shed 1a
Shed 1
Reclaimed Land
S.L.P.M.B
Oil Depot Tanks
SHELL
Cline Point
Jetty
100 50 0 100 200 METRES
100 50 0 100 500 1000 FEET
SCALE


Johor
Johor
Johor
SINGAPORE
AREAS 'A' 'B' 'D' PILOTAGE — ANNEX II
Pu Ubin
Pulau Tekong Besar
Area "D"
SINGAPORE ISLAND
Area "C"
Area "B"
Area "A"
Sentosa
Port Limit of Singapore


SINGAPORE
AREA 'C' PILOTAGE — ANNEX II
1° 17' 30" N.
Lat. 1° 17' N.
Being Reclaimed
Tg. Rhu
Holding Area
COMPULSORY PILOTAGE
AREA 'C'
Q.G.
Fl.G.5s
Fl.(4)R.15s.
Fl.G.6s.
Fl.(3)R.15s.
Fl.G.3s.
Prohibited Anchorage
Fl.R.5s.
103° 52' E.
30" E.

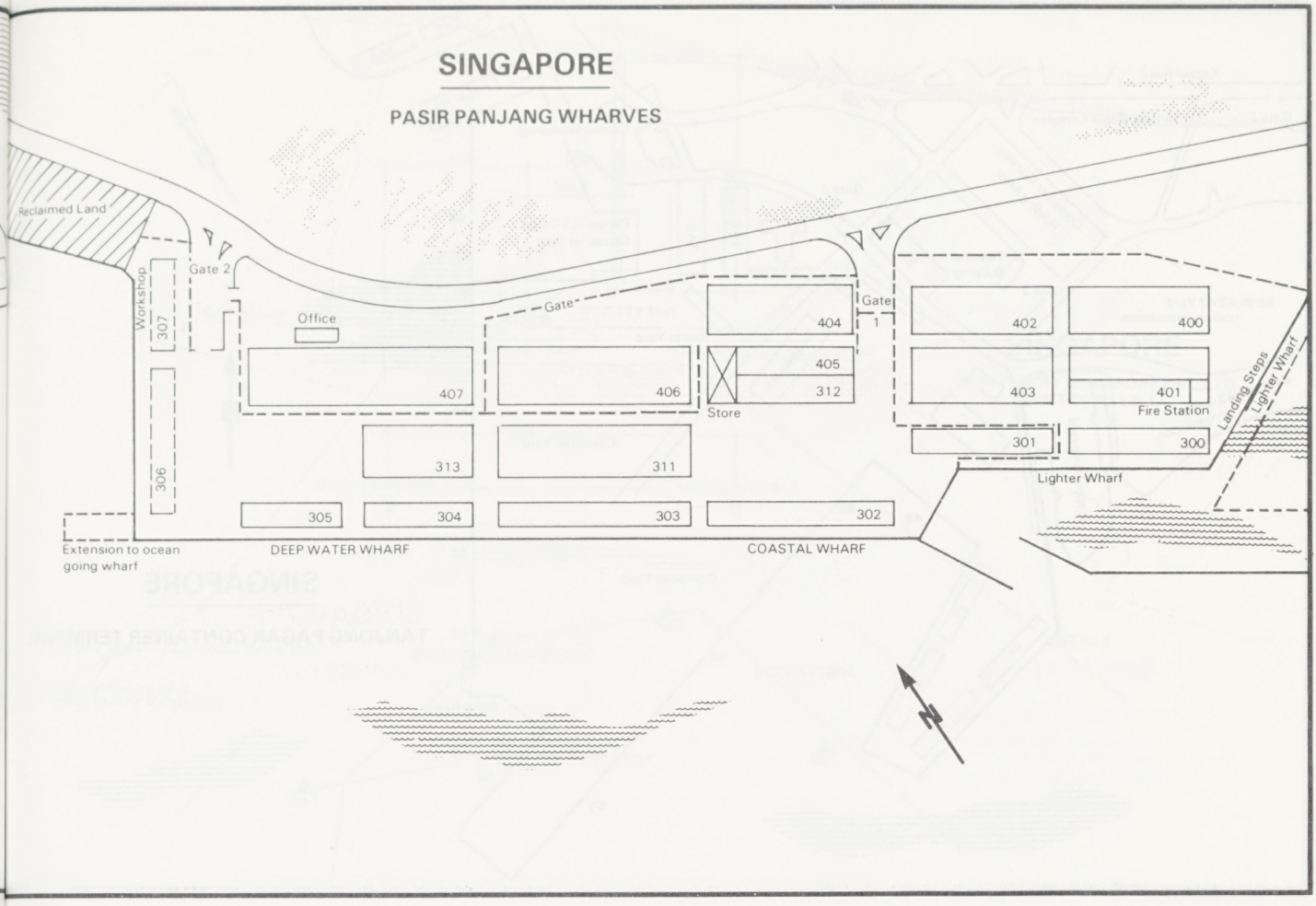

SINGAPORE
Clifford Pier
Hong Leong Bldg.
Pasir Panjang Wharves
Telok Blangah
Marina Berth
Empire Dock
LASH
Keppel Shipyard
Dolphins
BP Refinery
Aerial Cableway
PSA Towers
West Wharf
Keppel Harbour
Container Complex
RoRo Terminal
PU BRANI
SENTOSA
Container Port Channel
Measured Distance (1843m.)
SINGAPORE

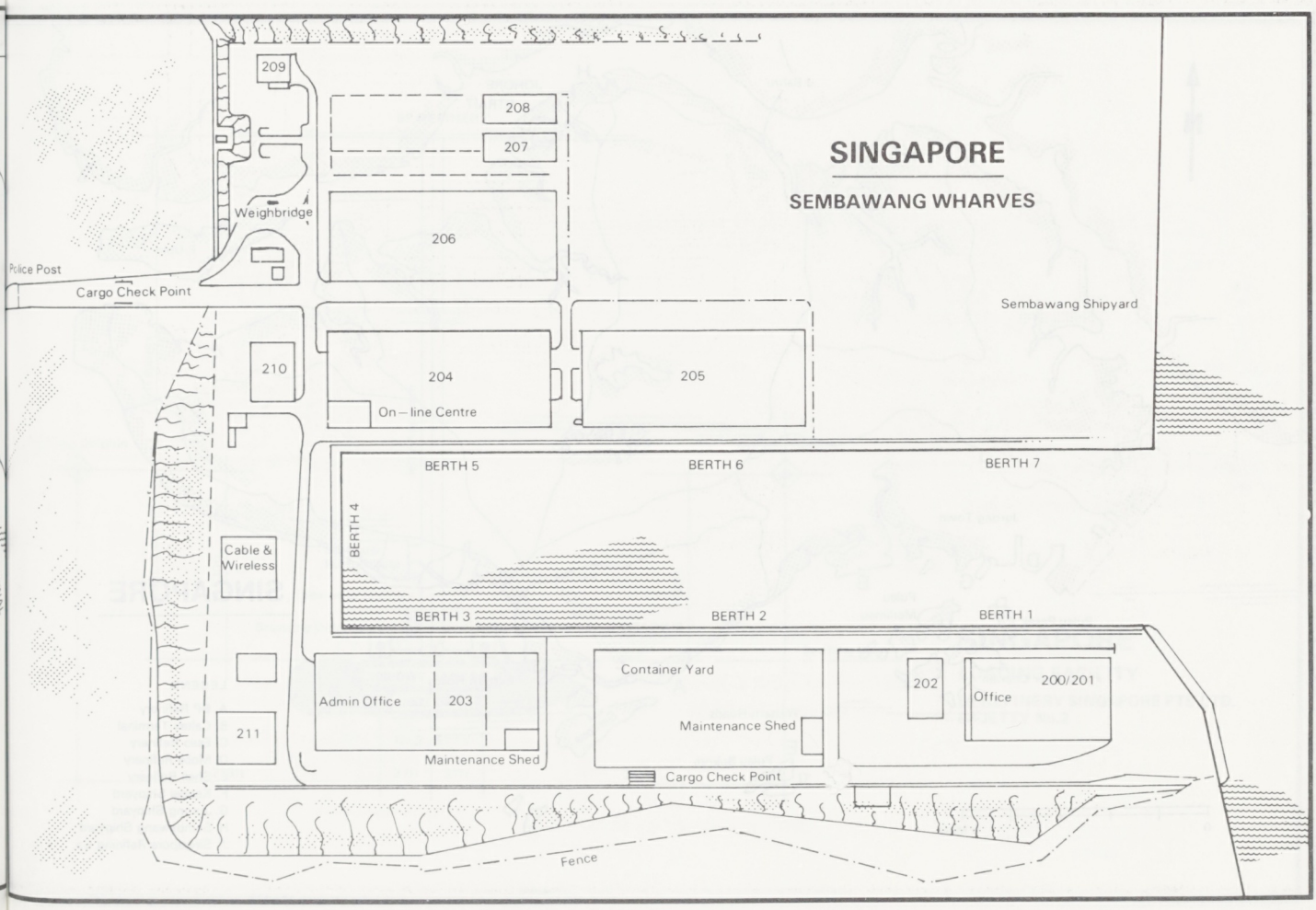

Jurong Port Road
Jurong River
Jurong Port Building
Gate
WHC
Lighter & Coastal Wharf
WHB
WHA
9
8
7
6
5
4
3
2
1
1A
DEEP WATER WHARF
Jurong Pier
SELAT PULAU DAMAR
SINGAPORE
JURONG PORT


Suzue
Central Workshop
Warehouse Complex 68,000 sq.m.
Gate 2
TPC
Chassis Holding Area
Shipping Office
19
20
21
18
EMPIRE DOCK
22
Suzue Tank Farm
17
29/30
27/28
25/26
23/24
Dunlop
Tropical
39
31/32
33/34
35/36
37/38
EAST WHARF
Berth 42/43 Yard under construction
Gate 3
Berth 42/43 under construction
Semi Auto Warehouse
Telok Blangah Road
Gate 1
15/16
13/14
12
10/11
8/9
6/7
5
1/2
3/4
WEST WHARF
Singapore Cement Manufacturing Co.
CONTAINER TERMINAL 1 EAST LAGOON
47
46
45
44
N
SINGAPORE
KEPPEL WHARVES

SINGAPORE

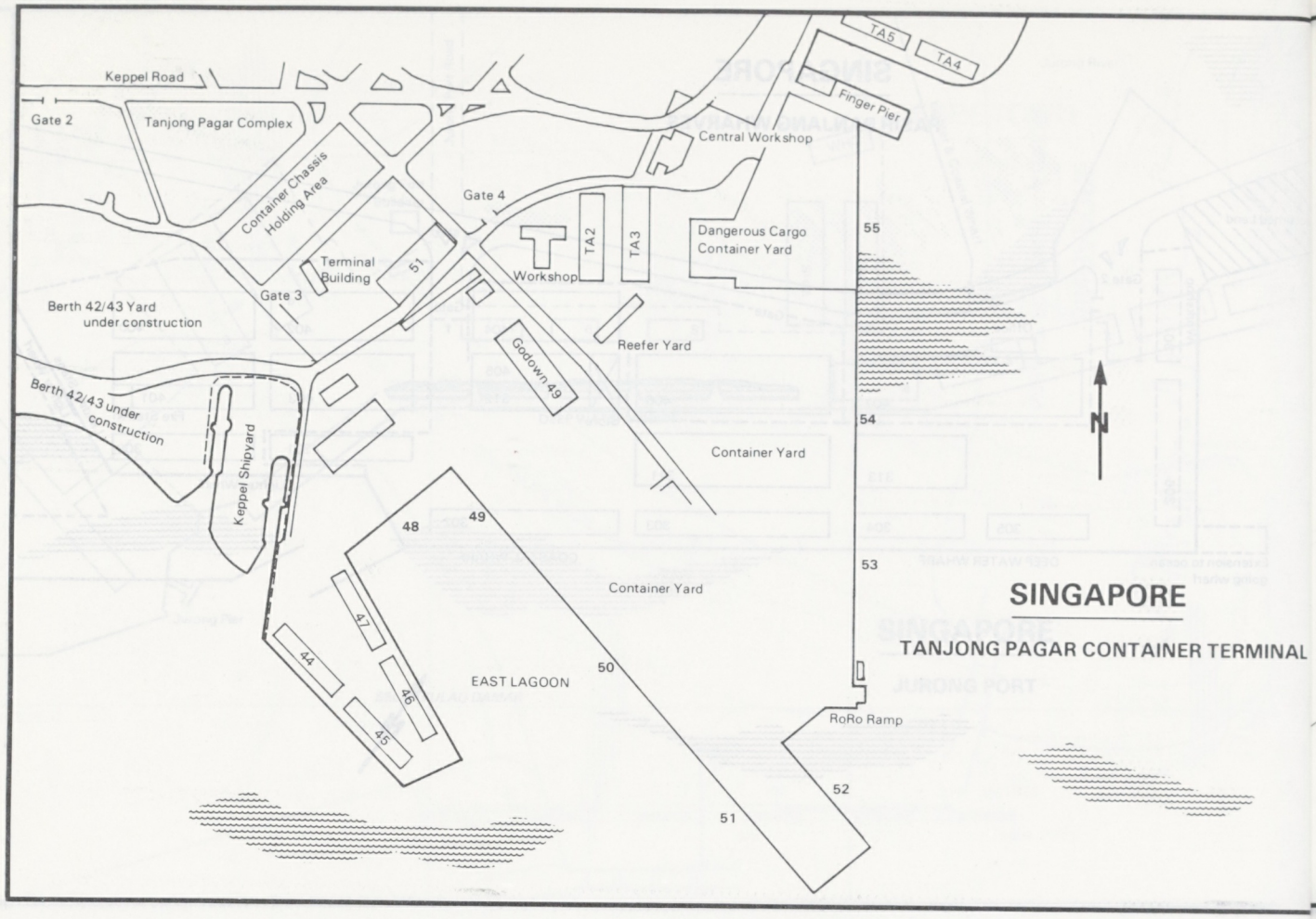
PASIR PANJANG WHARVES

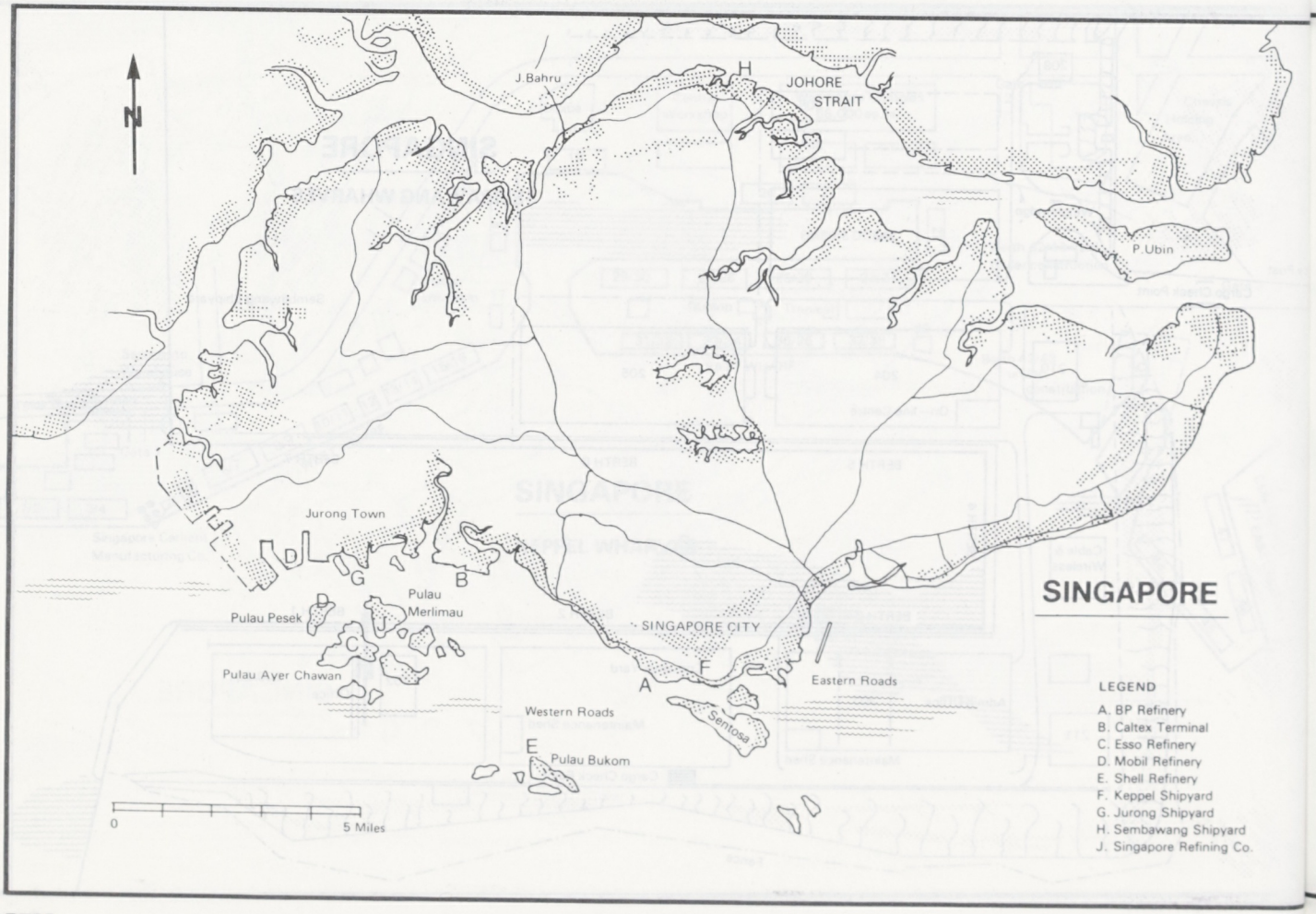


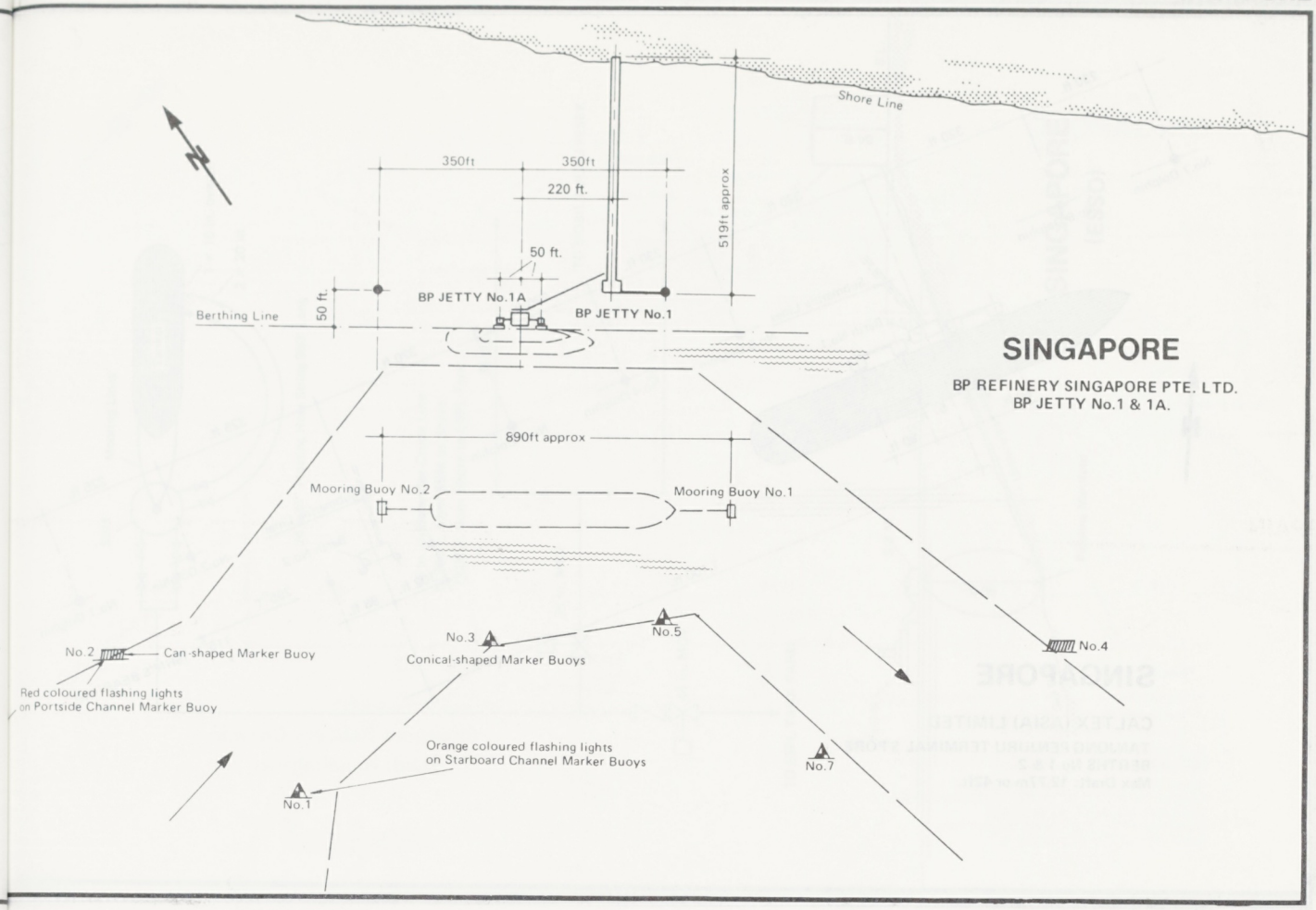


SINGAPORE

SEMBAWANG WHARVES

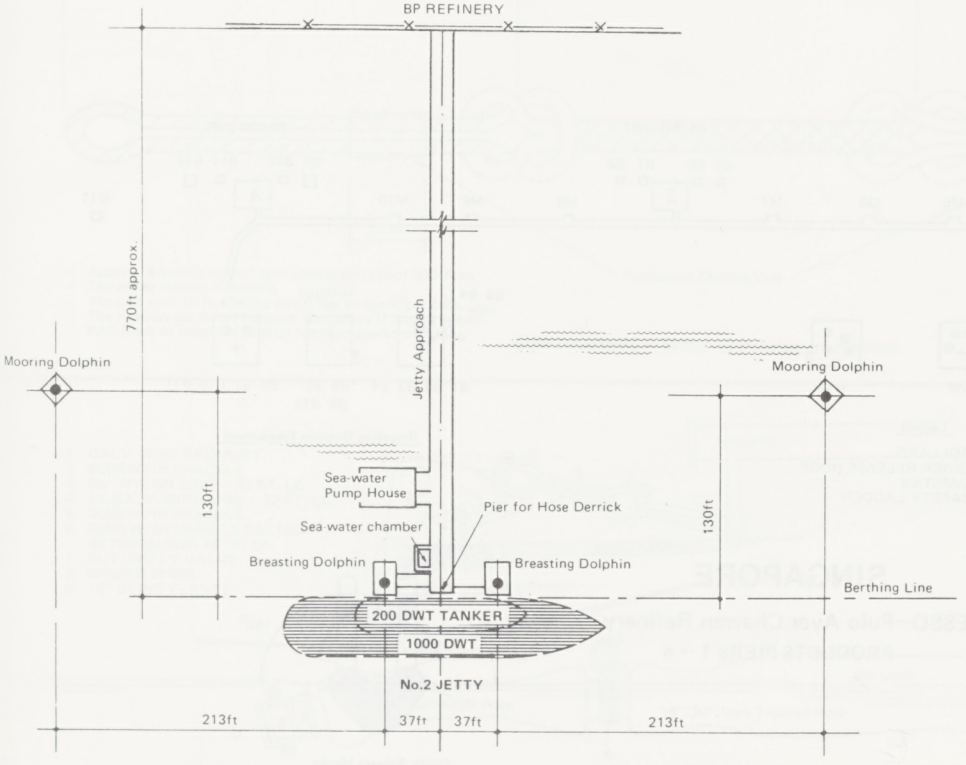

Keppel Road
Gate 2
Tanjong Pagar Complex
Container Chassis Holding Area
Gate 4
Terminal Building
Gate 3
Berth 42/43 Yard under construction
Berth 42/43 under construction
Keppel Shipyard
Godown 49
Workshop
TA2
TA3
Central Workshop
TA5
TA4
Finger Pier
Dangerous Cargo Container Yard
Reefer Yard
Container Yard
Container Yard
EAST LAGOON
RoRo Ramp
51
55
54
53
50
49
48
47
46
45
44
N
SINGAPORE
TANJONG PAGAR CONTAINER TERMINAL


N
J.Bahru
JOHORE STRAIT
P.Ubin
Jurong Town
Pulau Merlimau
Pulau Pesek
Pulau Ayer Chawan
SINGAPORE CITY
Eastern Roads
Western Roads
Sentosa
Pulau Bukom
0
5 Miles
SINGAPORE
LEGEND
A. BP Refinery
B. Caltex Terminal
C. Esso Refinery
D. Mobil Refinery
E. Shell Refinery
F. Keppel Shipyard
G. Jurong Shipyard
H. Sembawang Shipyard
J. Singapore Refining Co.



SINGAPORE

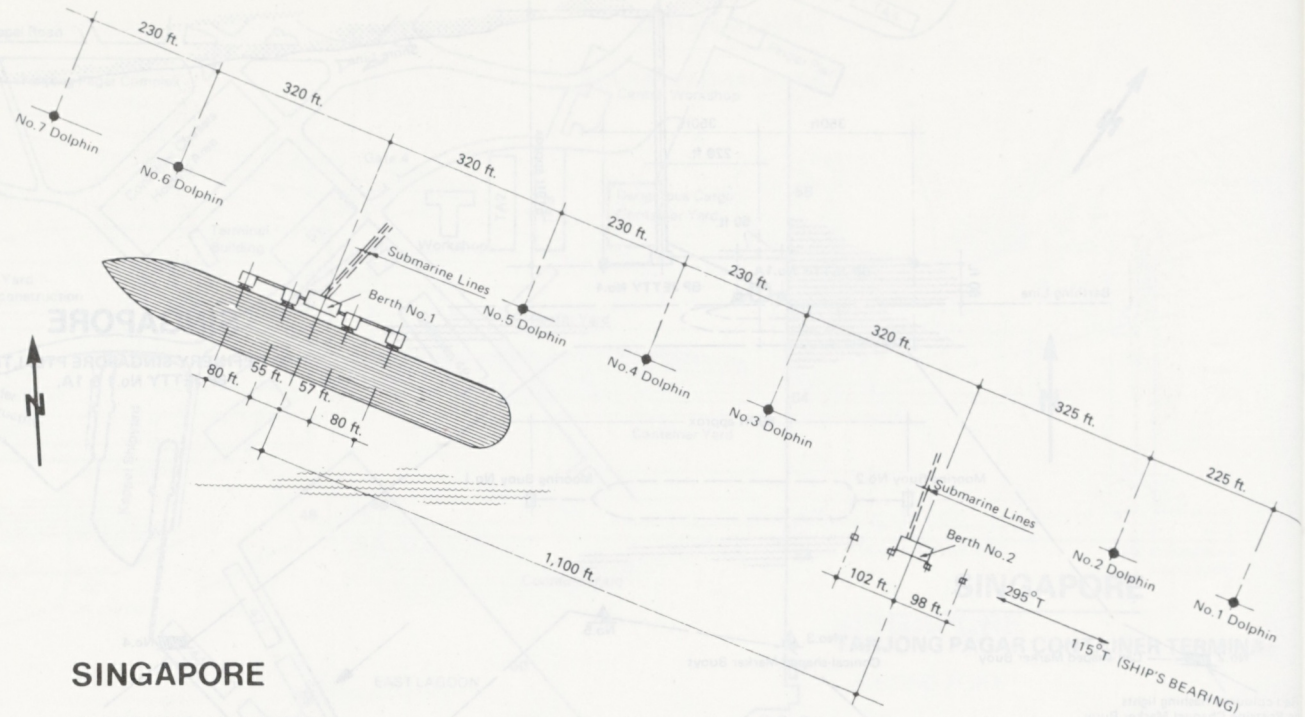
BP REFINERY SINGAPORE PTE. LTD.
BP JETTY No.1 & 1A.



SINGAPORE

LOADING FACILITY

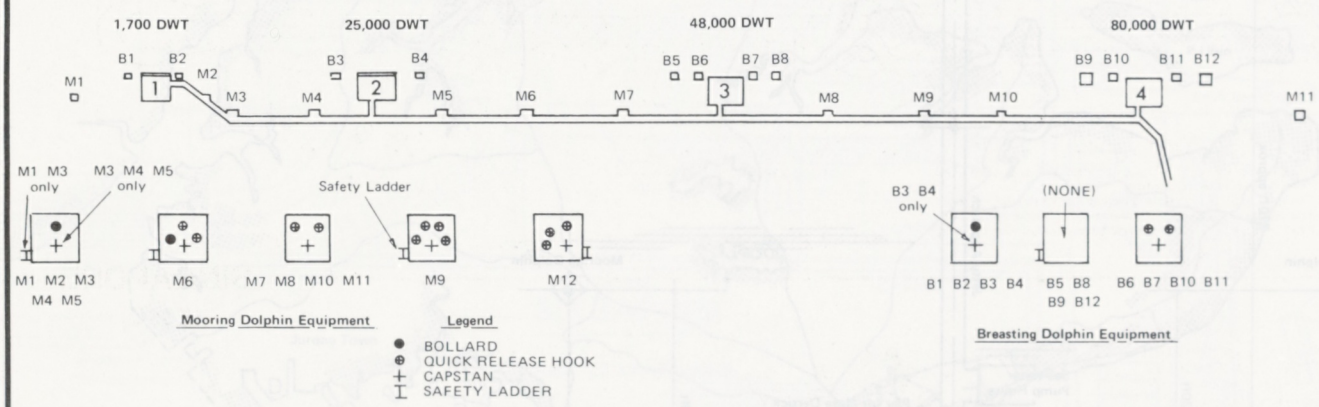
BP REFINERY SINGAPORE PTE LTD.
BP JETTY No.2



SINGAPORE

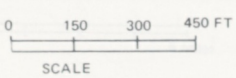
CALTEX (ASIA) LIMITED

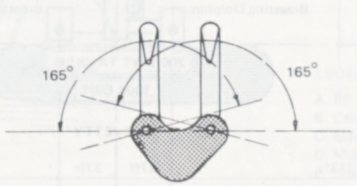
TANJONG PENJURU TERMINAL S'PORE
BERTHS No.1 & 2
Max Draft: 12.77m or 42ft.



SINGAPORE

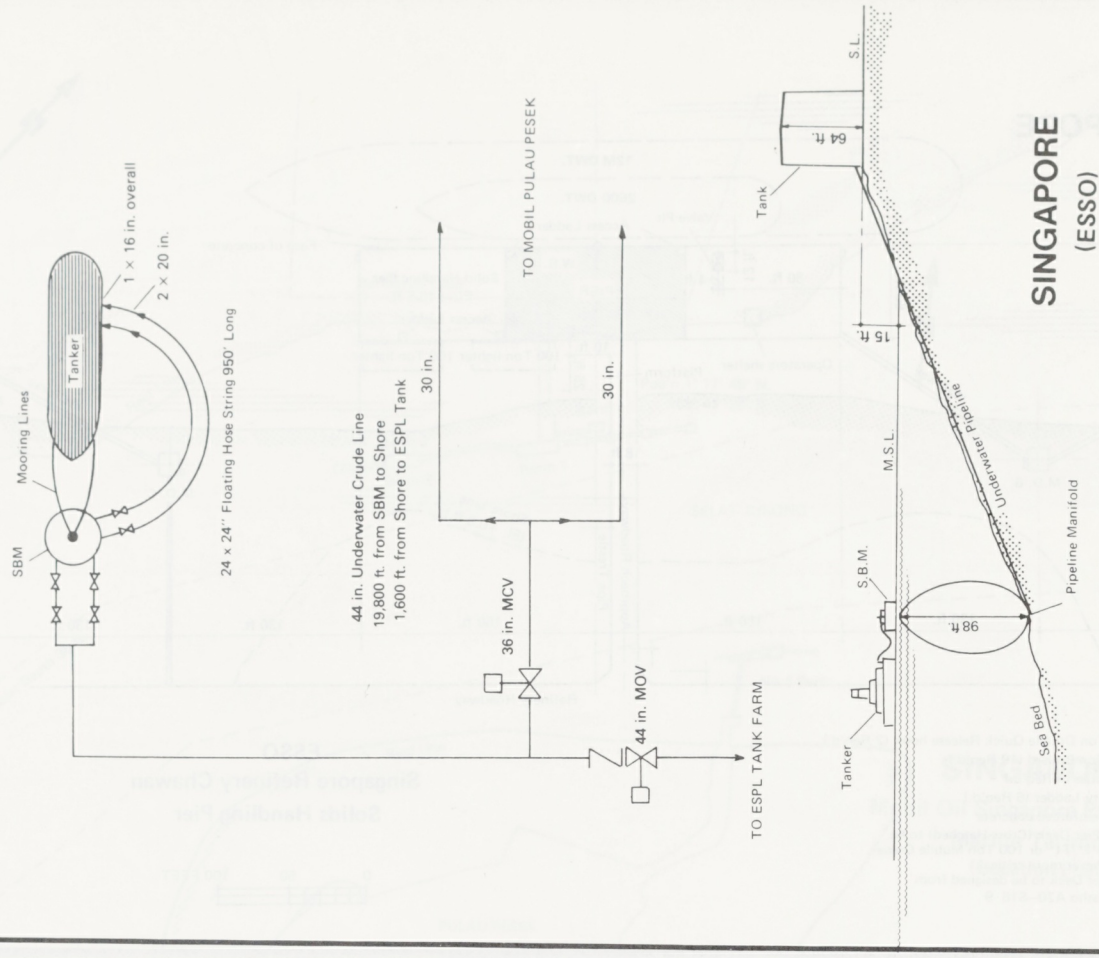
ESSO–Pulo Ayer Chawan Refinery
PRODUCTS PIERS 1 → 4

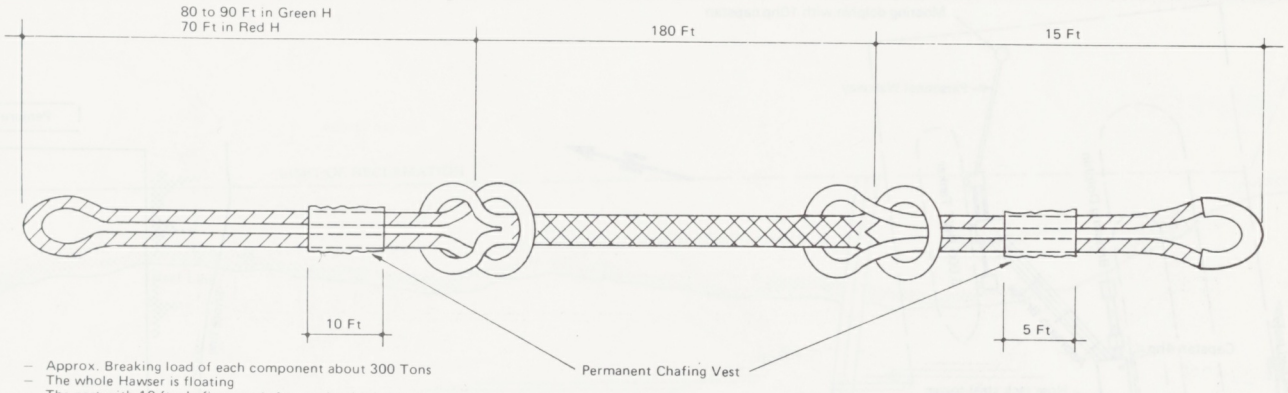




Quick Release Hooks

SINGAPORE (ESSO)



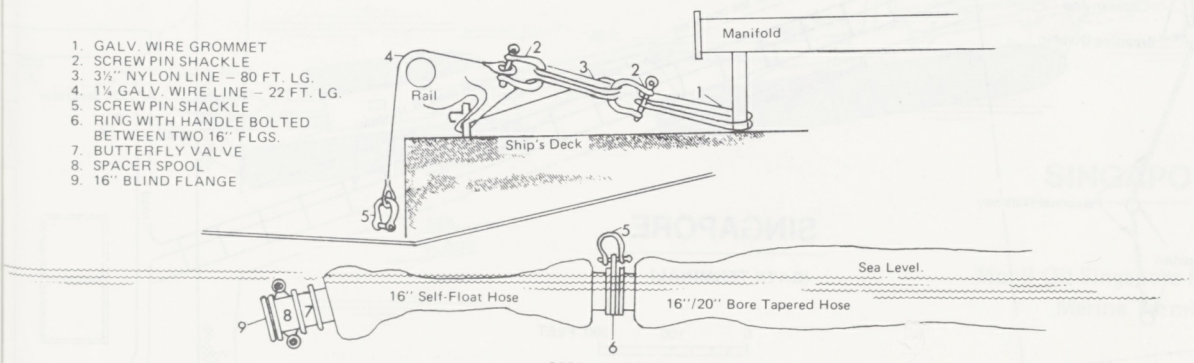


- Approx. Breaking load of each component about 300 Tons
- The whole Hawser is floating
- The part with 10 ft. chafing vest is fast to the ship's Bitts.
- The Hawsers are stored between two Buoys (Floating behind PAC Dock 4) when the interval between operation is long.

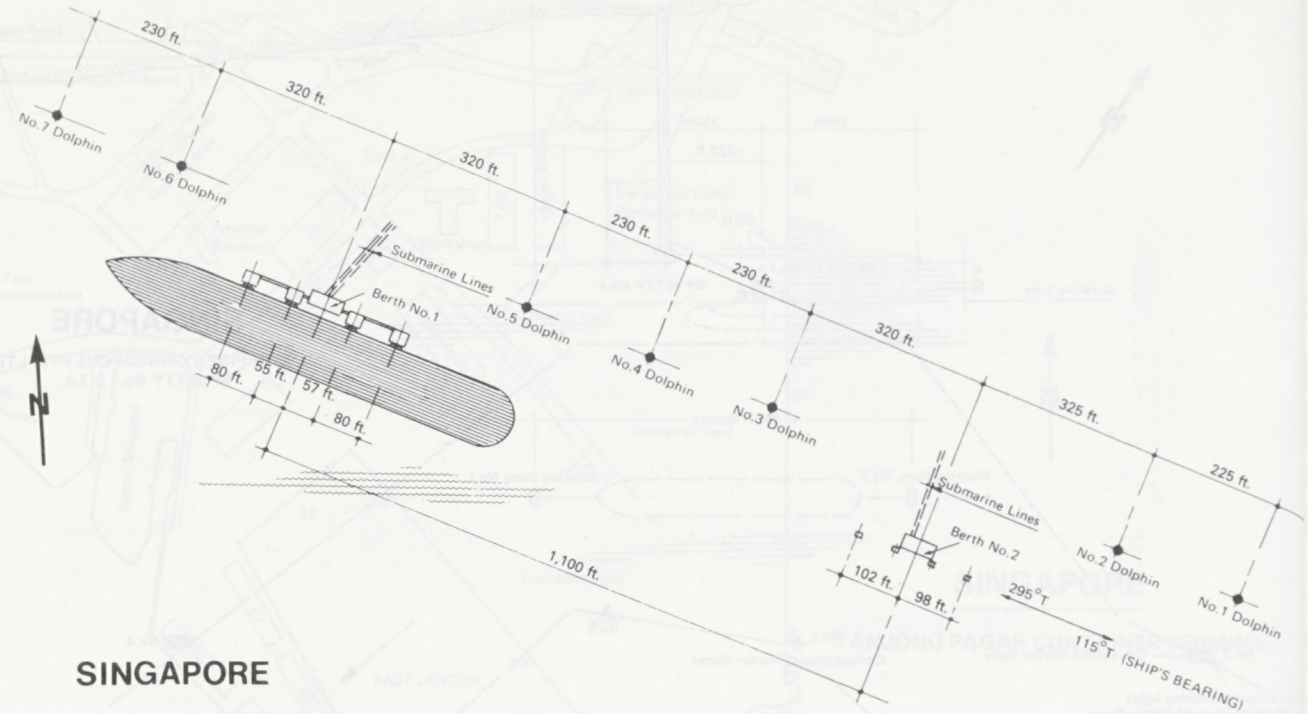
BOW HAWSERS – Sketch of mooring arrangement.

SINGAPORE (ESSO)

1. GALV. WIRE GROMMET
2. SCREW PIN SHACKLE
3. 3½" NYLON LINE – 80 FT. LG.
4. 1¼ GALV. WIRE LINE – 22 FT. LG.
5. SCREW PIN SHACKLE
6. RING WITH HANDLE BOLTED BETWEEN TWO 16" FLGS.
7. BUTTERFLY VALVE
8. SPACER SPOOL
9. 16" BLIND FLANGE



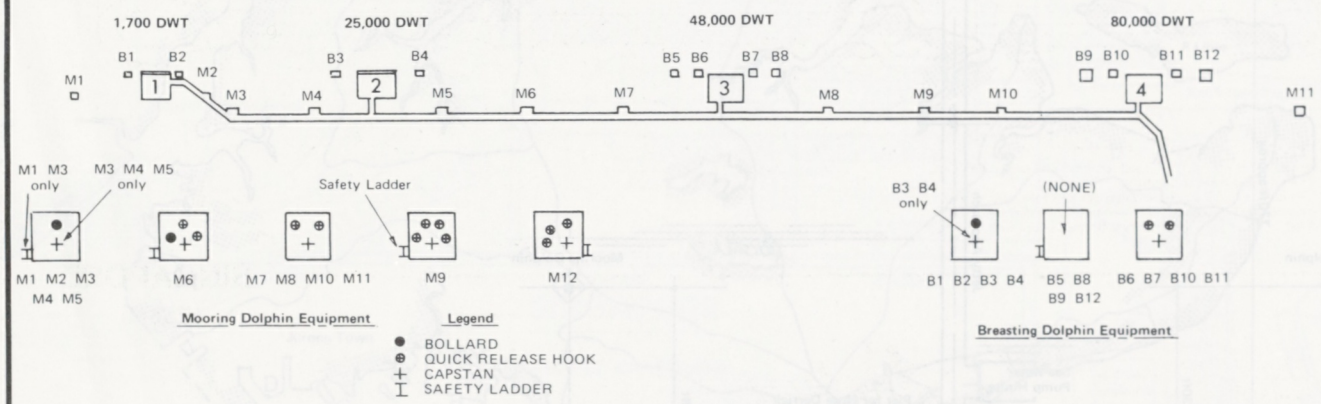
SBM – LIFTING & RIGGING OF HOSE



SINGAPORE

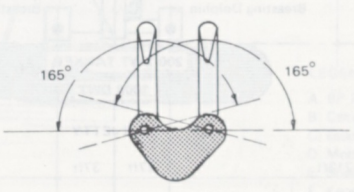
CALTEX (ASIA) LIMITED

TANJONG PENJURU TERMINAL S'PORE
BERTHS No.1 & 2
Max Draft: 12.77m or 42ft.

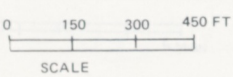


SINGAPORE

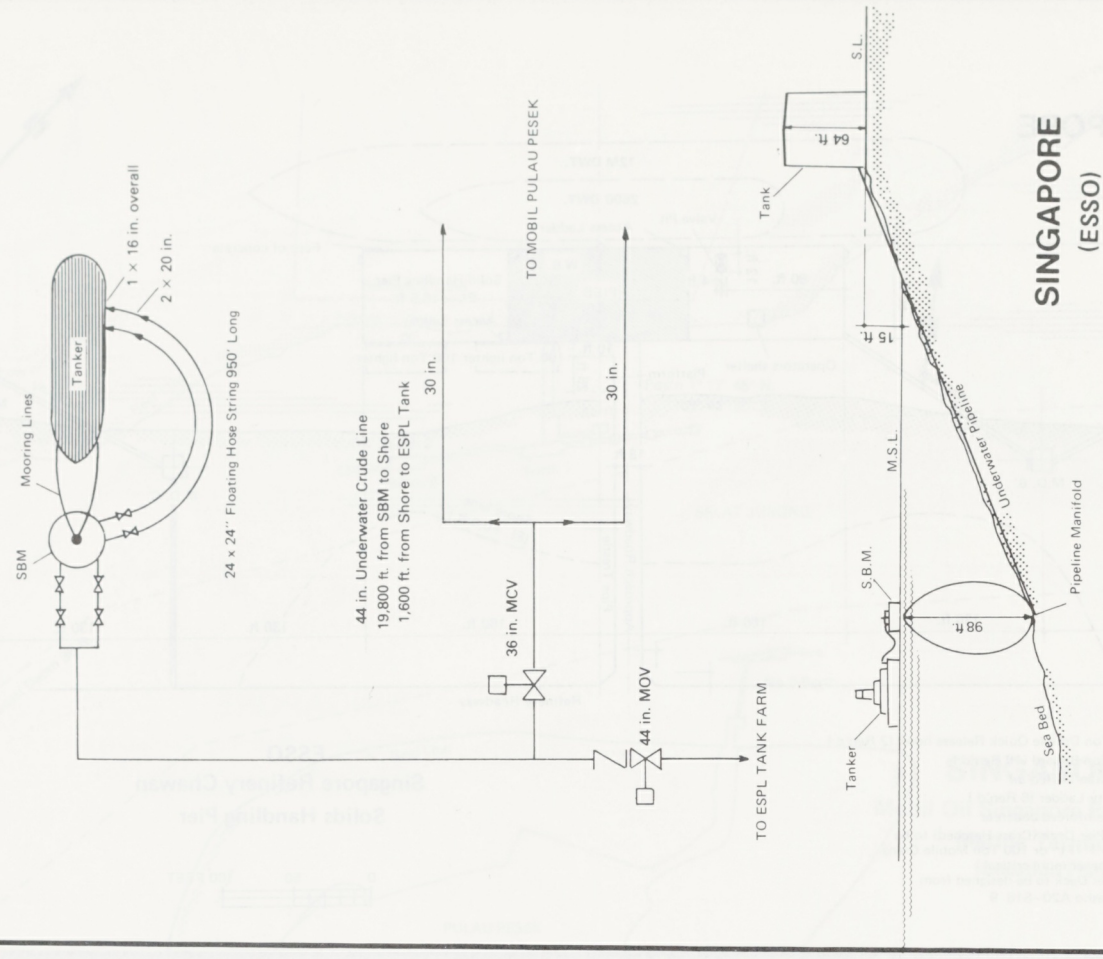
ESSO–Pulo Ayer Chawan Refinery
PRODUCTS PIERS 1 → 4

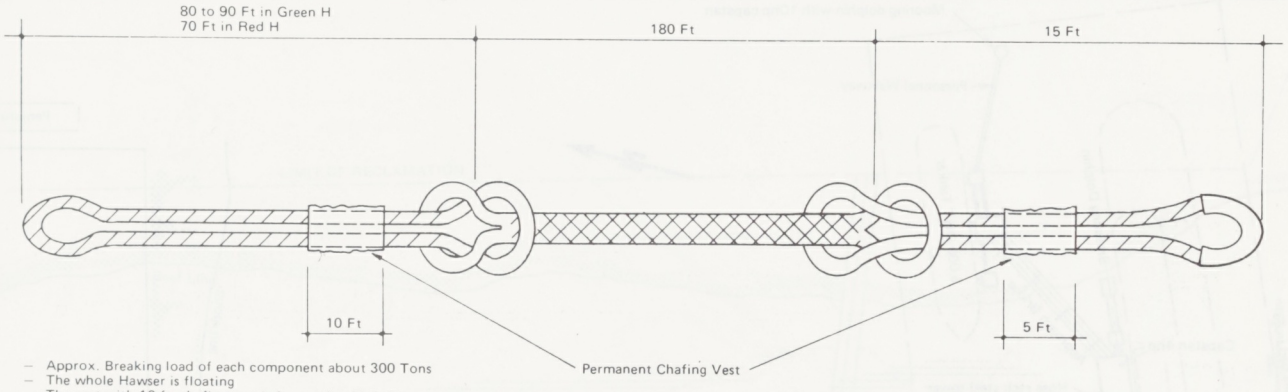


Quick Release Hooks



SINGAPORE
(ESSO)





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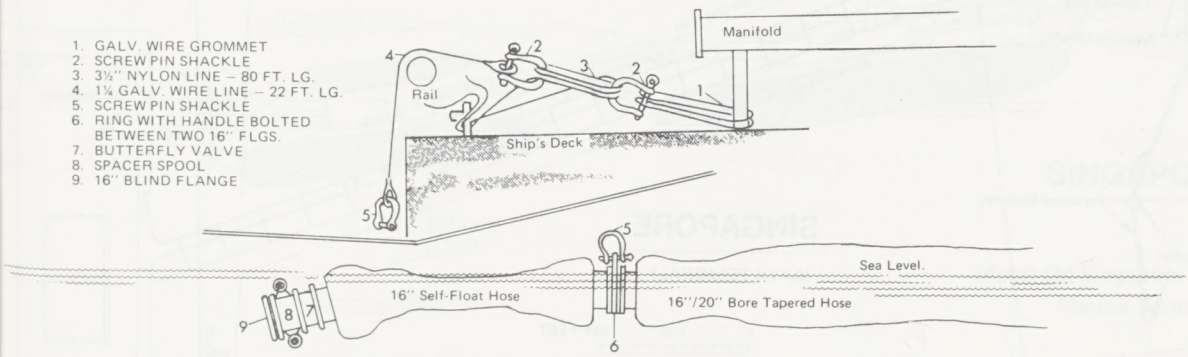
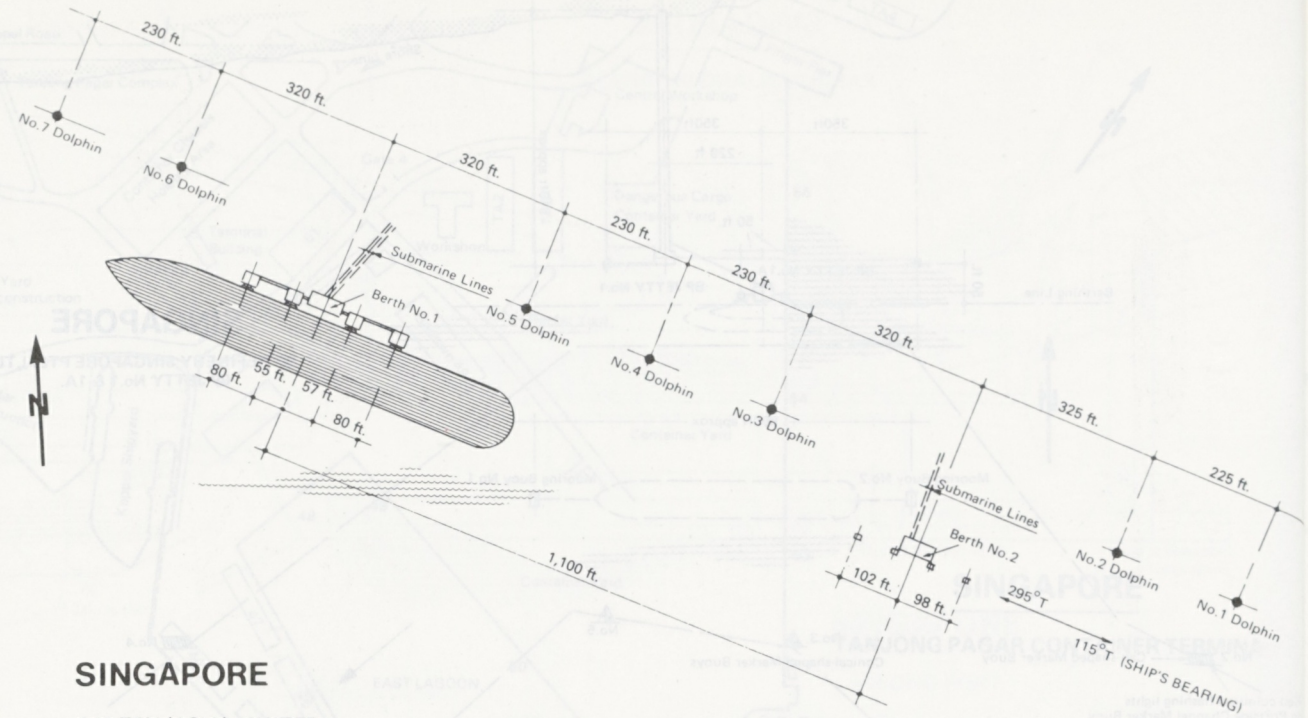
9. 16" BLIND FLANGE



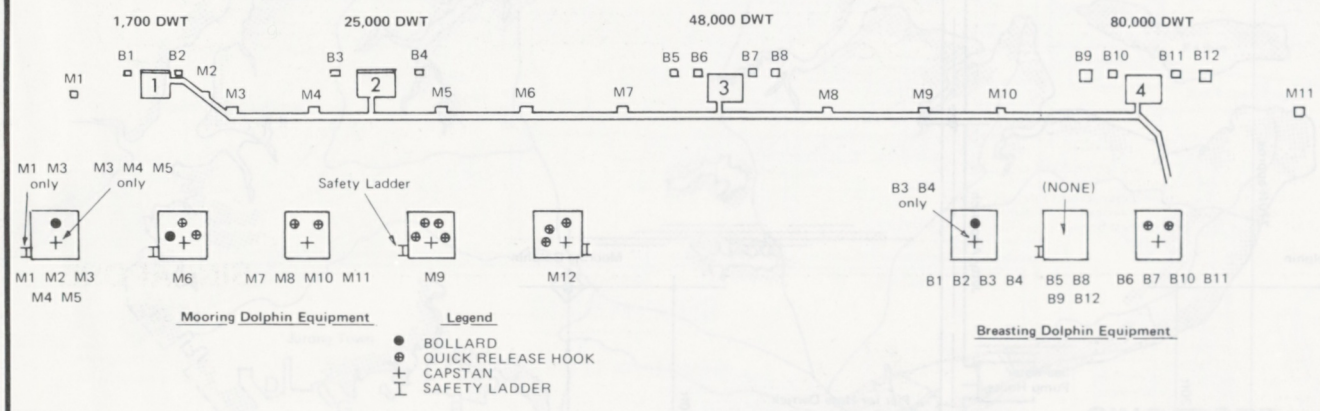
SBM – LIFTING & RIGGING OF HOSE



SINGAPORE

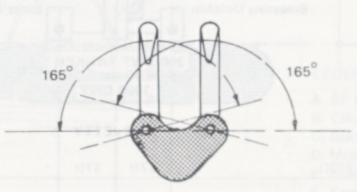
CALTEX (ASIA) LIMITED

TANJONG PENJURU TERMINAL S'PORE
BERTHS No.1 & 2
Max Draft: 12.77m or 42ft.

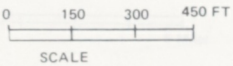


SINGAPORE

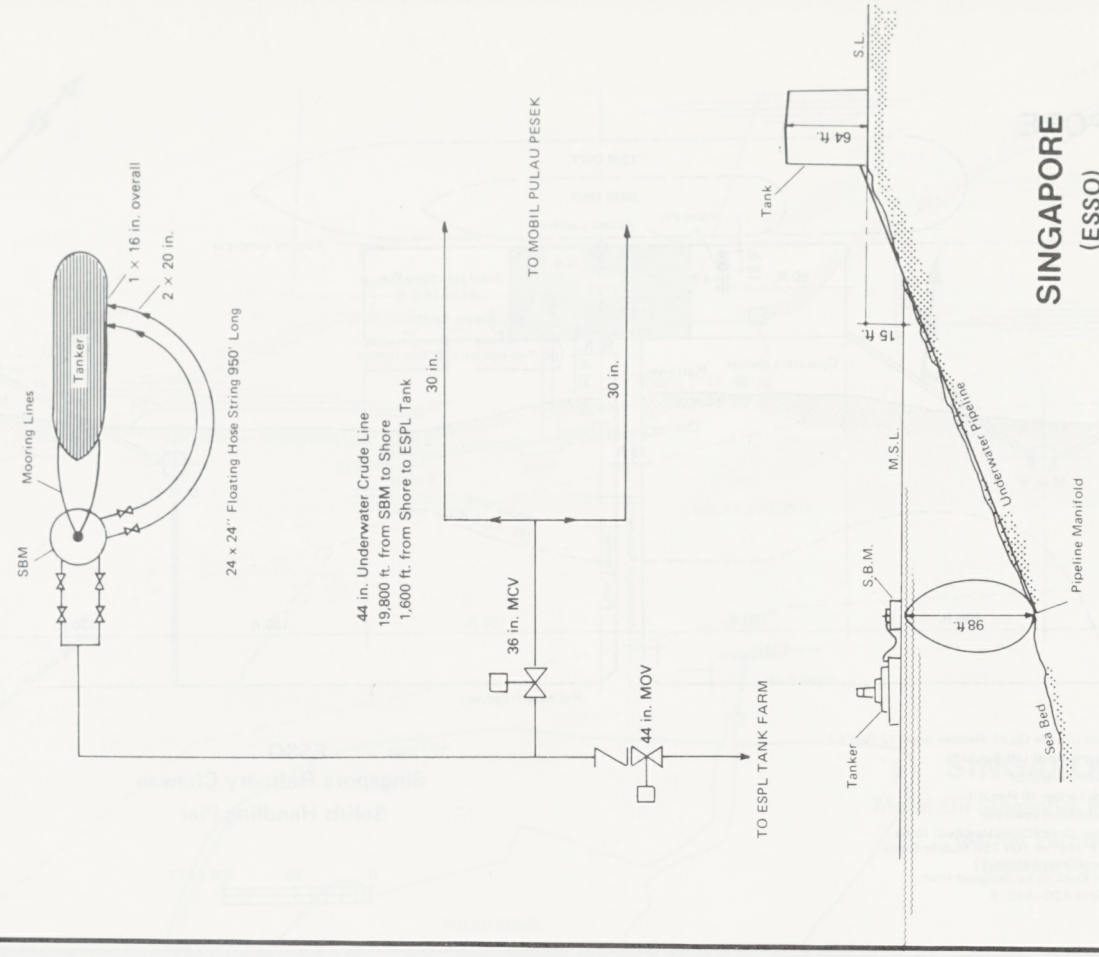
ESSO–Pulo Ayer Chawan Refinery
PRODUCTS PIERS 1 → 4

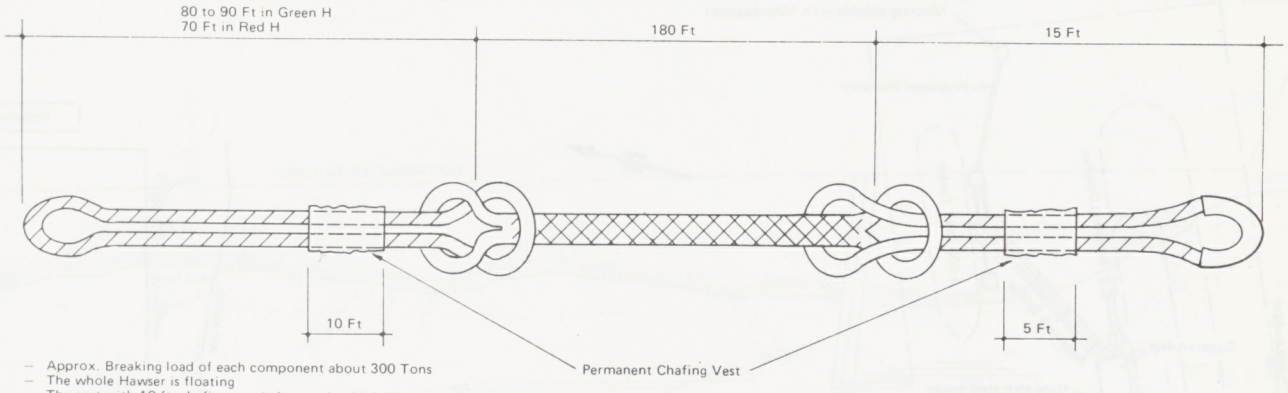


Quick Release Hooks



SINGAPORE (ESSO)





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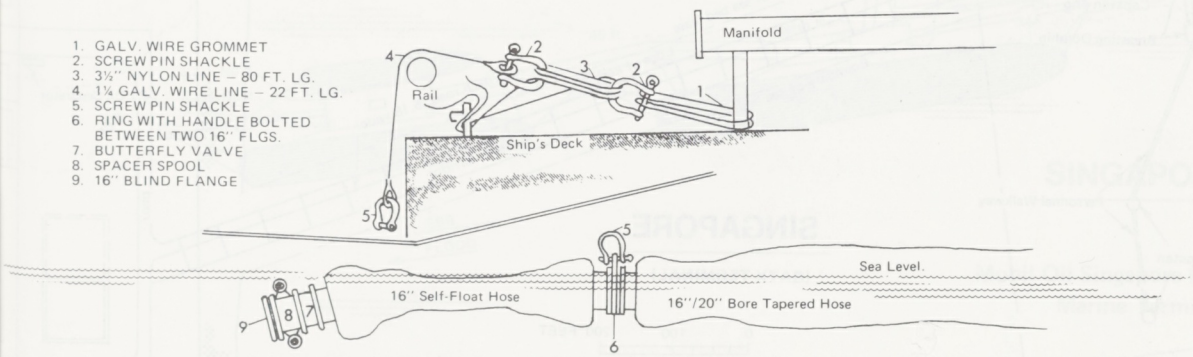
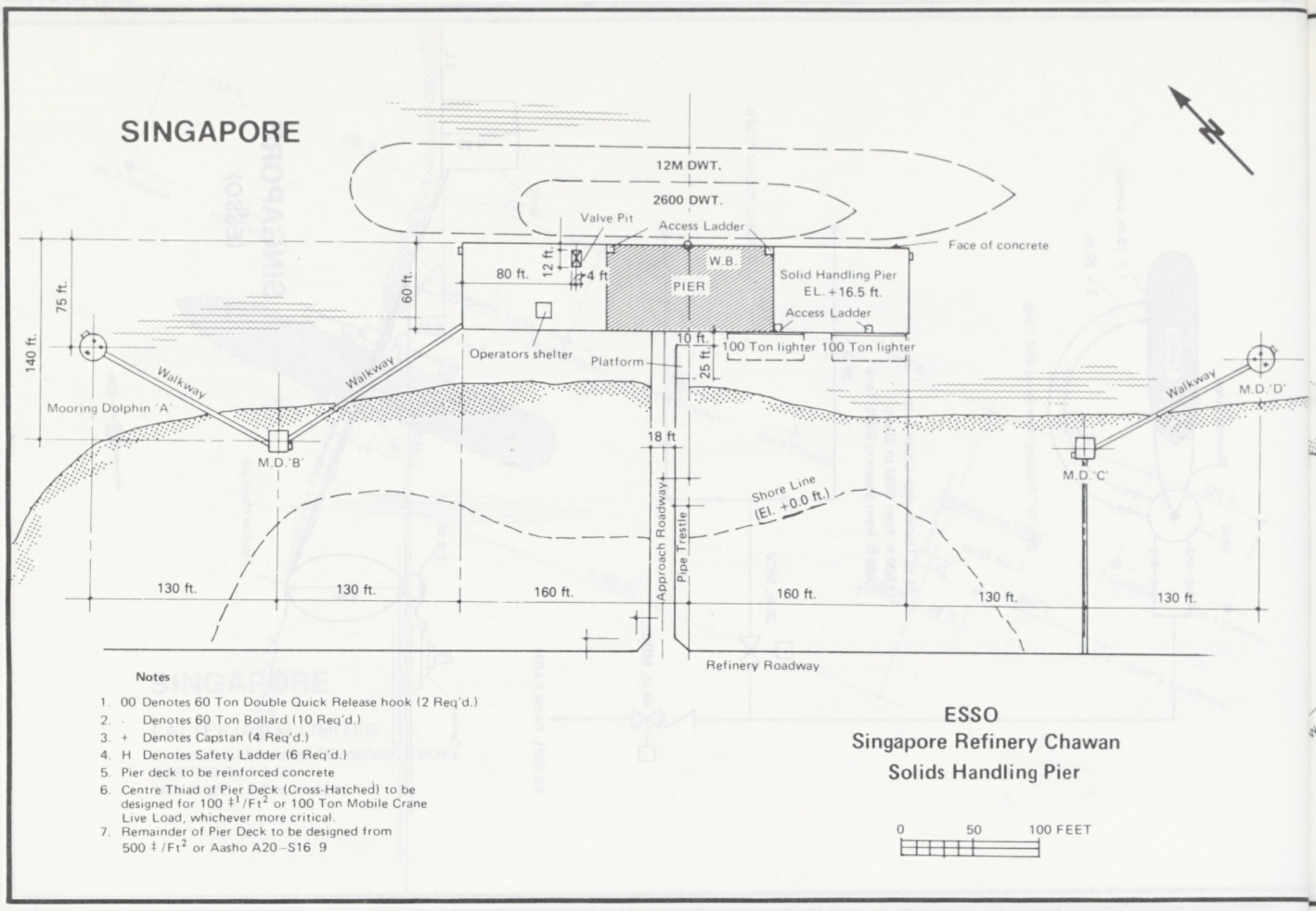


SBM – LIFTING & RIGGING OF HOSE

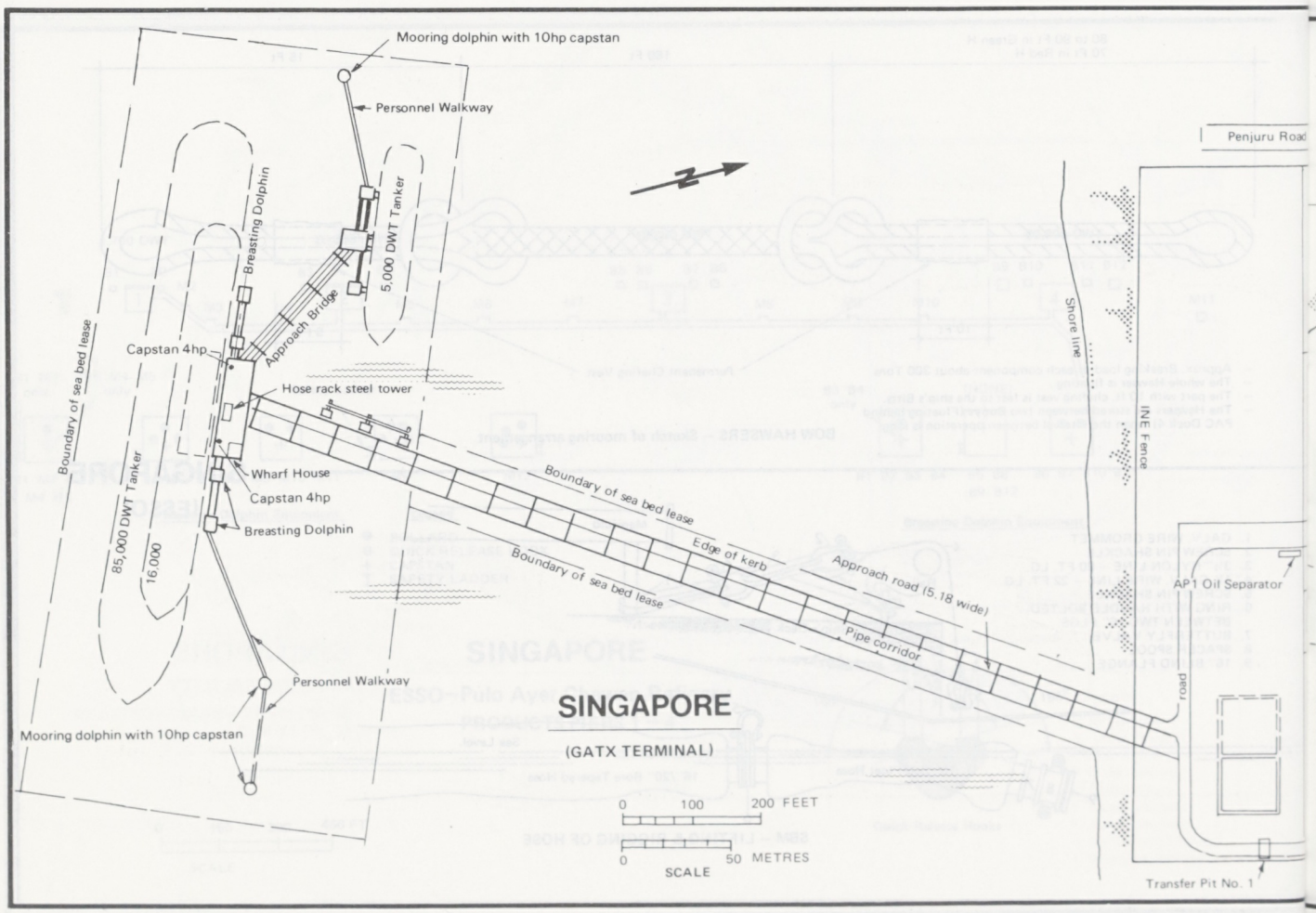


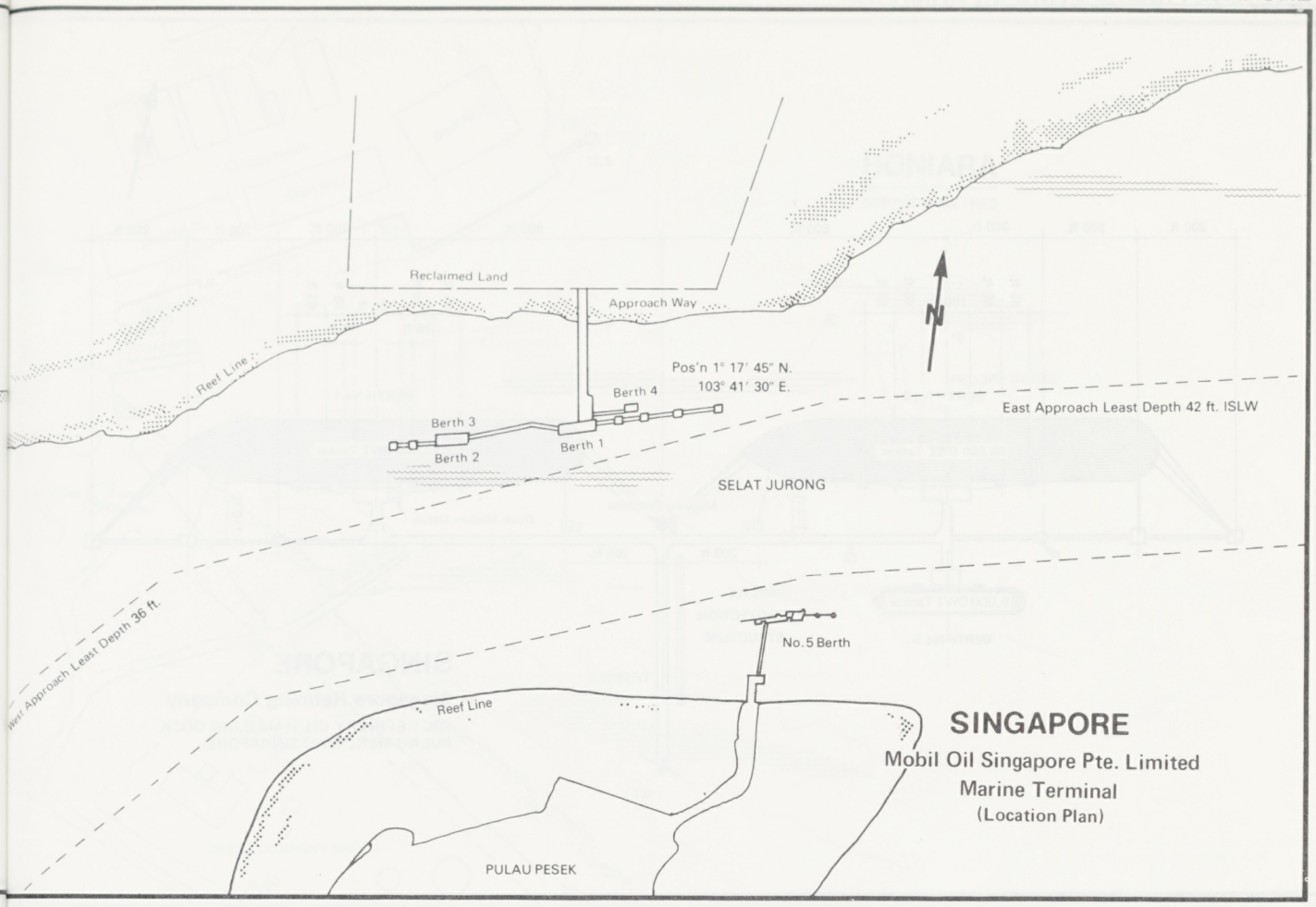
Notes

1. 00 Denotes 60 Ton Double Quick Release hook (2 Req'd.)
2. · Denotes 60 Ton Bollard (10 Req'd.)
3. + Denotes Capstan (4 Req'd.)
4. H Denotes Safety Ladder (6 Req'd.)
5. Pier deck to be reinforced concrete
6. Centre Thiad of Pier Deck (Cross-Hatched) to be designed for 100 ‡^{1}/Ft^2 or 100 Ton Mobile Crane Live Load, whichever more critical.
7. Remainder of Pier Deck to be designed from 500 ‡ /Ft^2 or Aasho A20–S16 9

ESSO
Singapore Refinery Chawan
Solids Handling Pier

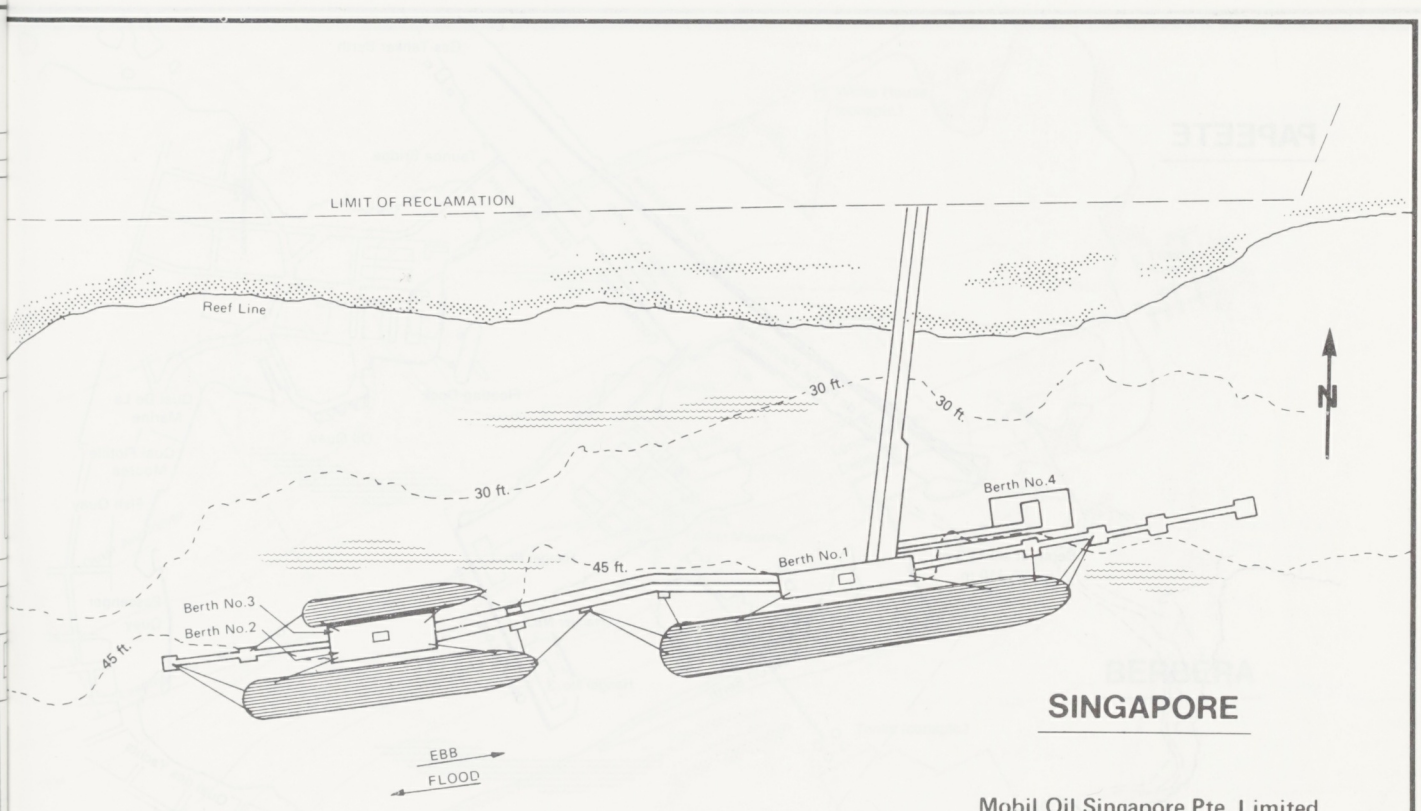
0 50 100 FEET





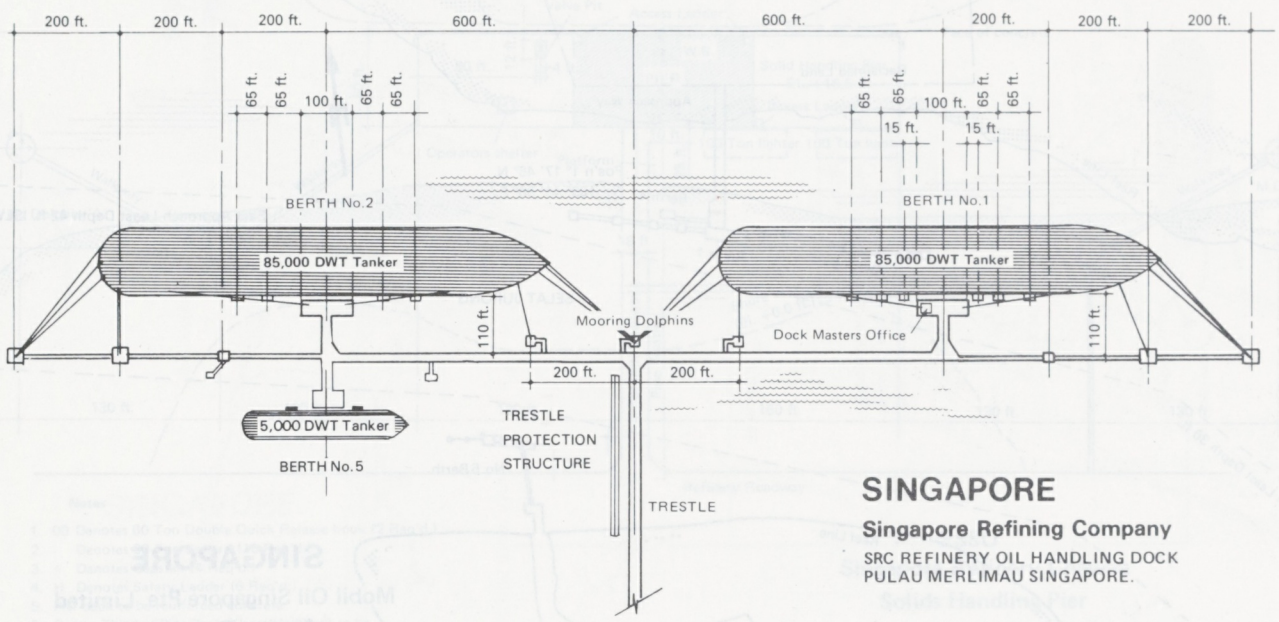
SINGAPORE

Mobil Oil Singapore Pte. Limited
Marine Terminal
(Location Plan)



SINGAPORE

Mobil Oil Singapore Pte. Limited
Marine Terminal

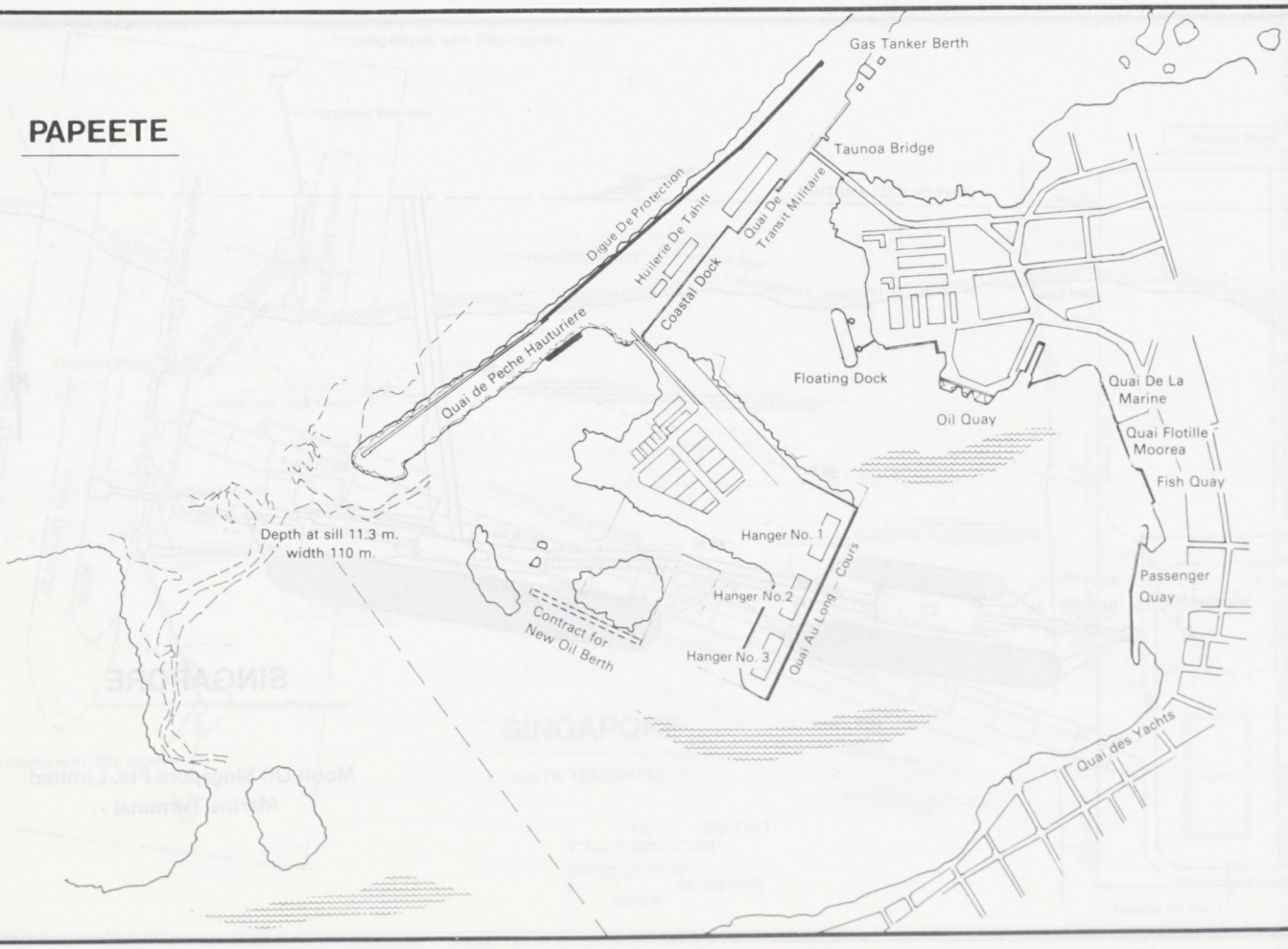


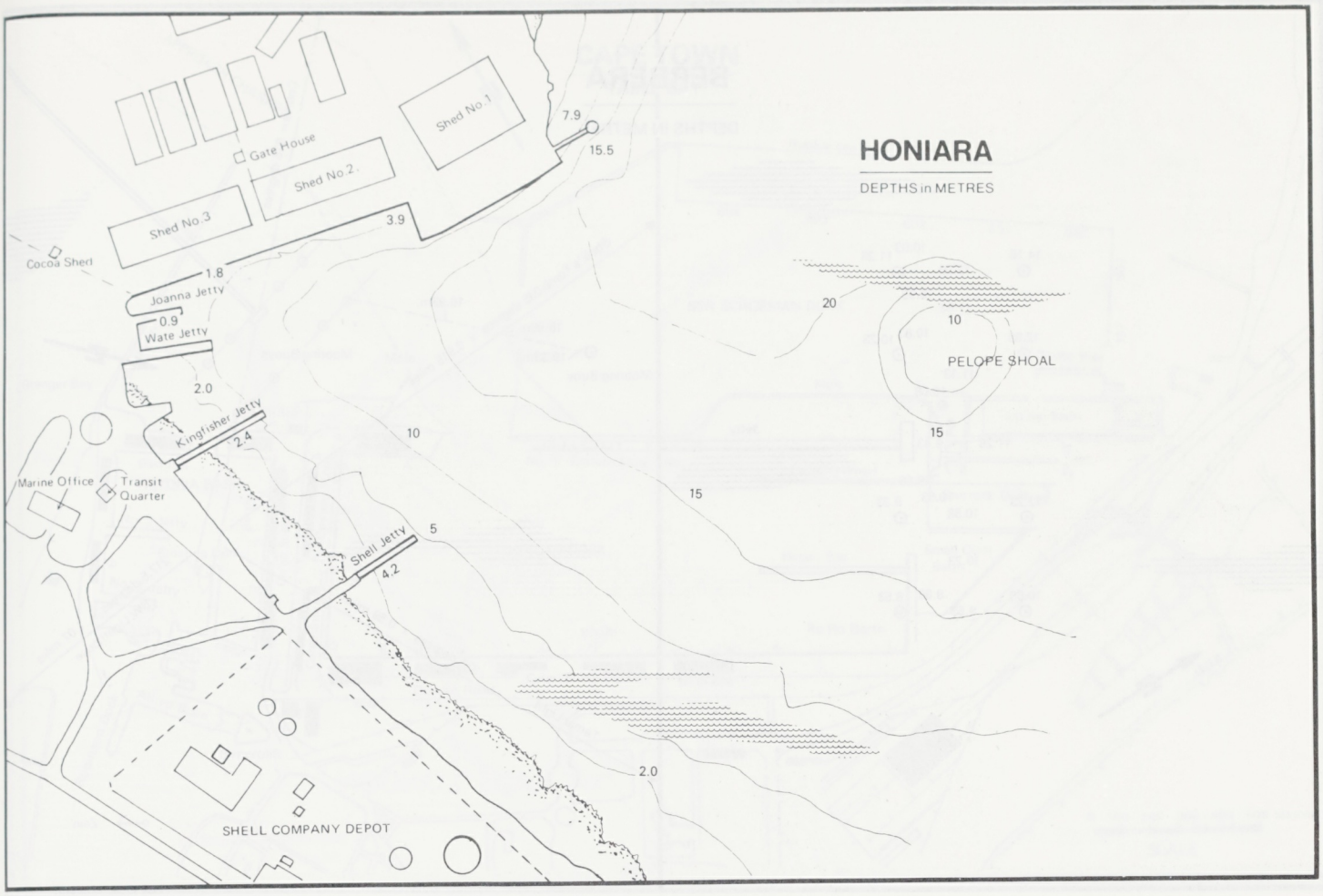
SINGAPORE

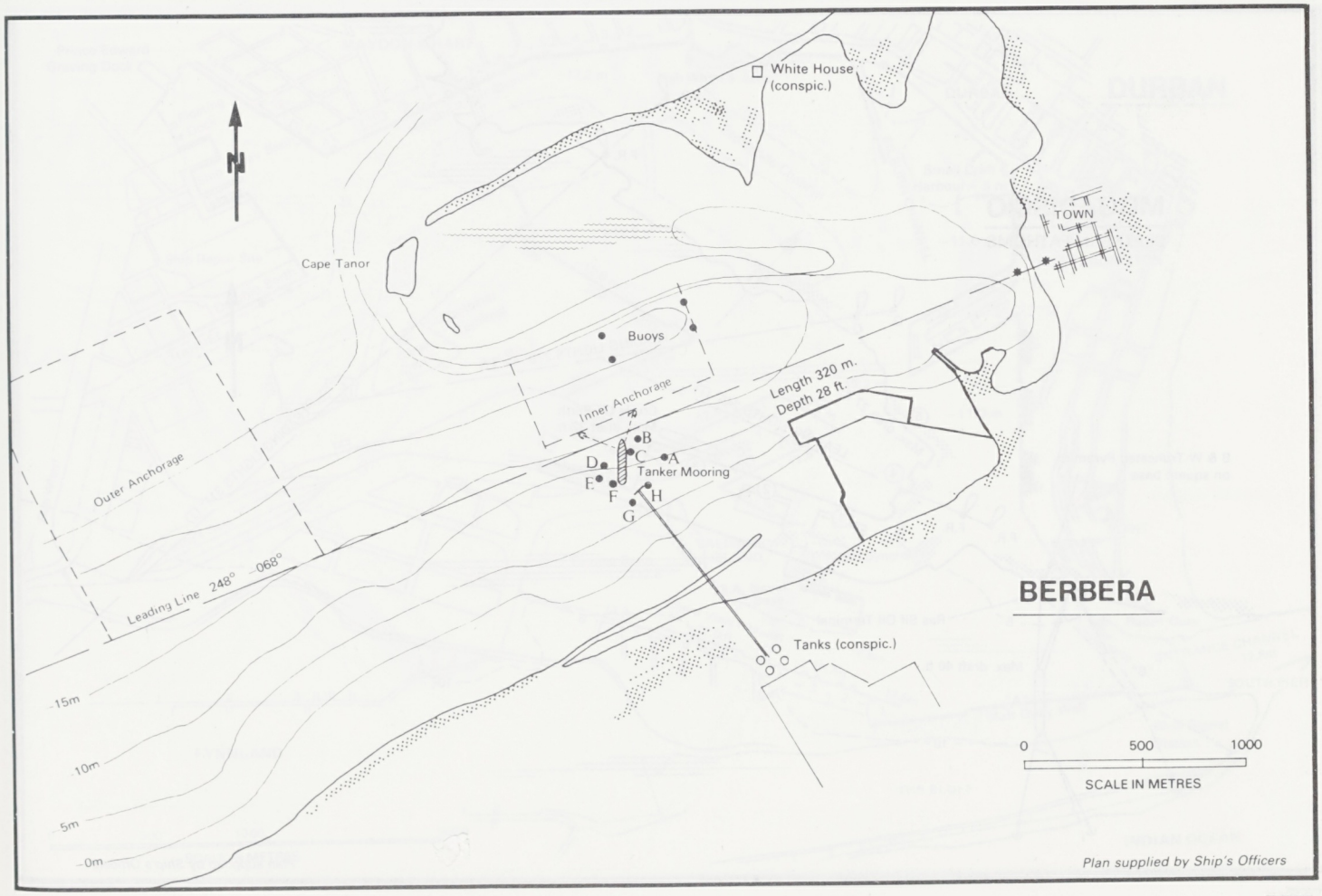
Singapore Refining Company

SRC REFINERY OIL HANDLING DOCK
PULAU MERLIMAU SINGAPORE.

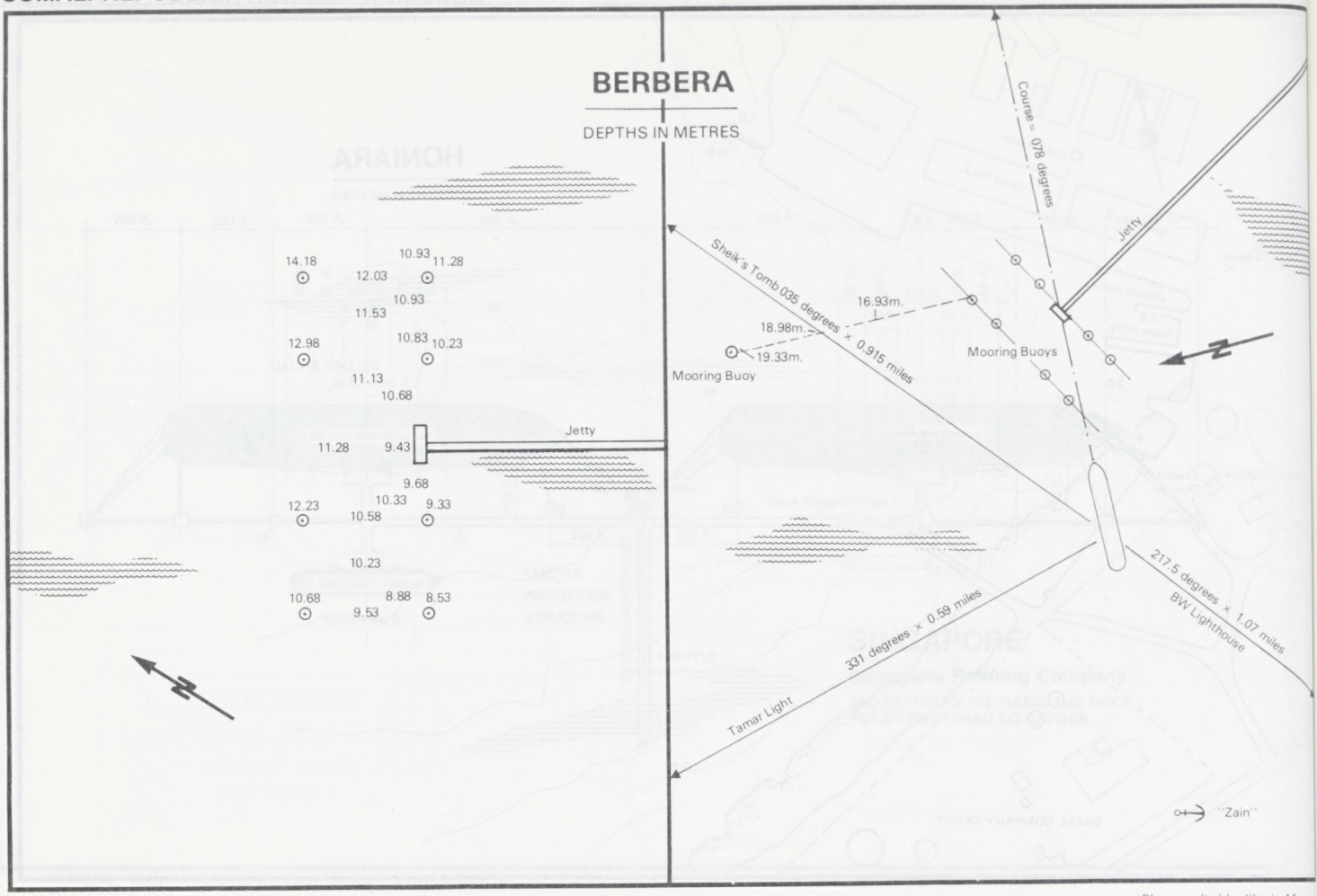
PAPEETE



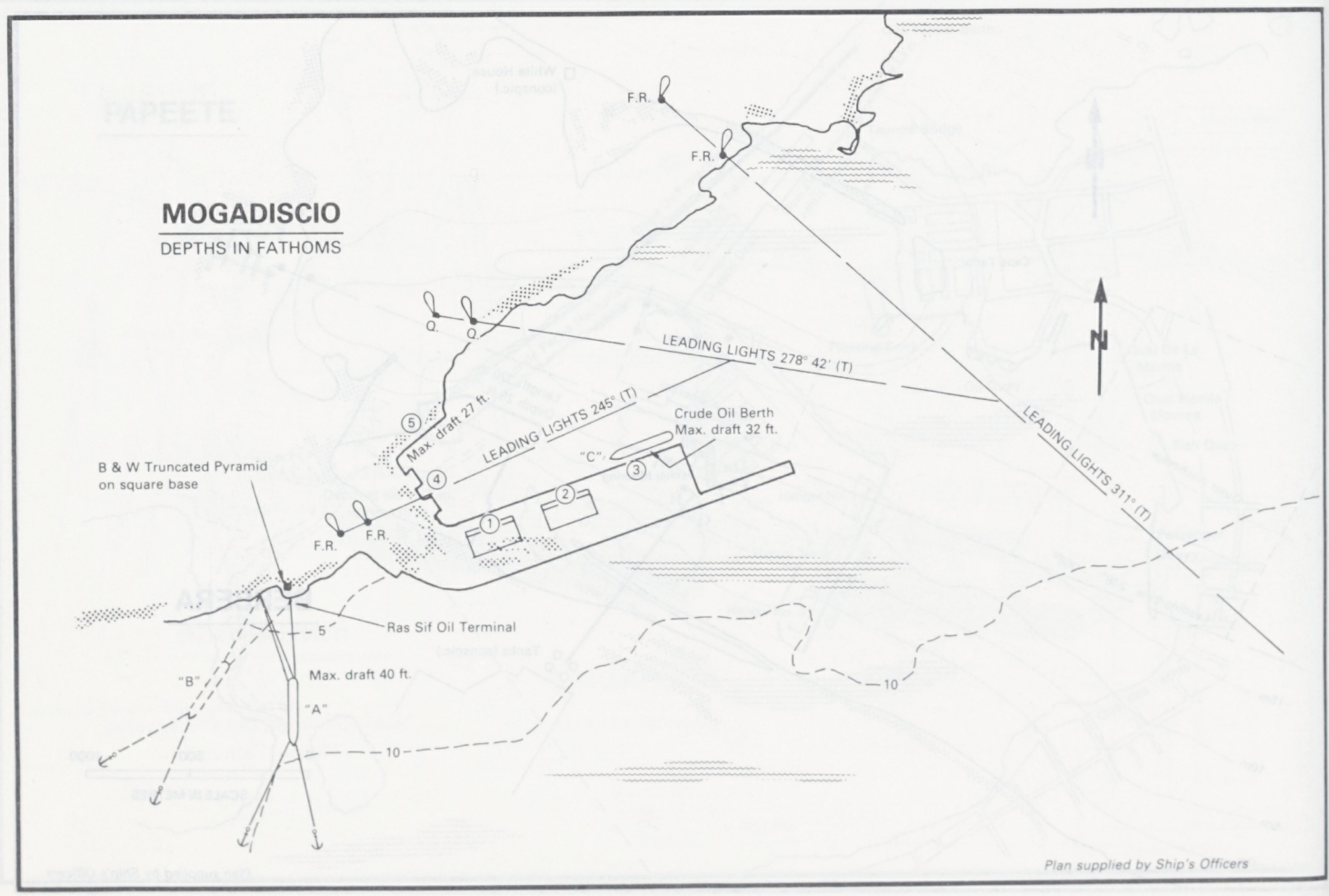




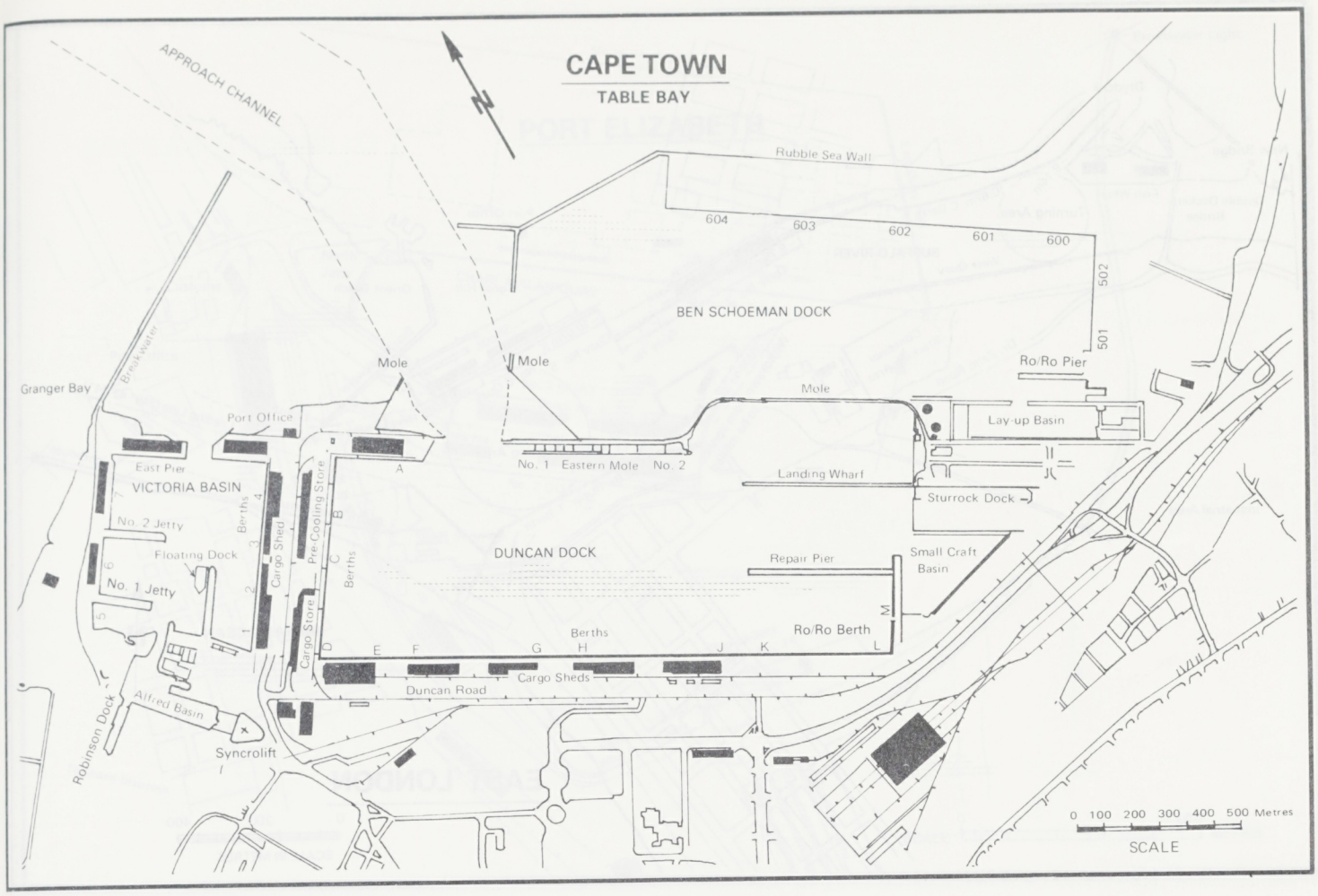
Plan supplied by Ship's Officers

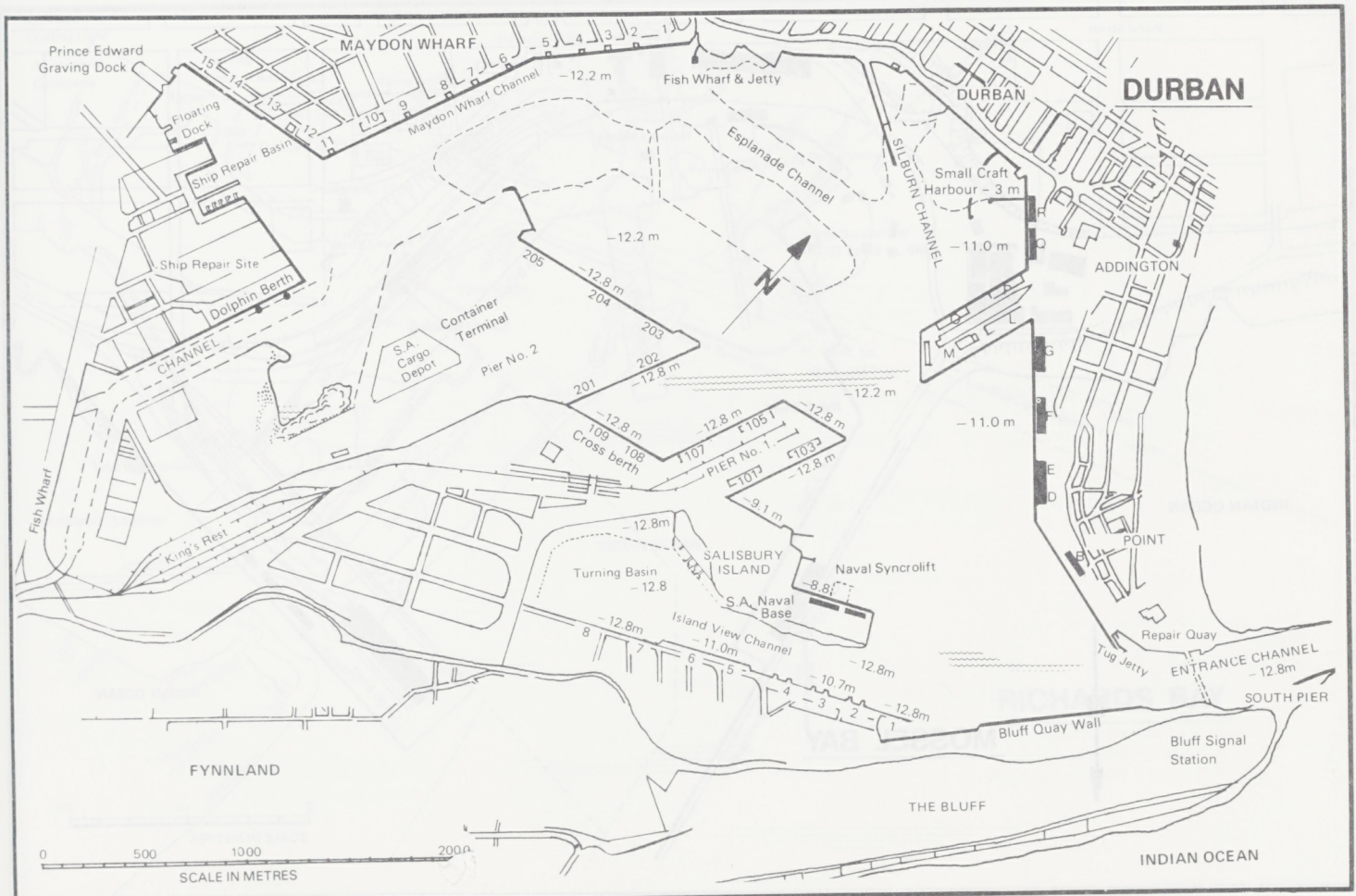


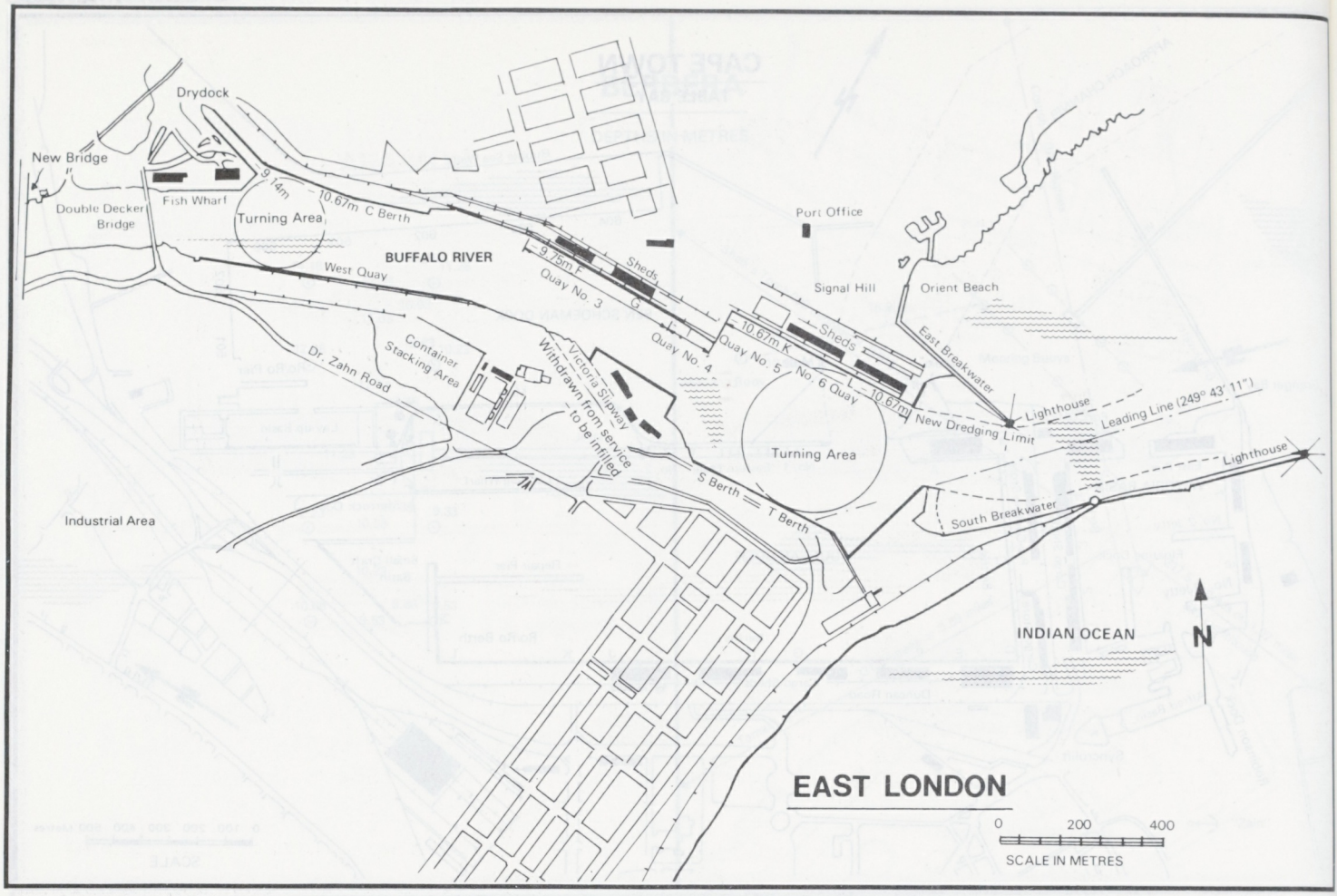
"Plan supplied by Ship's Master

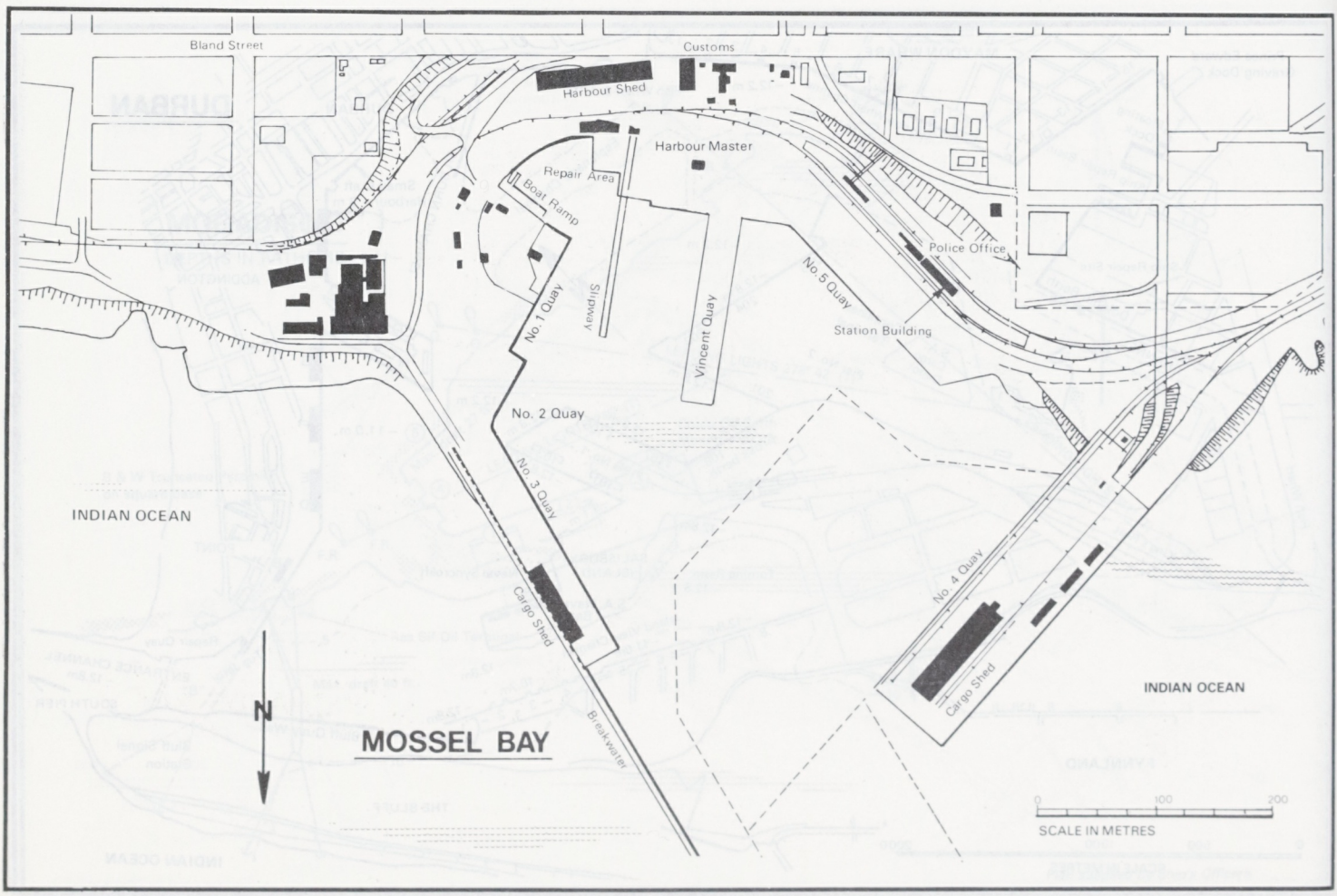


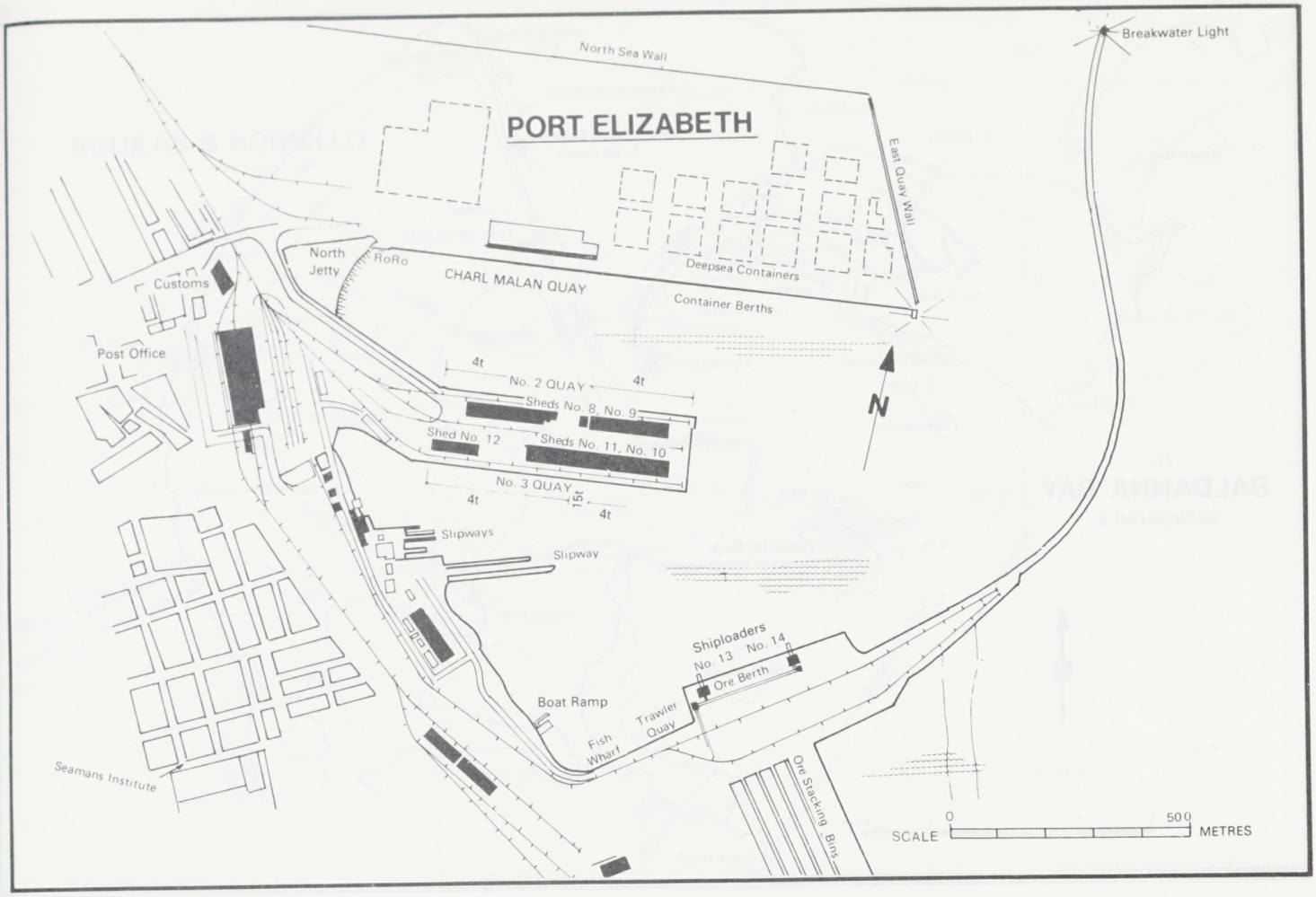
Plan supplied by Ship's Officers

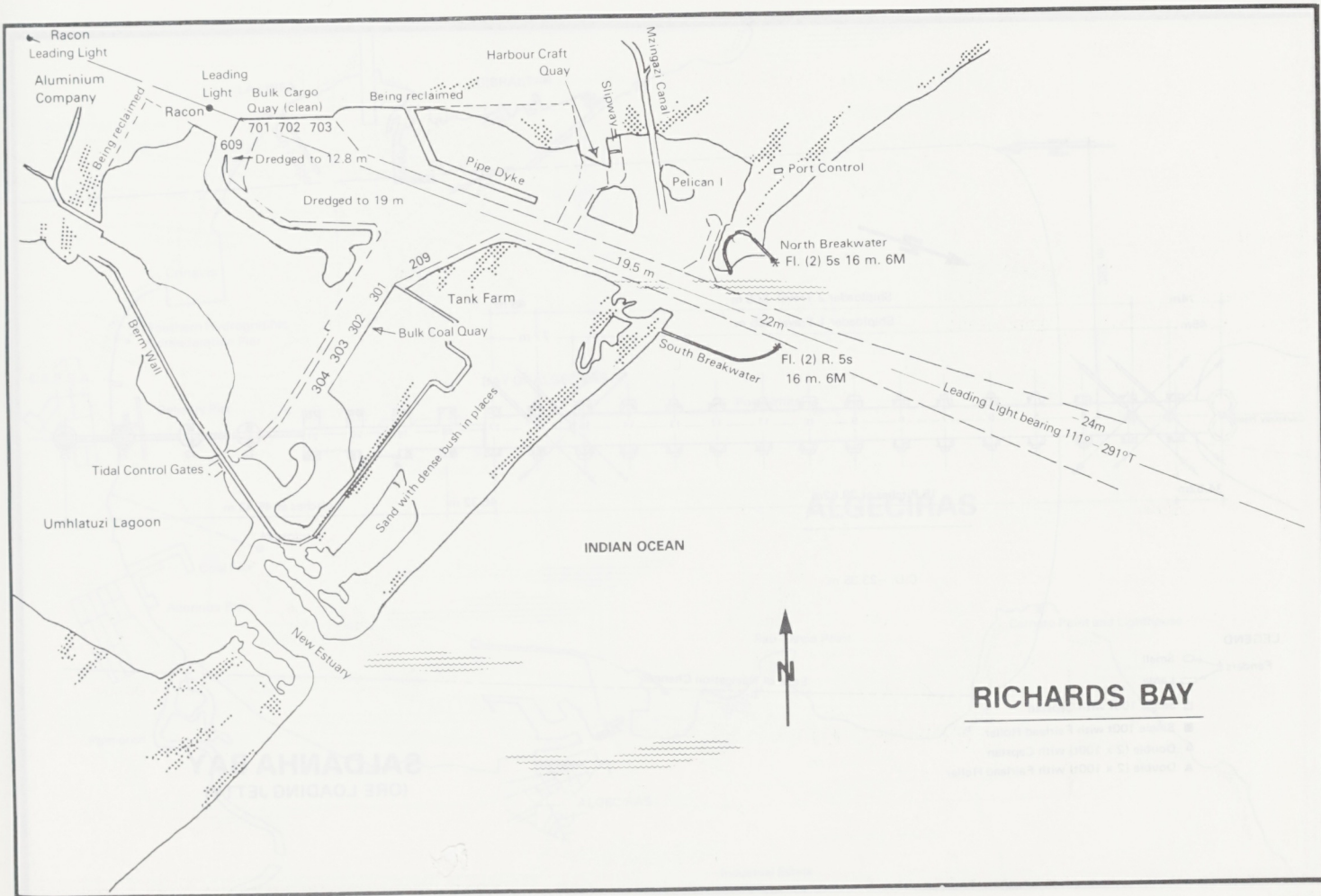

CAPE TOWN
TABLE BAY
APPROACH CHANNEL
Rubble Sea Wall
604
603
602
601
600
502
501
BEN SCHOEMAN DOCK
Granger Bay
Breakwater
Mole
Mole
Mole
Ro/Ro Pier
Port Office
East Pier
VICTORIA BASIN
No. 2 Jetty
Floating Dock
No. 1 Jetty
Berths
Cargo Shed
Pre-Cooling Store
Cargo Store
Berths
No. 1 Eastern Mole
No. 2
Lay-up Basin
Landing Wharf
Sturrock Dock
DUNCAN DOCK
Repair Pier
Small Craft Basin
Berths
Ro/Ro Berth
Cargo Sheds
Duncan Road
Robinson Dock
Alfred Basin
Syncrolift
0 100 200 300 400 500 Metres
SCALE

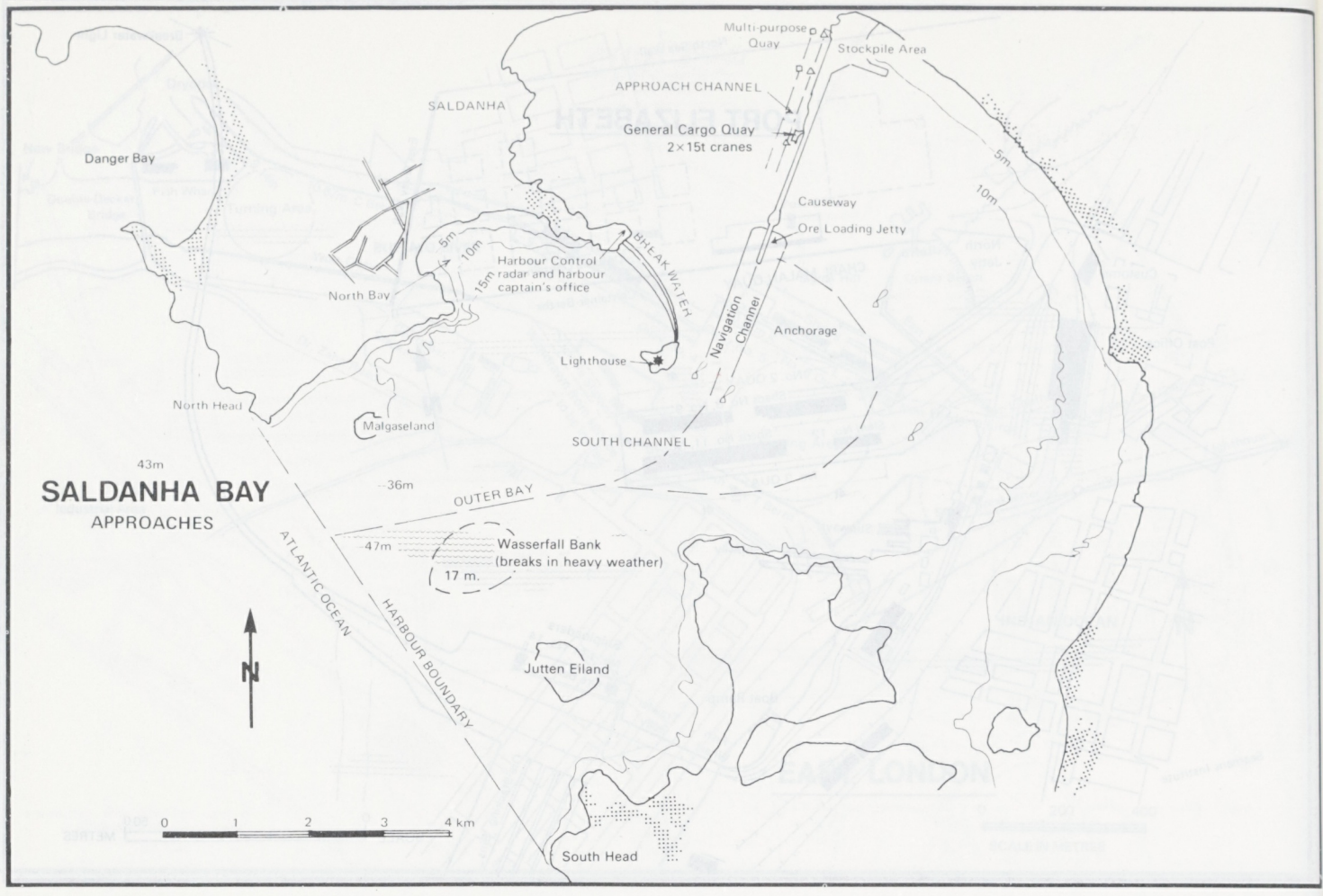

Prince Edward Graving Dock
MAYDON WHARF
Maydon Wharf Channel
–12.2 m
Fish Wharf & Jetty
DURBAN
DURBAN
Floating Dock
Ship Repair Basin
Esplanade Channel
SILBURN CHANNEL
Small Craft Harbour – 3 m
–11.0 m
ADDINGTON
Ship Repair Site
Dolphin Berth
CHANNEL
Container Terminal
S.A. Cargo Depot
Pier No. 2
–12.2 m
–12.8 m
–11.0 m
PIER No. 1
Cross berth
–9.1 m
POINT
Fish Wharf
King's Rest
Turning Basin –12.8
SALISBURY ISLAND
Naval Syncrolift
S.A. Naval Base
Island View Channel
–11.0m
–10.7m
Repair Quay
Tug Jetty
ENTRANCE CHANNEL –12.8m
SOUTH PIER
Bluff Quay Wall
Bluff Signal Station
FYNNLAND
THE BLUFF
INDIAN OCEAN
0 500 1000 2000
SCALE IN METRES

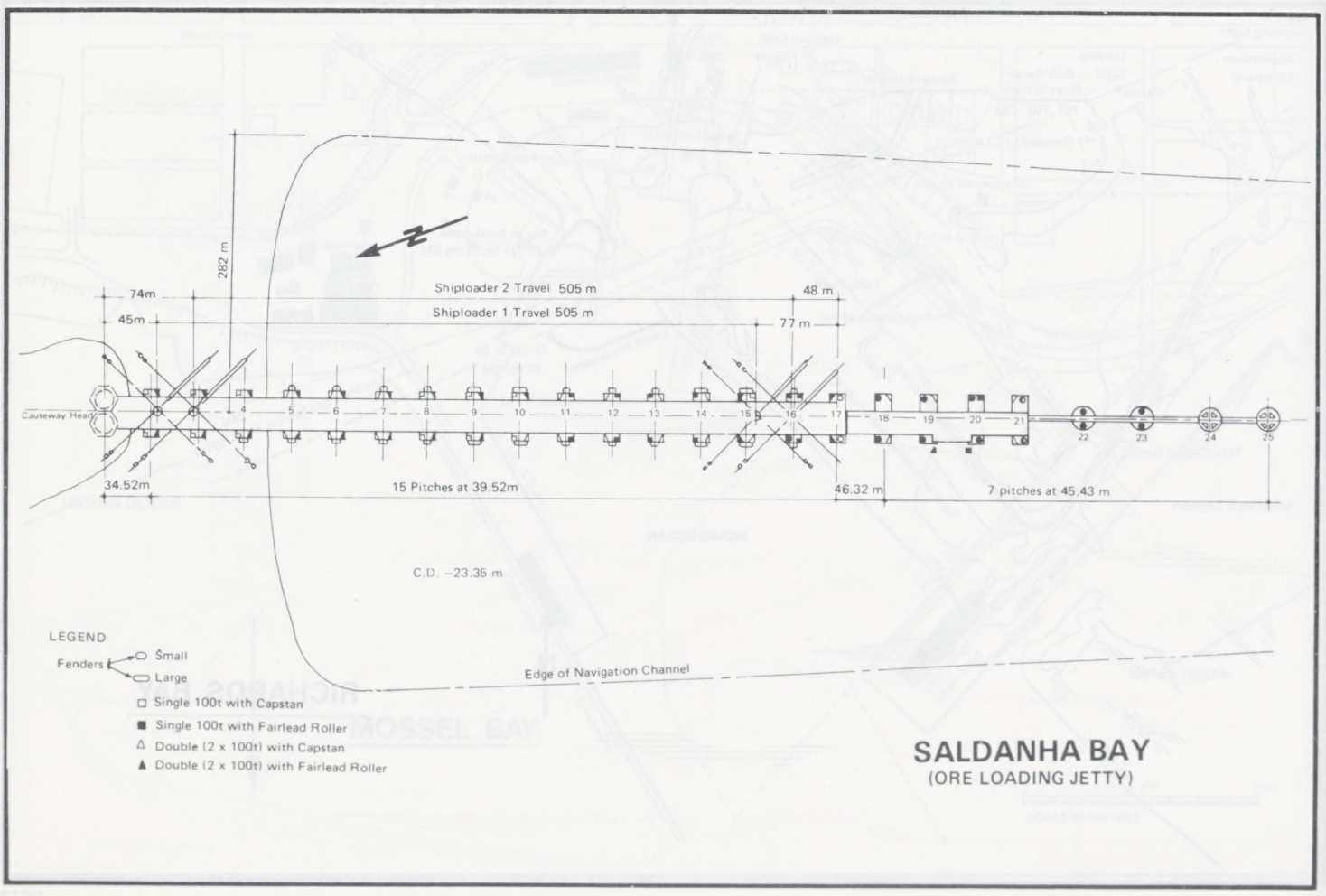

Drydock
New Bridge
Double Decker Bridge
Fish Wharf
Turning Area
9.14m
10.67m C Berth
BUFFALO RIVER
West Quay
9.75m F
Quay No. 3
Sheds
G
Port Office
Signal Hill
Orient Beach
Quay No. 4
Quay No. 5
No. 6 Quay
10.67m K
10.67m L
Sheds
East Breakwater
Container Stacking Area
Dr. Zahn Road
Victoria Slipway
Withdrawn from service - to be infilled
Turning Area
New Dredging Limit
Lighthouse
Leading Line (249° 43' 11")
Lighthouse
S Berth
T Berth
South Breakwater
Industrial Area
INDIAN OCEAN
N
EAST LONDON
0
200
400
SCALE IN METRES

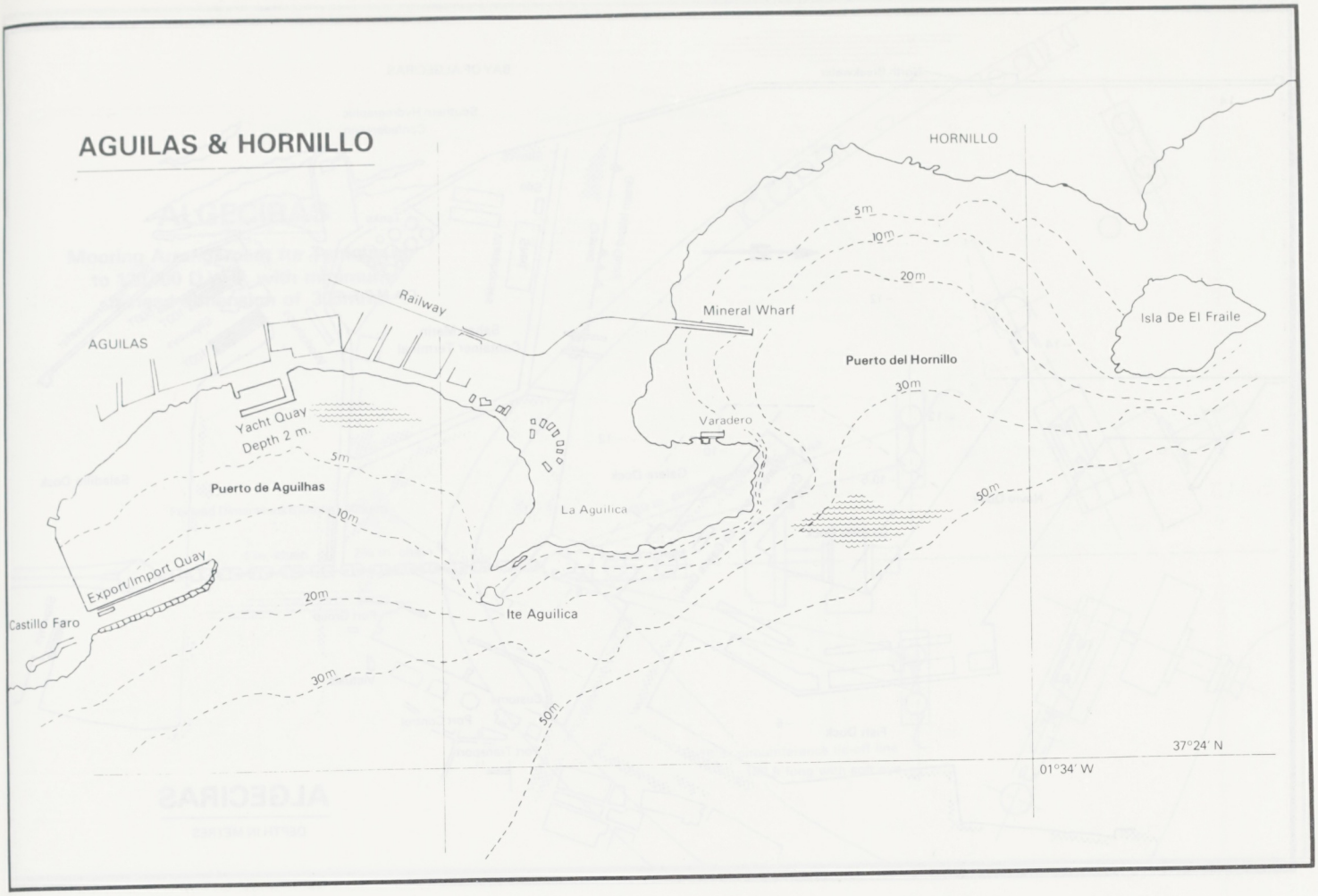

Bland Street
Customs
Harbour Shed
Harbour Master
Repair Area
Boat Ramp
Police Office
No. 1 Quay
Slipway
Vincent Quay
No. 5 Quay
Station Building
No. 2 Quay
No. 3 Quay
INDIAN OCEAN
Cargo Shed
No. 4 Quay
Cargo Shed
INDIAN OCEAN
Breakwater
N
MOSSEL BAY
0
100
200
SCALE IN METRES

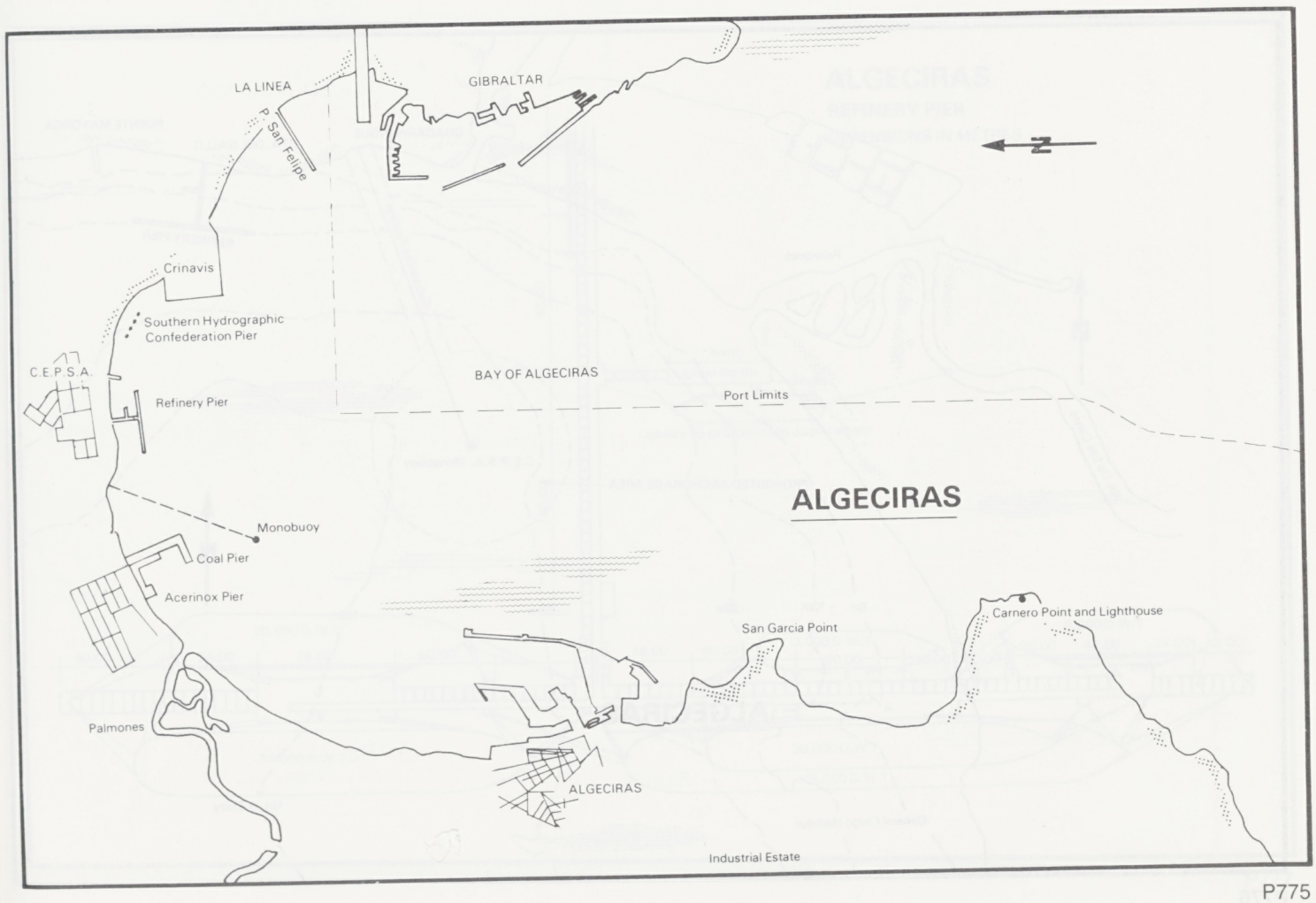

PORT ELIZABETH
North Sea Wall
Breakwater Light
East Quay Wall
Deepsea Containers
Container Berths
CHARL MALAN QUAY
North Jetty
RoRo
Customs
Post Office
4t
No. 2 QUAY
4t
Sheds No. 8, No. 9
Shed No. 12
Sheds No. 11, No. 10
No. 3 QUAY
4t
15t
4t
N
Slipways
Slipway
Shiploaders
No. 13
No. 14
Ore Berth
Boat Ramp
Trawler Quay
Fish Wharf
Seamans Institute
Ore Stacking Bins
SCALE
0
500
METRES

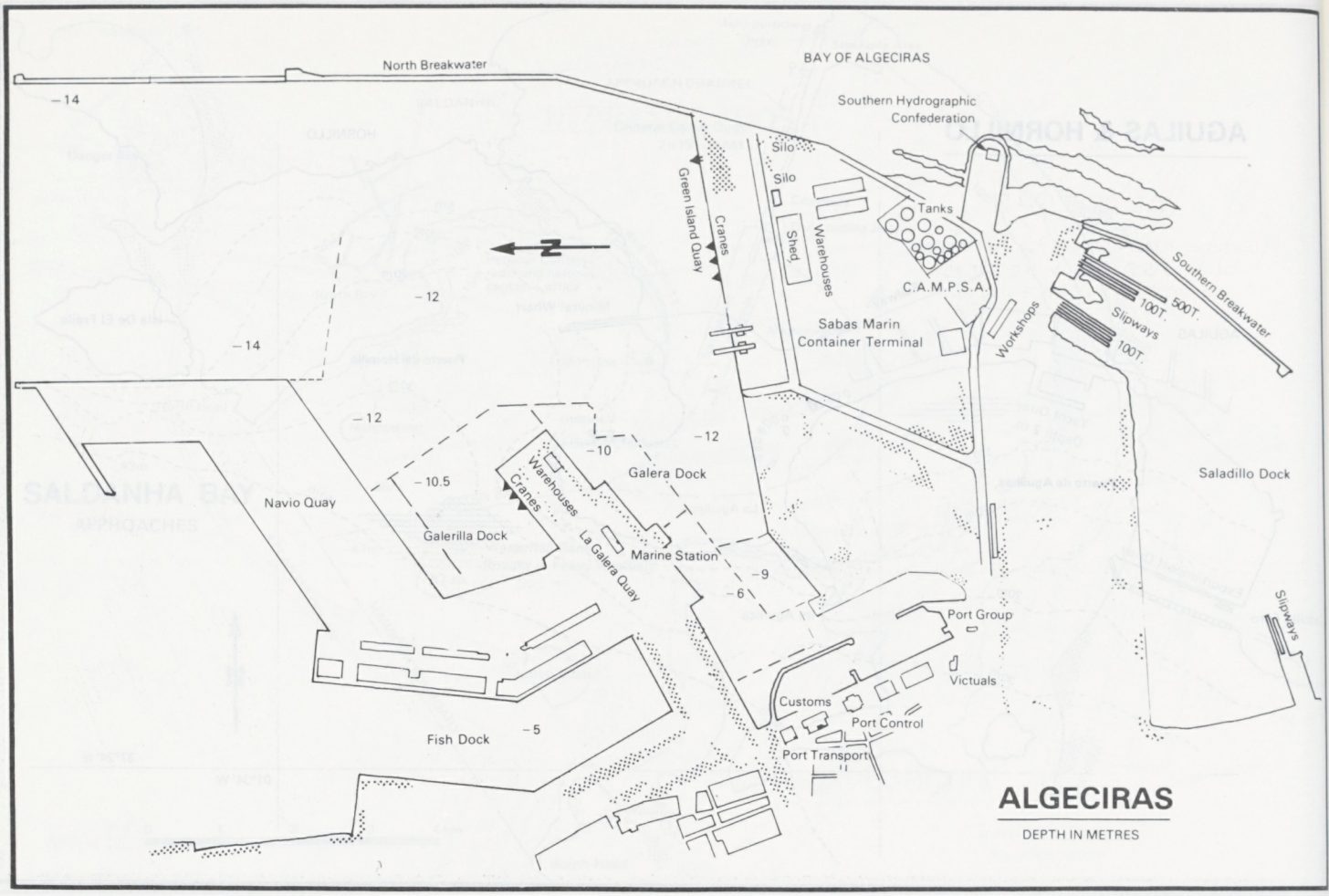

Racon
Leading Light
Aluminium Company
Leading Light
Racon
Bulk Cargo Quay (clean)
701 702 703
609
Dredged to 12.8 m
Being reclaimed
Being reclaimed
Harbour Craft Quay
Slipway
Mzingazi Canal
Pipe Dyke
Dredged to 19 m
Pelican I
Port Control
North Breakwater
Fl. (2) 5s 16 m. 6M
209
19.5 m
22m
24m
301
302
303
304
Tank Farm
Bulk Coal Quay
Berm Wall
South Breakwater
Fl. (2) R. 5s
16 m. 6M
Leading Light bearing 111°-291°T
Tidal Control Gates
Umhlatuzi Lagoon
Sand with dense bush in places
INDIAN OCEAN
New Estuary
N
RICHARDS BAY

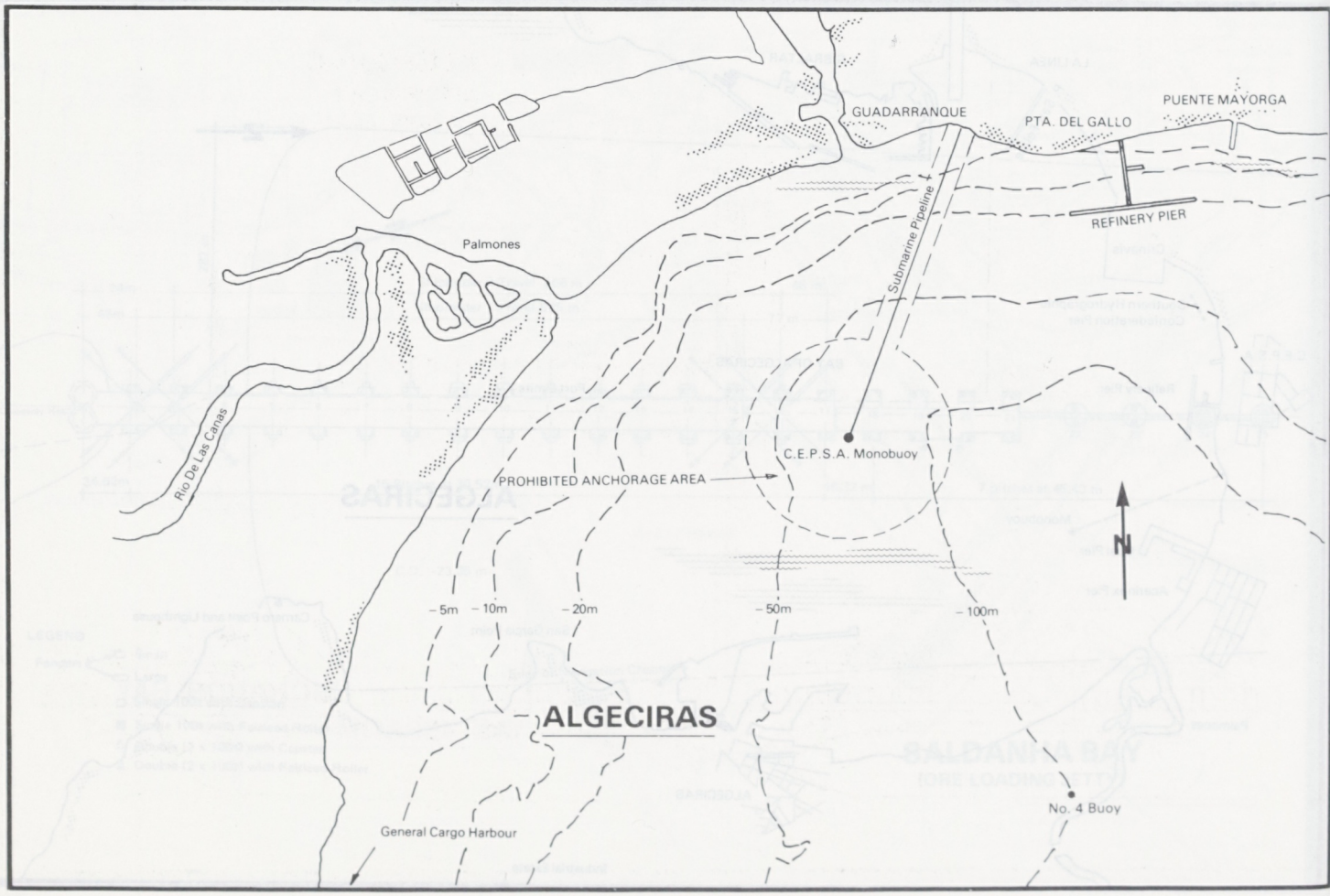

Multi-purpose Quay
Stockpile Area
APPROACH CHANNEL
SALDANHA
General Cargo Quay
2×15t cranes
Danger Bay
5m
10m
Causeway
Ore Loading Jetty
BREAK WATER
Harbour Control
radar and harbour
captain's office
15m
North Bay
Navigation Channel
Anchorage
Lighthouse
North Head
Malgaseland
SOUTH CHANNEL
43m
SALDANHA BAY
APPROACHES
36m
OUTER BAY
47m
Wasserfall Bank
(breaks in heavy weather)
17 m.
ATLANTIC OCEAN
HARBOUR BOUNDARY
N
Jutten Eiland
0 1 2 3 4 km
South Head


282 m
74m
45m
Shiploader 2 Travel 505 m
Shiploader 1 Travel 505 m
48 m
77 m
Causeway Head
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
34.52m
15 Pitches at 39.52m
46.32 m
7 pitches at 45.43 m
C.D. –23.35 m
LEGEND
Fenders
Small
Large
Single 100t with Capstan
Single 100t with Fairlead Roller
Double (2 x 100t) with Capstan
Double (2 x 100t) with Fairlead Roller
Edge of Navigation Channel
SALDANHA BAY
(ORE LOADING JETTY)


AGUILAS & HORNILLO
HORNILLO
5m
10m
20m
Railway
Mineral Wharf
Isla De El Fraile
AGUILAS
Puerto del Hornillo
30m
Yacht Quay
Depth 2 m.
Varadero
5m
Puerto de Aguilhas
La Aguilica
50m
10m
Export Import Quay
Castillo Faro
20m
Ite Aguilica
30m
50m
37°24' N
01°34' W

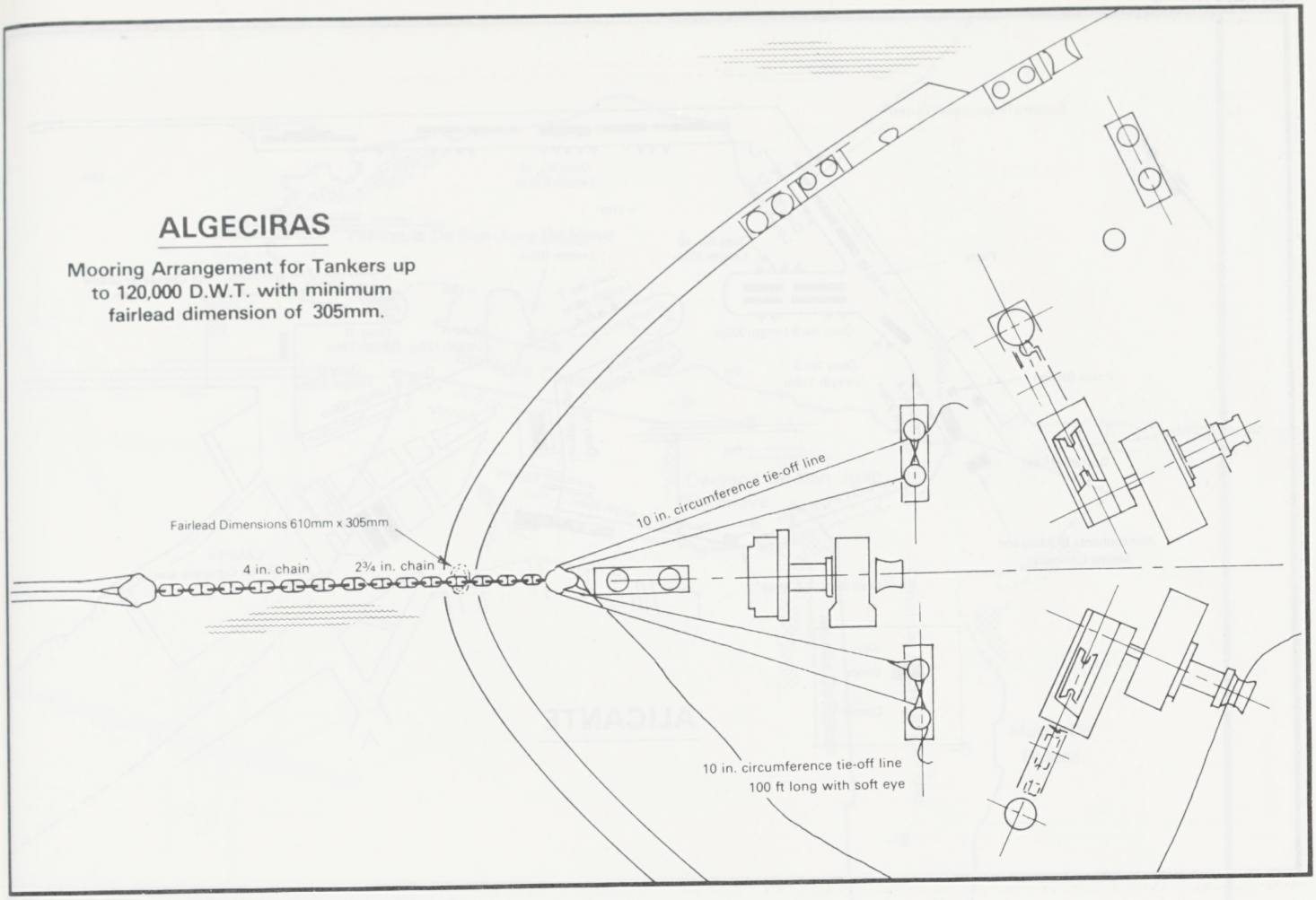

LA LINEA
GIBRALTAR
P. San Felipe
N
Crinavis
Southern Hydrographic
Confederation Pier
C.E.P.S.A.
BAY OF ALGECIRAS
Refinery Pier
Port Limits
ALGECIRAS
Monobuoy
Coal Pier
Acerinox Pier
San Garcia Point
Carnero Point and Lighthouse
Palmones
ALGECIRAS
Industrial Estate


BAY OF ALGECIRAS
North Breakwater
Southern Hydrographic Confederation
Silo
Silo
Shed
Warehouses
Green Island Quay
Cranes
Tanks
C.A.M.P.S.A.
Workshops
Southern Breakwater
100T.
500T.
Slipways
100T.
Sabas Marin Container Terminal
Saladillo Dock
Slipways
Navio Quay
Galerilla Dock
Warehouses
Cranes
La Galera Quay
Galera Dock
Marine Station
Port Group
Victuals
Customs
Port Control
Port Transport
Fish Dock
−14
−12
−14
−12
−10
−12
−10.5
−9
−6
−5
ALGECIRAS
DEPTH IN METRES


GUADARRANQUE
PTA. DEL GALLO
PUENTE MAYORGA
REFINERY PIER
Submarine Pipeline
Palmones
Rio De Las Canas
C.E.P.S.A. Monobuoy
PROHIBITED ANCHORAGE AREA
N
−5m
−10m
−20m
−50m
−100m
ALGECIRAS
No. 4 Buoy
General Cargo Harbour

ALGECIRAS

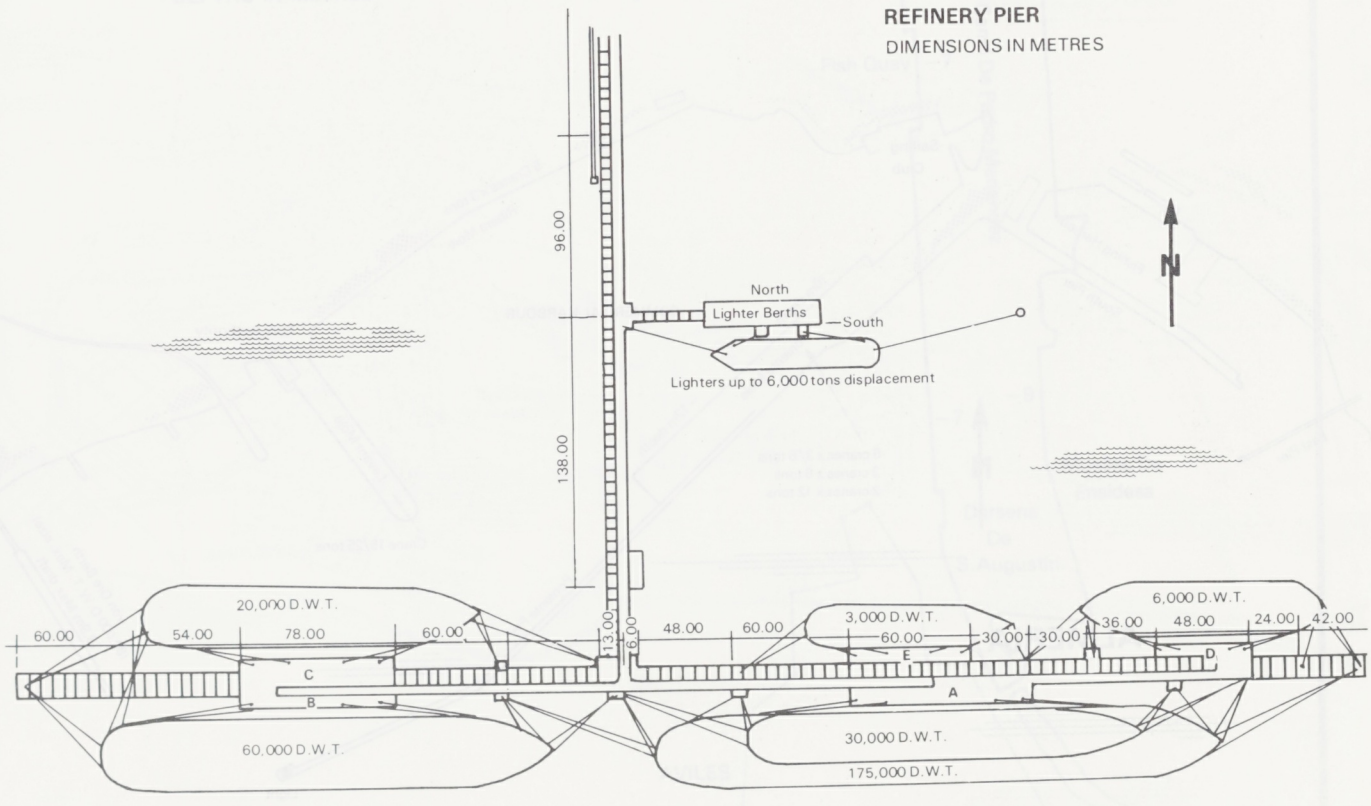
Mooring Arrangement for Tankers up to 120,000 D.W.T. with minimum fairlead dimension of 305mm.

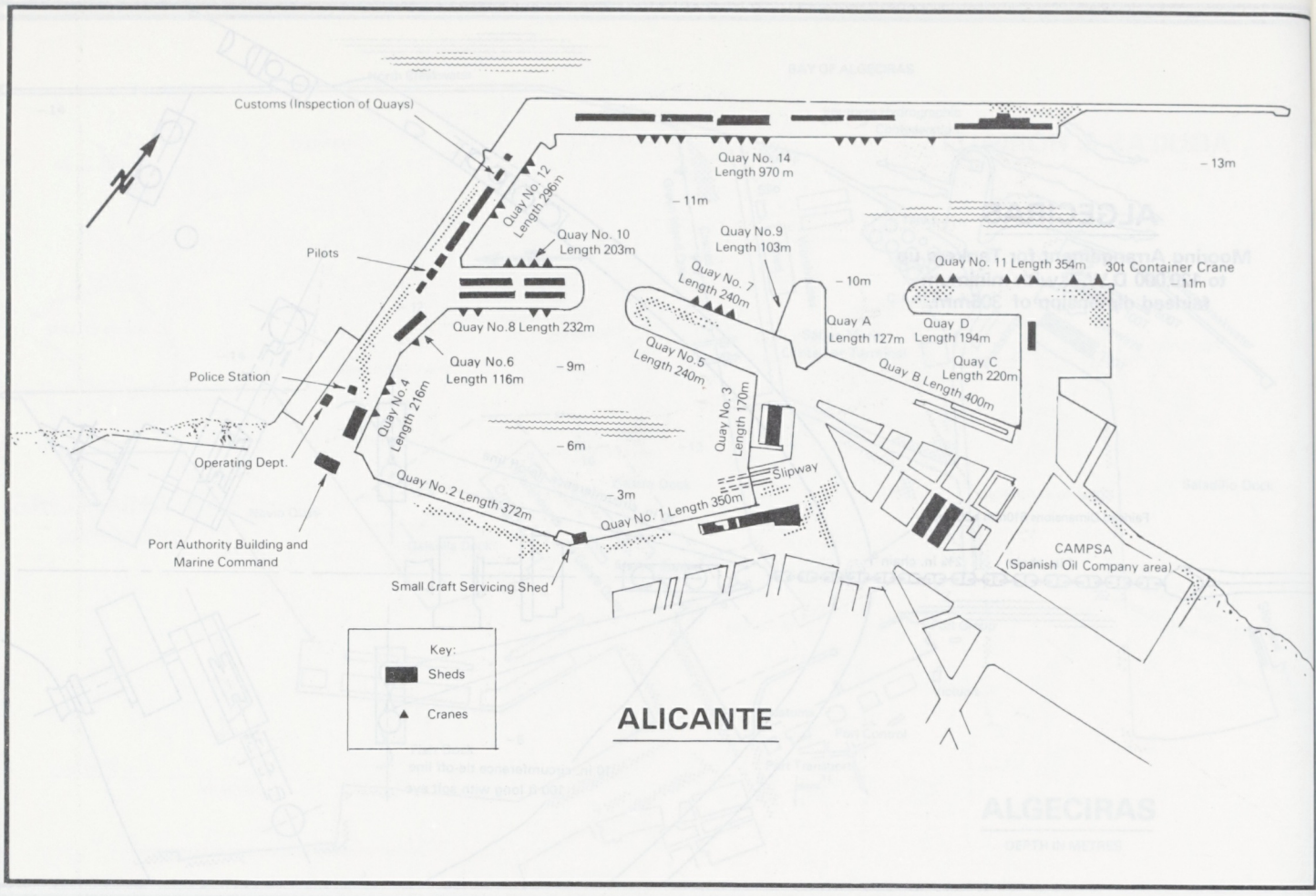


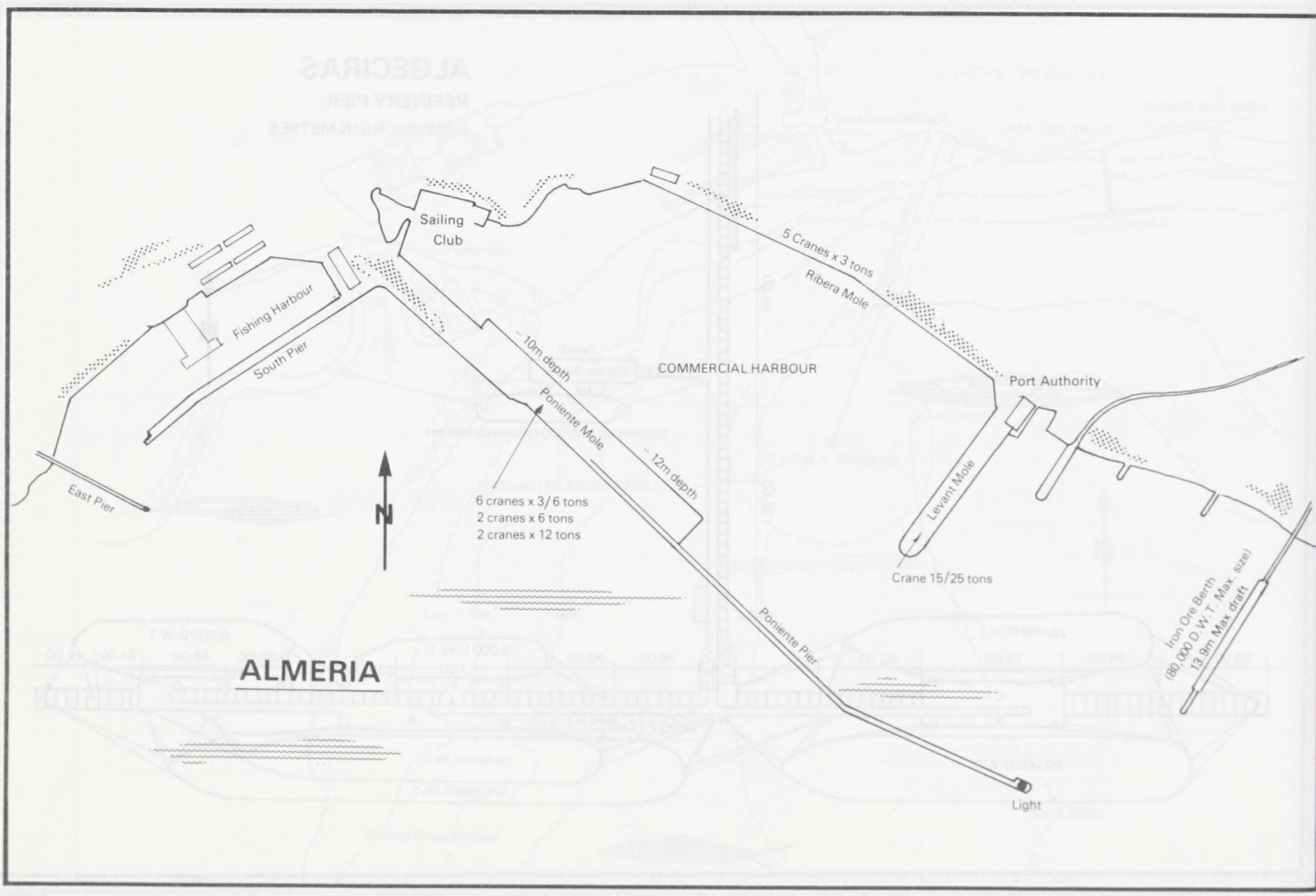
ALGECIRAS

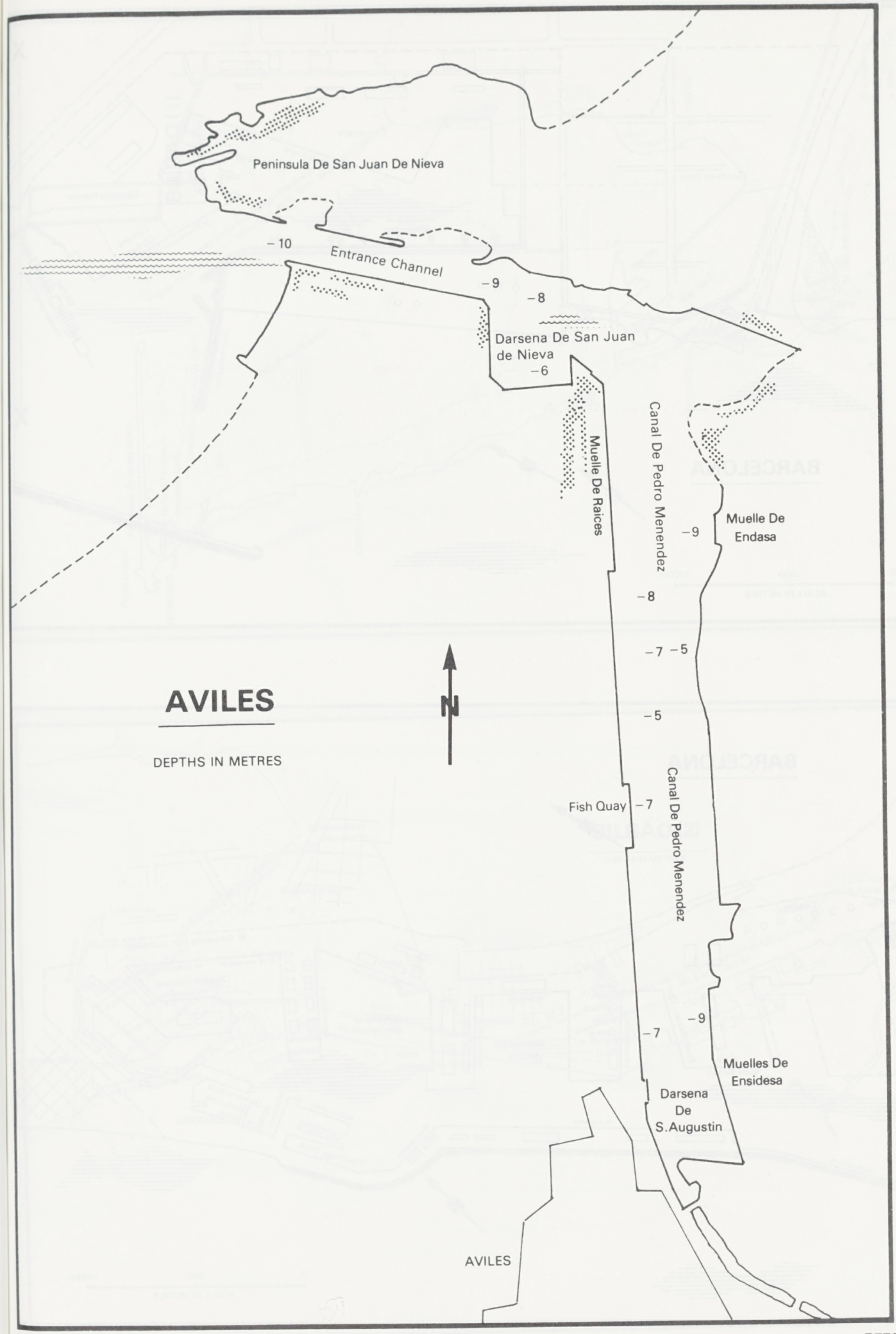
REFINERY PIER

DIMENSIONS IN METRES

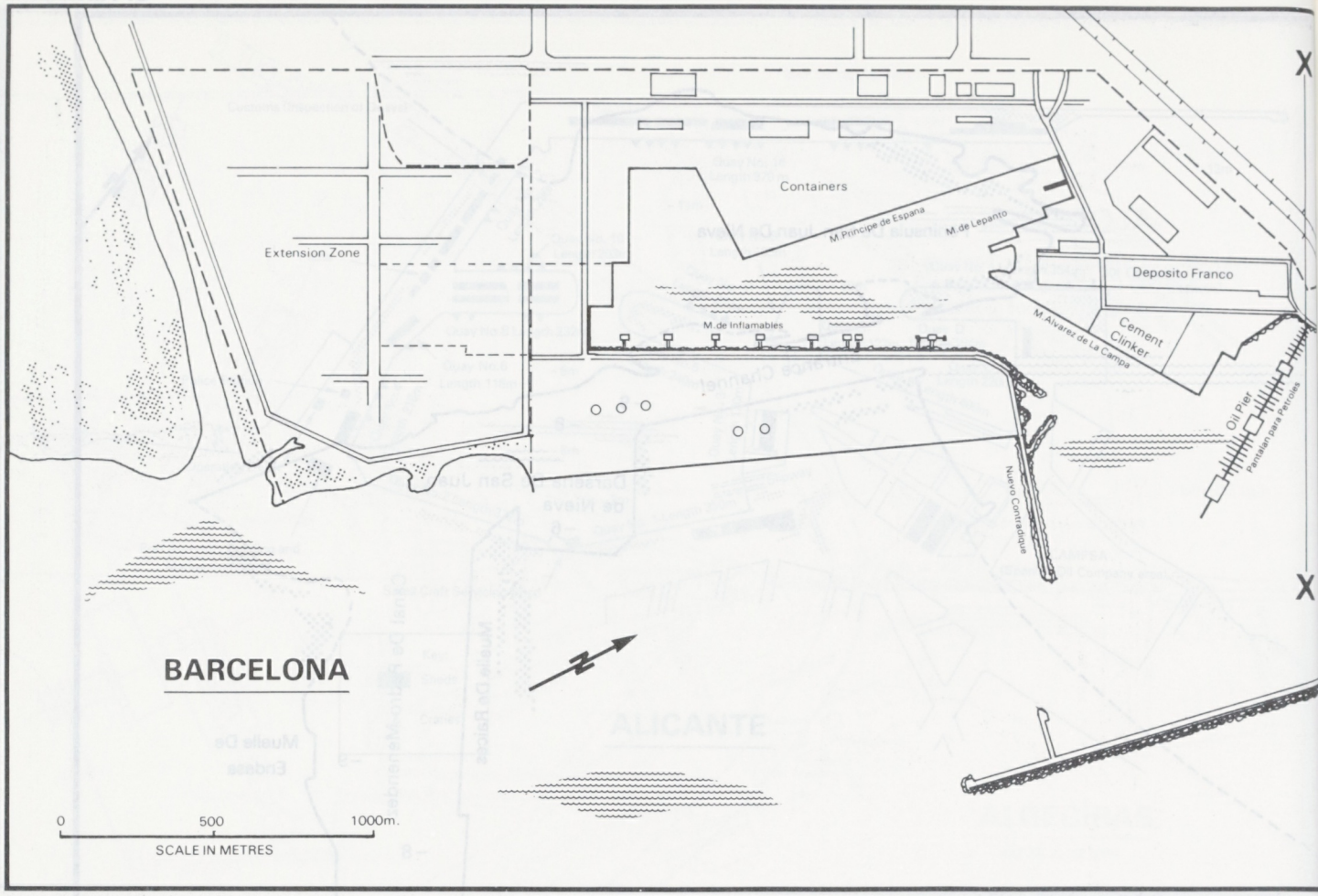


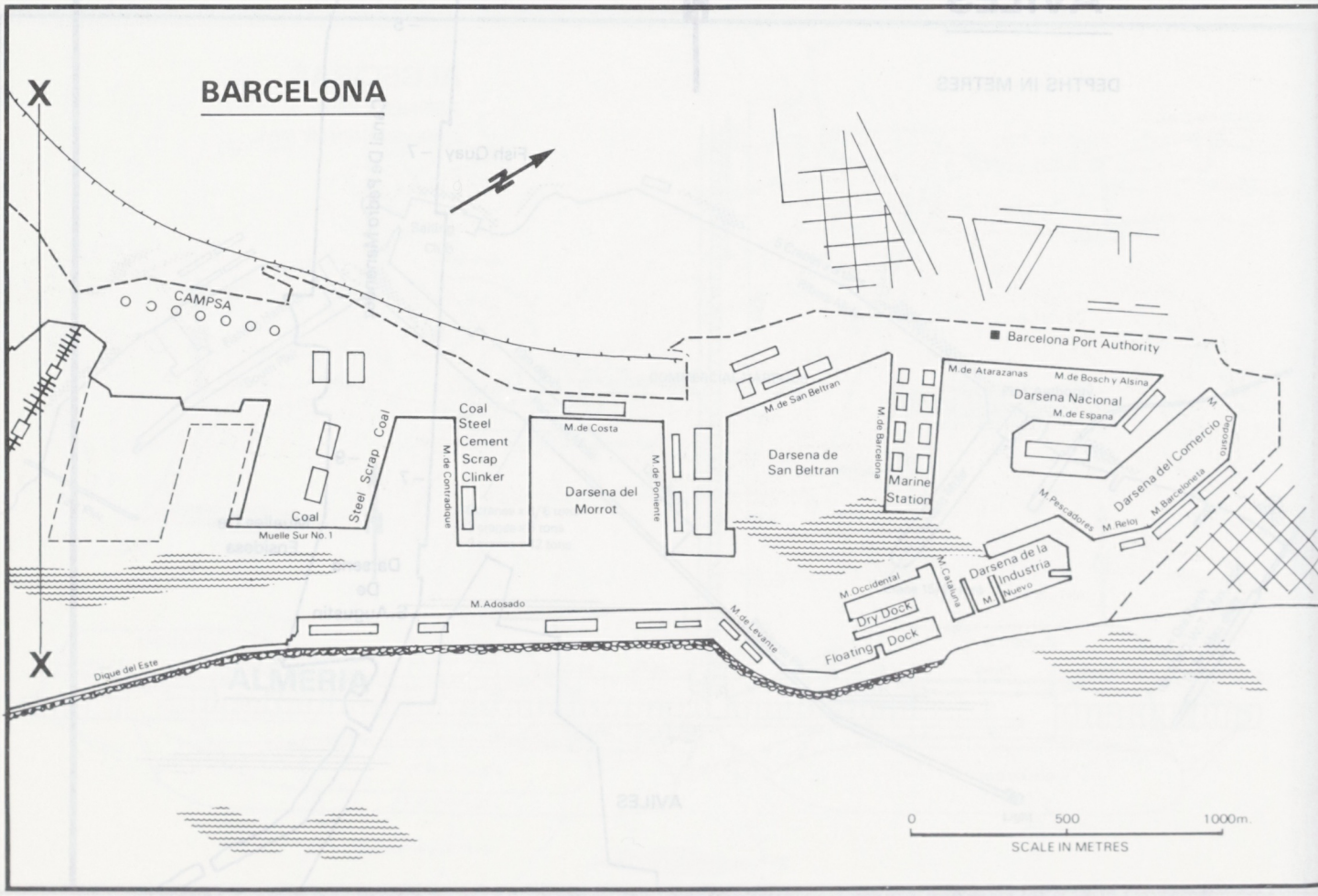

Customs (Inspection of Quays)
Quay No. 14
Length 970 m
– 13m
– 11m
Quay No. 12
Length 296m
Quay No. 10
Length 203m
Pilots
Quay No.9
Length 103m
Quay No. 11 Length 354m
30t Container Crane
– 11m
Quay No. 7
Length 240m
– 10m
Quay A
Length 127m
Quay D
Length 194m
Quay No.8 Length 232m
Quay No.6
Length 116m
– 9m
Quay No.5
Length 240m
Quay C
Length 220m
Quay B Length 400m
Police Station
Quay No.4
Length 216m
Quay No. 3
Length 170m
– 6m
Operating Dept.
Slipway
– 3m
Quay No.2 Length 372m
Quay No. 1 Length 350m
Port Authority Building and
Marine Command
Small Craft Servicing Shed
CAMPSA
(Spanish Oil Company area)
Key:
Sheds
Cranes
ALICANTE

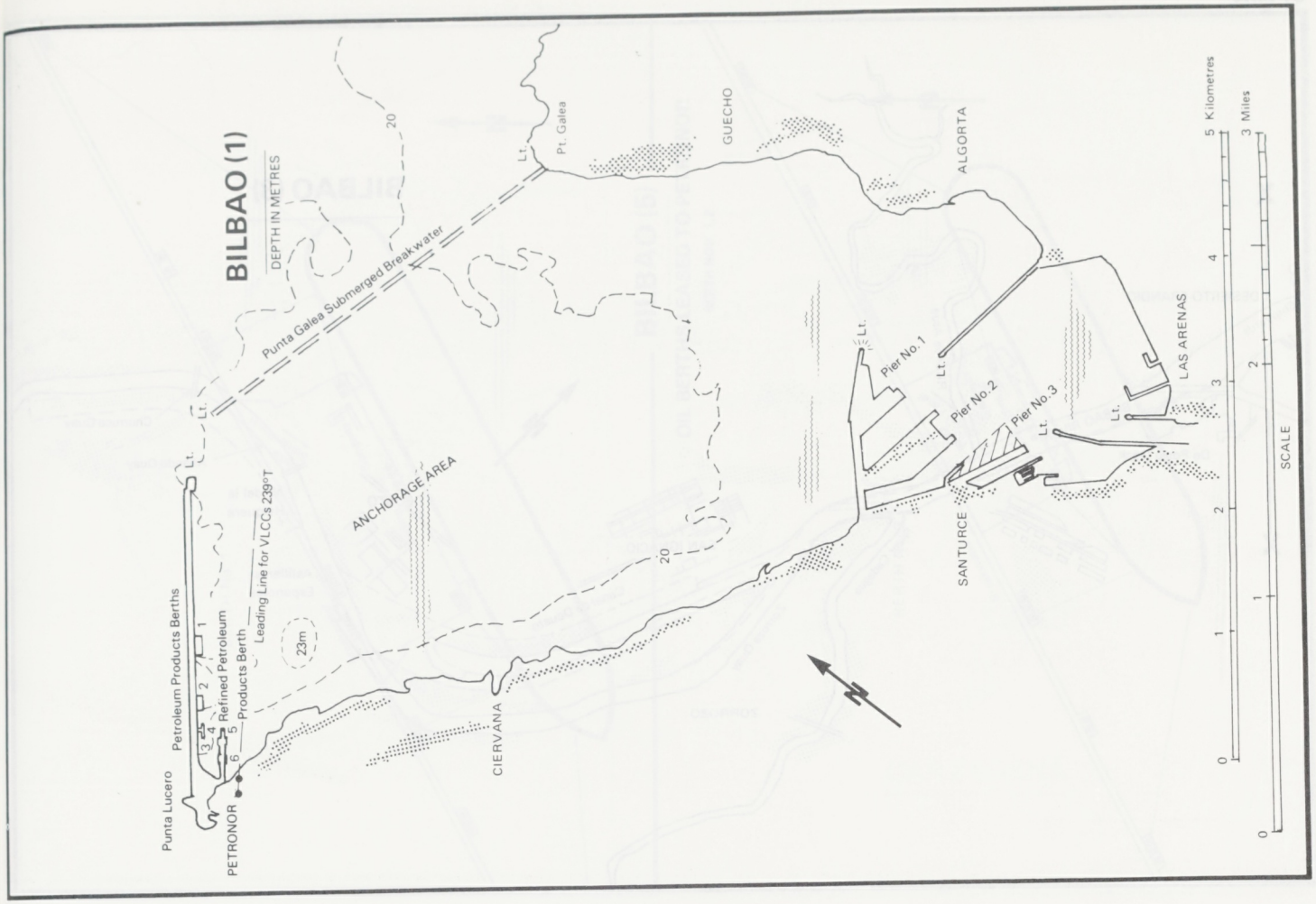

Sailing
Club
5 Cranes x 3 tons
Ribera Mole
Fishing Harbour
South Pier
– 10m depth
COMMERCIAL HARBOUR
Port Authority
Poniente Mole
– 12m depth
East Pier
6 cranes x 3/6 tons
2 cranes x 6 tons
2 cranes x 12 tons
Levant Mole
Crane 15/25 tons
Iron Ore Berth
(80,000 D.W.T. Max. size)
13.9m Max. draft
Poniente Pier
Light
ALMERIA

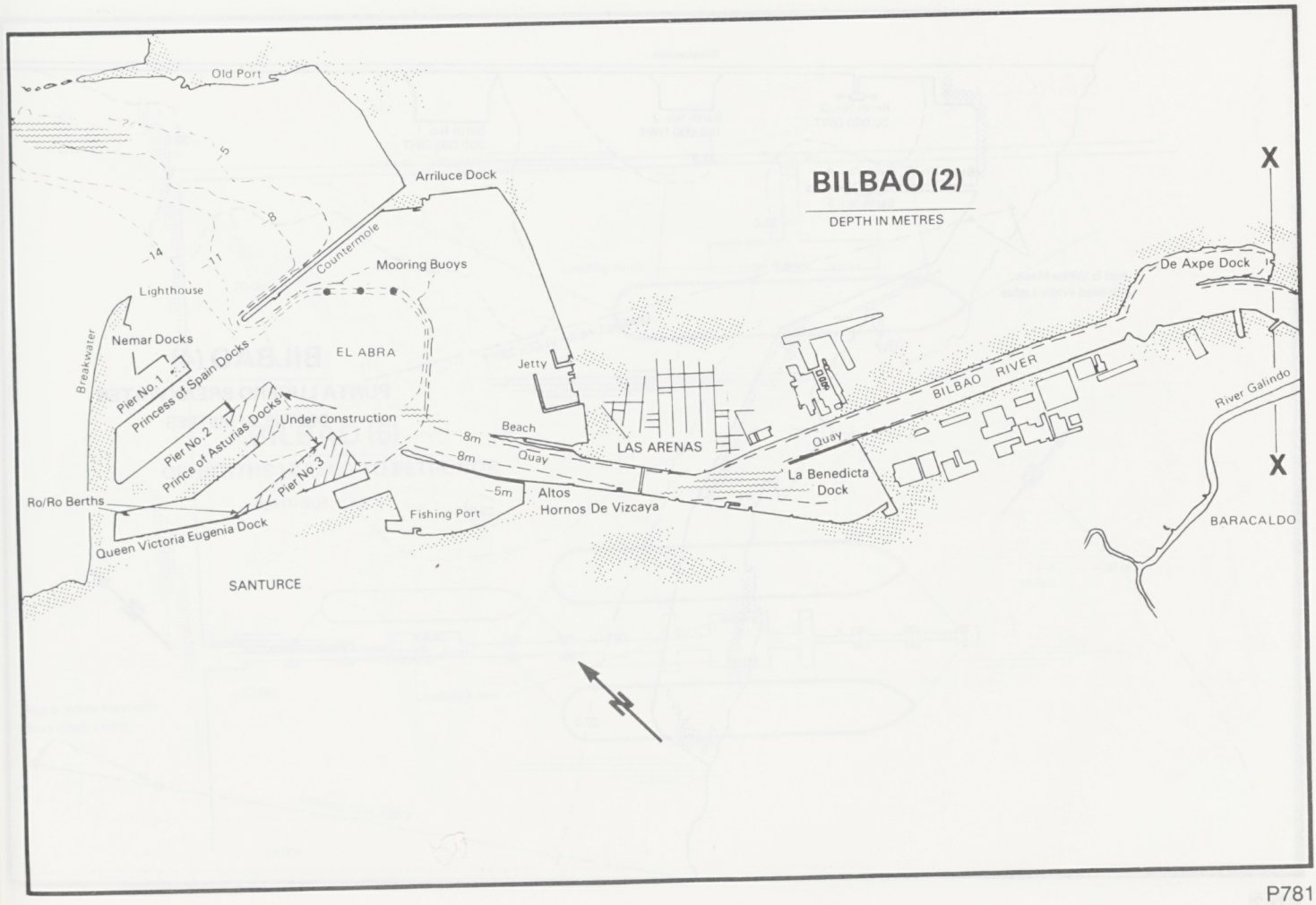

Peninsula De San Juan De Nieva
-10
Entrance Channel
-9
-8
Darsena De San Juan de Nieva
-6
Muelle De Raices
Canal De Pedro Menendez
Muelle De Endasa
-9
-8
-7
-5
-5
AVILES
DEPTHS IN METRES
N
Fish Quay
-7
Canal De Pedro Menendez
-9
-7
Muelles De Ensidesa
Darsena De S.Augustin
AVILES

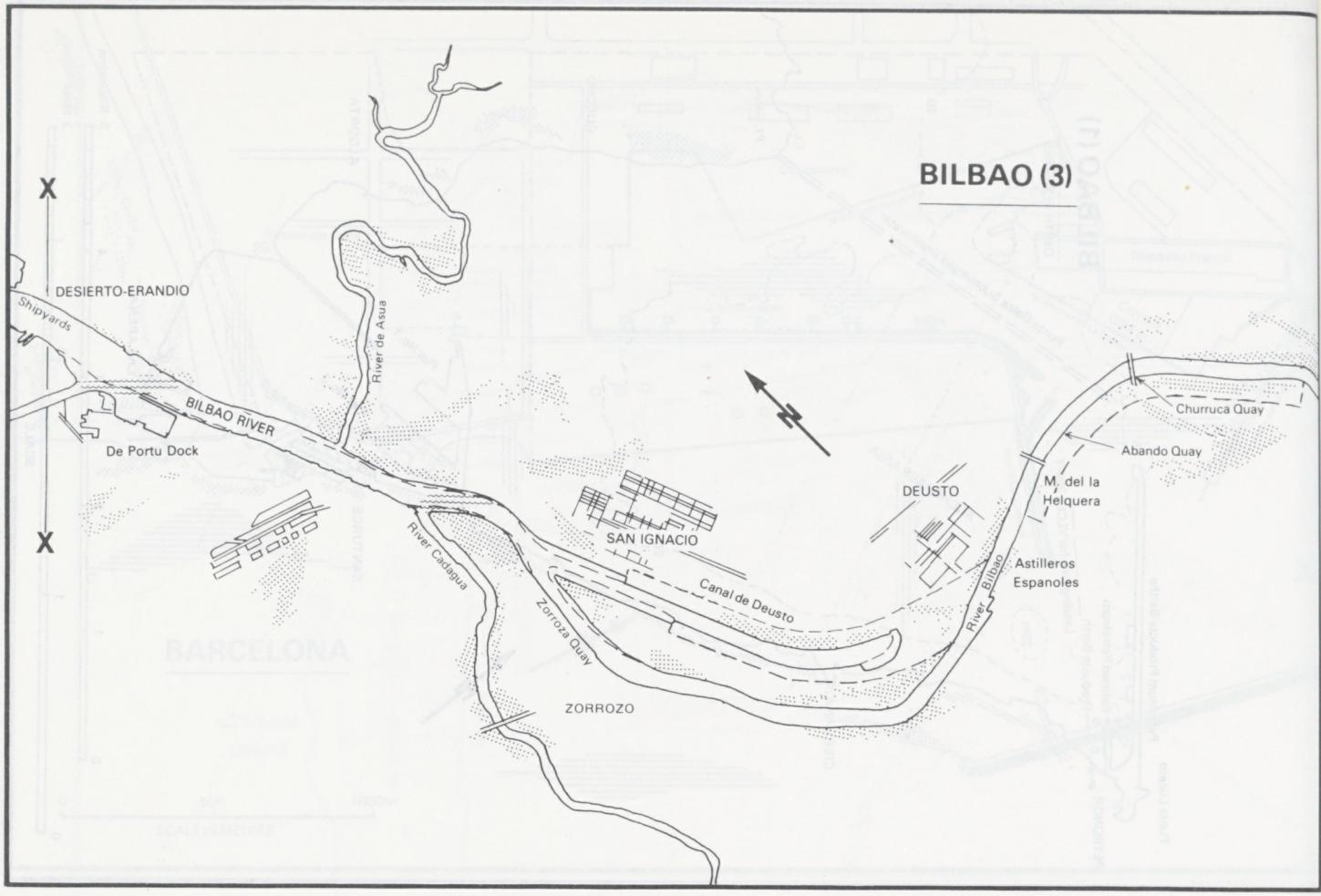
P779

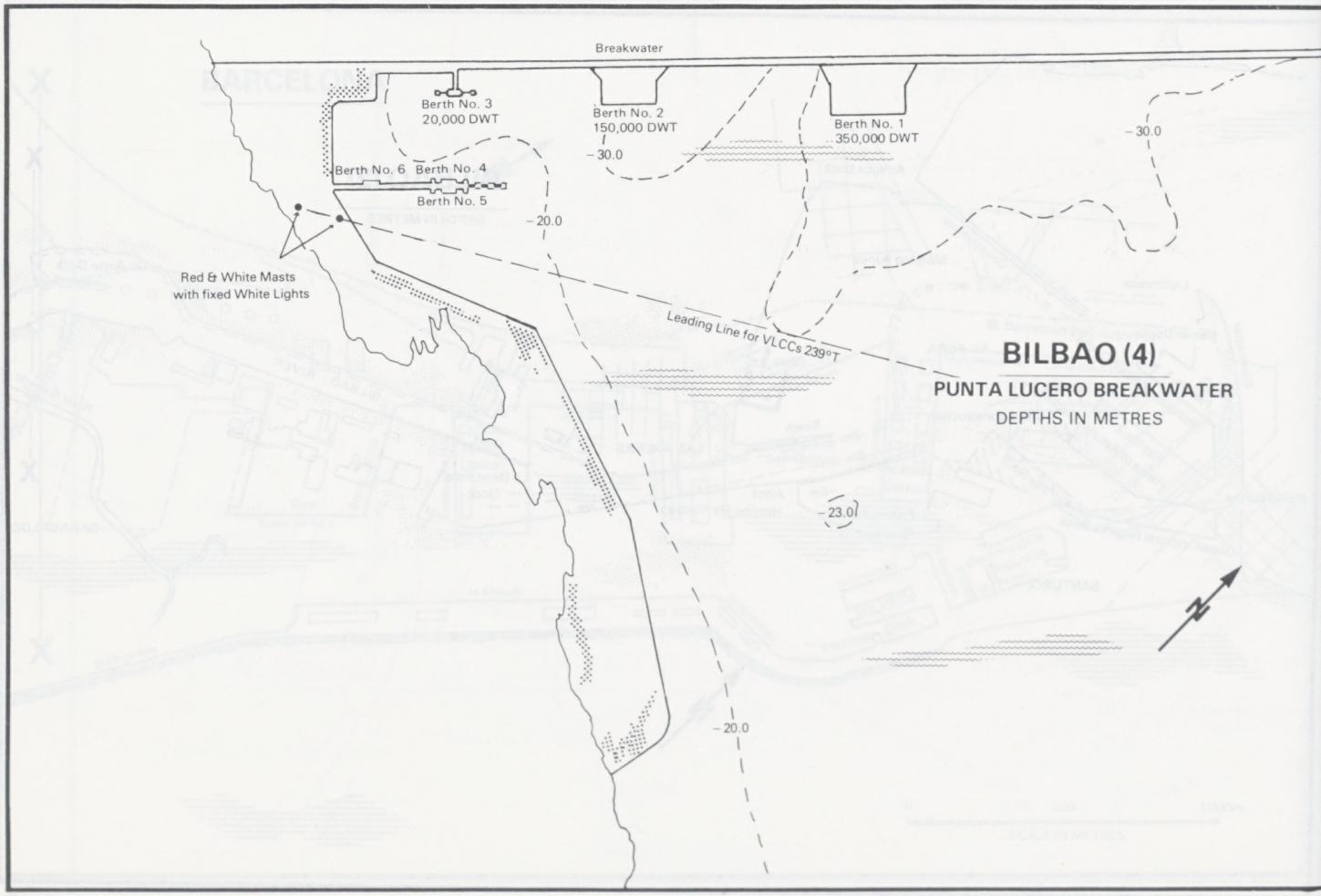

X
Containers
M.Principe de Espana
M.de Lepanto
Extension Zone
Deposito Franco
M.de Inflamables
M.Alvarez de La Campa
Cement
Clinker
Oil Pier
Pantalan para Petroles
Nuevo Contradique
X
BARCELONA
0
500
1000m.
SCALE IN METRES

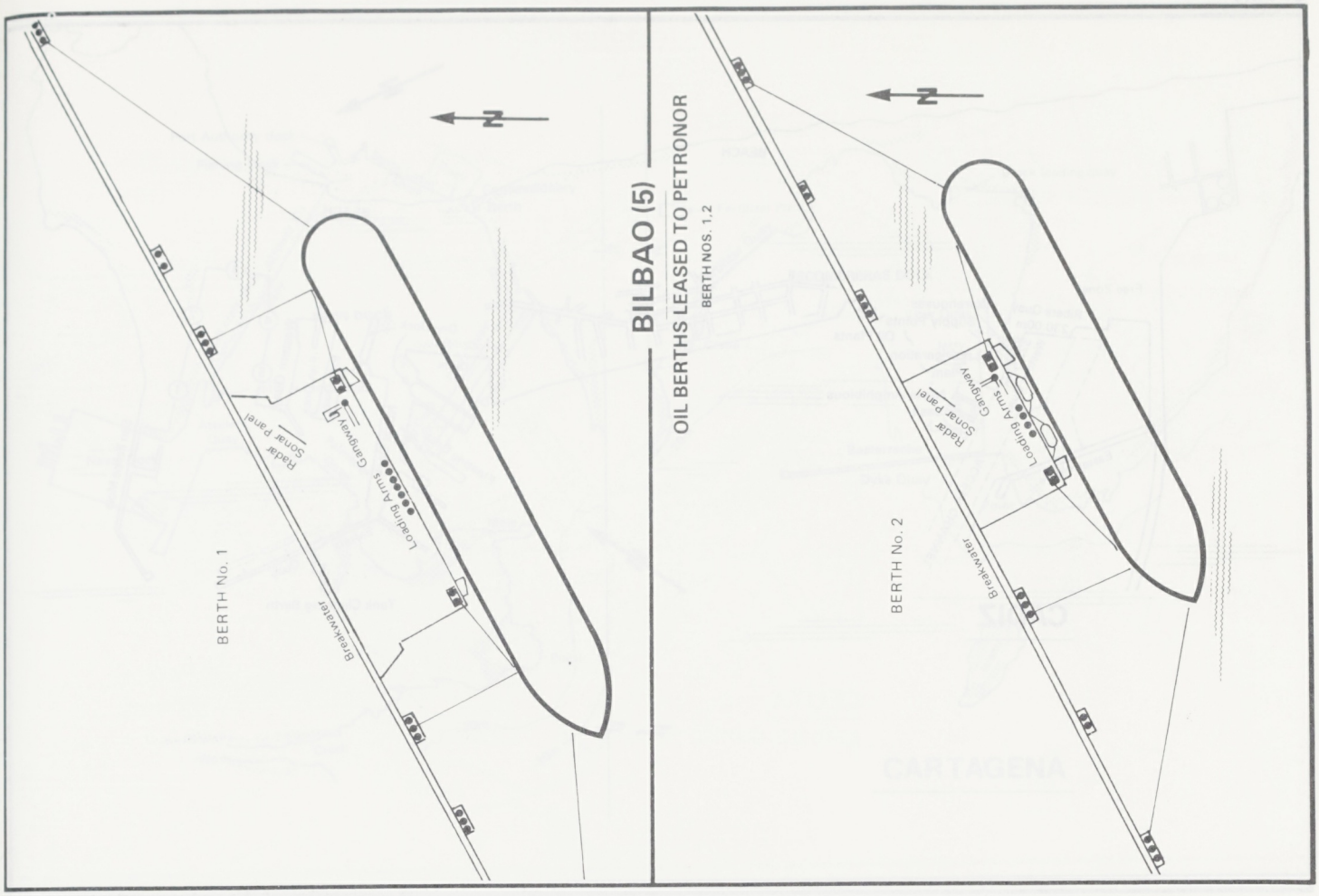

X
BARCELONA
CAMPSA
Barcelona Port Authority
M.de Atarazanas
M.de Bosch y Alsina
Darsena Nacional
M.de Espana
M.de San Beltran
Darsena de
San Beltran
M.de Barcelona
Marine
Station
Darsena del Comercio
M.Pescadores
M.Reloj
M.Barceloneta
Coal
Steel
Cement
Scrap
Clinker
Coal
Steel
Scrap
Coal
Muelle Sur No.1
M.de Contradique
M.de Costa
Darsena del
Morrot
M.de Poniente
M.Occidental
M.Catalana
Darsena de la
Industria
M.Nuevo
Dry Dock
Floating Dock
M.Adosado
M.de Levante
Dique del Este
X
0
500
1000m.
SCALE IN METRES

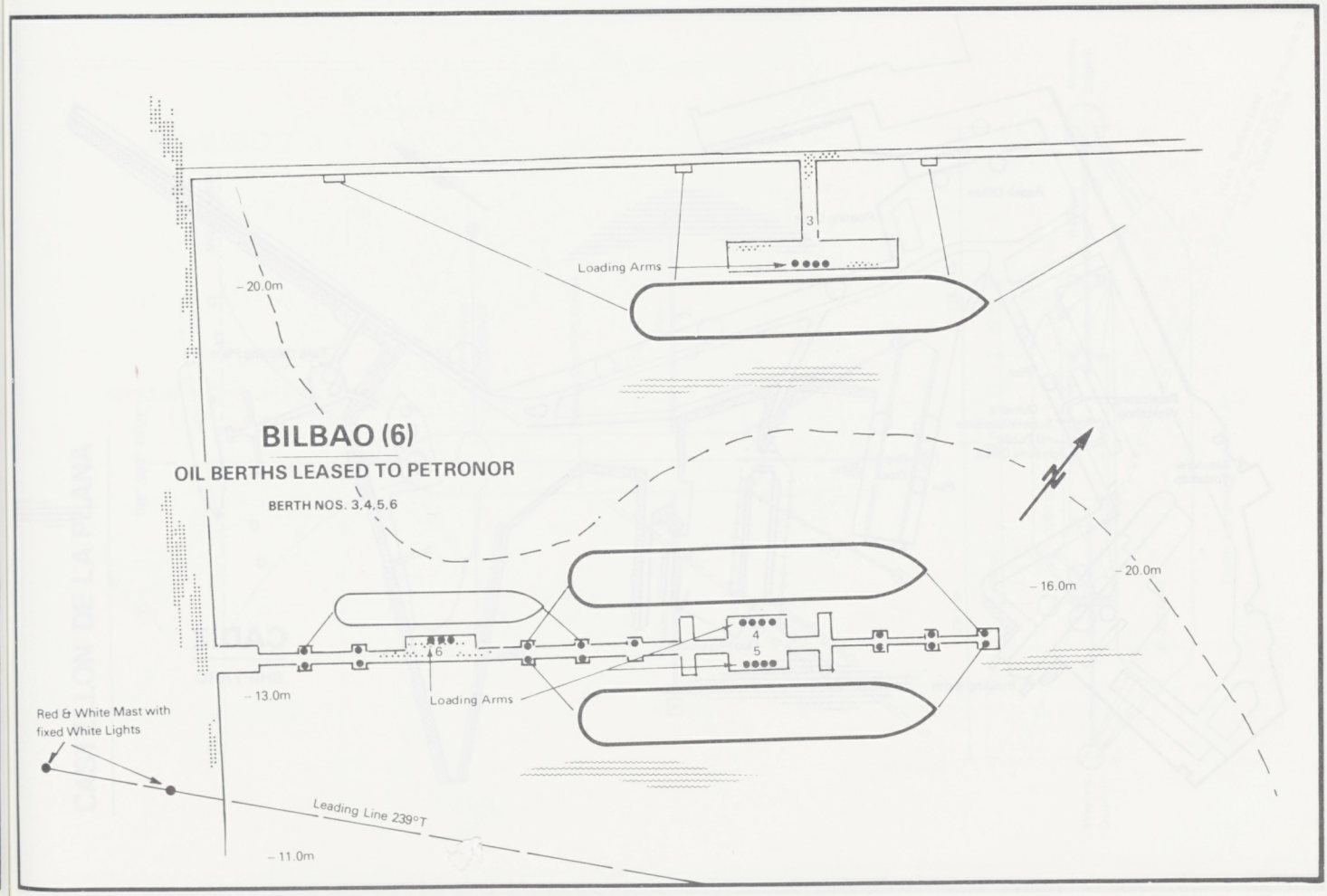

BILBAO (1)
DEPTH IN METRES
Punta Galea Submerged Breakwater
Pt. Galea
GUECHO
ALGORTA
LAS ARENAS
Pier No.1
Pier No.2
Pier No.3
SANTURCE
ANCHORAGE AREA
Leading Line for VLCCs 239°T
Petroleum Products Berths
Refined Petroleum
Products Berth
23m
CIERVANA
Punta Lucero
PETRONOR
Lt.
20
5 Kilometres
3 Miles
SCALE

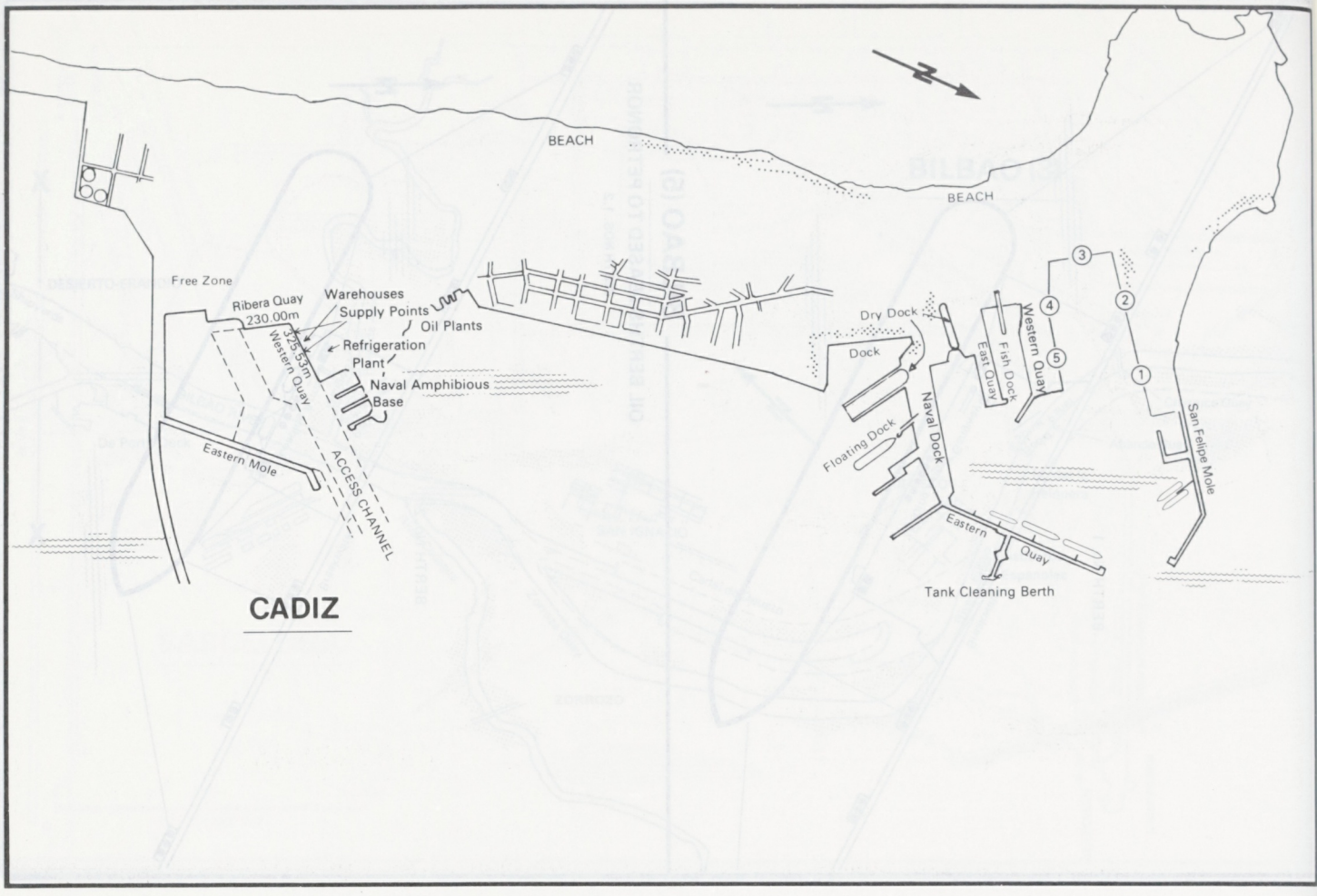

BILBAO (2)
DEPTH IN METRES
Old Port
Arriluce Dock
Countermole
Mooring Buoys
Lighthouse
Nemar Docks
Breakwater
Pier No.1
Princess of Spain Docks
EL ABRA
Pier No.2
Prince of Asturias Docks
Under construction
Pier No.3
Ro/Ro Berths
Queen Victoria Eugenia Dock
SANTURCE
Jetty
Beach
8m
Quay
LAS ARENAS
5m
Altos Hornos De Vizcaya
Fishing Port
La Benedicta Dock
BILBAO RIVER
De Axpe Dock
River Galindo
BARACALDO
X

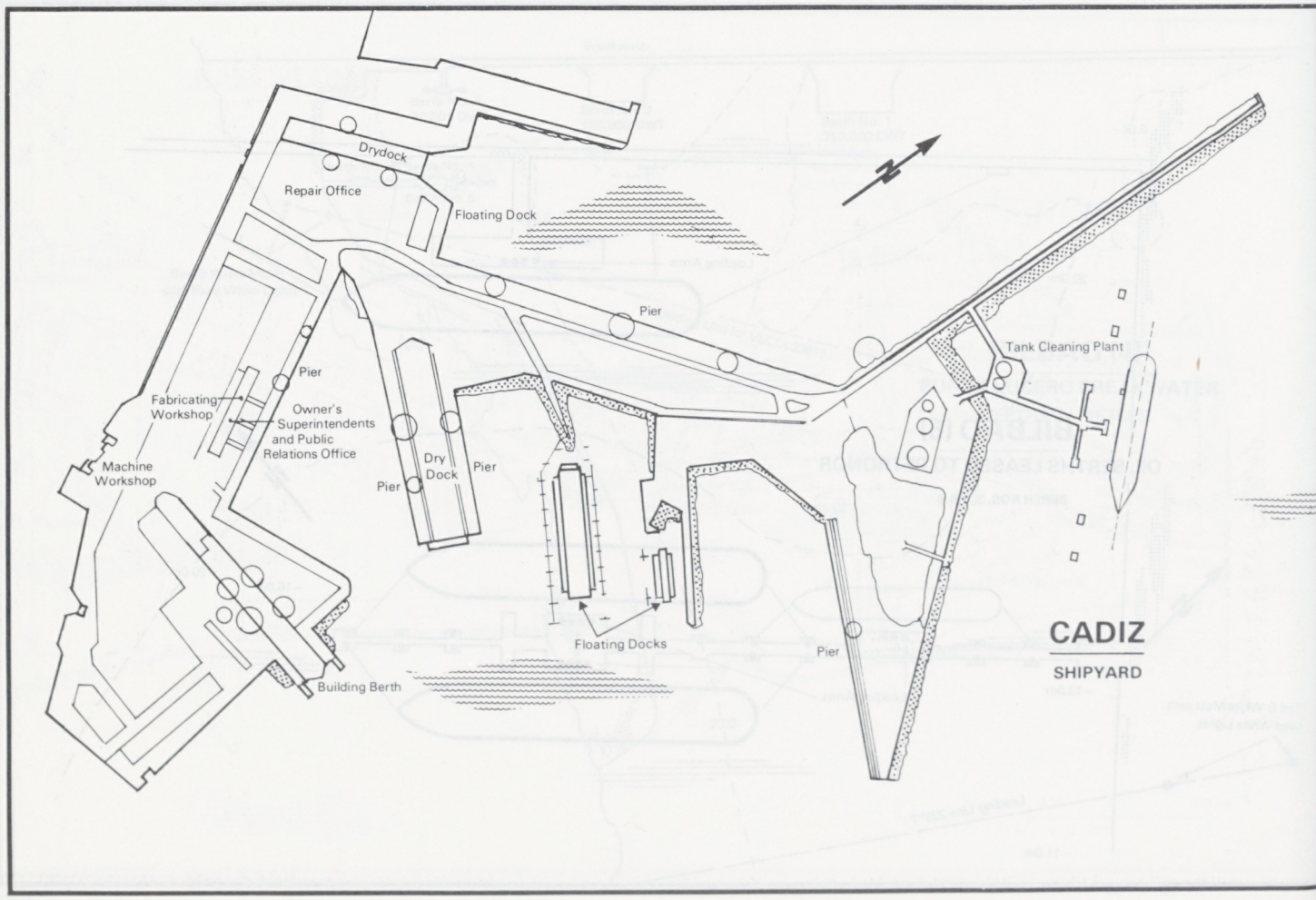

BILBAO (3)
X
X
DESIERTO-ERANDIO
Shipyards
River de Asua
BILBAO RIVER
De Portu Dock
River Cadagua
SAN IGNACIO
Canal de Deusto
Zorroza Quay
ZORROZO
DEUSTO
River Bilbao
Churruca Quay
Abando Quay
M. del la Helquera
Astilleros Espanoles

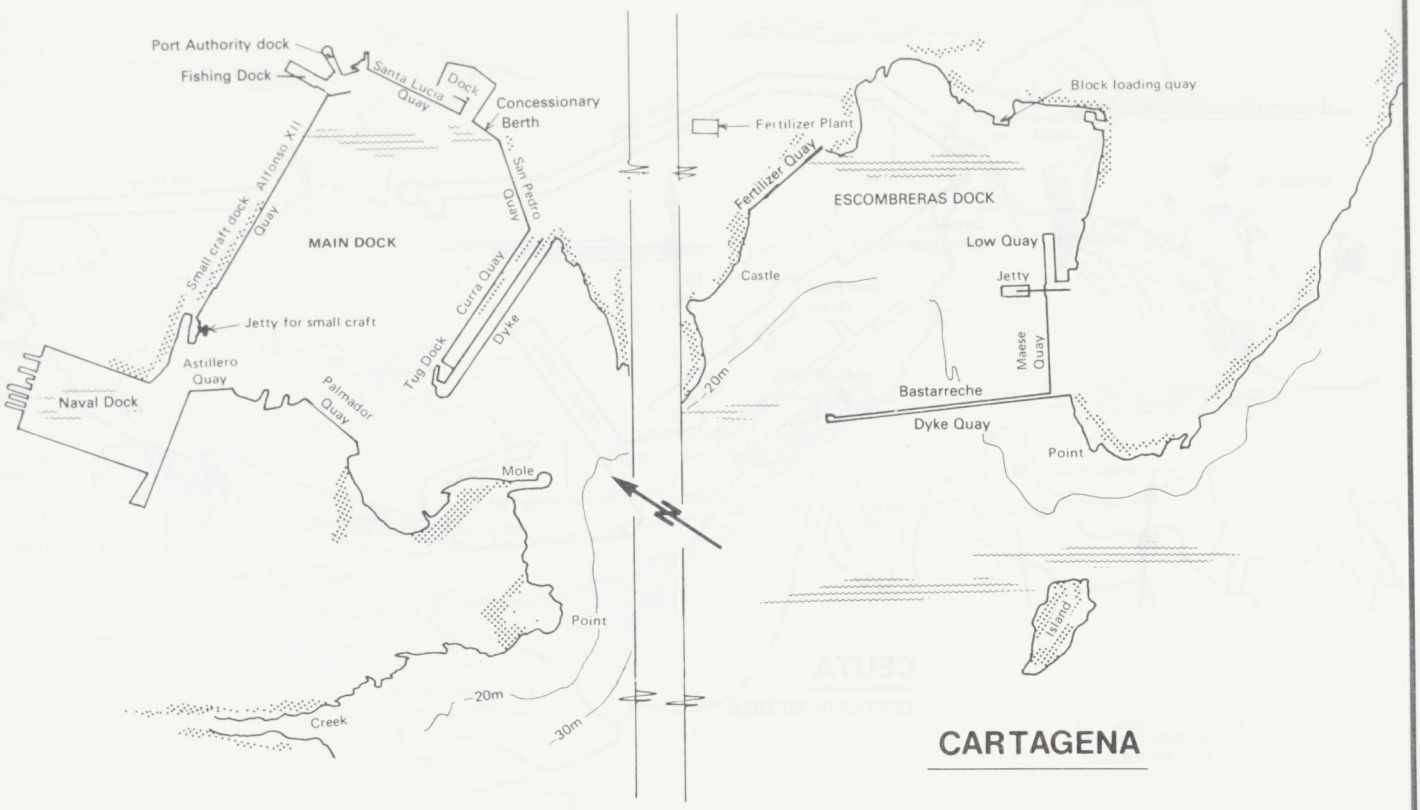

Breakwater
Berth No. 3
20,000 DWT
Berth No. 2
150,000 DWT
Berth No. 1
350,000 DWT
Berth No. 6
Berth No. 4
Berth No. 5
-30.0
-20.0
-30.0
Red & White Masts
with fixed White Lights
Leading Line for VLCCs 239°T
BILBAO (4)
PUNTA LUCERO BREAKWATER
DEPTHS IN METRES
-23.0
-20.0


BILBAO (5)
OIL BERTHS LEASED TO PETRONOR
BERTH NOS. 1,2
N
BERTH No. 1
Breakwater
Radar
Sonar Panel
Gangway
Loading Arms
BERTH No. 2
Breakwater
Radar
Sonar Panel
Gangway
Loading Arms
CARTAGENA

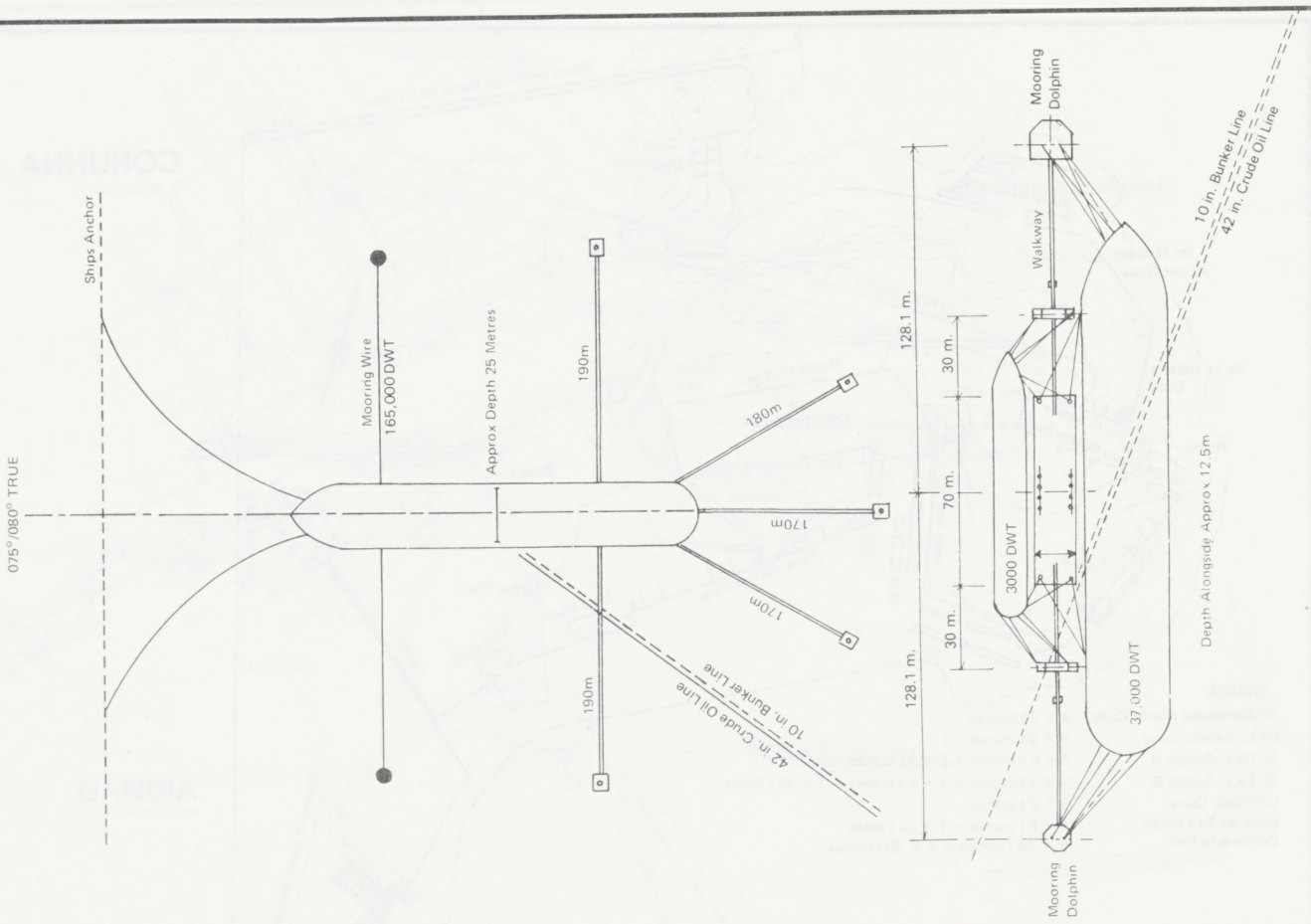

BILBAO (6)
OIL BERTHS LEASED TO PETRONOR
BERTH NOS. 3,4,5,6
N
3
Loading Arms
– 20.0m
4
5
6
– 16.0m
– 20.0m
– 13.0m
Loading Arms
Red & White Mast with
fixed White Lights
Leading Line 239°T
– 11.0m


BEACH
BEACH
Free Zone
Ribera Quay
230.00m
325.53m
Western Quay
Warehouses
Supply Points
Oil Plants
Refrigeration Plant
Naval Amphibious Base
Eastern Mole
ACCESS CHANNEL
CADIZ
Dry Dock
Dock
Fish Dock
East Quay
Western Quay
Floating Dock
Naval Dock
Eastern Quay
Tank Cleaning Berth
San Felipe Mole
1
2
3
4
5

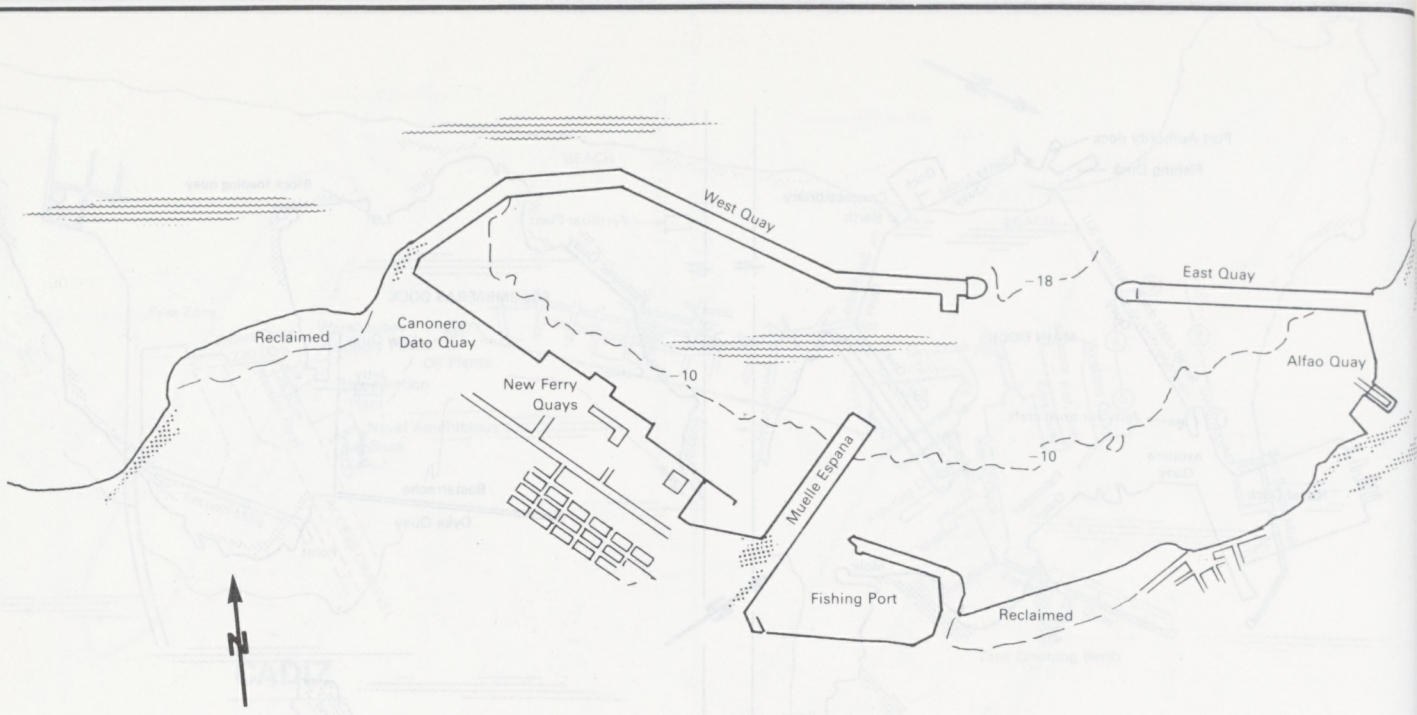

Drydock
Repair Office
Floating Dock
Pier
Pier
Fabricating Workshop
Owner's Superintendents and Public Relations Office
Machine Workshop
Dry Dock
Pier
Pier
Tank Cleaning Plant
Floating Docks
Pier
Building Berth
CADIZ
SHIPYARD



CARTAGENA

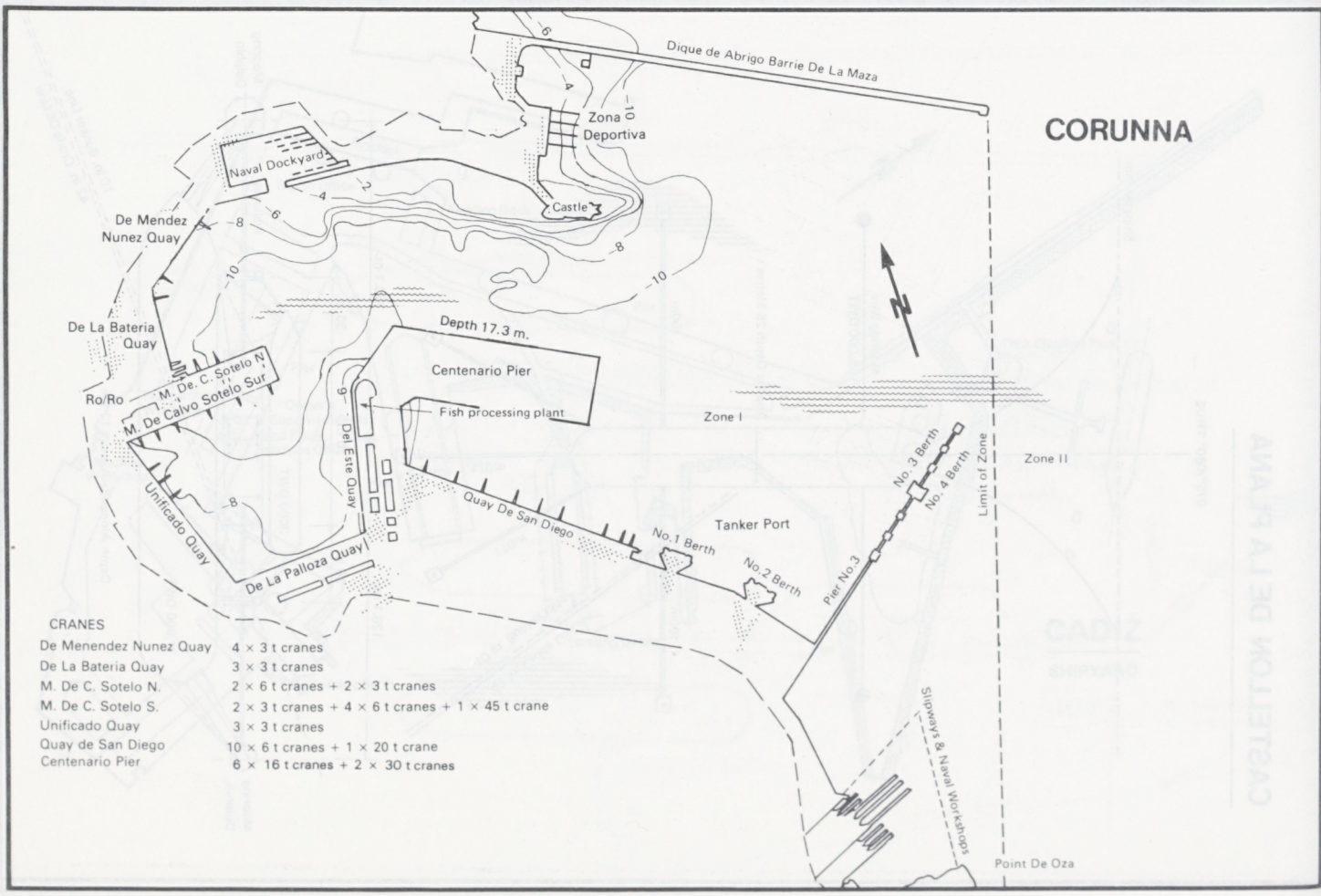


CASTELLON DE LA PLANA



CEUTA

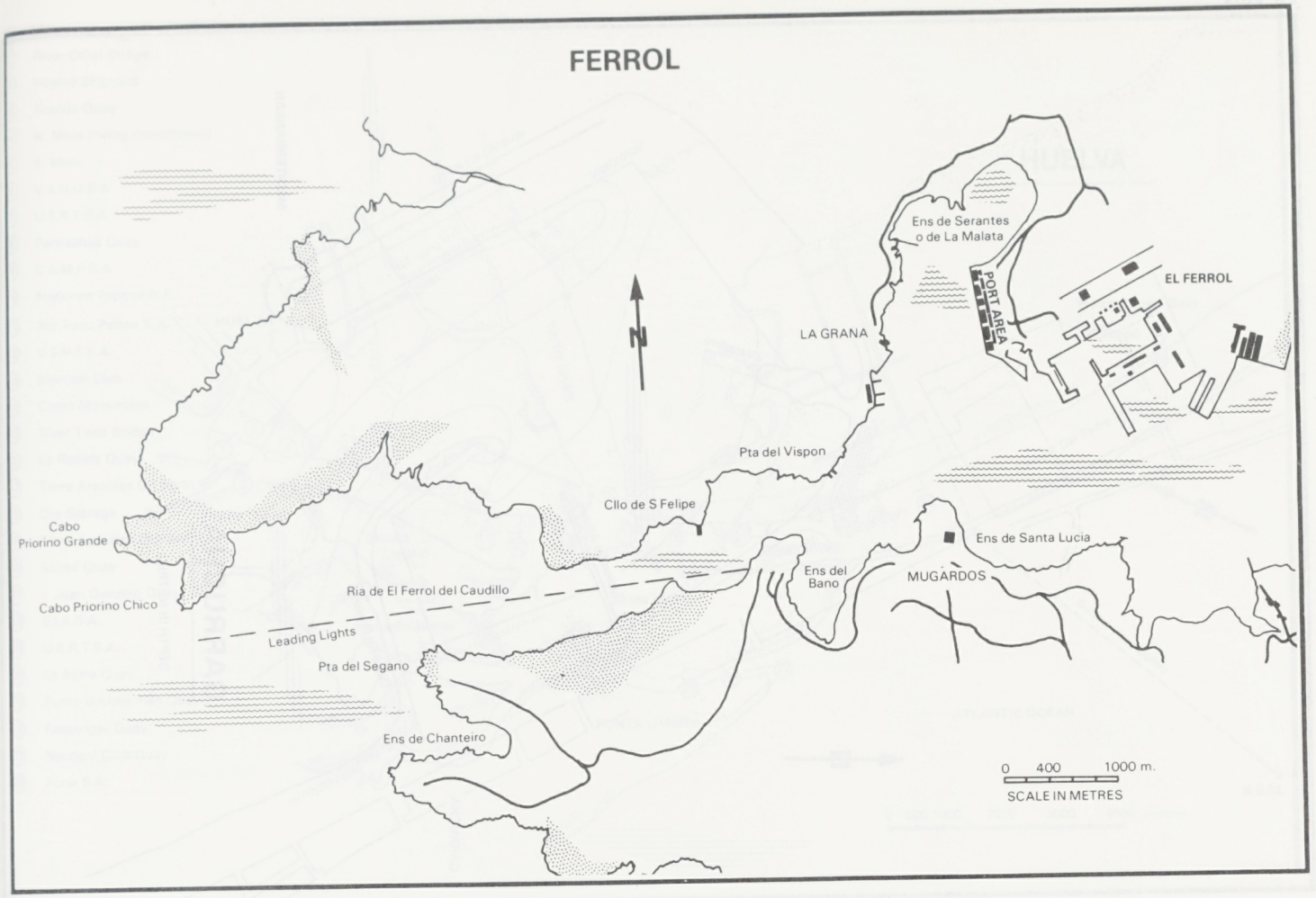
DEPTHS IN METRES

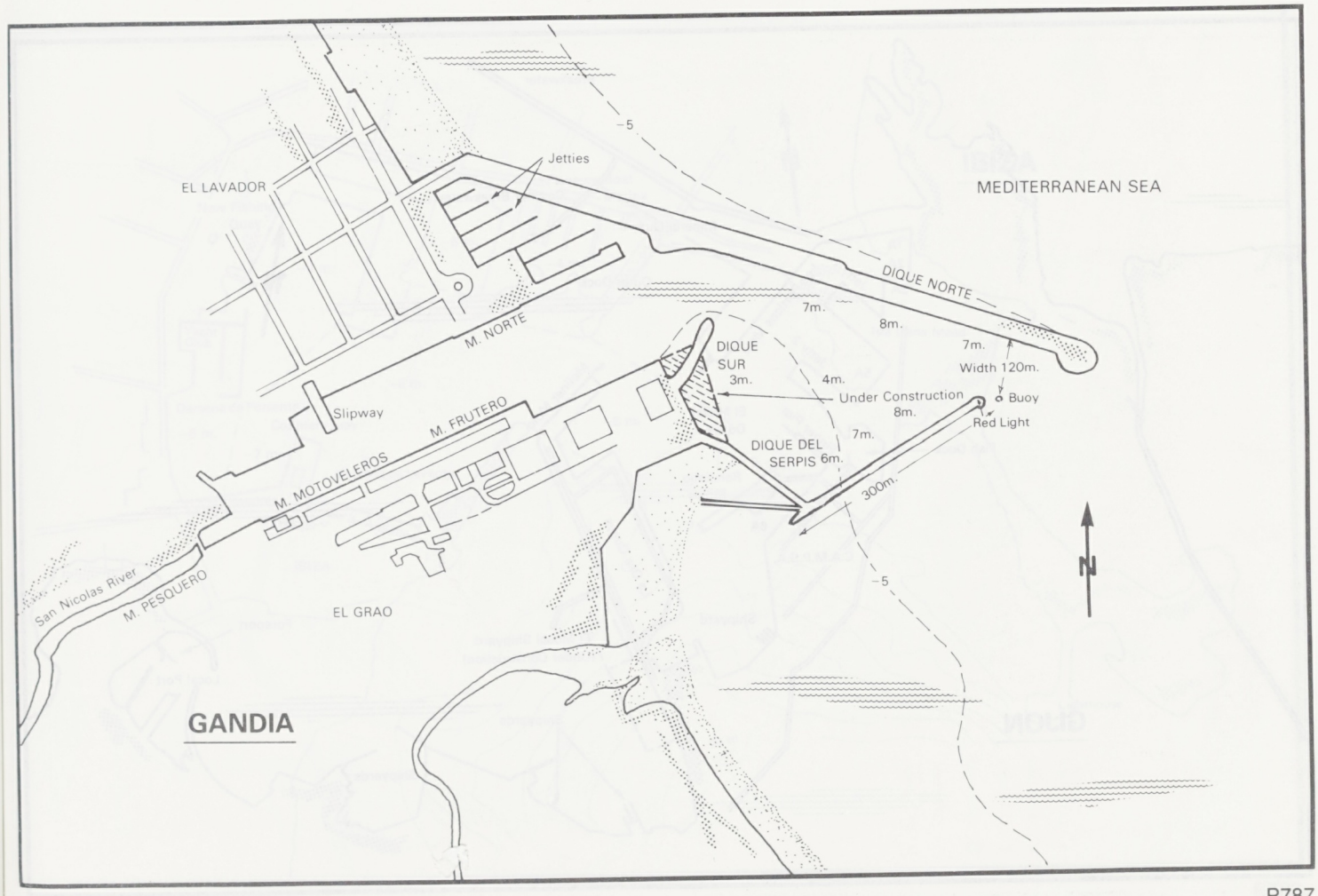


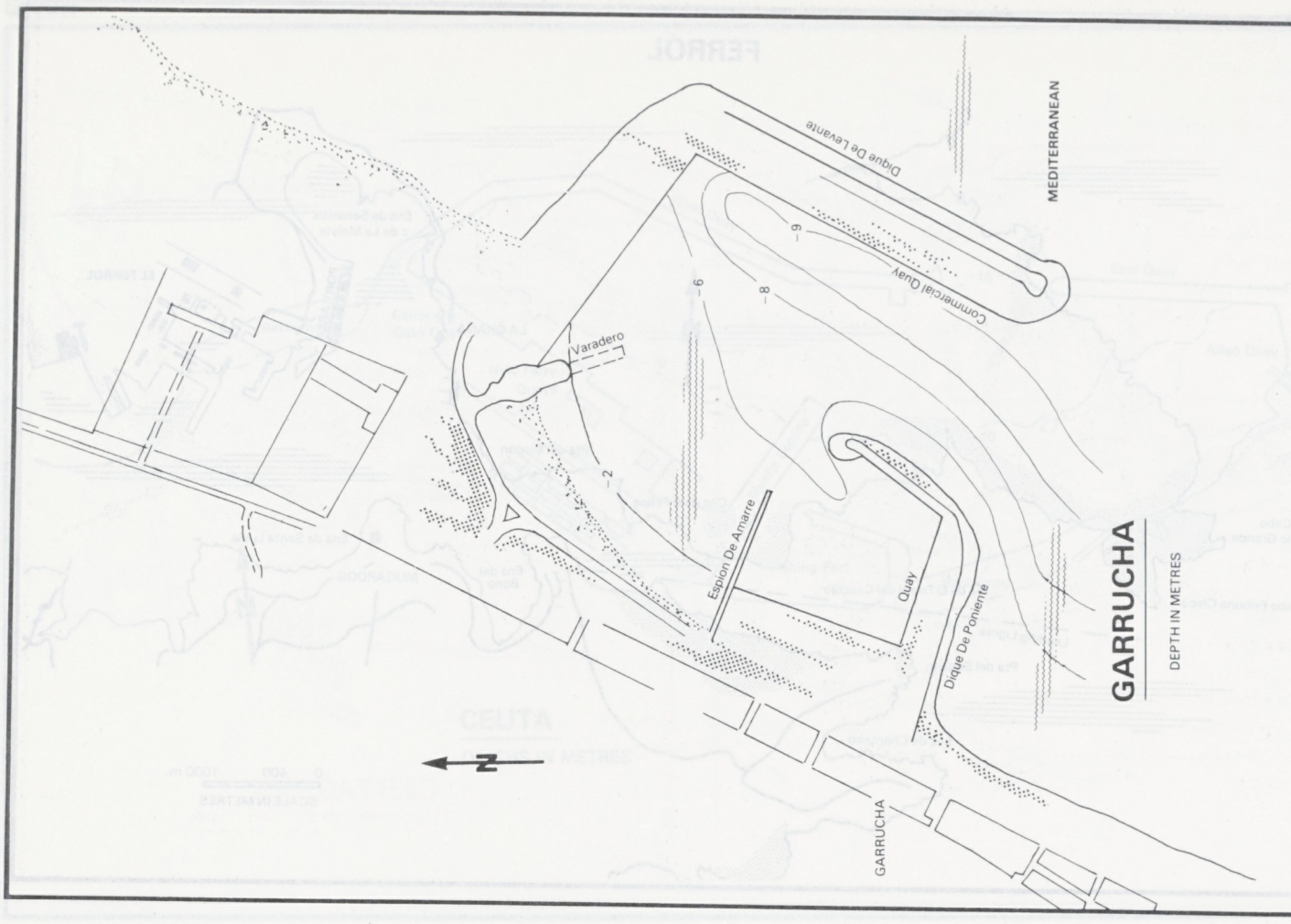
CORUNNA

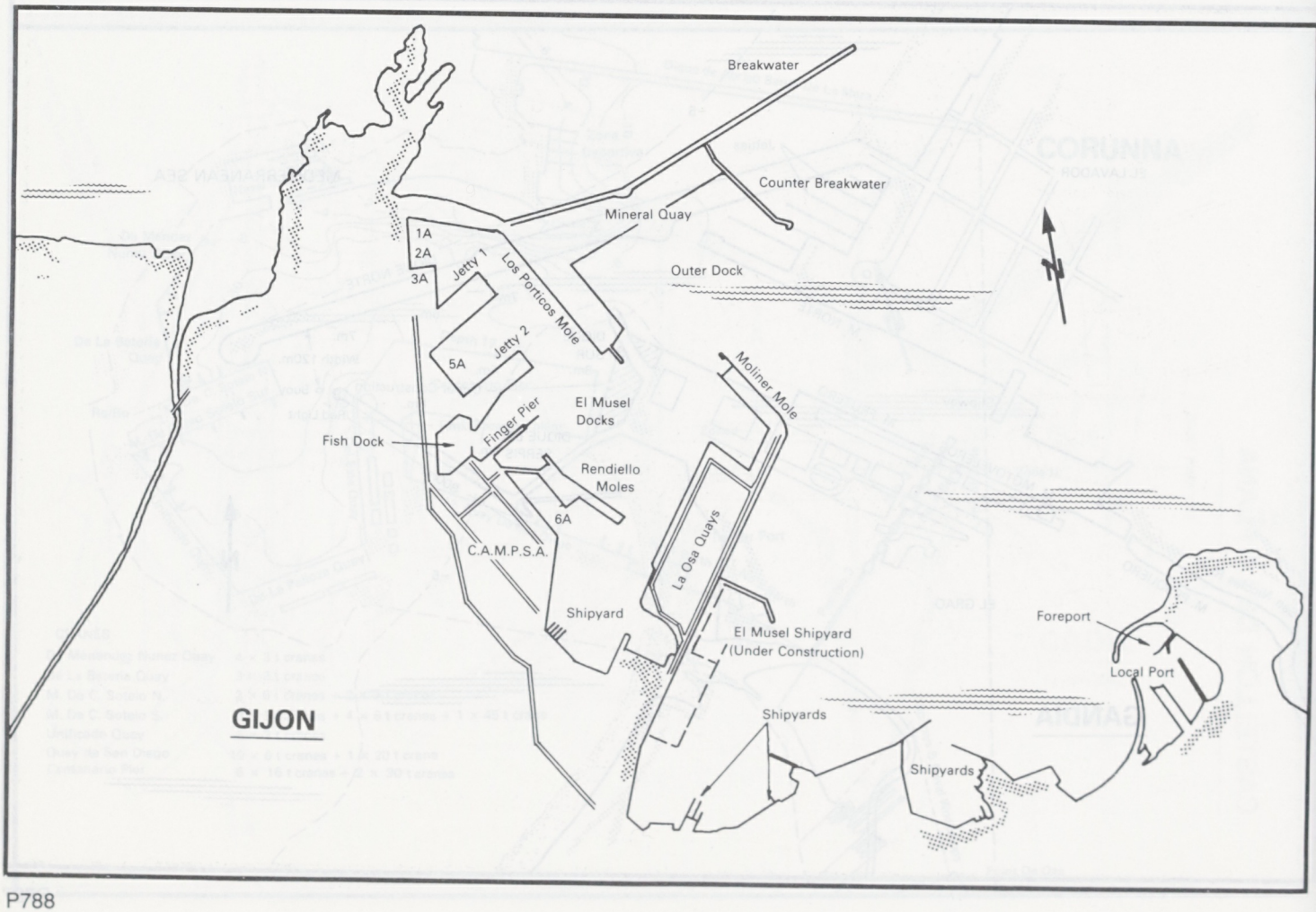
CRANES

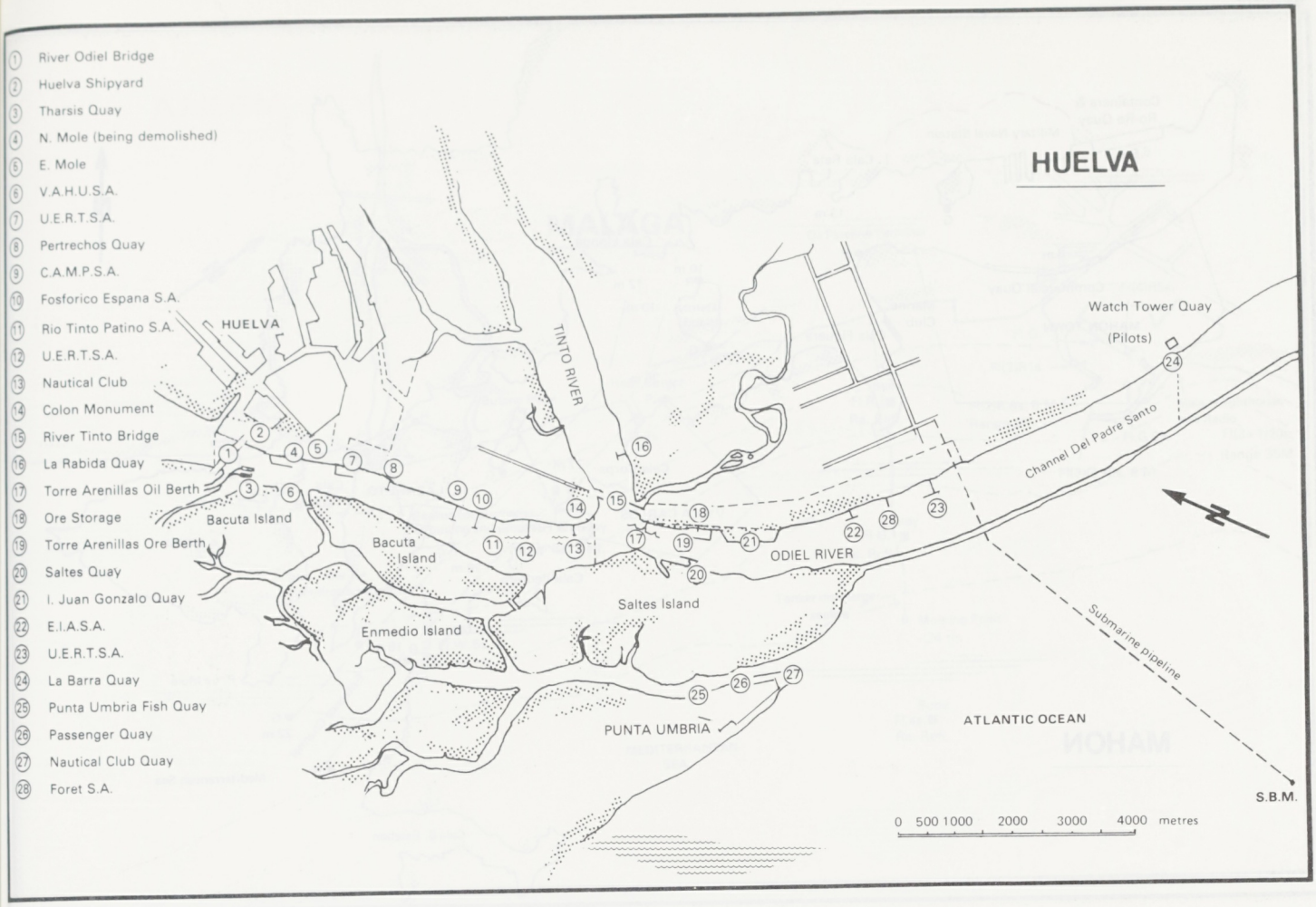
De Menendez Nunez Quay	4 × 3 t cranes
De La Bateria Quay	3 × 3 t cranes
M. De C. Sotelo N.	2 × 6 t cranes + 2 × 3 t cranes
M. De C. Sotelo S.	2 × 3 t cranes + 4 × 6 t cranes + 1 × 45 t crane
Unificado Quay	3 × 3 t cranes
Quay de San Diego	10 × 6 t cranes + 1 × 20 t crane
Centenario Pier	6 × 16 t cranes + 2 × 30 t cranes

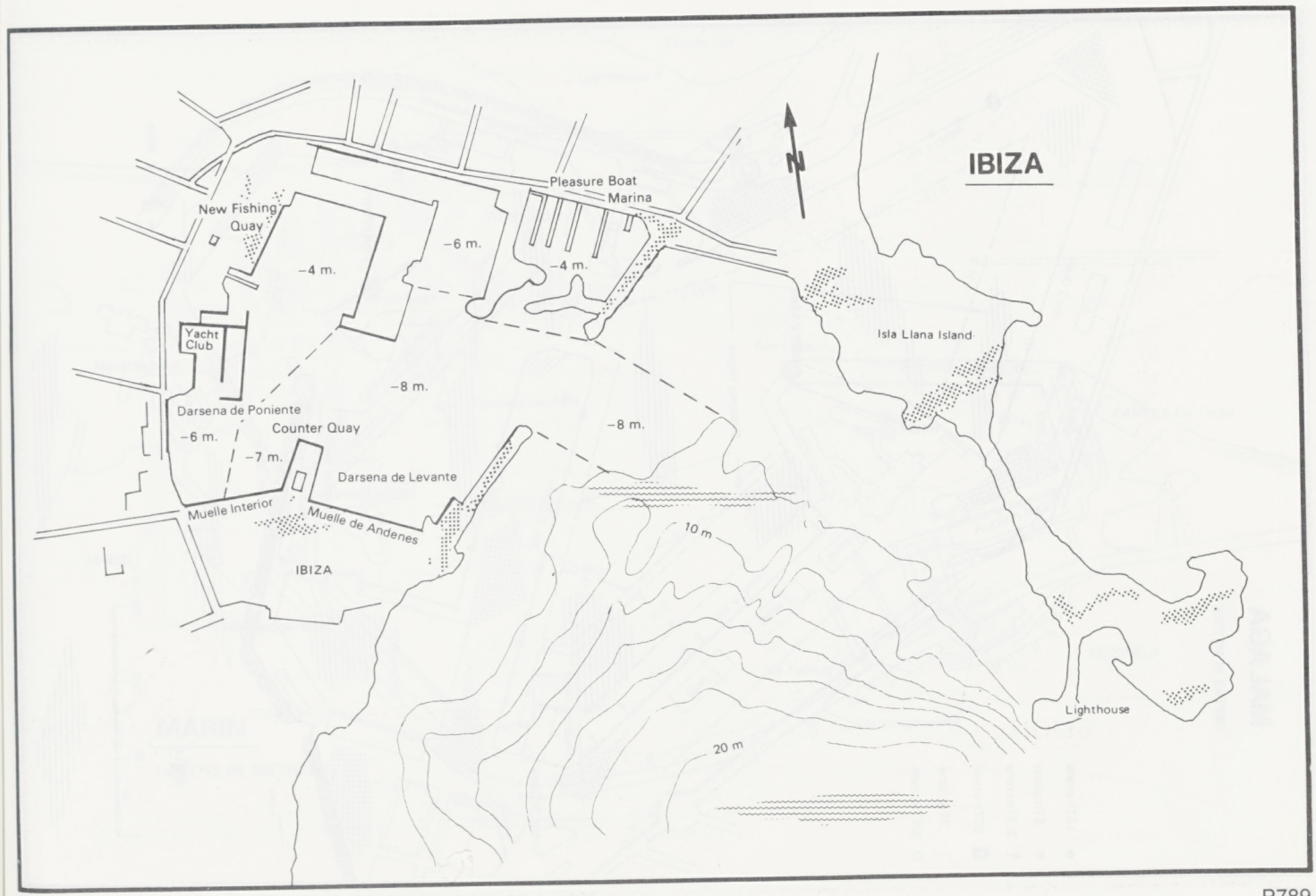

FERROL
Ens de Serantes o de La Malata
PORT AREA
EL FERROL
LA GRANA
N
Pta del Vispon
Cllo de S Felipe
Cabo Priorino Grande
Ens de Santa Lucia
Ens del Bano
MUGARDOS
Ria de El Ferrol del Caudillo
Cabo Priorino Chico
Leading Lights
Pta del Segano
Ens de Chanteiro
0 400 1000 m.
SCALE IN METRES

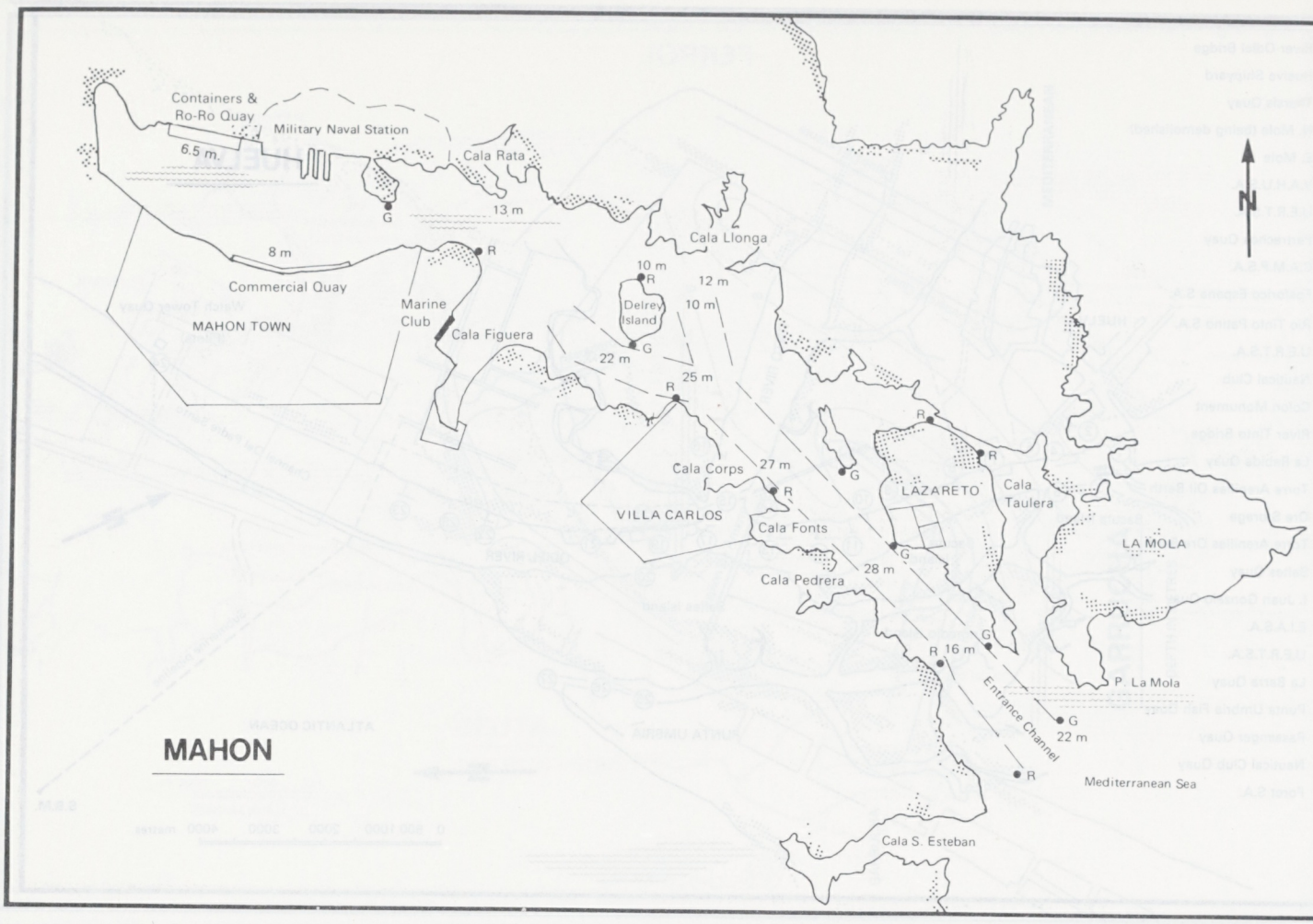

-5
Jetties
EL LAVADOR
MEDITERRANEAN SEA
DIQUE NORTE
7m.
8m.
7m.
Width 120m.
M. NORTE
DIQUE SUR
3m.
4m.
Under Construction
8m.
Buoy
Red Light
Slipway
M. FRUTERO
7m.
DIQUE DEL SERPIS 6m.
M. MOTOVELEROS
300m.
N
San Nicolas River
M. PESQUERO
-5
EL GRAO
GANDIA

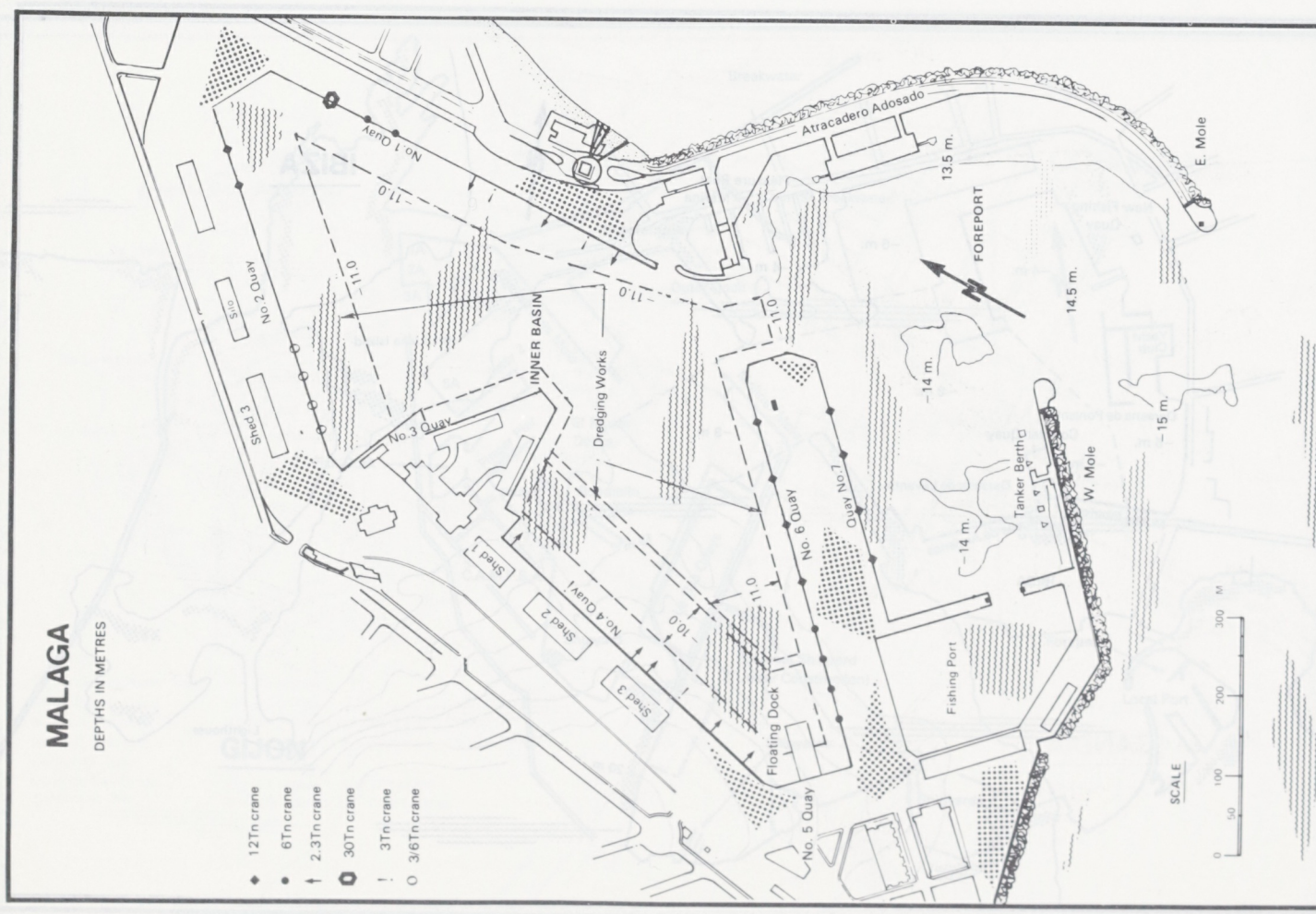

MEDITERRANEAN
Dique De Levante
Commercial Quay
Varadero
Espigon De Amarre
Quay
Dique De Poniente
GARRUCHA
DEPTH IN METRES
GARRUCHA

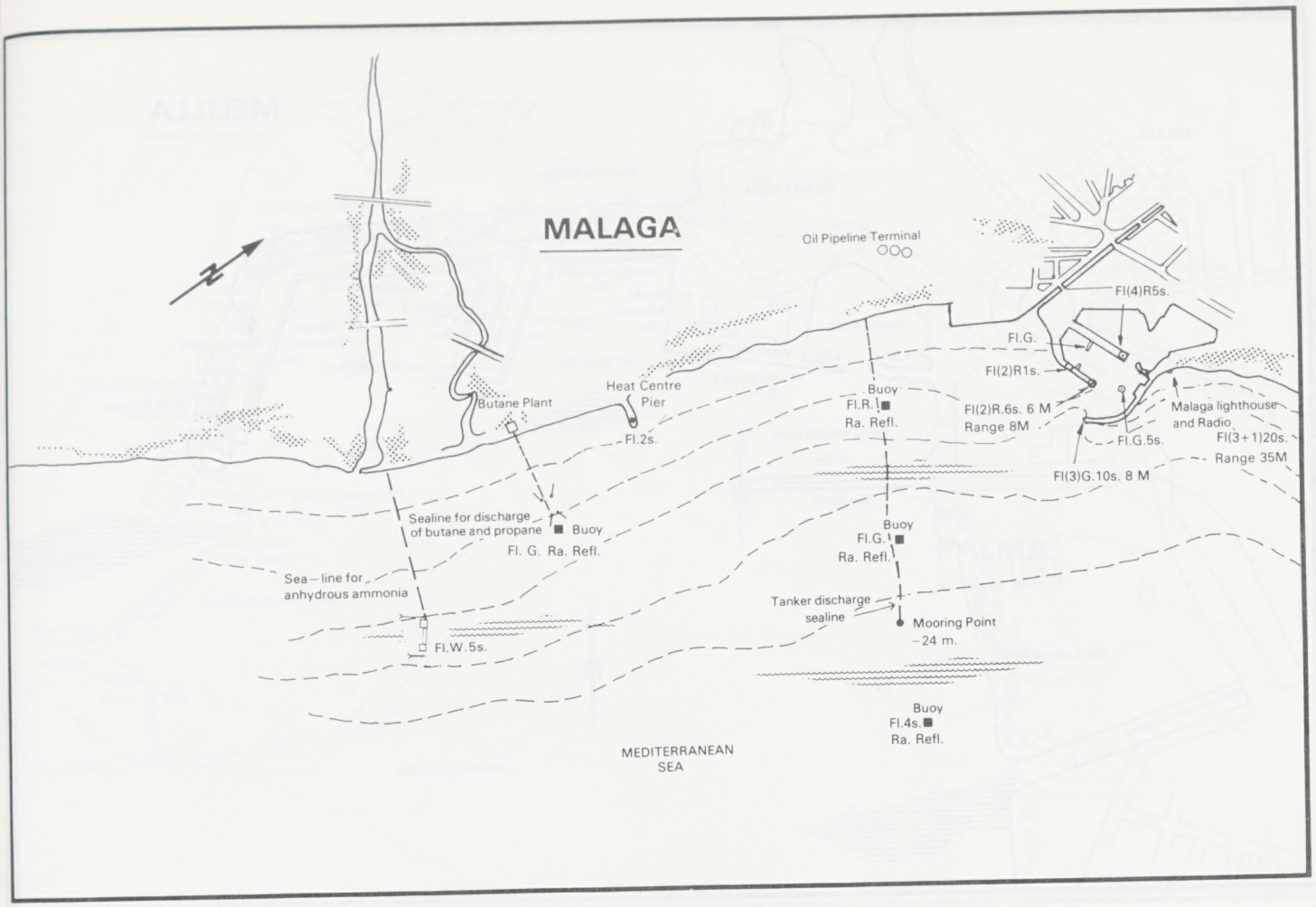

Breakwater
Counter Breakwater
Mineral Quay
Outer Dock
1A
2A
3A
Jetty 1
Los Porticos Mole
5A
Jetty 2
Finger Pier
Fish Dock
El Musel Docks
Rendiello Moles
6A
C.A.M.P.S.A.
Shipyard
Molinar Mole
La Osa Quays
El Musel Shipyard (Under Construction)
Foreport
Local Port
Shipyards
Shipyards
GIJON

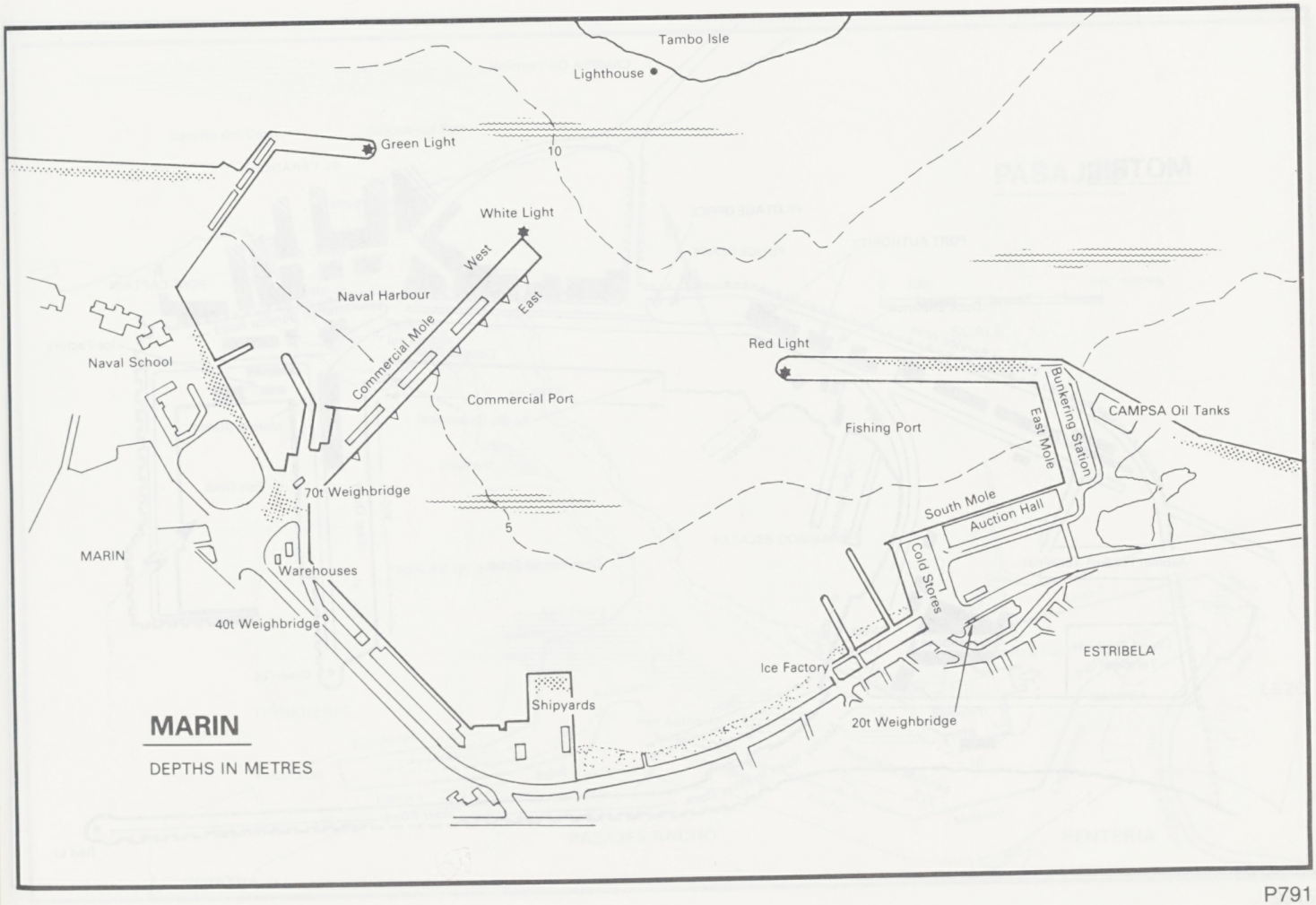

1 River Odiel Bridge
2 Huelva Shipyard
3 Tharsis Quay
4 N. Mole (being demolished)
5 E. Mole
6 V.A.H.U.S.A.
7 U.E.R.T.S.A.
8 Pertrechos Quay
9 C.A.M.P.S.A.
10 Fosforico Espana S.A.
11 Rio Tinto Patino S.A.
12 U.E.R.T.S.A.
13 Nautical Club
14 Colon Monument
15 River Tinto Bridge
16 La Rabida Quay
17 Torre Arenillas Oil Berth
18 Ore Storage
19 Torre Arenillas Ore Berth
20 Saltes Quay
21 I. Juan Gonzalo Quay
22 E.I.A.S.A.
23 U.E.R.T.S.A.
24 La Barra Quay
25 Punta Umbria Fish Quay
26 Passenger Quay
27 Nautical Club Quay
28 Foret S.A.
HUELVA
TINTO RIVER
Watch Tower Quay
(Pilots)
Channel Del Padre Santo
Bacuta Island
Bacuta Island
ODIEL RIVER
Saltes Island
Enmedio Island
Submarine pipeline
PUNTA UMBRIA
ATLANTIC OCEAN
S.B.M.
0 500 1000 2000 3000 4000 metres

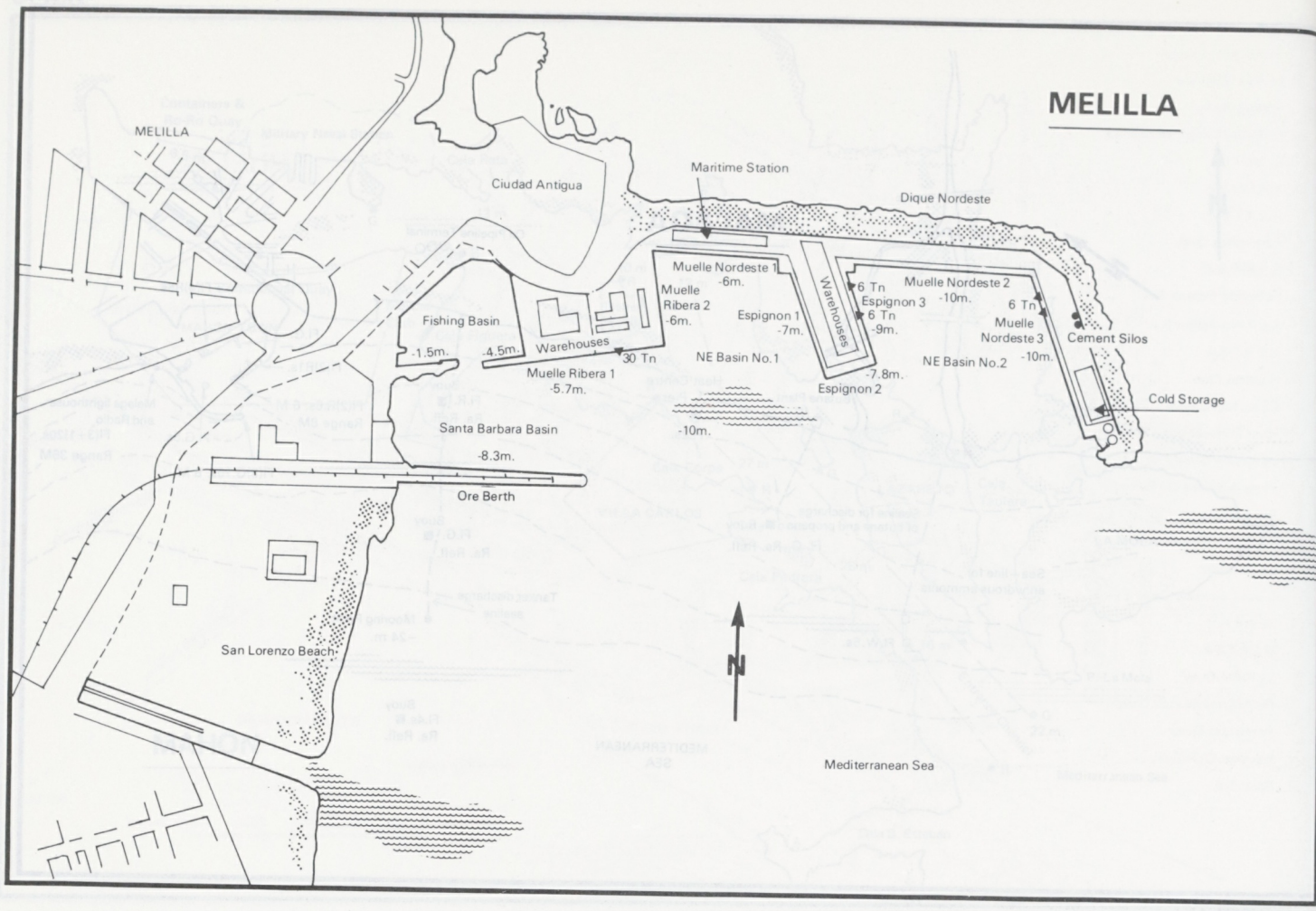

IBIZA
Pleasure Boat Marina
New Fishing Quay
-4 m.
-6 m.
-4 m.
Yacht Club
Isla Llana Island
-8 m.
Darsena de Poniente
-6 m.
Counter Quay
-7 m.
-8 m.
Darsena de Levante
Muelle Interior
Muelle de Andenes
IBIZA
10 m
20 m
Lighthouse

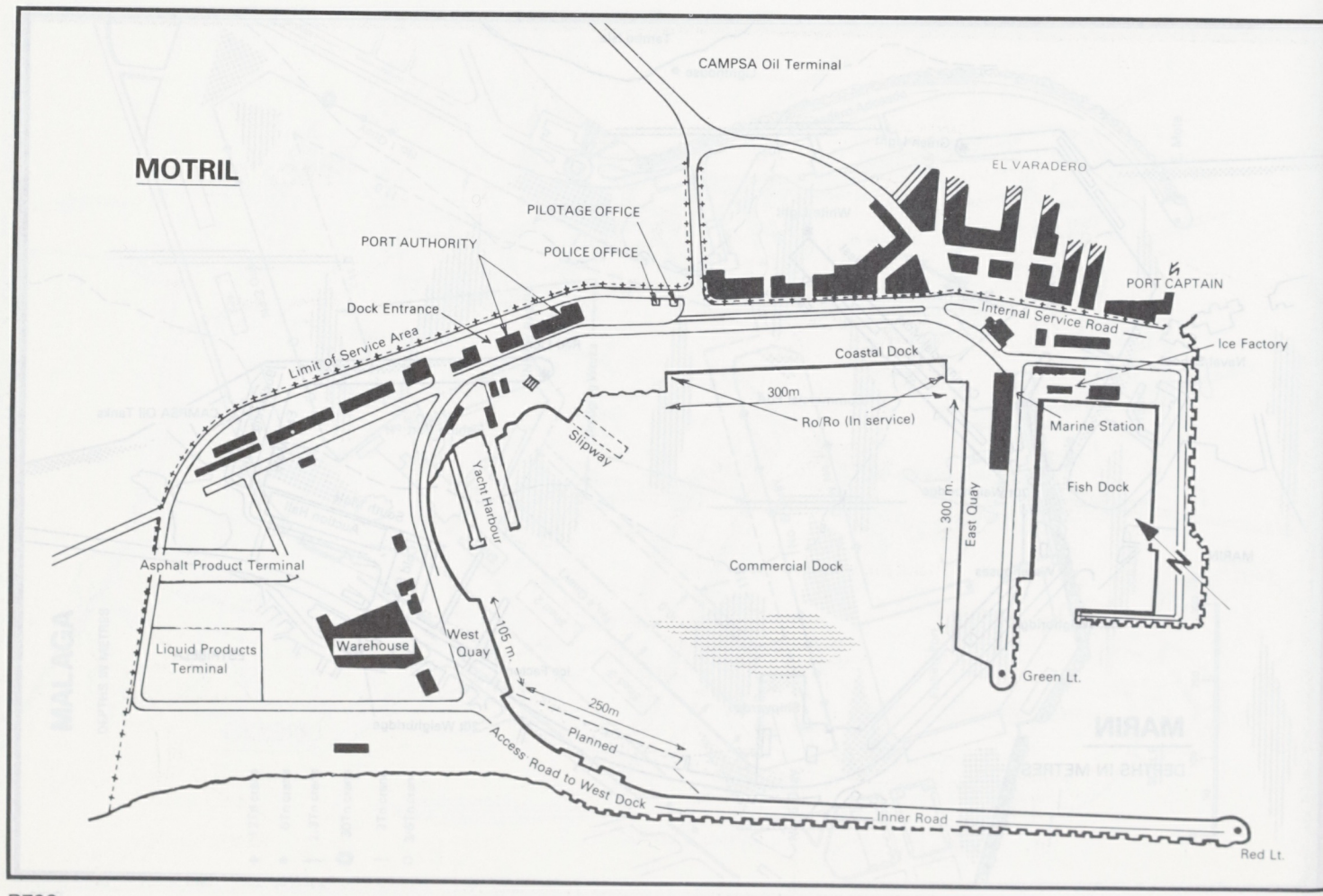

Containers &
Ro-Ro Quay
Military Naval Station
6.5 m.
Cala Rata
G
13 m
8 m
R
Commercial Quay
MAHON TOWN
Marine
Club
Cala Figuera
Cala Llonga
10 m
R
12 m
Delrey
Island
10 m
G
22 m
25 m
R
Cala Corps
27 m
G
R
VILLA CARLOS
Cala Fonts
G
28 m
Cala Pedrera
R
R
R
LAZARETO
Cala
Taulera
LA MOLA
G
R 16 m
P. La Mola
Entrance Channel
G
22 m
R
Mediterranean Sea
Cala S. Esteban
N
MAHON

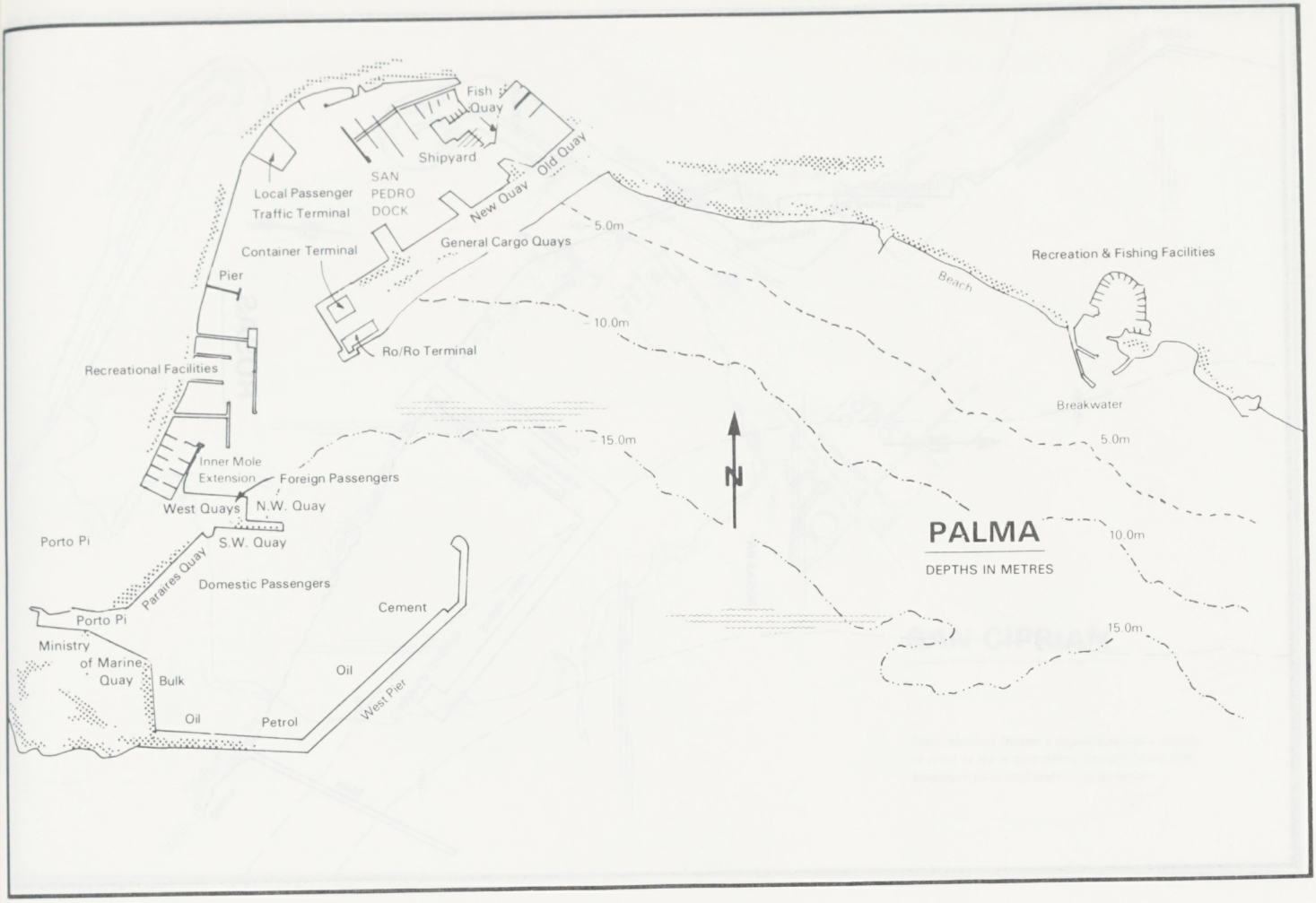

MALAGA
DEPTHS IN METRES
Atracadero Adosado
E. Mole
13.5 m.
FOREPORT
14.5 m.
No. 1 Quay
11.0
No. 2 Quay
Silo
Shed 3
INNER BASIN
Dredging Works
No. 3 Quay
No. 6 Quay
Quay No. 7
Tanker Berth
W. Mole
-14 m.
-15 m.
-14 m.
Shed 1
Shed 2
Shed 3
No. 4 Quay
10.0
Floating Dock
Fishing Port
No. 5 Quay
12Tn crane
6Tn crane
2.3Tn crane
30Tn crane
3Tn crane
3/6Tn crane
SCALE
0
50
100
200
300
M

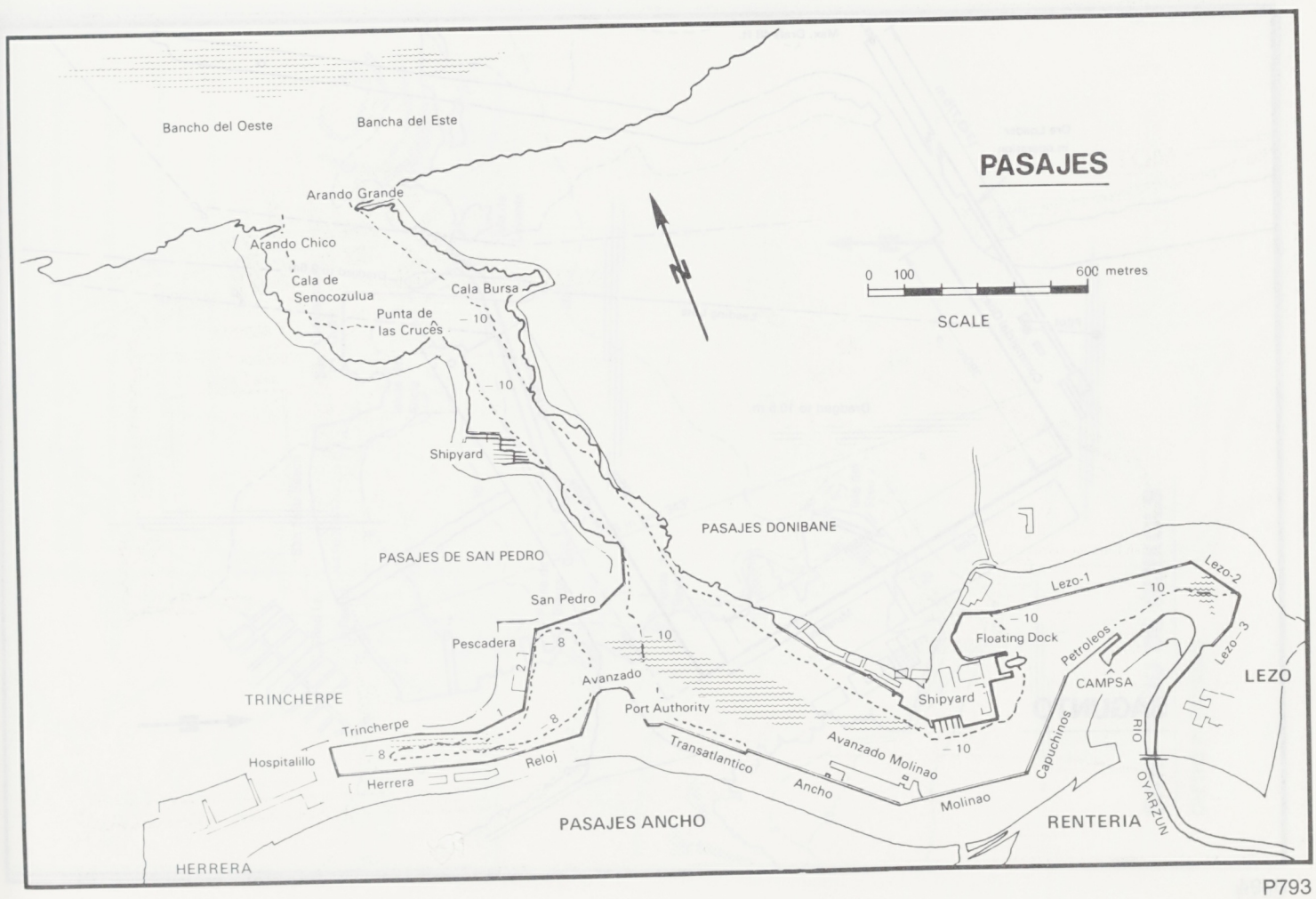

MALAGA
Oil Pipeline Terminal
Fl(4)R5s.
Fl.G.
Fl(2)R1s.
Heat Centre
Pier
Butane Plant
Fl.2s.
Buoy
Fl.R.
Ra. Refl.
Fl(2)R.6s. 6 M
Range 8M
Malaga lighthouse
and Radio
Fl.G.5s.
Fl(3+1)20s.
Range 35M
Fl(3)G.10s. 8 M
Sealine for discharge
of butane and propane
Buoy
Fl. G. Ra. Refl.
Buoy
Fl.G.
Ra. Refl.
Sea—line for
anhydrous ammonia
Tanker discharge
sealine
Mooring Point
—24 m.
Fl.W.5s.
Buoy
Fl.4s.
Ra. Refl.
MEDITERRANEAN
SEA

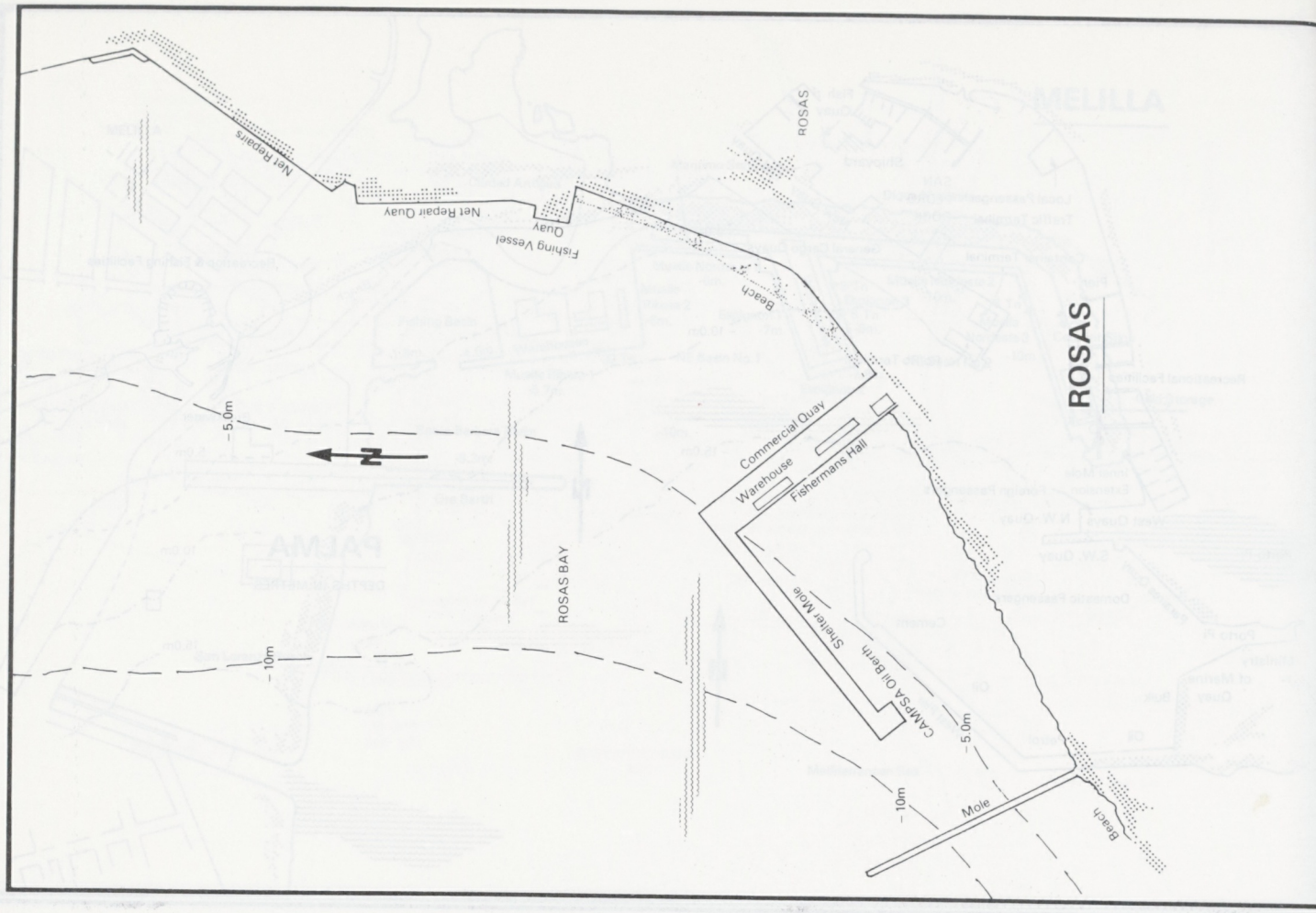

Tambo Isle
Lighthouse
Green Light
10
White Light
West
East
Naval Harbour
Commercial Mole
Naval School
Red Light
Commercial Port
Fishing Port
East Mole
Bunkering Station
CAMPSA Oil Tanks
South Mole
Auction Hall
70t Weighbridge
5
MARIN
Warehouses
Cold Stores
40t Weighbridge
ESTRIBELA
Ice Factory
Shipyards
20t Weighbridge
MARIN
DEPTHS IN METRES

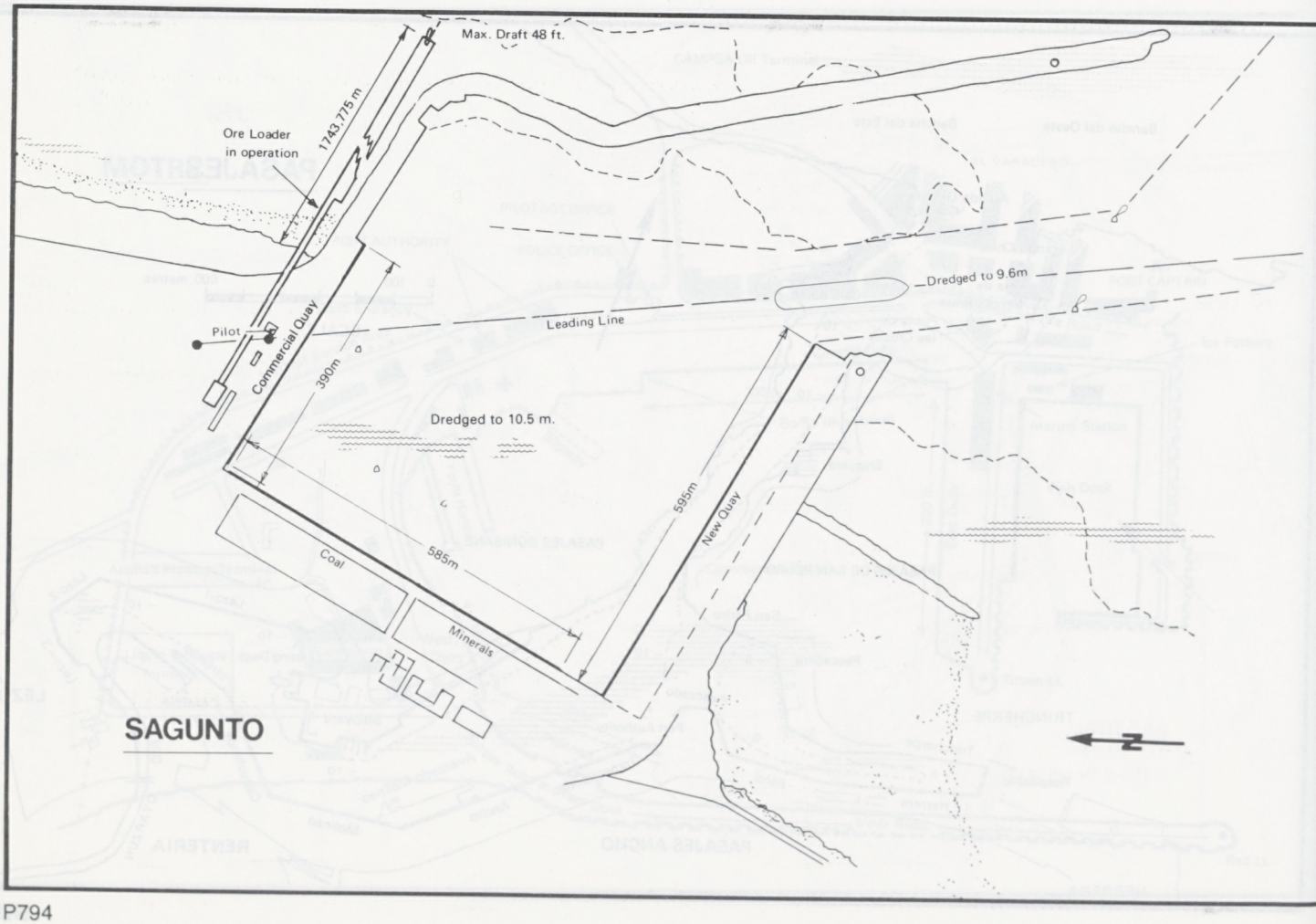

MELILLA
MELILLA
Ciudad Antigua
Maritime Station
Dique Nordeste
Muelle Nordeste 1
-6m.
Muelle
Ribera 2
-6m.
Fishing Basin
-1.5m.
-4.5m.
Warehouses
30 Tn
Muelle Ribera 1
-5.7m.
NE Basin No.1
Warehouses
6 Tn
Espignon 3
6 Tn
-9m.
Muelle Nordeste 2
-10m.
6 Tn
Muelle
Nordeste 3
-10m.
Cement Silos
Espignon 1
-7m.
-7.8m.
Espignon 2
NE Basin No.2
Cold Storage
Santa Barbara Basin
-8.3m.
-10m.
Ore Berth
San Lorenzo Beach
N
Mediterranean Sea

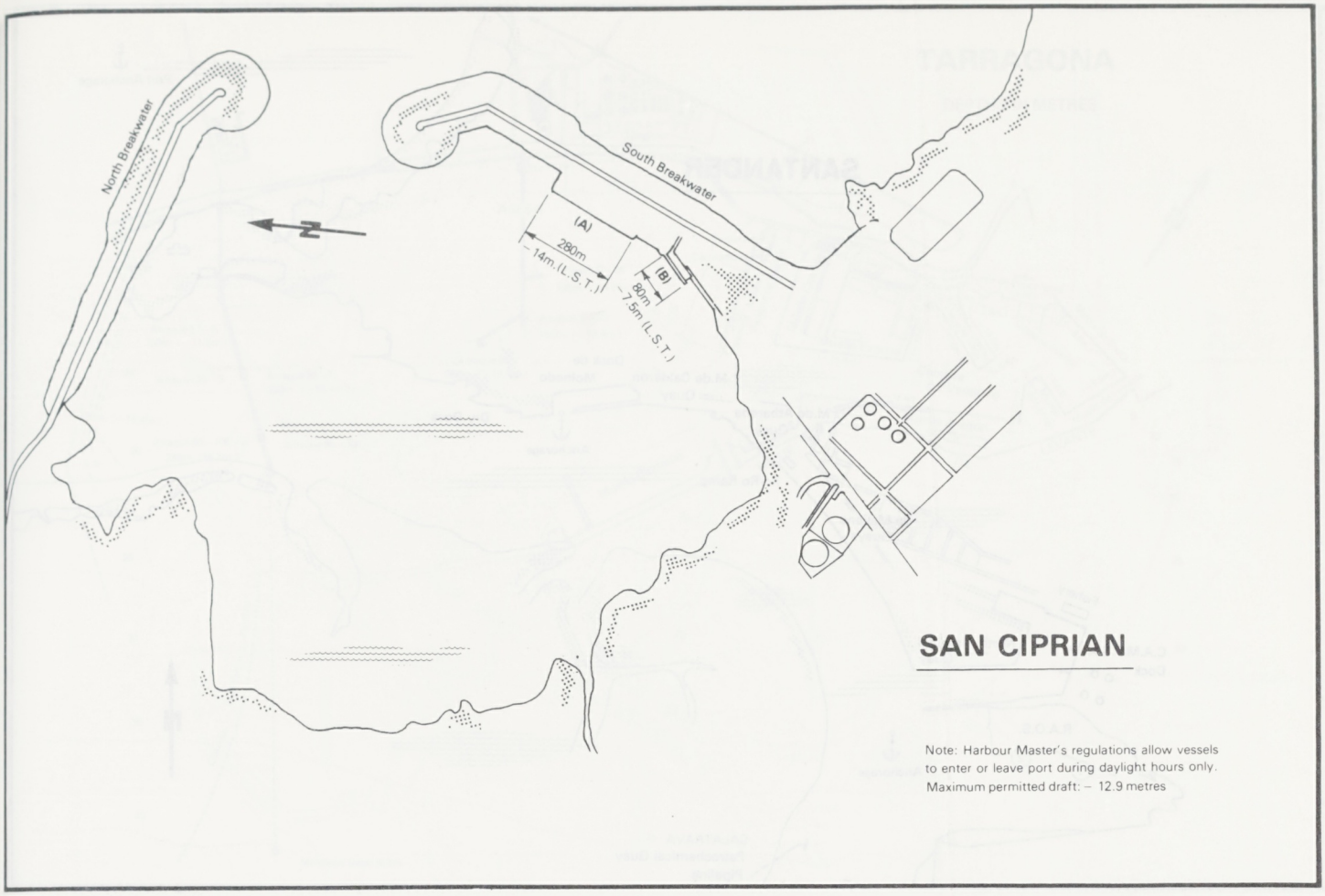

MOTRIL
CAMPSA Oil Terminal
EL VARADERO
PILOTAGE OFFICE
PORT AUTHORITY
POLICE OFFICE
PORT CAPTAIN
Dock Entrance
Internal Service Road
Limit of Service Area
Coastal Dock
Ice Factory
300m
Ro/Ro (In service)
Marine Station
Slipway
Yacht Harbour
Fish Dock
300 m.
East Quay
Asphalt Product Terminal
Commercial Dock
Liquid Products
Terminal
Warehouse
West
Quay
105 m.
Green Lt.
250m
Planned
Access Road to West Dock
Inner Road
Red Lt.


Fish Quay
Shipyard
Old Quay
SAN PEDRO DOCK
New Quay
Local Passenger Traffic Terminal
Container Terminal
General Cargo Quays
5.0m
Recreation & Fishing Facilities
Beach
Pier
10.0m
Ro/Ro Terminal
Recreational Facilities
Breakwater
15.0m
5.0m
Inner Mole Extension
Foreign Passengers
West Quays
N.W. Quay
S.W. Quay
Porto Pi
Paraires Quay
Domestic Passengers
Cement
Porto Pi
Ministry of Marine
Quay
Bulk
Oil
Oil
Petrol
West Pier
PALMA
DEPTHS IN METRES
10.0m
15.0m


Bancho del Oeste
Bancha del Este
PASAJES
Arando Grande
Arando Chico
Cala de Senocozulua
Cala Bursa
Punta de las Cruces
10
10
Shipyard
0 100 600 metres
SCALE
PASAJES DONIBANE
PASAJES DE SAN PEDRO
San Pedro
Pescadera
8
10
Avanzado
Lezo-1
Lezo-2
10
10
Floating Dock
Petroleos
Lezo-3
LEZO
CAMPSA
TRINCHERPE
Port Authority
Shipyard
Trincherpe
8
8
10
Capuchinos
RIO OYARZUN
Hospitalillo
Herrera
Reloj
Transatlantico
Ancho
Avanzado Molinao
Molinao
PASAJES ANCHO
RENTERIA
HERRERA

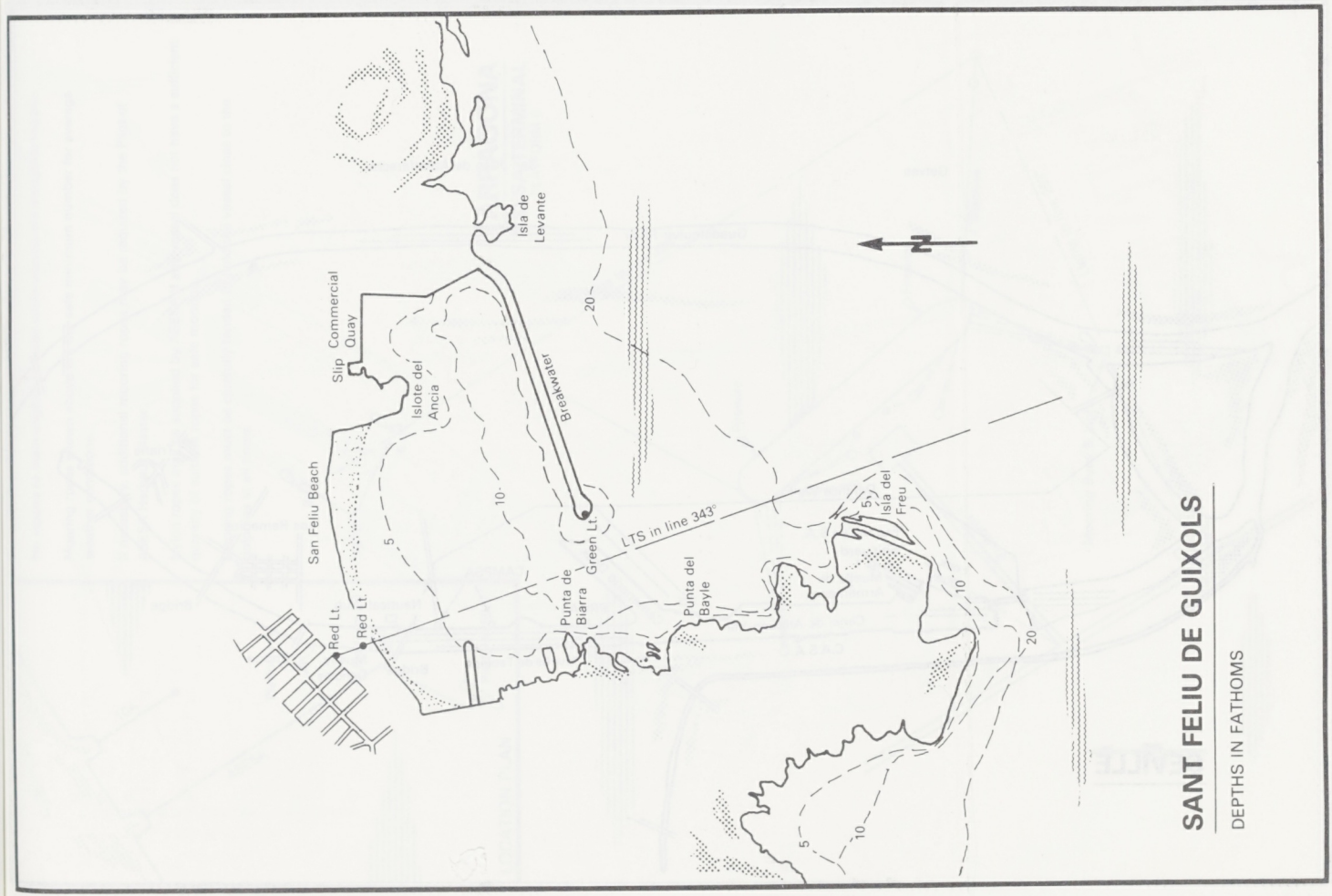

ROSAS
Net Repairs
Net Repair Quay
Fishing Vessel Quay
Beach
Commercial Quay
Warehouse
Fishermans Hall
Shelter Mole
CAMPSA Oil Berth
Mole
Beach
ROSAS BAY
-5.0m
-10m
-5.0m
-10m
N


Max. Draft 48 ft.
1743.775m
Ore Loader in operation
Pilot
Commercial Quay
390m
Dredged to 9.6m
Leading Line
Dredged to 10.5 m.
595m
New Quay
585m
Coal
Minerals
SAGUNTO
N



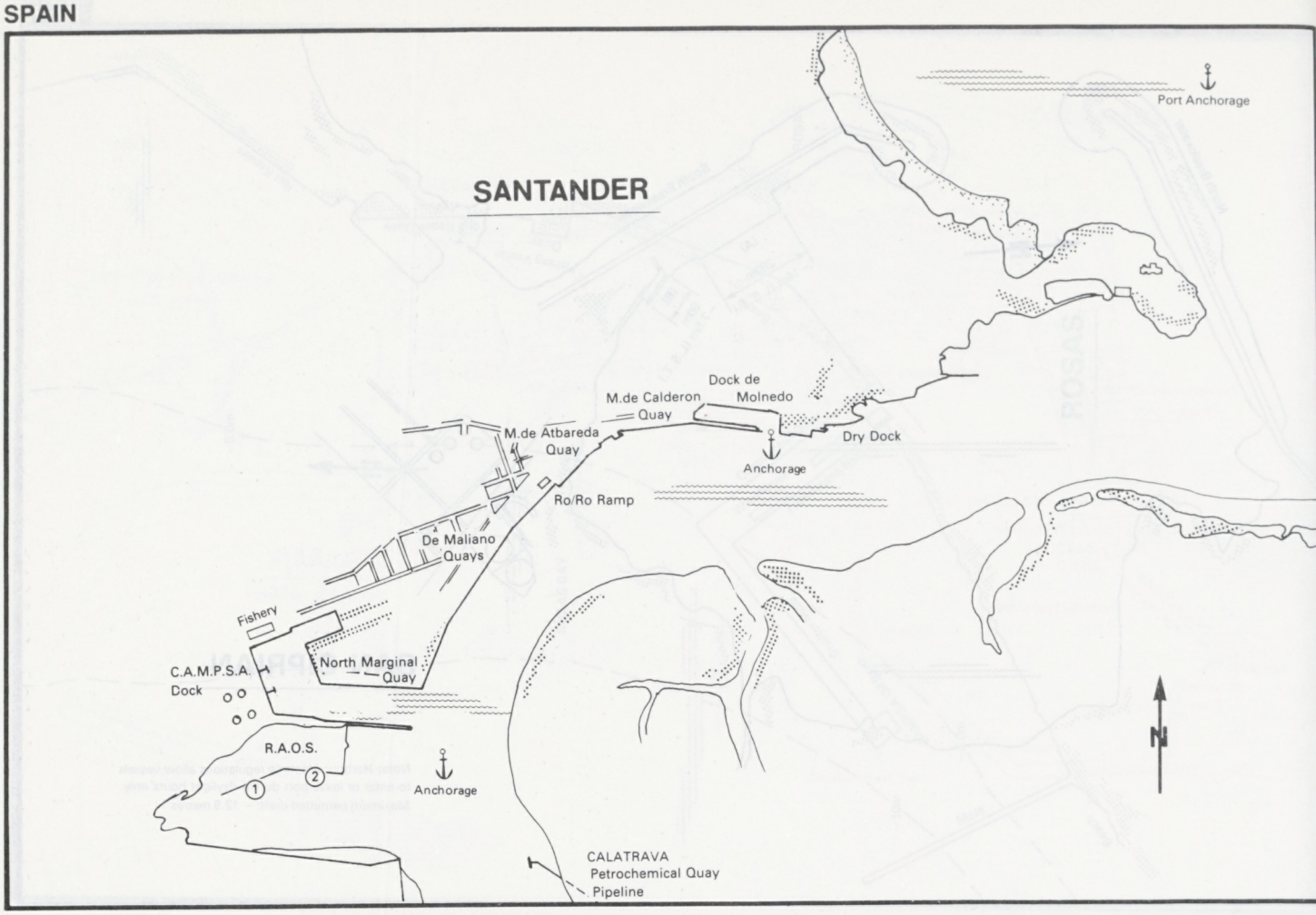
SAN CIPRIAN

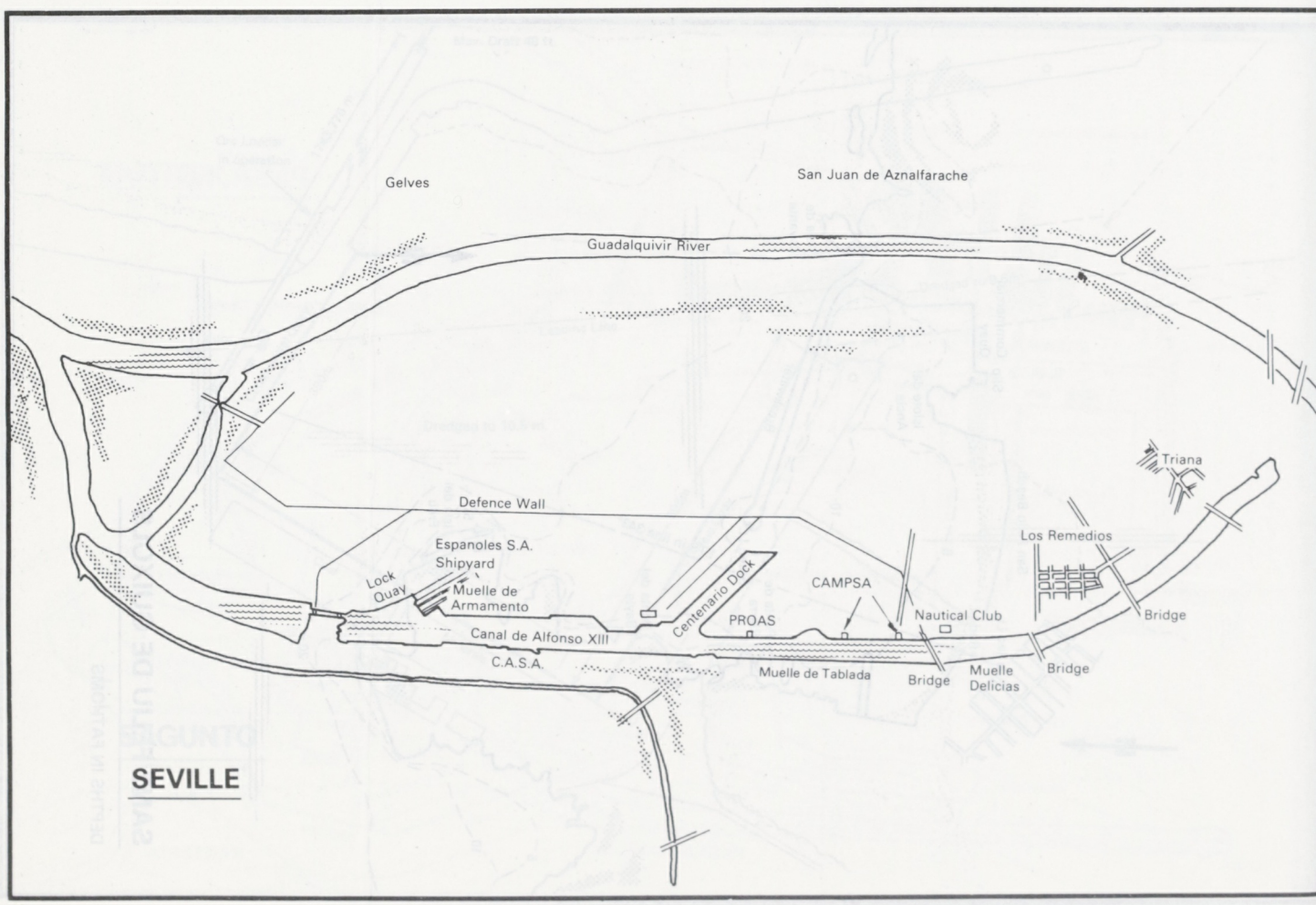
Note: Harbour Master's regulations allow vessels to enter or leave port during daylight hours only.
Maximum permitted draft: – 12.9 metres

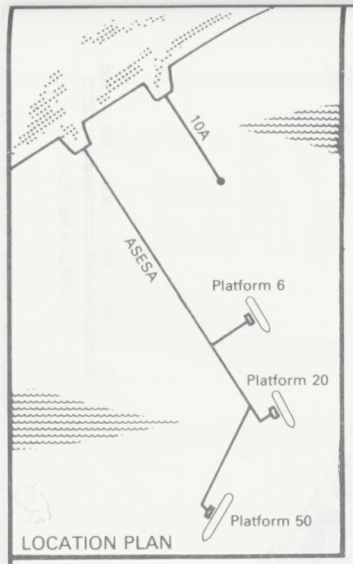


SANT FELIU DE GUIXOLS

DEPTHS IN FATHOMS


SANTANDER
Port Anchorage
Dock de Molnedo
M.de Calderon Quay
M.de Atbareda Quay
Dry Dock
Anchorage
Ro/Ro Ramp
De Maliano Quays
Fishery
North Marginal Quay
C.A.M.P.S.A. Dock
R.A.O.S.
1
2
Anchorage
CALATRAVA
Petrochemical Quay
Pipeline
N


Gelves
San Juan de Aznalfarache
Guadalquivir River
Triana
Defence Wall
Espanoles S.A. Shipyard
Lock Quay
Muelle de Armamento
Centenario Dock
CAMPSA
Los Remedios
PROAS
Nautical Club
Bridge
Canal de Alfonso XIII
C.A.S.A.
Muelle de Tablada
Bridge
Muelle Delicias
Bridge
SEVILLE



No repairs to main engines allowed while vessels are alongside the pier.

Mooring ropes shown above are the safe minimum number for average weather conditions.

If necessary, additional mooring ropes may be required by the Pilot of ASESA Harbour Master.

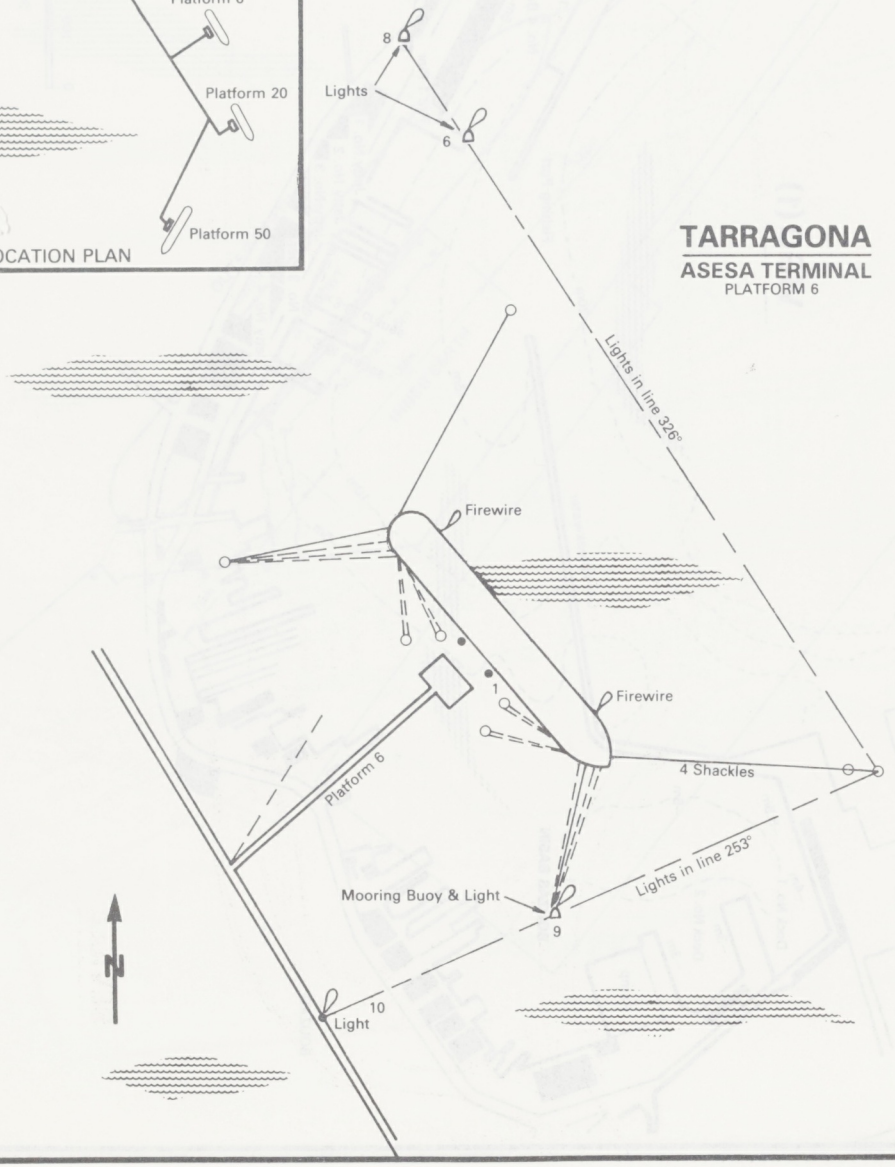
Nylon ropes may be supplied by ASESA if any vessel does not have a sufficient quantity of suitable ropes for safe mooring.

Mooring ropes must be carefully tended to hold the vessel close to the dolphins at all times.

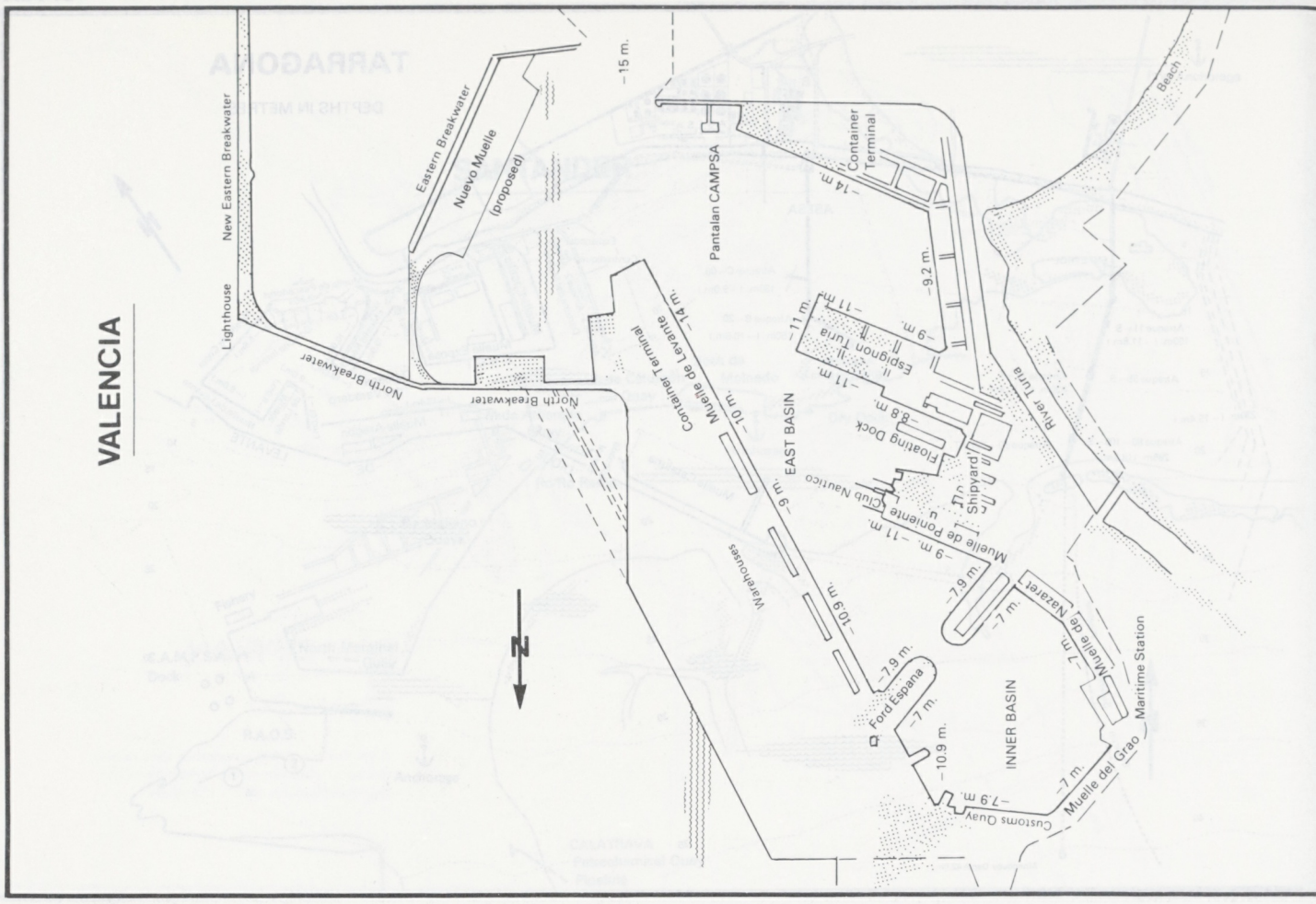
TARRAGONA

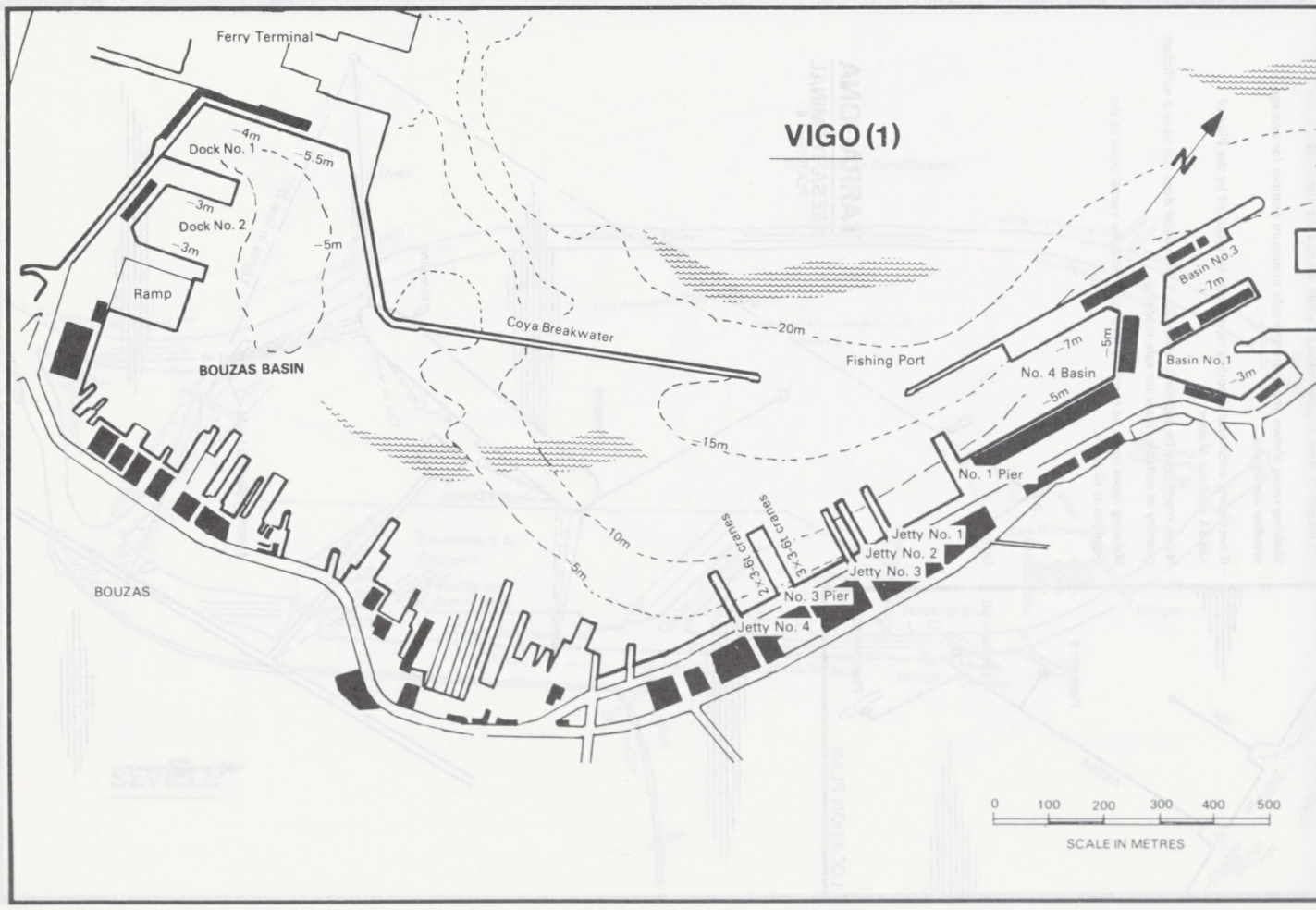
ASESA TERMINAL

PLATFORM 6

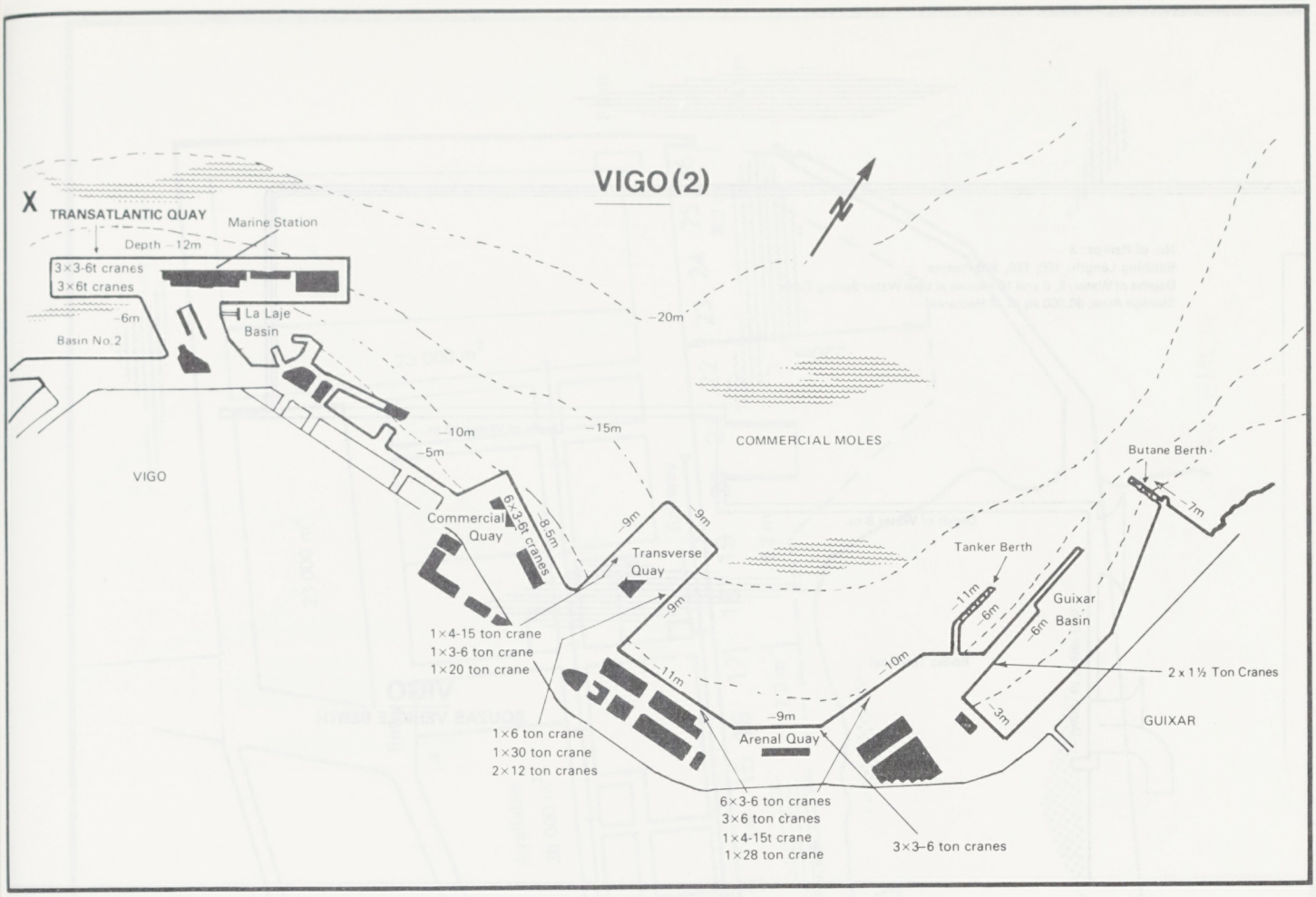


SPAIN

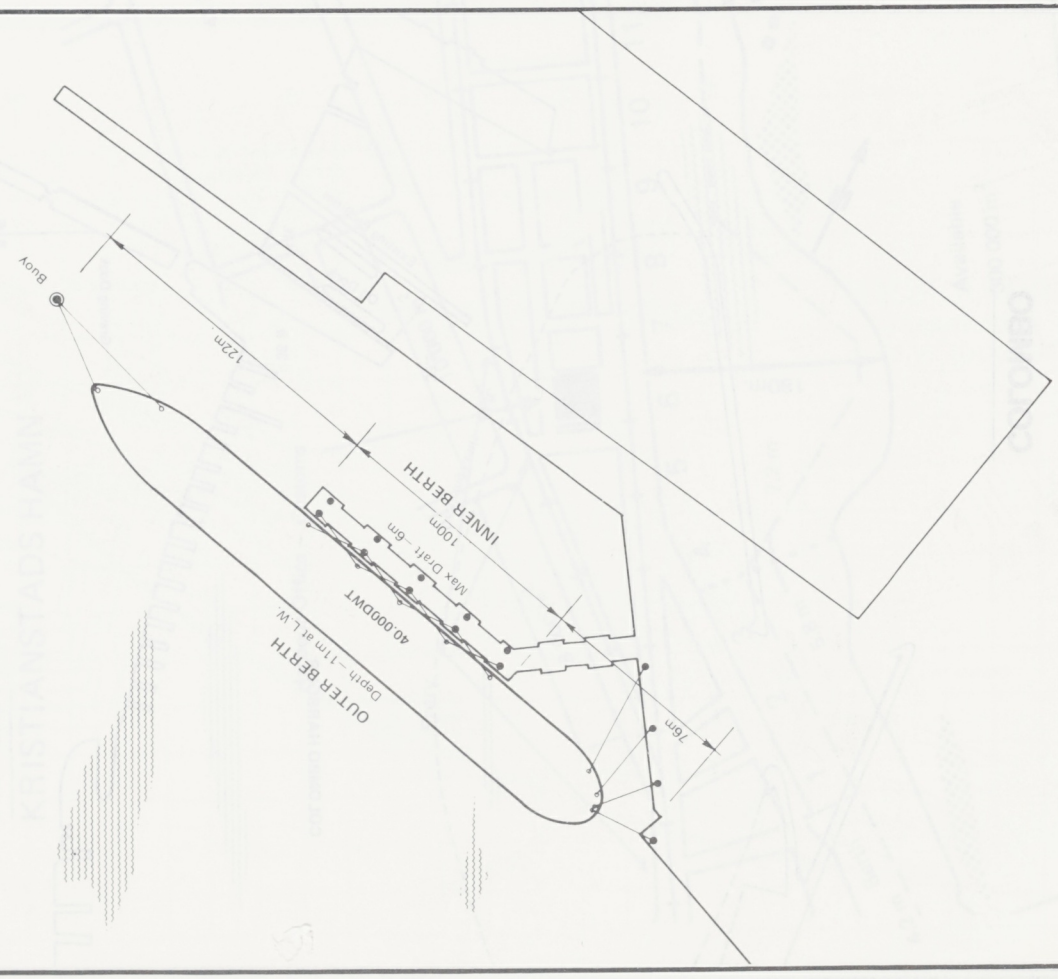

VALENCIA
New Eastern Breakwater
Eastern Breakwater
Nuevo Muelle
(proposed)
Lighthouse
North Breakwater
North Breakwater
-15 m.
Pantalan CAMPSA
Container Terminal
-14 m.
-9.2 m.
Beach
-11 m.
-9 m.
-11 m.
-11 m.
Espigon Turia
Floating Dock
-8.8 m.
Shipyard
River Turia
Club Nautico
Muelle de Poniente
-9 m.
-11 m.
-10 m.
EAST BASIN
Contenar Terminal
-14 m.
Muelle de Levante
Warehouses
-9 m.
-10.9 m.
-7.9 m.
-7 m.
Muelle de Nazaret
-7 m.
Maritime Station
Fond Espana
-7 m.
-10.9 m.
INNER BASIN
-7.9 m.
Customs Quay
Muelle del Grao
-7 m.
N

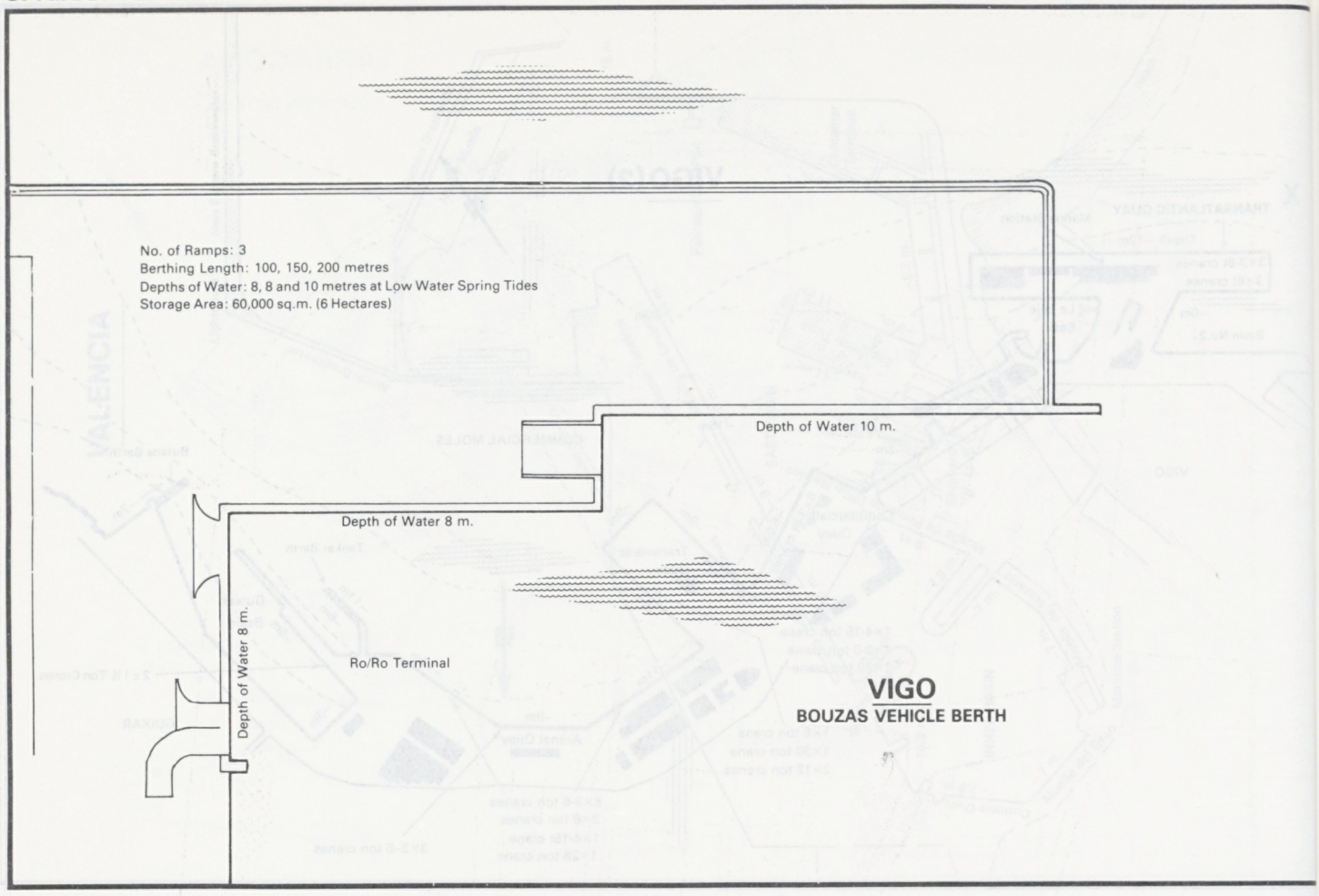

VIGO (1)
Ferry Terminal
Dock No. 1
-4m
-5.5m
Dock No. 2
-3m
-3m
-5m
Ramp
BOUZAS BASIN
Coya Breakwater
-20m
Fishing Port
-15m
-10m
-5m
BOUZAS
3 x 3.6t cranes
No. 3 Pier
Jetty No. 4
Jetty No. 1
Jetty No. 2
Jetty No. 3
No. 1 Pier
No. 4 Basin
-7m
-5m
-5m
Basin No.3
-7m
Basin No.1
-3m
N
0
100
200
300
400
500
SCALE IN METRES

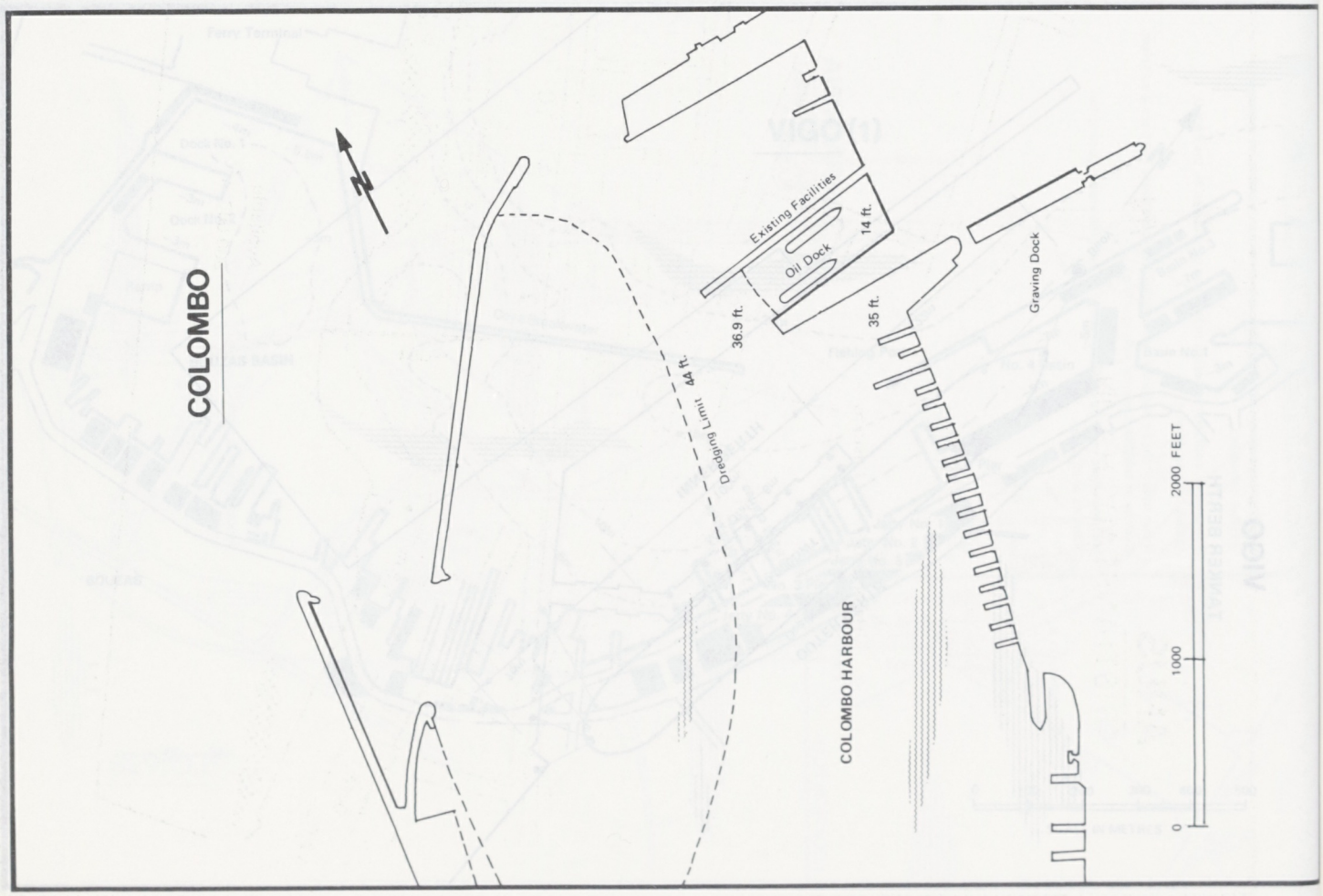
VIGO (2)



VIGO
TANKER BERTH

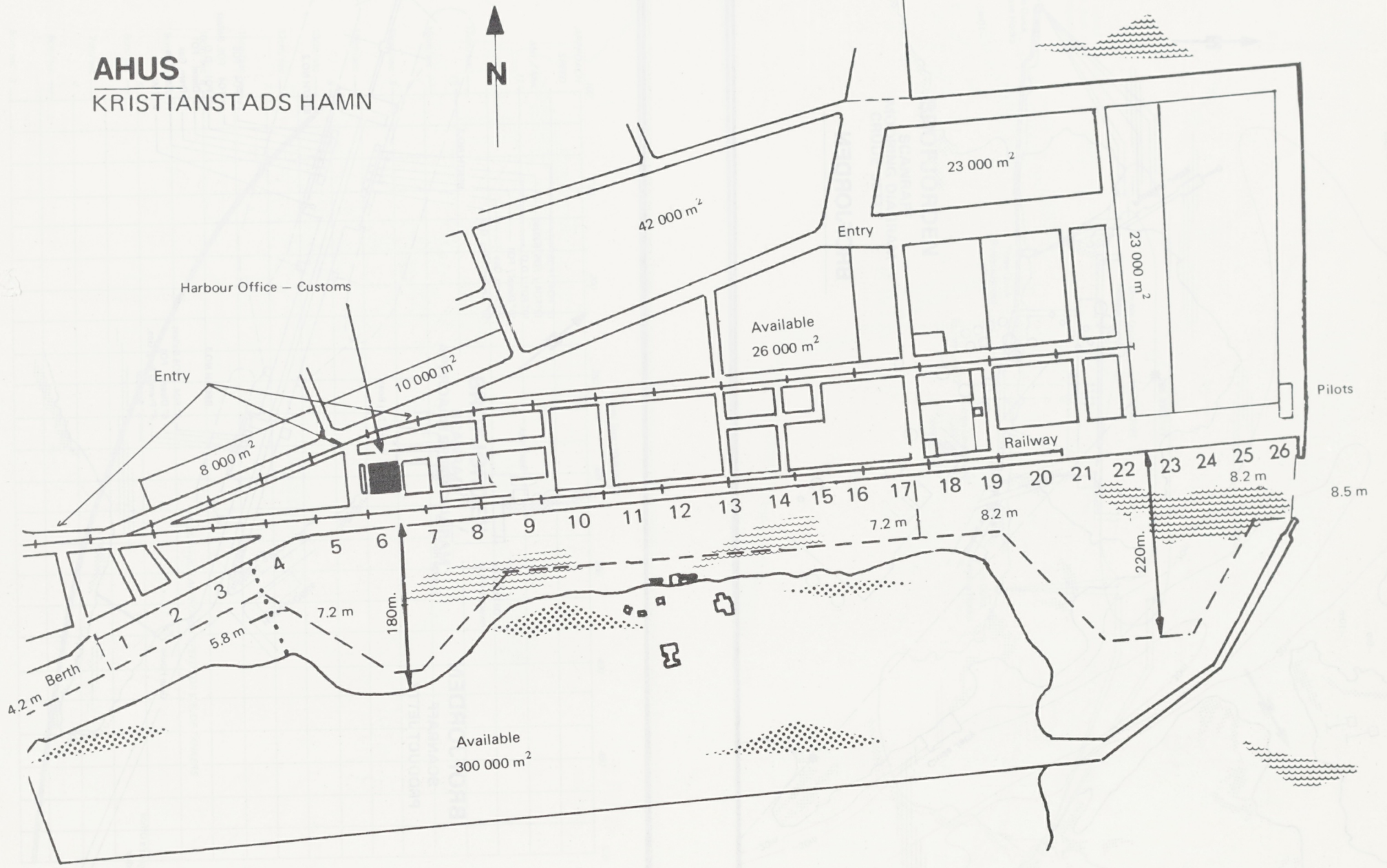



No. of Ramps: 3
Berthing Length: 100, 150, 200 metres
Depths of Water: 8, 8 and 10 metres at Low Water Spring Tides
Storage Area: 60,000 sq.m. (6 Hectares)
Depth of Water 10 m.
Depth of Water 8 m.
Depth of Water 8 m.
Ro/Ro Terminal
VIGO
BOUZAS VEHICLE BERTH


COLOMBO
Existing Facilities
Oil Dock
14 ft.
36.9 ft.
35 ft.
Graving Dock
44 ft.
Dredging Limit
COLOMBO HARBOUR
2000 FEET
1000
0

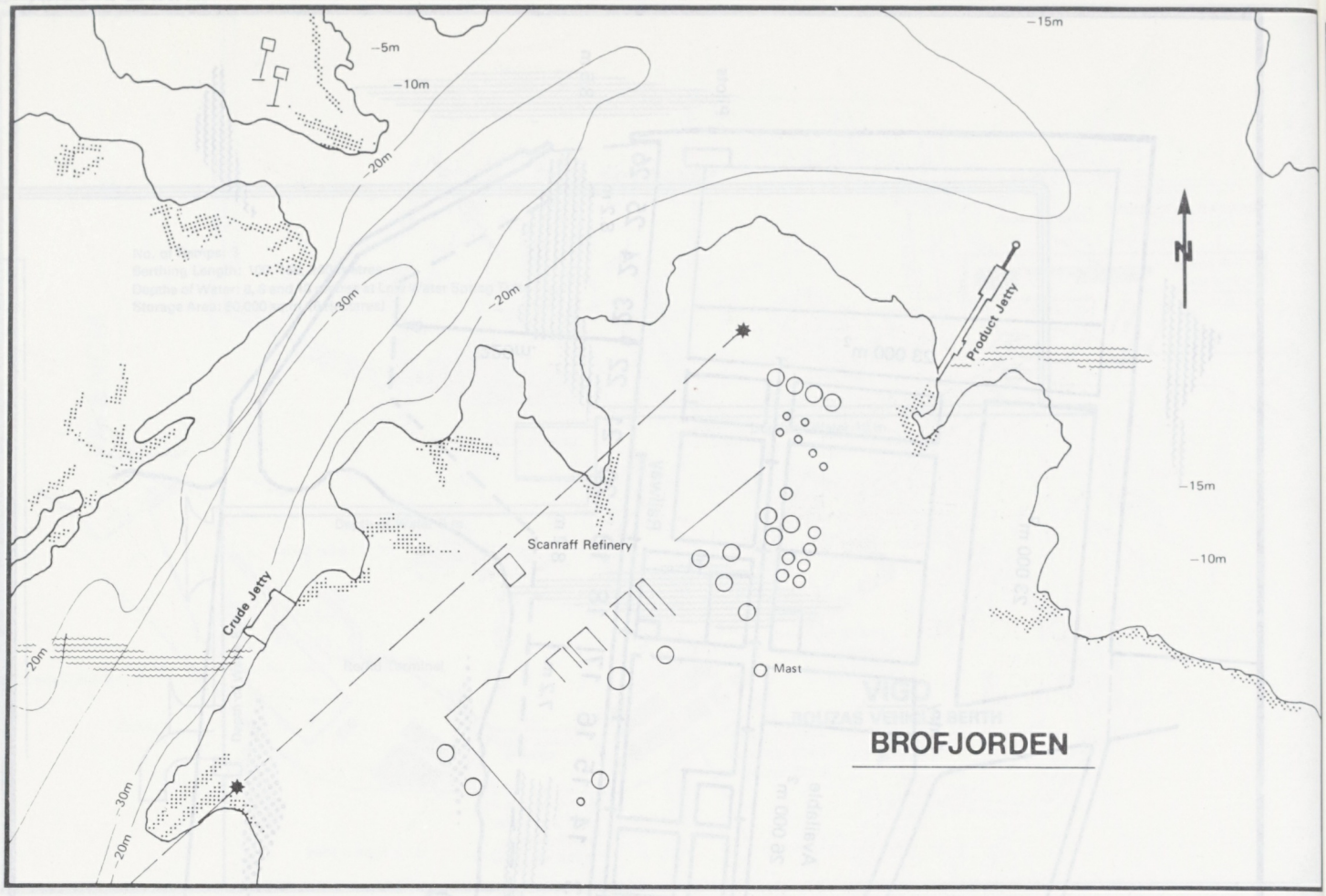
AHUS

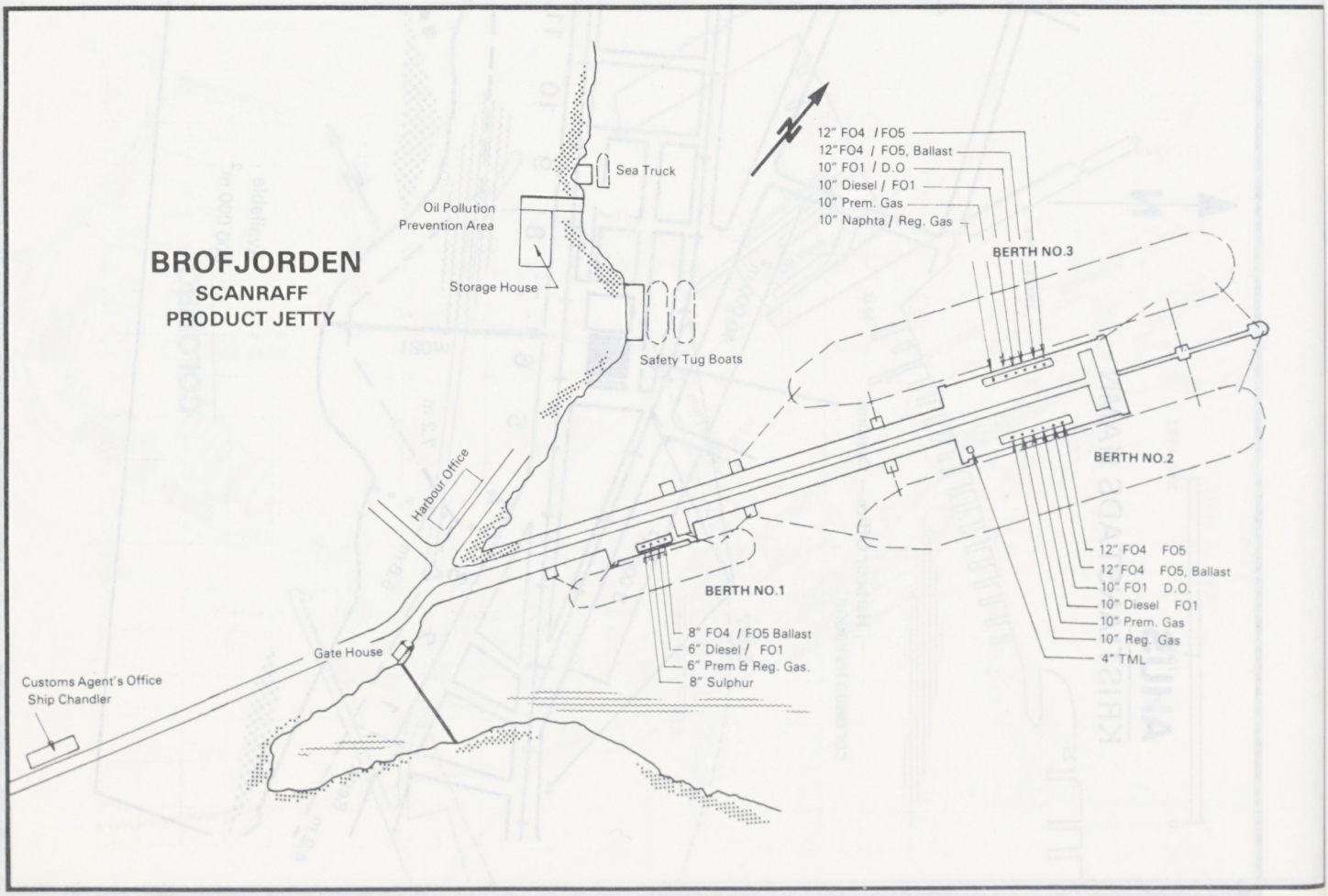
KRISTIANSTADS HAMN

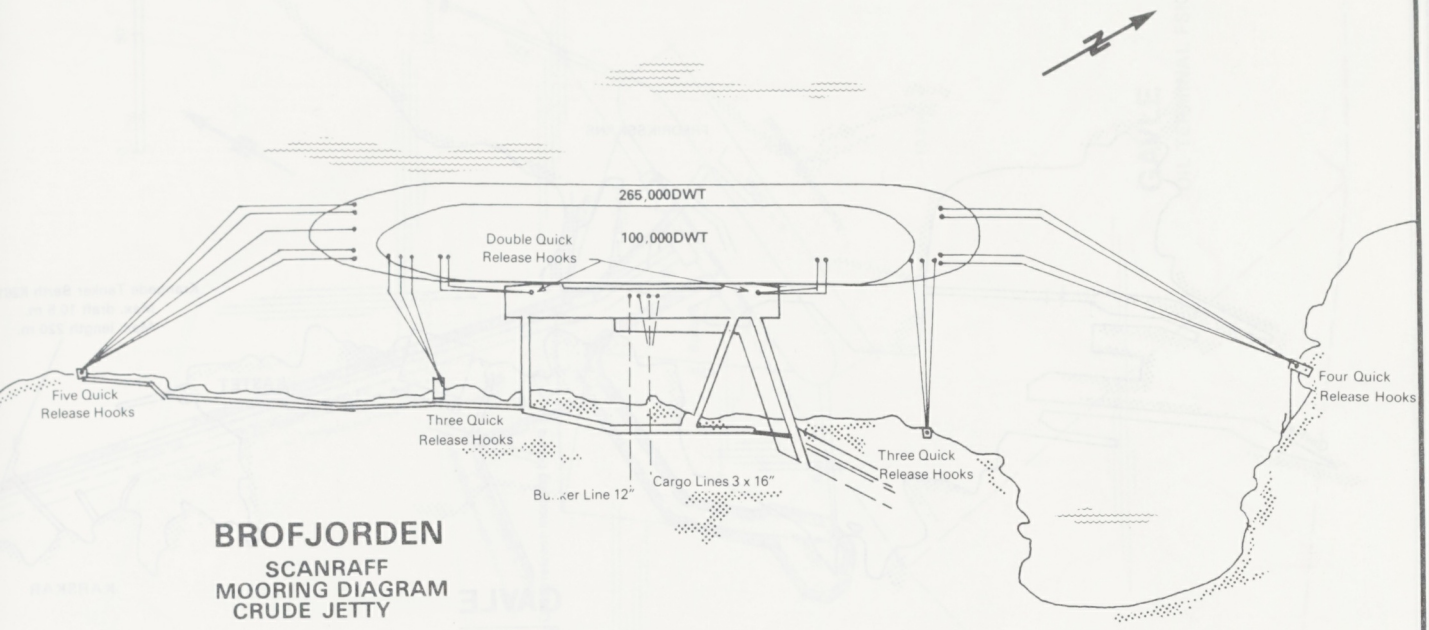


P801

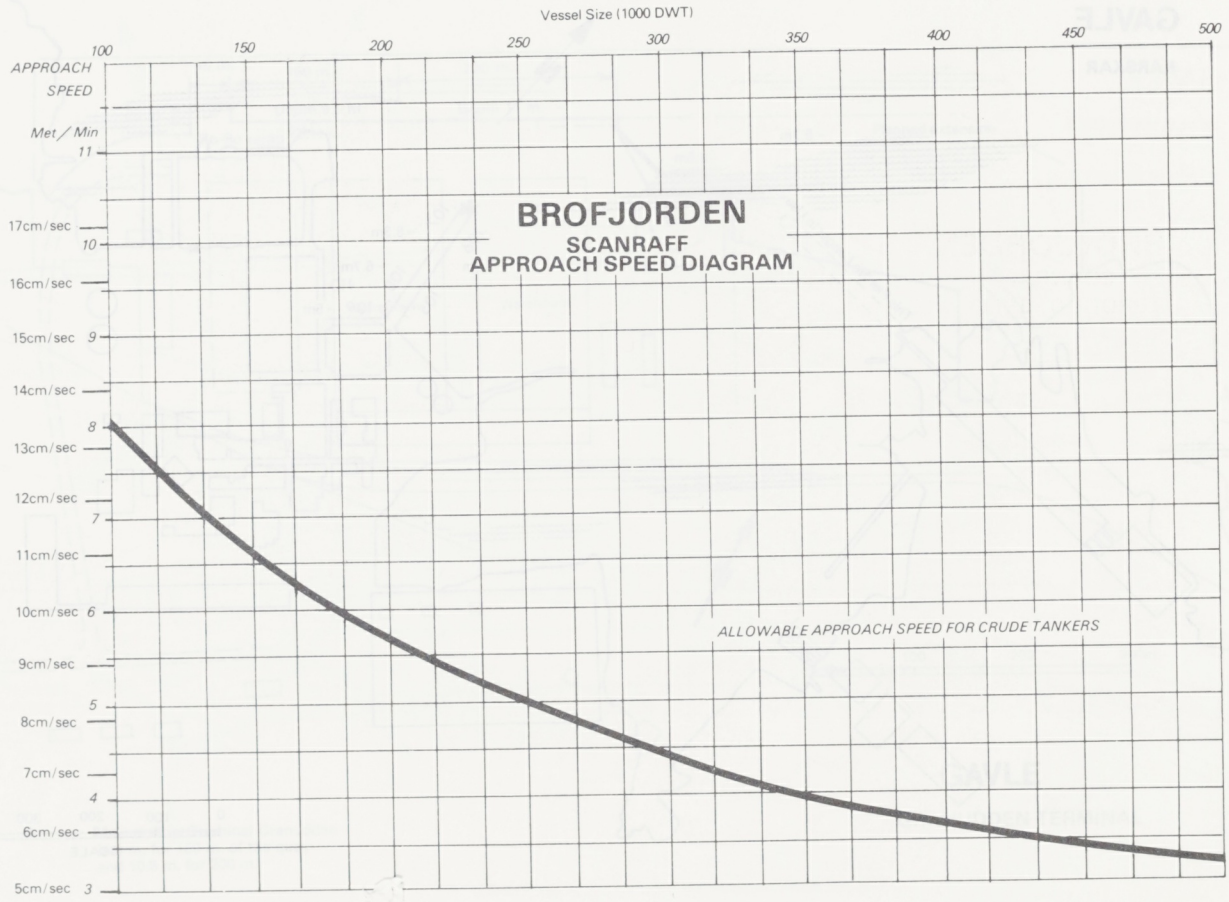
SWEDEN


-5m
-10m
-15m
-20m
-30m
-20m
-15m
-10m
-20m
-30m
-20m
N
Product Jetty
Crude Jetty
Scanraff Refinery
Mast
BROFJORDEN

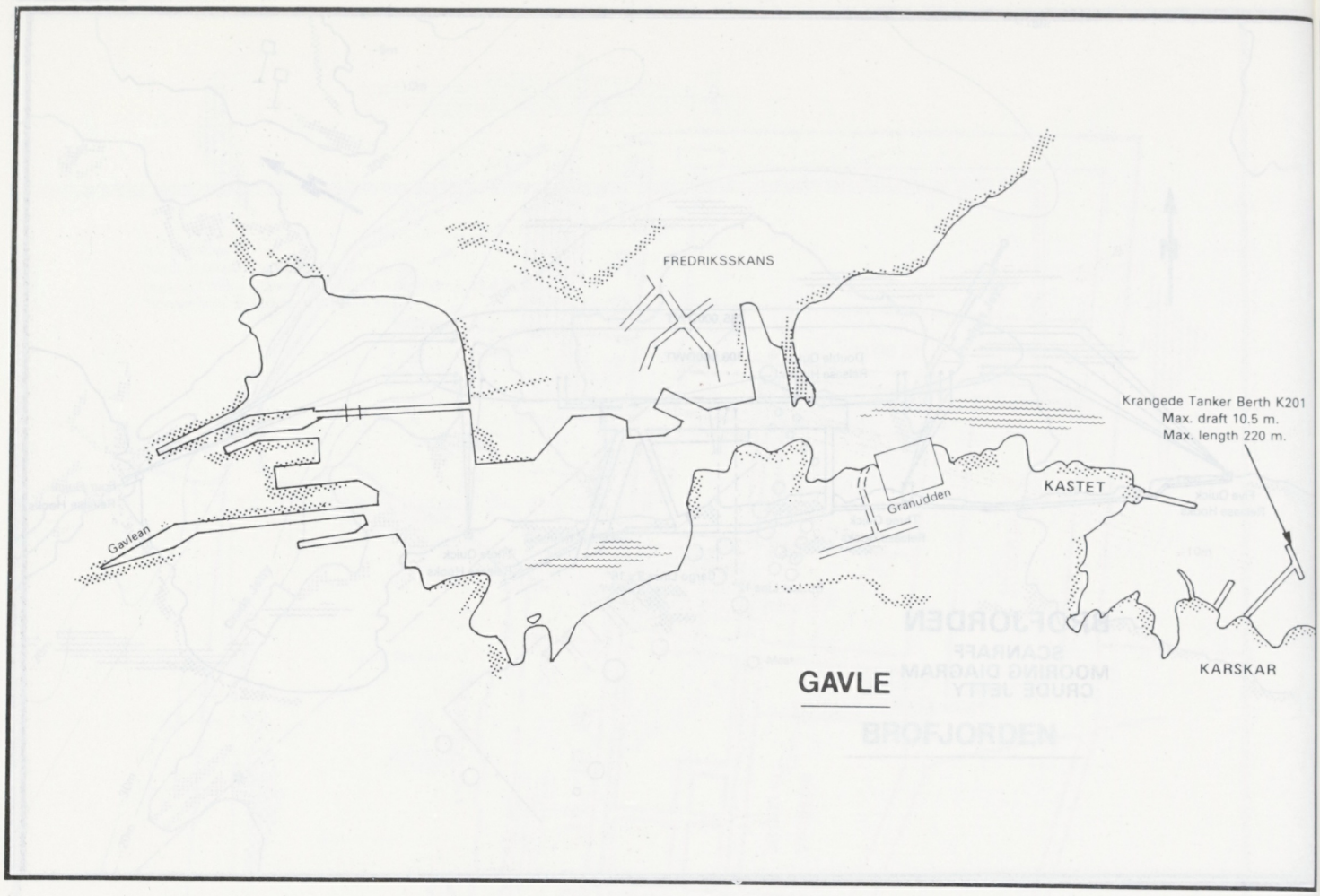

BROFJORDEN
SCANRAFF
PRODUCT JETTY
Sea Truck
Oil Pollution
Prevention Area
Storage House
Safety Tug Boats
Harbour Office
Gate House
Customs Agent's Office
Ship Chandler
N
12" FO4 / FO5
12" FO4 / FO5, Ballast
10" FO1 / D.O
10" Diesel / FO1
10" Prem. Gas
10" Naphta / Reg. Gas
BERTH NO.3
BERTH NO.2
BERTH NO.1
8" FO4 / FO5 Ballast
6" Diesel / FO1
6" Prem & Reg. Gas.
8" Sulphur
12" FO4 FO5
12" FO4 FO5, Ballast
10" FO1 D.O.
10" Diesel FO1
10" Prem. Gas
10" Reg. Gas
4" TML

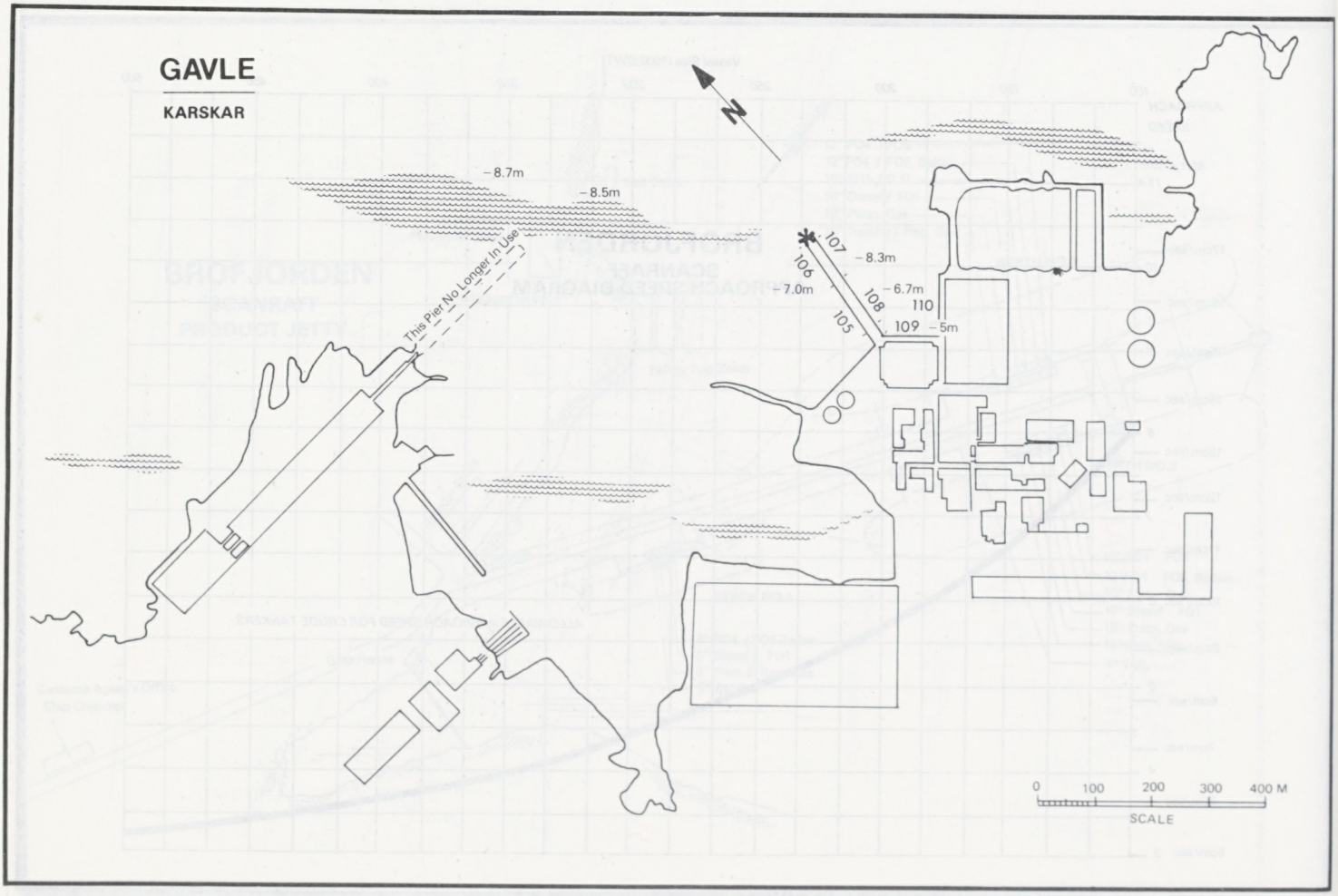


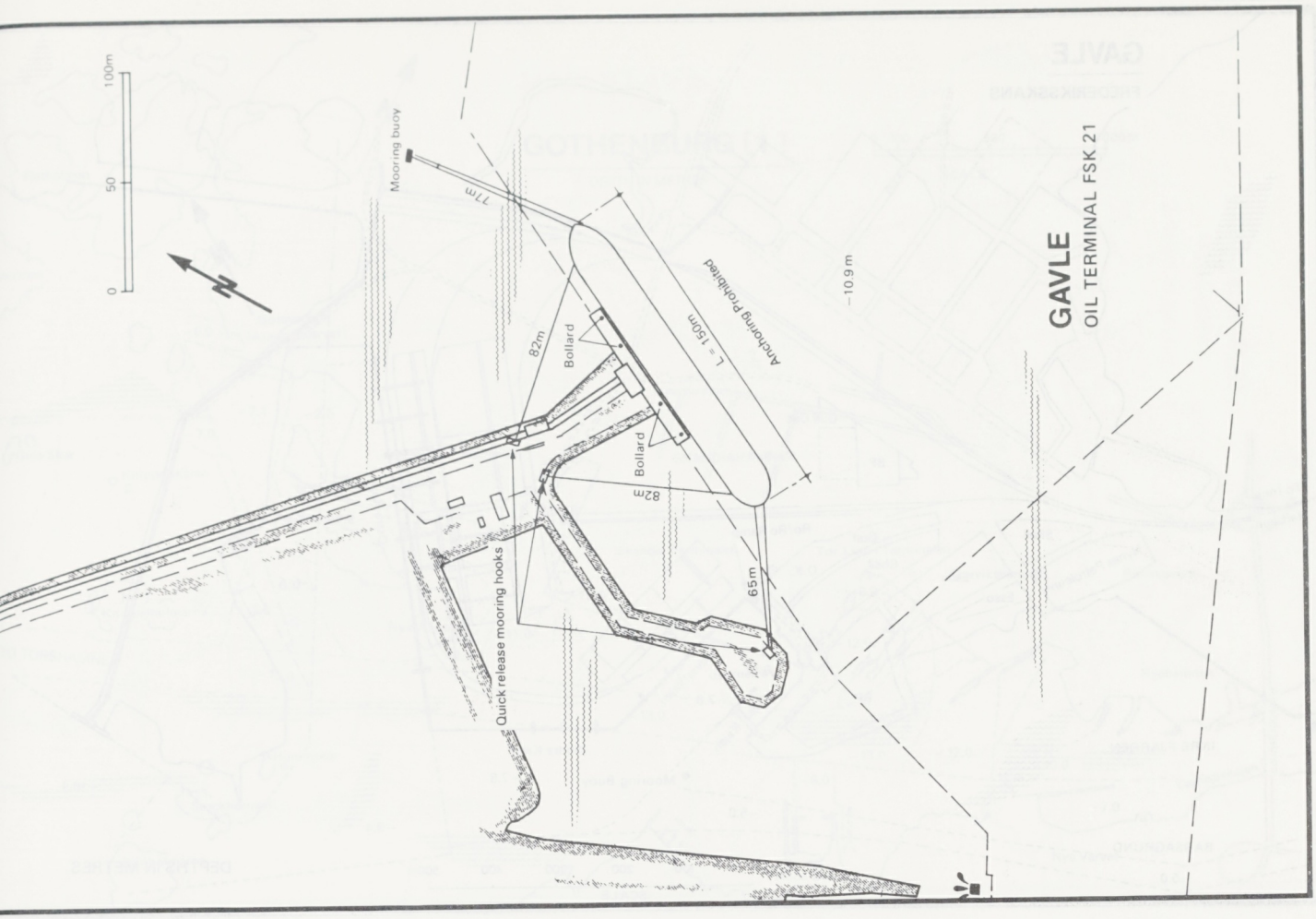
BROFJORDEN
SCANRAFF
MOORING DIAGRAM
CRUDE JETTY

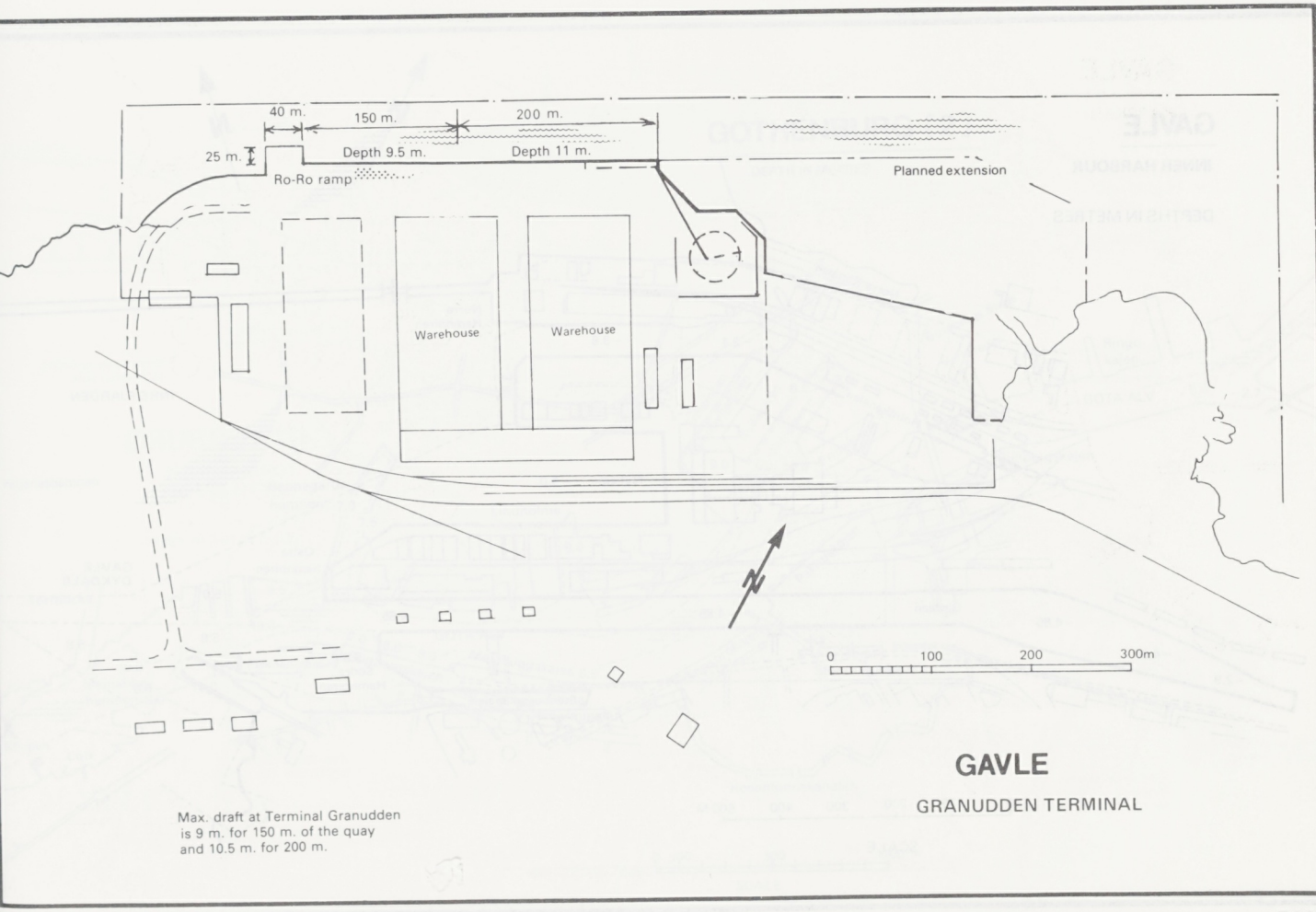


BROFJORDEN
SCANRAFF
APPROACH SPEED DIAGRAM


FREDRIKSSKANS
Krangede Tanker Berth K201
Max. draft 10.5 m.
Max. length 220 m.
KASTET
Granudden
Gavlean
KARSKAR
GAVLE


GAVLE
KARSKAR
N
-8.7m
-8.5m
This Pier No Longer In Use
107
-8.3m
106
-7.0m
108
-6.7m
110
105
109
-5m
0
100
200
300
400 M
SCALE

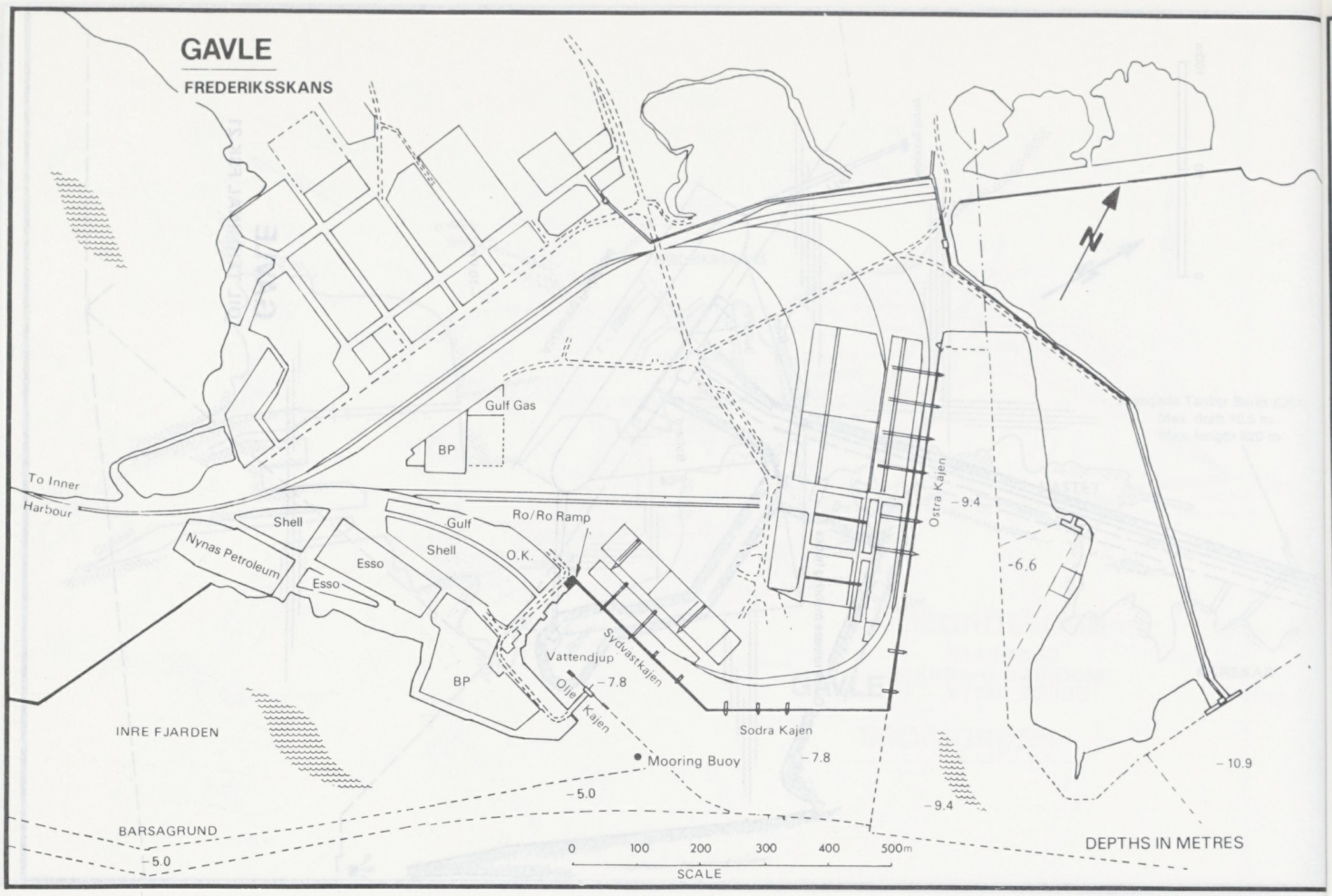


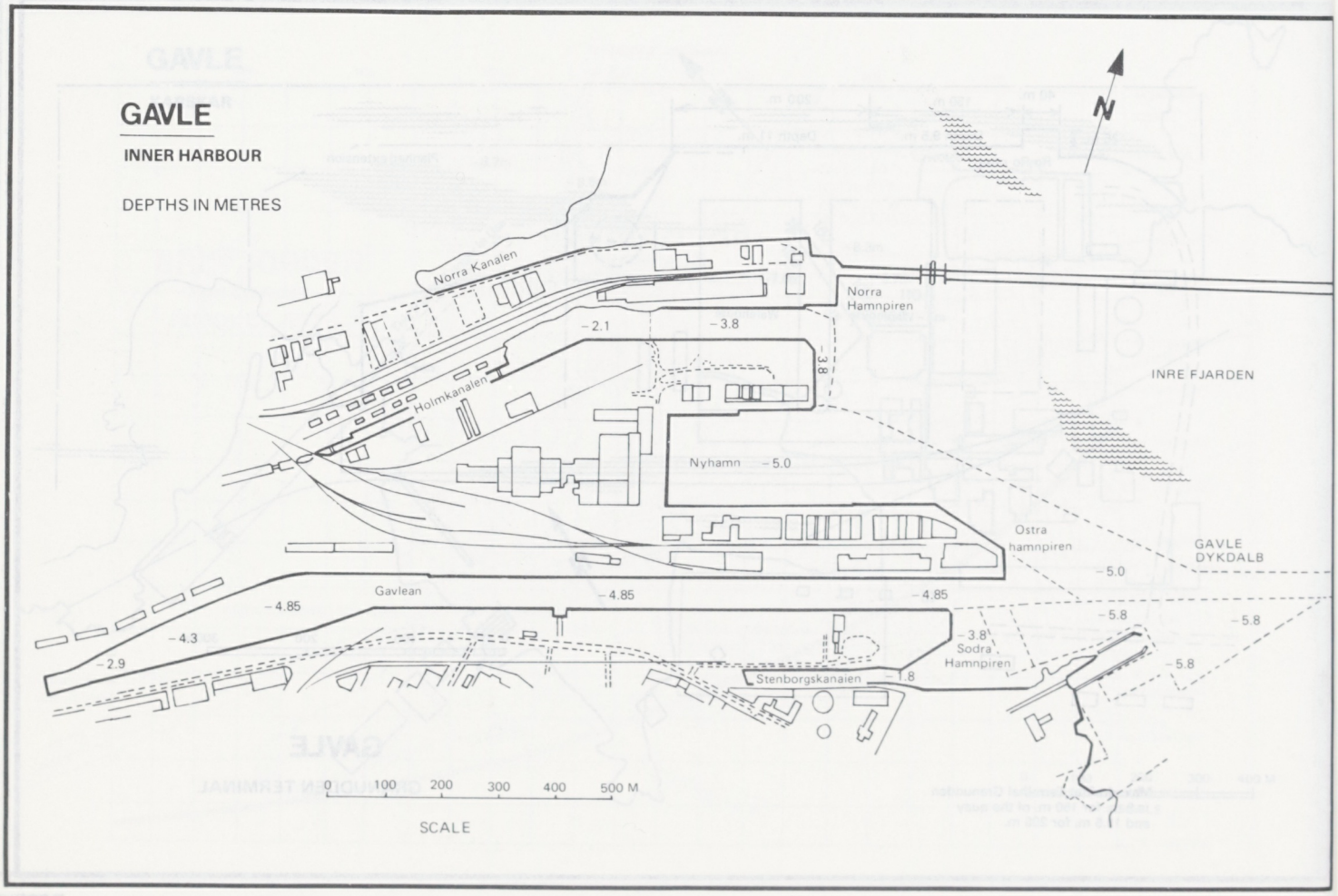


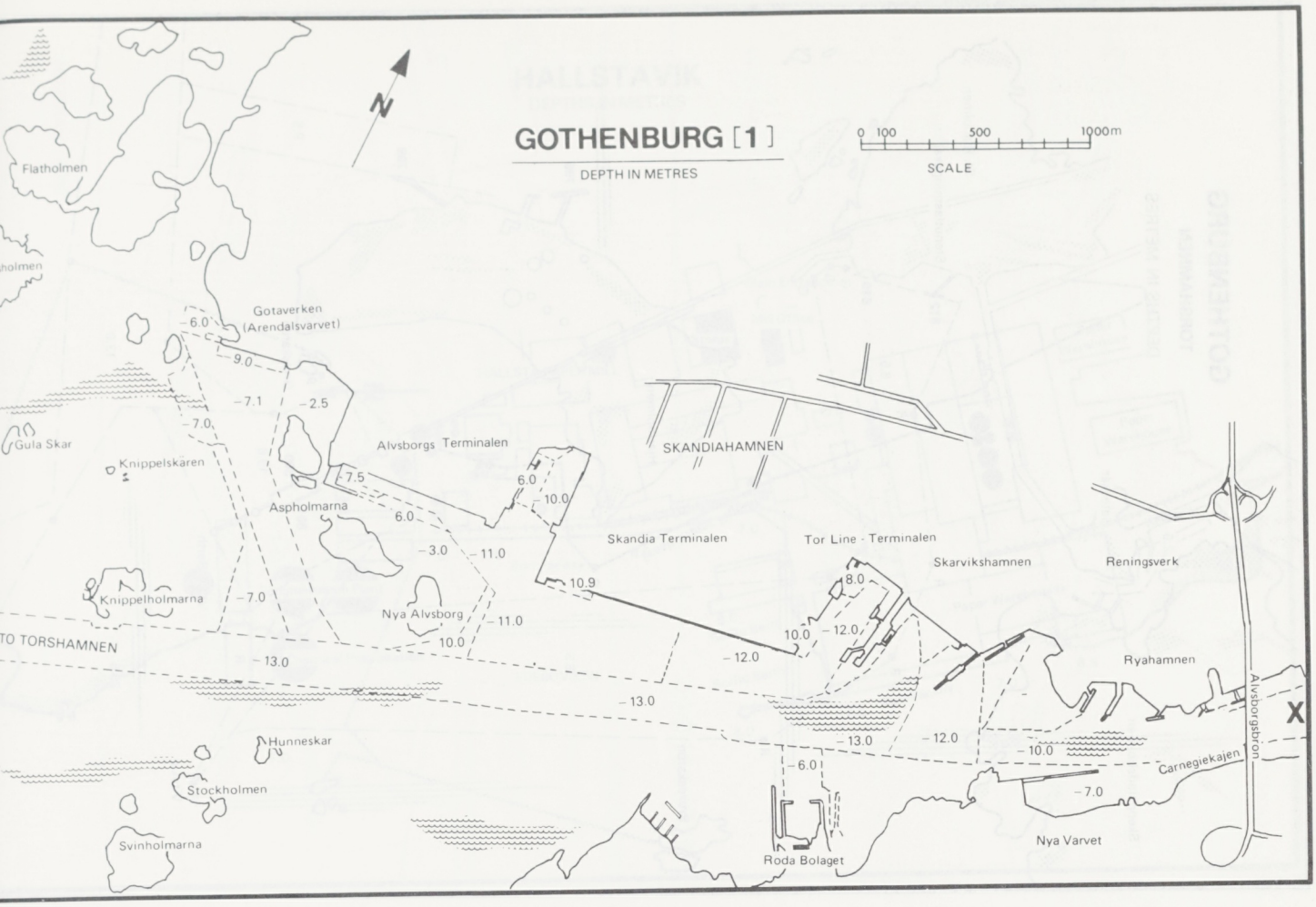
GAVLE

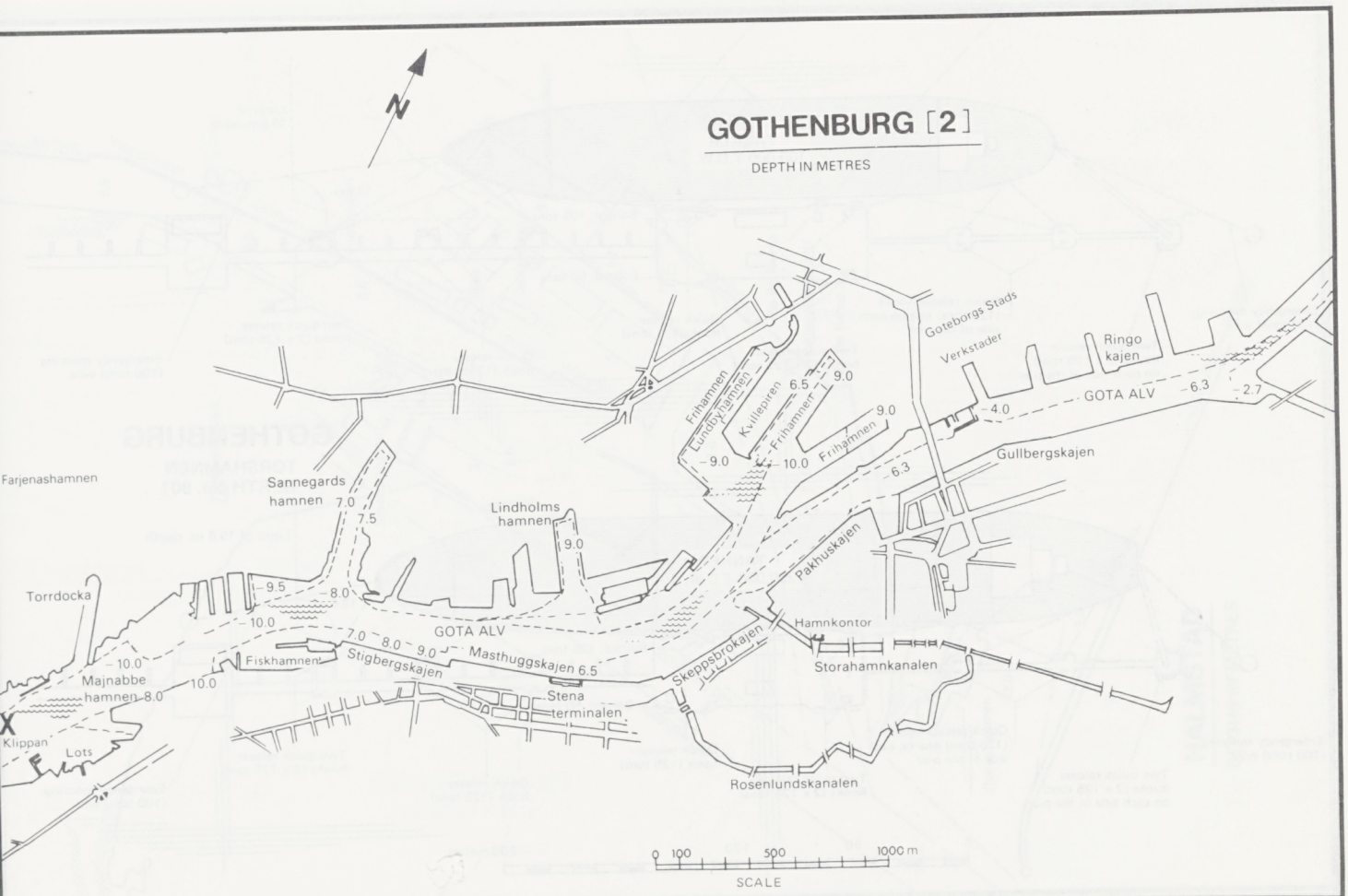
GRANUDDEN TERMINAL

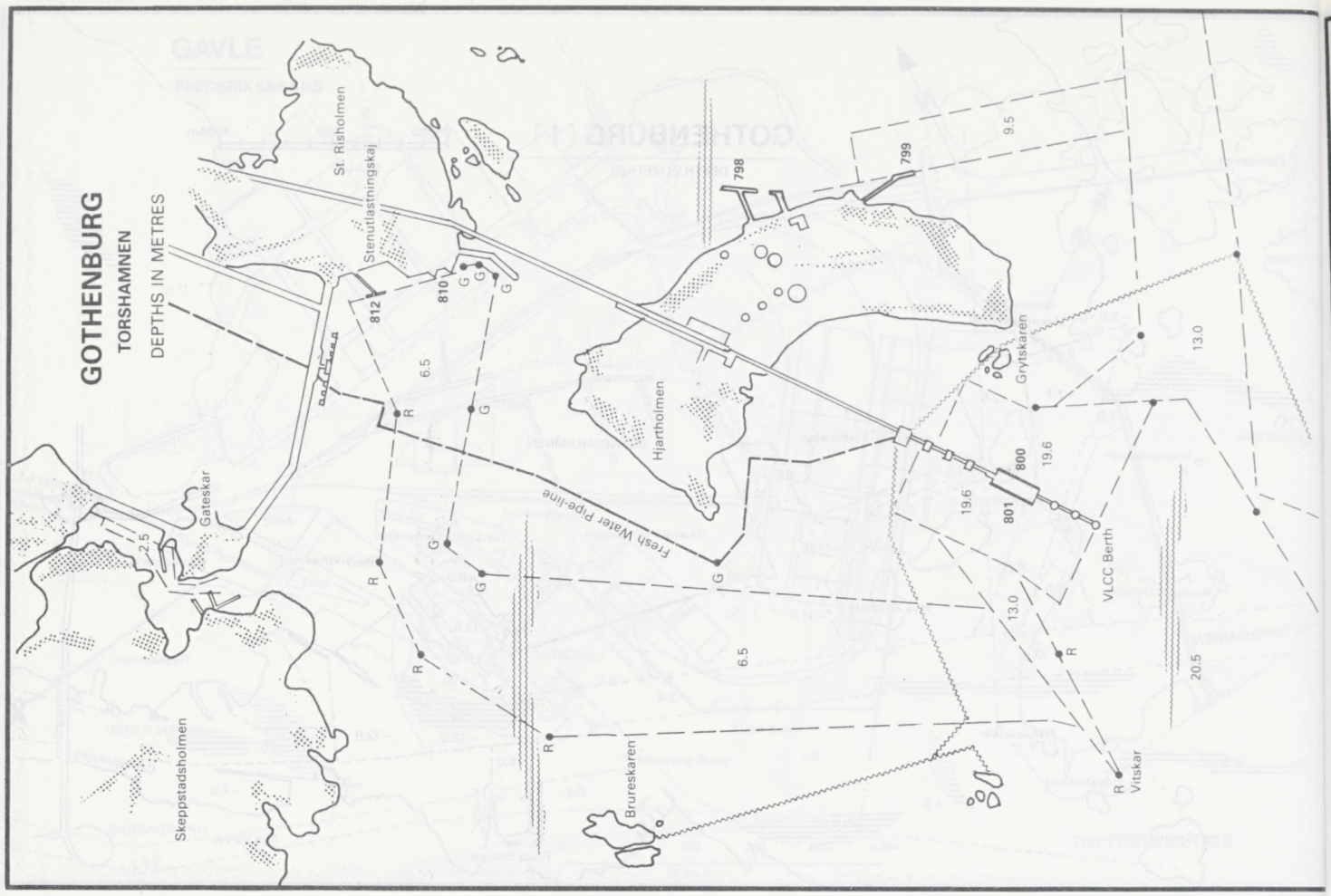
Max. draft at Terminal Granudden is 9 m. for 150 m. of the quay and 10.5 m. for 200 m.

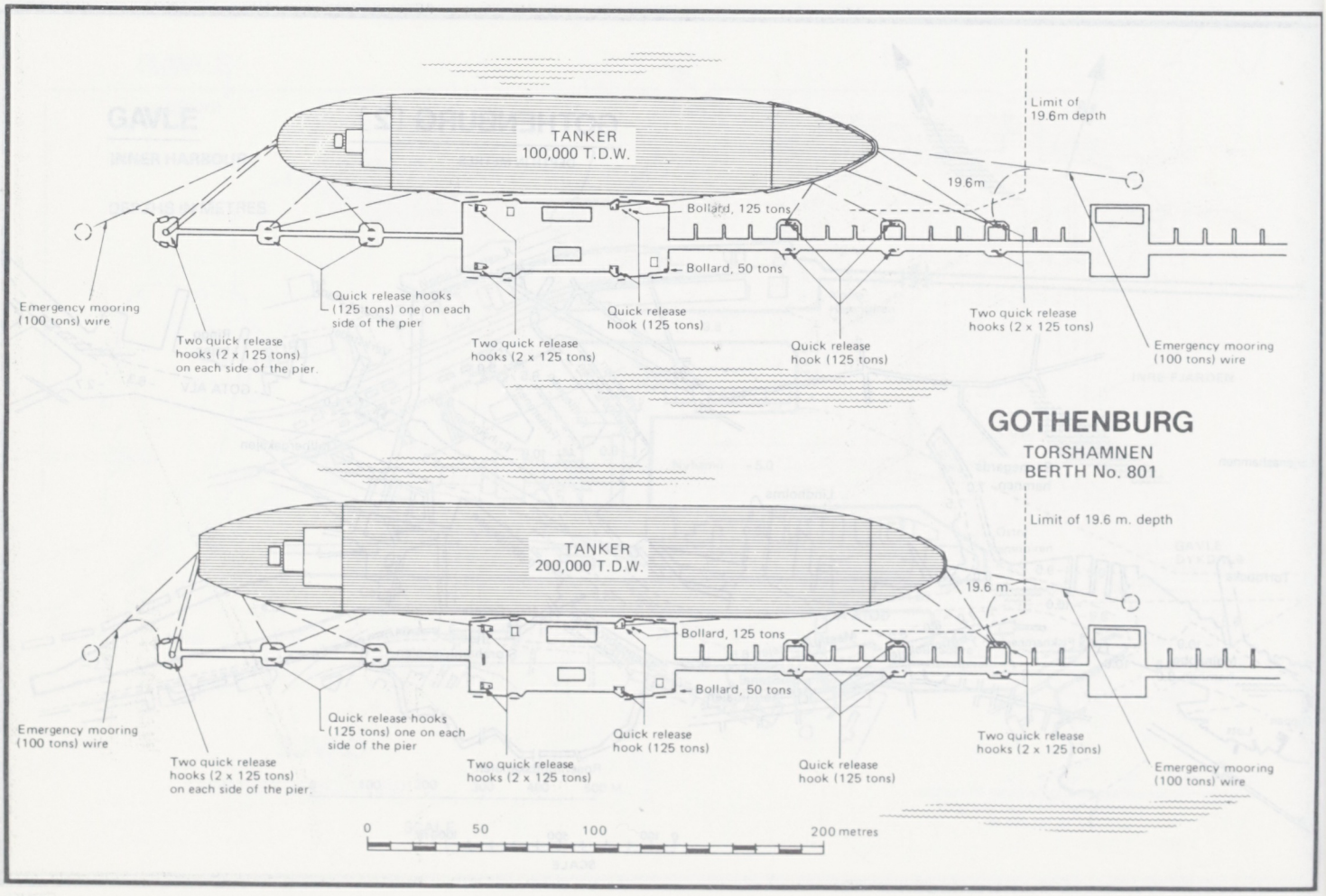

GAVLE
FREDERIKSSKANS
N
Gulf Gas
BP
To Inner Harbour
Shell
Nynas Petroleum
Esso
Esso
Gulf
Shell
O.K.
Ro/Ro Ramp
Ostra Kajen
-9.4
-6.6
Sydvastkajen
Vattendjup
-7.8
Olje Kajen
BP
INRE FJARDEN
Sodra Kajen
Mooring Buoy
-7.8
-10.9
-5.0
-9.4
BARSAGRUND
-5.0
0 100 200 300 400 500m
SCALE
DEPTHS IN METRES

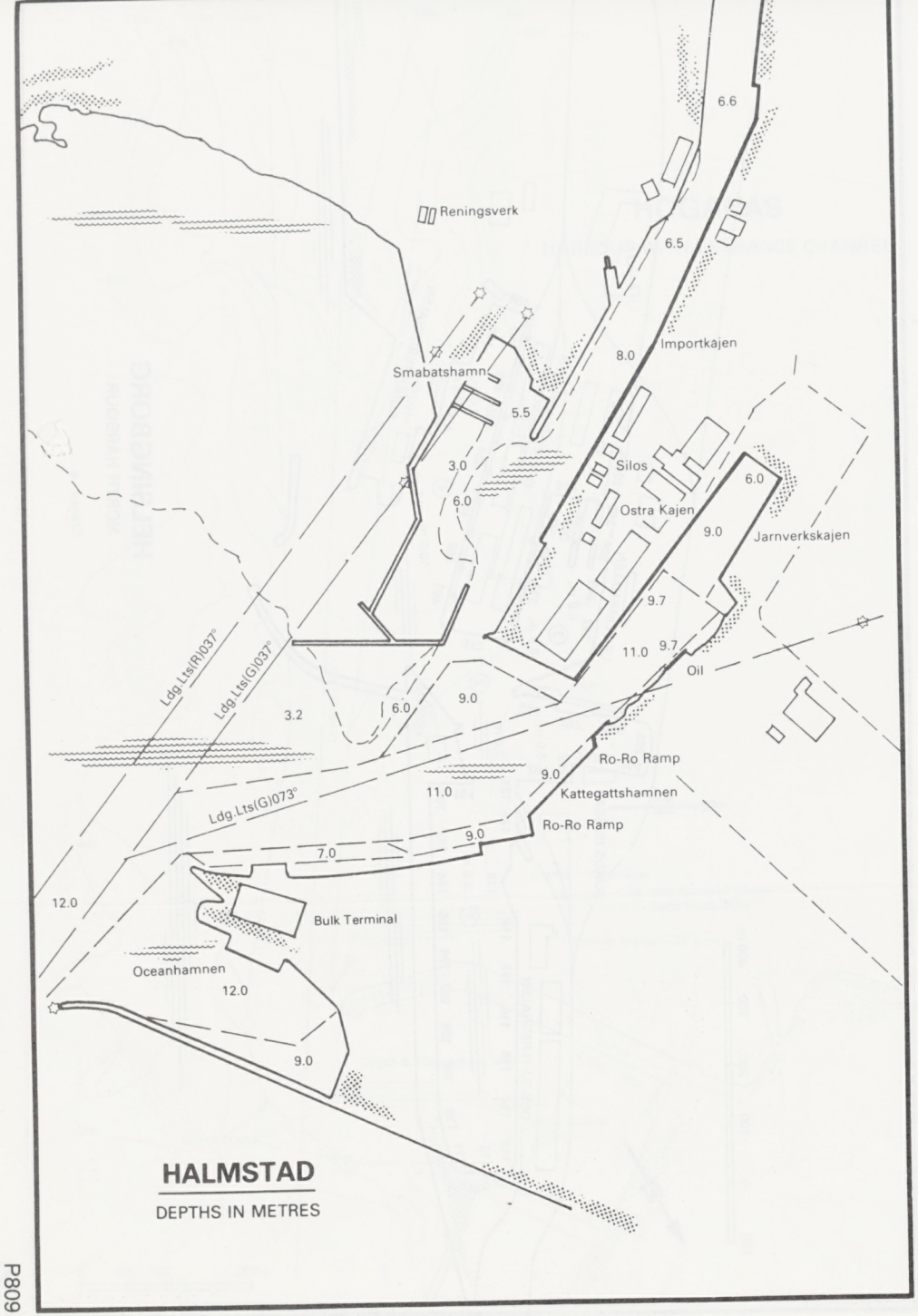

GAVLE
INNER HARBOUR
DEPTHS IN METRES
N
Norra Kanalen
Norra Hamnpiren
-2.1
-3.8
3.8
Holmkanalen
INRE FJARDEN
Nyhamn -5.0
Ostra hamnpiren
GAVLE DYKDALB
-5.0
Gavlean
-4.85
-4.85
-4.85
-4.3
-2.9
-5.8
-5.8
-3.8
Sodra Hamnpiren
-5.8
Stenborgskanalen
-1.8
0 100 200 300 400 500 M
SCALE

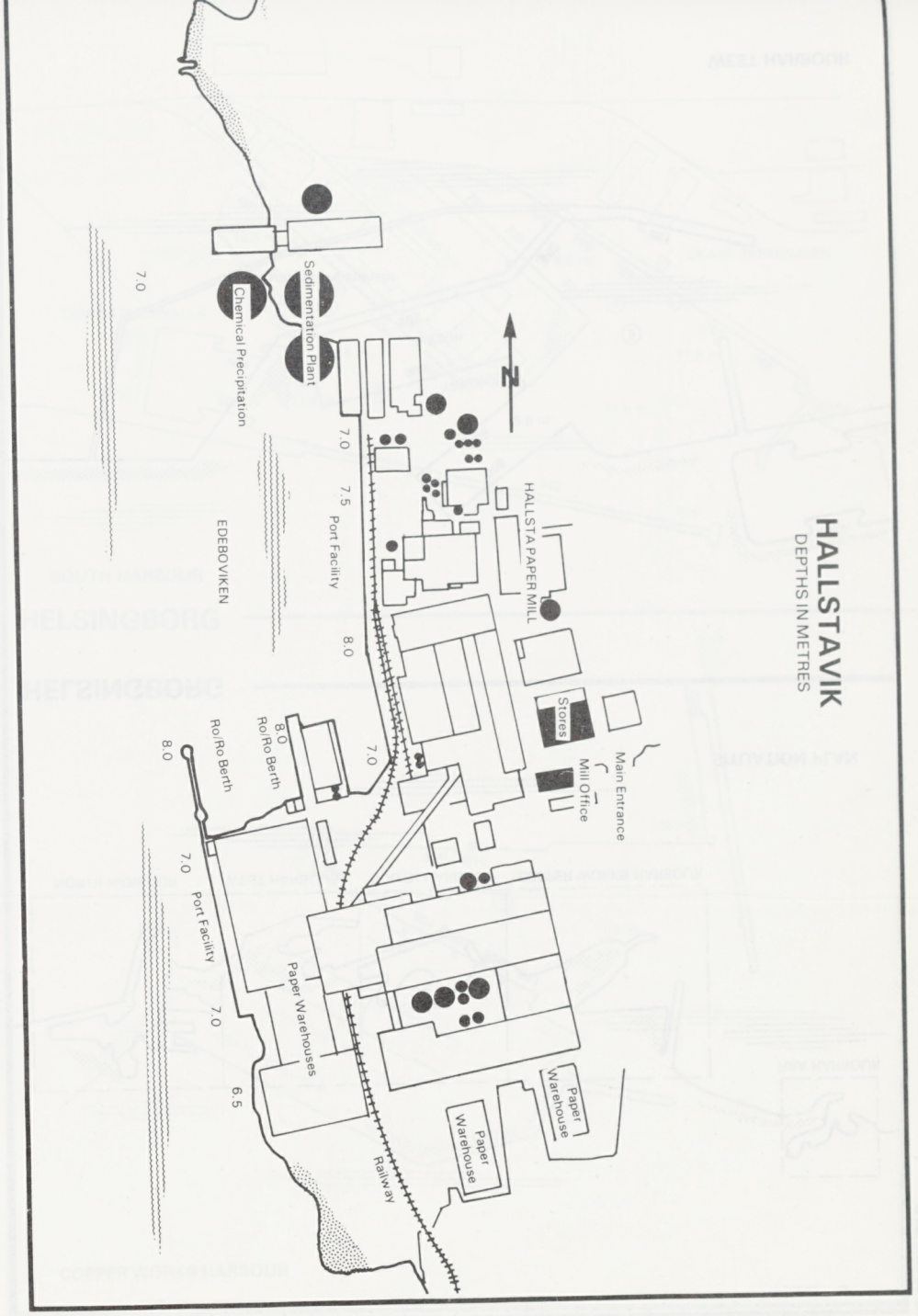

GOTHENBURG [1]
DEPTH IN METRES
SCALE
0 100 500 1000m
N
Flatholmen
Gotaverken
(Arendalsvarvet)
Gula Skar
Knippelskären
Alvsborgs Terminalen
SKANDIAHAMNEN
Aspholmarna
Skandia Terminalen
Tor Line - Terminalen
Skarvikshamnen
Reningsverk
Knippelholmarna
Nya Alvsborg
TO TORSHAMNEN
Ryahamnen
Alvsborgsbron
Hunneskar
Carnegiekajen
Stockholmen
Svinholmarna
Nya Varvet
Roda Bolaget


GOTHENBURG [2]
DEPTH IN METRES
SCALE
0 100 500 1000 m
N
Goteborgs Stads
Verkstader
Ringo
kajen
GOTA ALV
Frihamnen
Lundby hamnen
Kvillepiren
Frihammer
Gullbergskajen
Farjenashamnen
Sannegards
hamnen
Lindholms
hamnen
Pakhuskajen
Torrdocka
Hamnkontor
Fiskhamnen
Stigbergskajen
Masthuggskajen
Skeppsbrokajen
Storahamnkanalen
Majnabbe
hamnen
Stena
terminalen
Klippan
Lots
Rosenlundskanalen


GOTHENBURG
TORSHAMNEN
DEPTHS IN METRES
St. Risholmen
Stenutlastningskaj
798
799
9.5
810
812
G
R
6.5
Hjartholmen
Grytskaren
13.0
800
801
19.6
Fresh Water Pipe-line
Gateskar
2.5
VLCC Berth
20.5
Skeppstadsholmen
Brureskaren
Vitskar

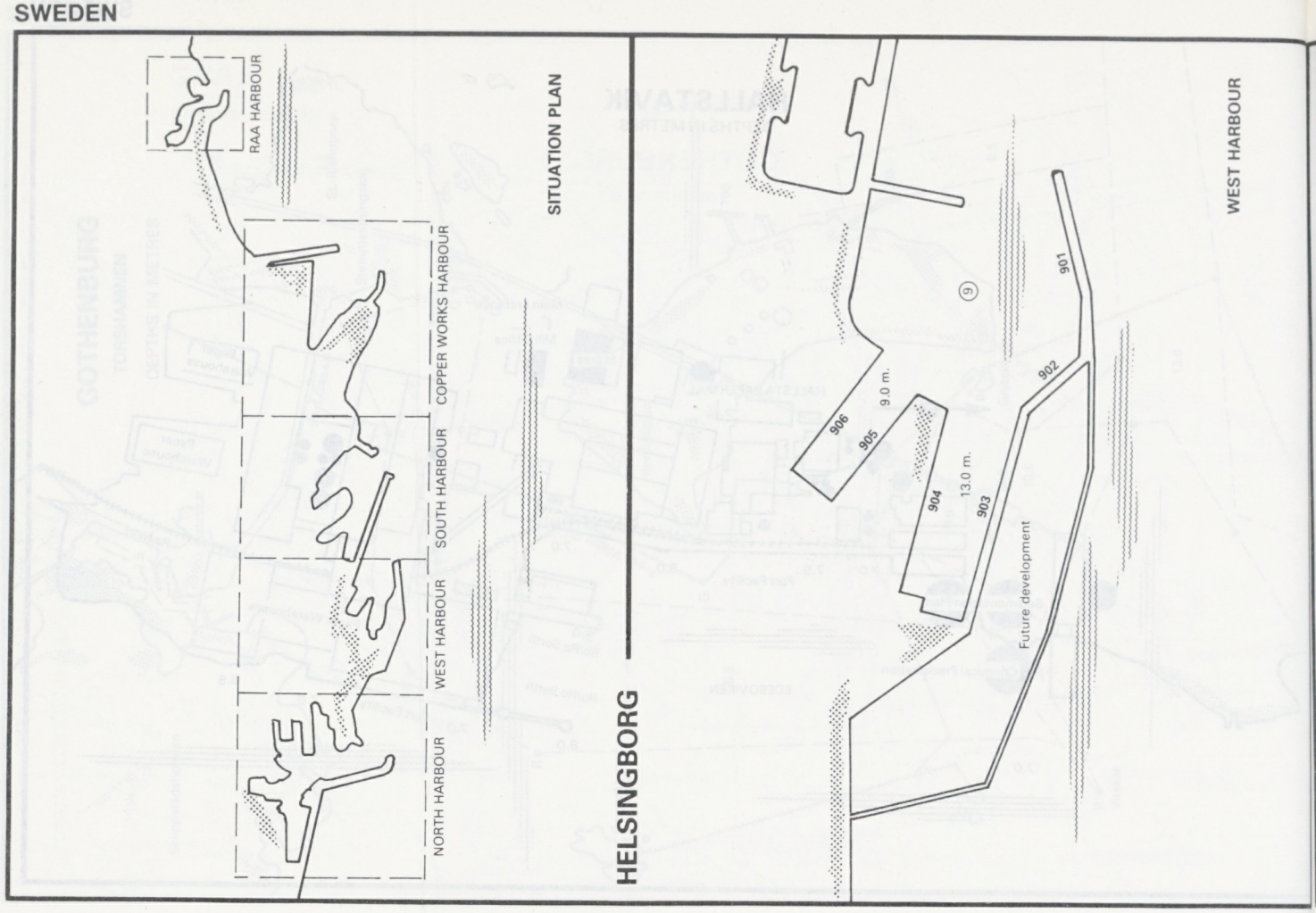

TANKER
100,000 T.D.W.
Limit of
19.6m depth
19.6m
Bollard, 125 tons
Bollard, 50 tons
Emergency mooring
(100 tons) wire
Quick release hooks
(125 tons) one on each
side of the pier
Two quick release
hooks (2 x 125 tons)
on each side of the pier.
Two quick release
hooks (2 x 125 tons)
Quick release
hook (125 tons)
Quick release
hook (125 tons)
Two quick release
hooks (2 x 125 tons)
Emergency mooring
(100 tons) wire
GOTHENBURG
TORSHAMNEN
BERTH No. 801
TANKER
200,000 T.D.W.
Limit of 19.6 m. depth
19.6 m.
Bollard, 125 tons
Bollard, 50 tons
Emergency mooring
(100 tons) wire
Quick release hooks
(125 tons) one on each
side of the pier
Two quick release
hooks (2 x 125 tons)
on each side of the pier.
Two quick release
hooks (2 x 125 tons)
Quick release
hook (125 tons)
Quick release
hook (125 tons)
Two quick release
hooks (2 x 125 tons)
Emergency mooring
(100 tons) wire
0
50
100
200 metres

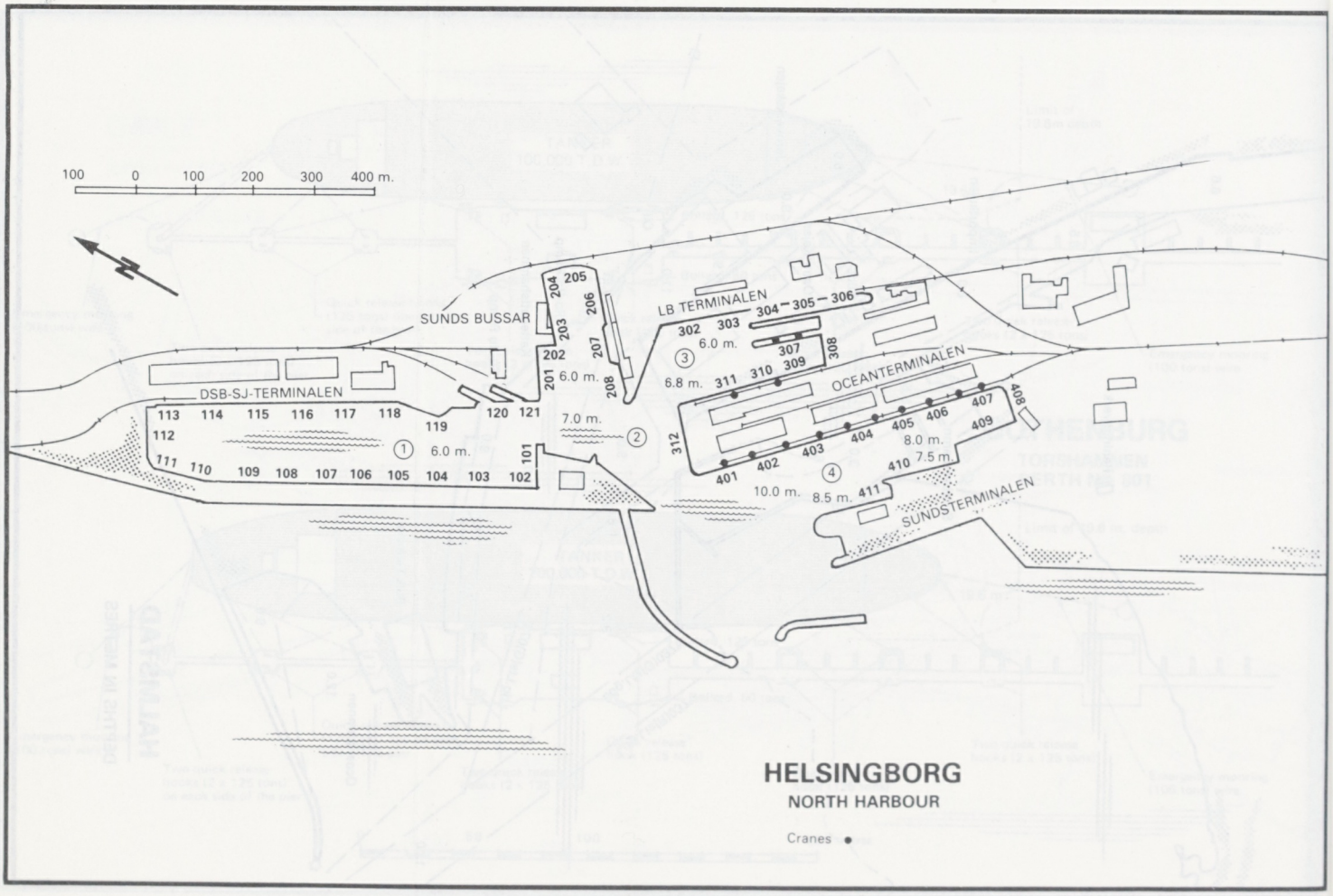

Reningsverk
6.6
6.5
Importkajen
8.0
Smabatshamn
5.5
3.0
6.0
Silos
Ostra Kajen
6.0
9.0
Jarnverkskajen
9.7
11.0
9.7
Oil
Ldg.Lts(R)037°
Ldg.Lts(G)037°
3.2
6.0
9.0
Ro-Ro Ramp
9.0
11.0
Kattegattshamnen
Ldg.Lts(G)073°
9.0
Ro-Ro Ramp
7.0
12.0
Bulk Terminal
Oceanhamnen
12.0
9.0
HALMSTAD
DEPTHS IN METRES

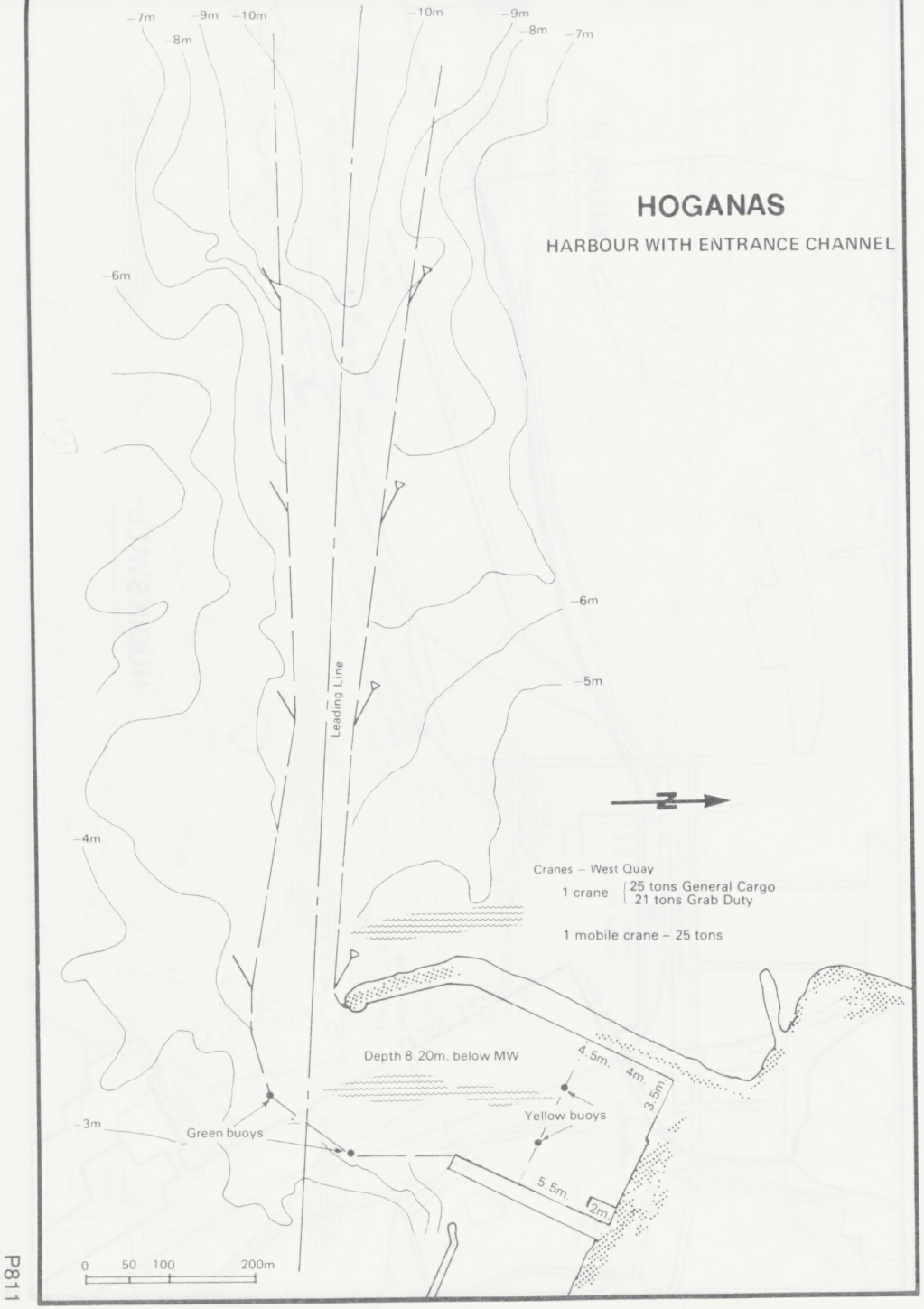

7.0
Sedimentation Plant
Chemical Precipitation
EDEBOVIKEN
7.0
7.5
Port Facility
8.0
N
HALLSTA PAPER MILL
Stores
Main Entrance
Mill Office
8.0
Ro/Ro Berth
Ro/Ro Berth
8.0
7.0
8.0
7.0
Port Facility
7.0
Paper Warehouses
6.5
Railway
Paper Warehouse
Paper Warehouse
HALLSTAVIK
DEPTHS IN METRES

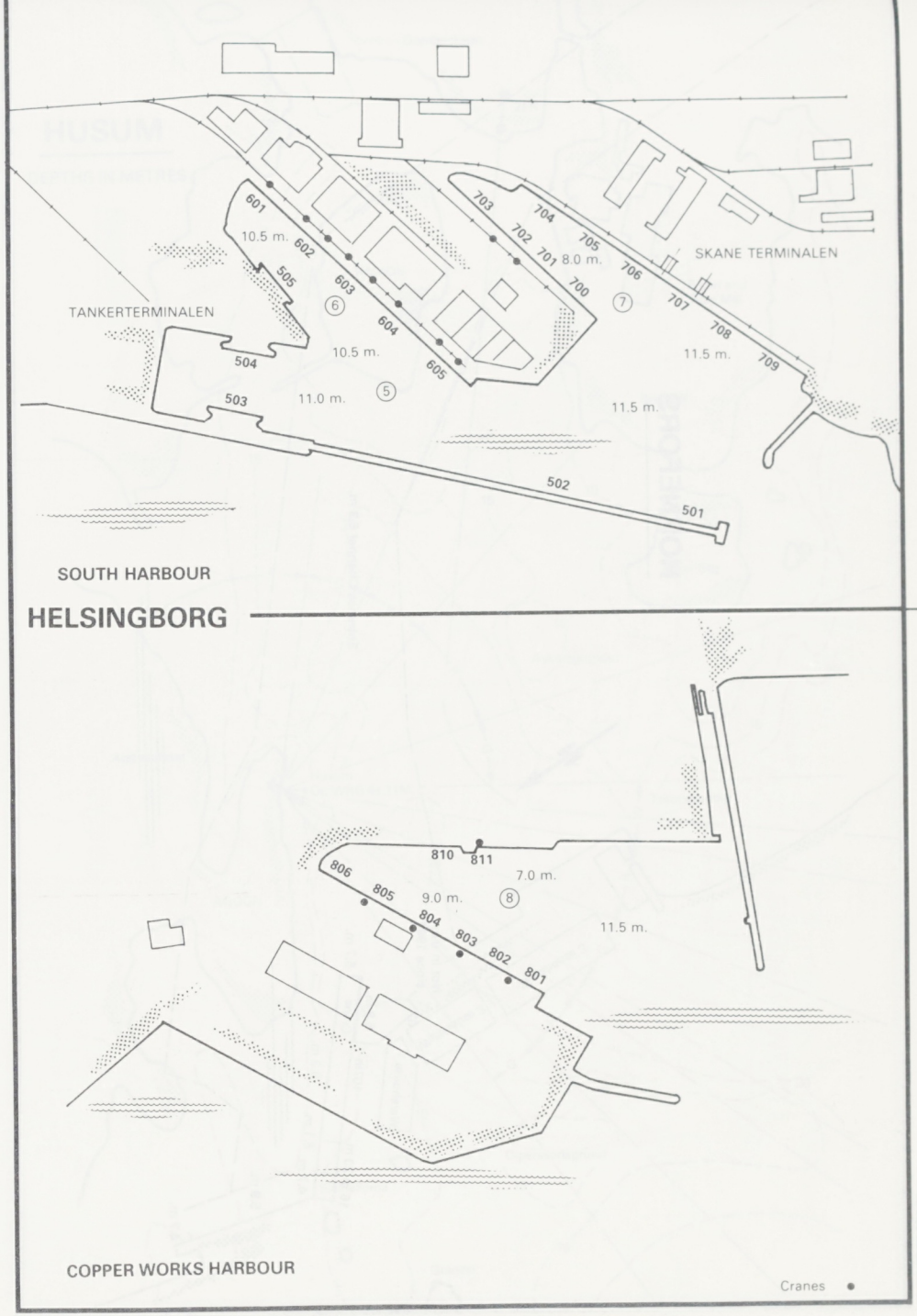
SWEDEN

P809


SITUATION PLAN
RAA HARBOUR
COPPER WORKS HARBOUR
SOUTH HARBOUR
WEST HARBOUR
NORTH HARBOUR
HELSINGBORG
WEST HARBOUR
9.0 m.
13.0 m.
906
905
904
903
902
901
Future development

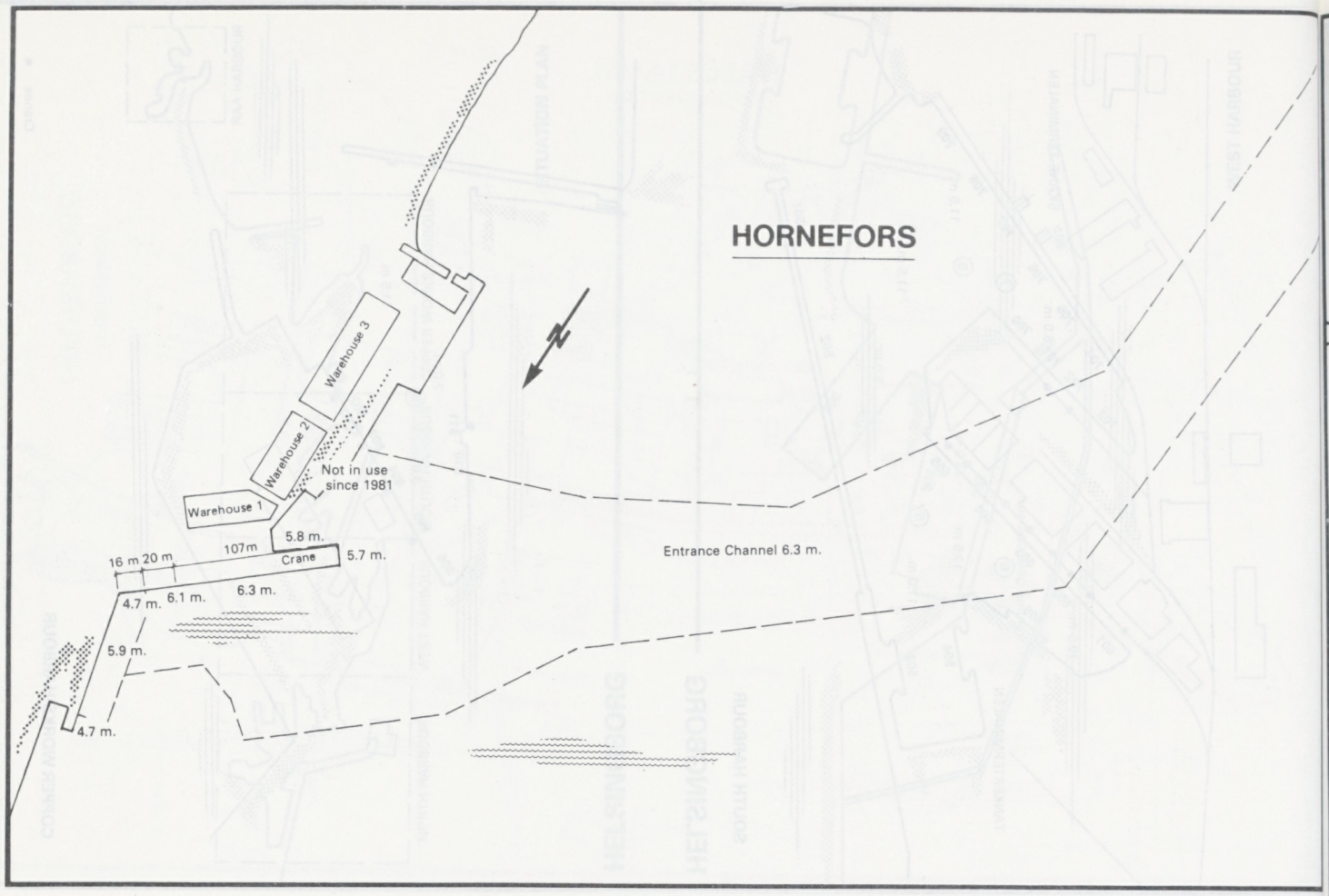

100 0 100 200 300 400 m.
SUNDS BUSSAR
DSB-SJ-TERMINALEN
LB TERMINALEN
OCEANTERMINALEN
SUNDSTERMINALEN
6.0 m.
7.0 m.
6.8 m.
8.0 m.
7.5 m.
10.0 m.
8.5 m.
HELSINGBORG
NORTH HARBOUR
Cranes

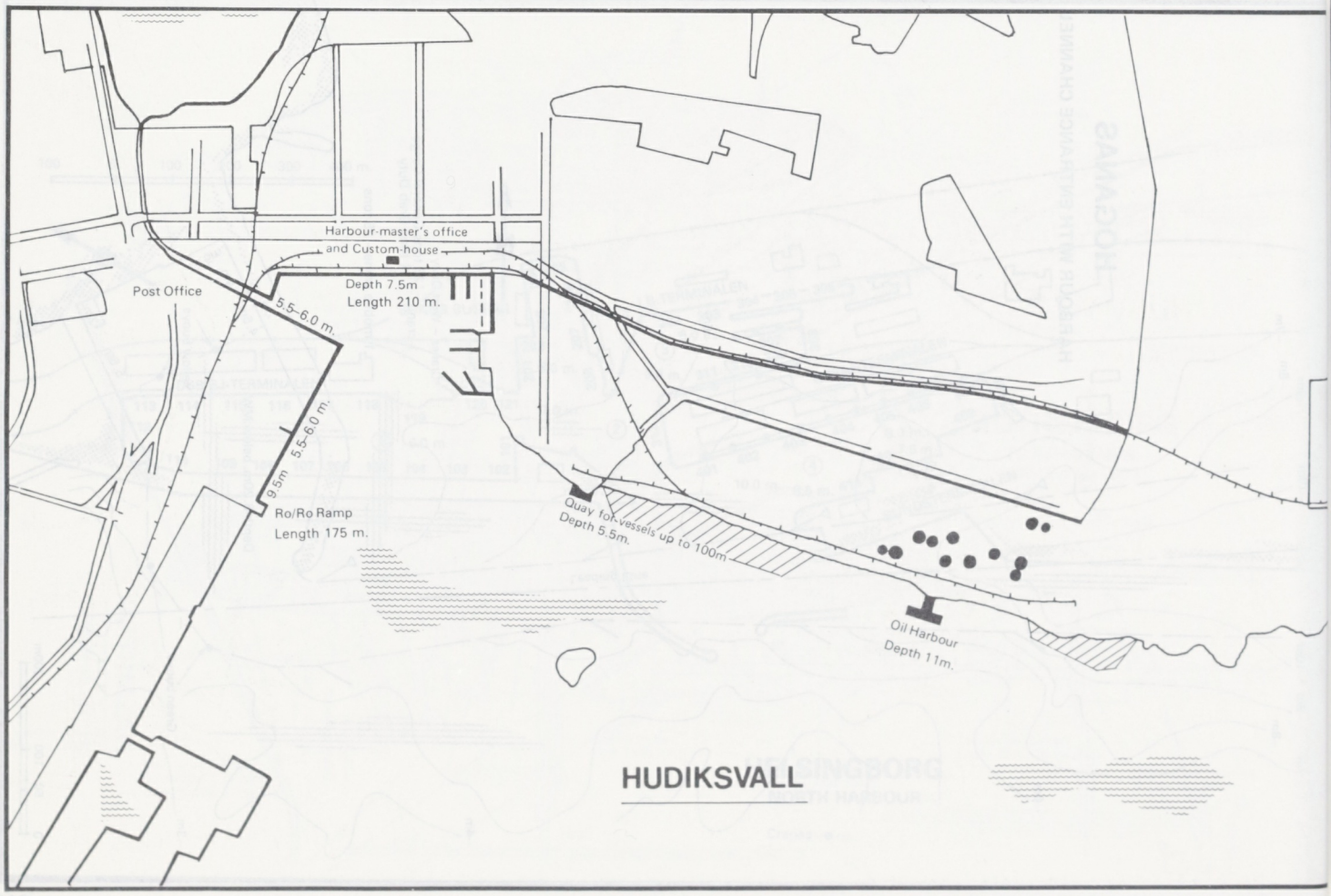

HOGANAS
HARBOUR WITH ENTRANCE CHANNEL
-7m
-9m
-10m
-8m
-6m
-5m
-4m
-3m
Leading Line
N
Cranes – West Quay
1 crane
25 tons General Cargo
21 tons Grab Duty
1 mobile crane – 25 tons
Depth 8.20m. below MW
4.5m.
4m.
3.5m
Yellow buoys
Green buoys
5.5m.
2m
0 50 100 200m

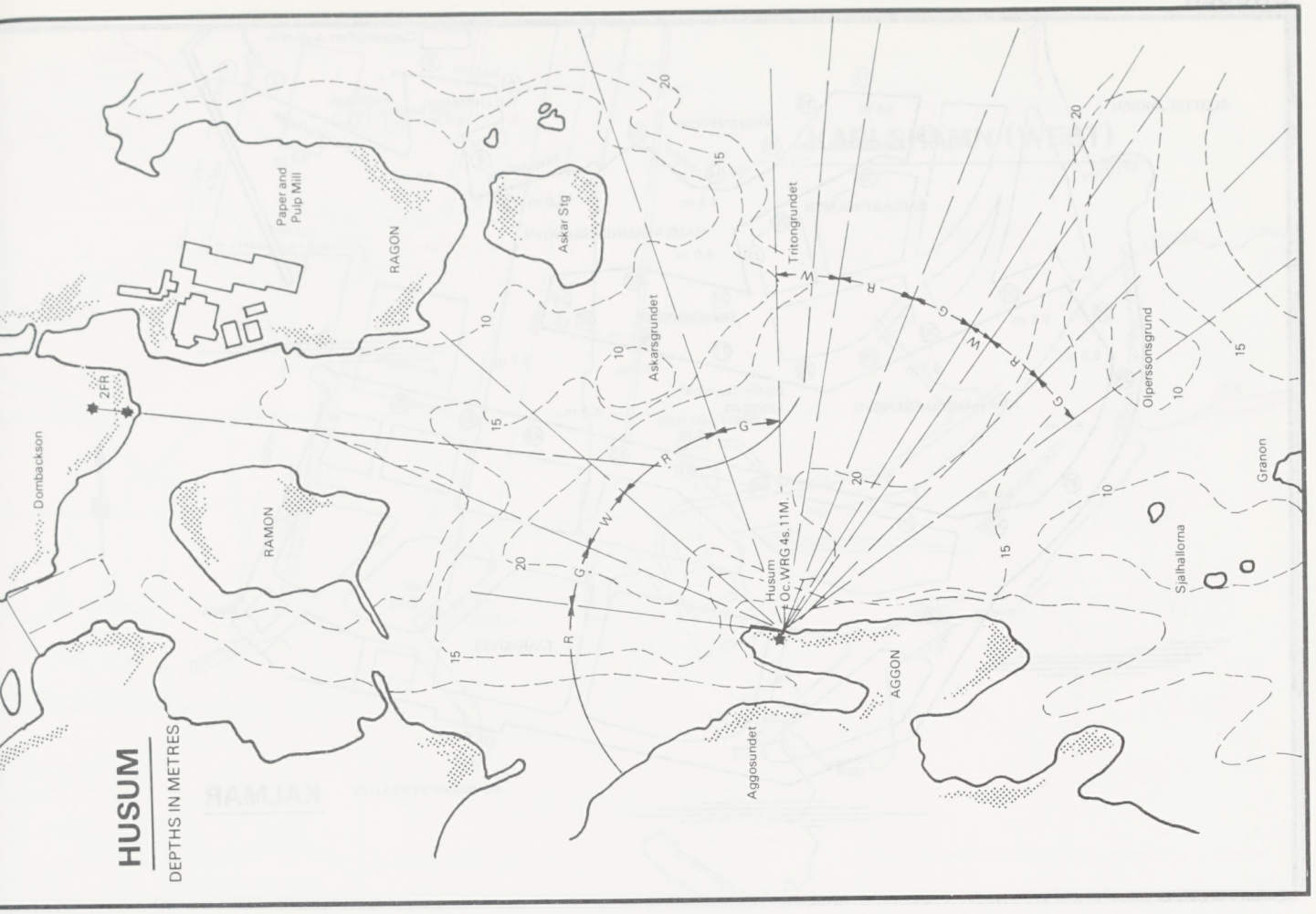

HELSINGBORG
SOUTH HARBOUR
601
602
603
604
605
504
503
502
501
505
10.5 m.
11.0 m.
703
704
705
702
701
700
8.0 m.
706
707
708
709
10.5 m.
11.5 m.
11.5 m.
SKANE TERMINALEN
TANKERTERMINALEN
6
7
5
810
811
806
805
804
803
802
801
7.0 m.
9.0 m.
8
11.5 m.
COPPER WORKS HARBOUR
Cranes

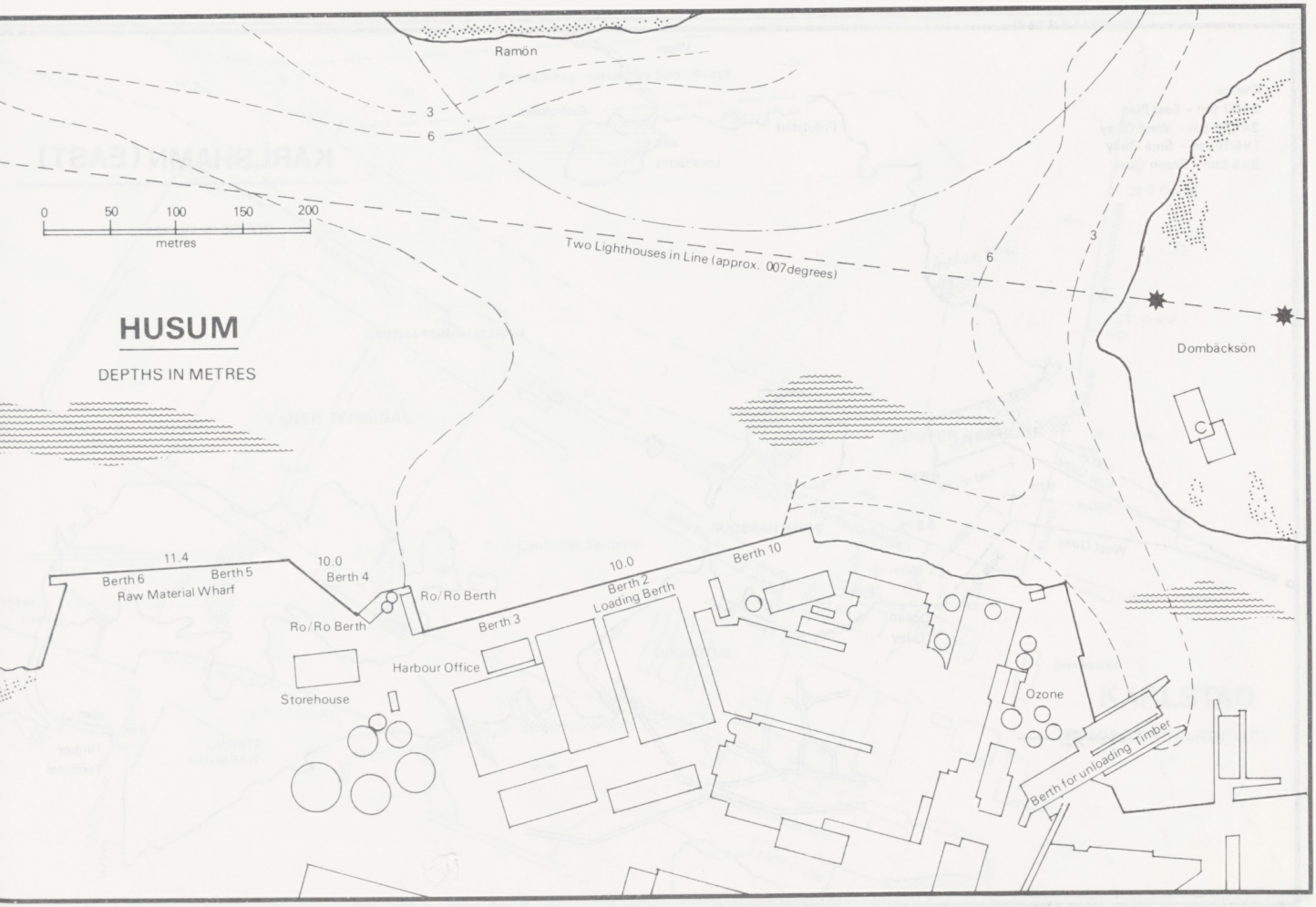
SWEDEN

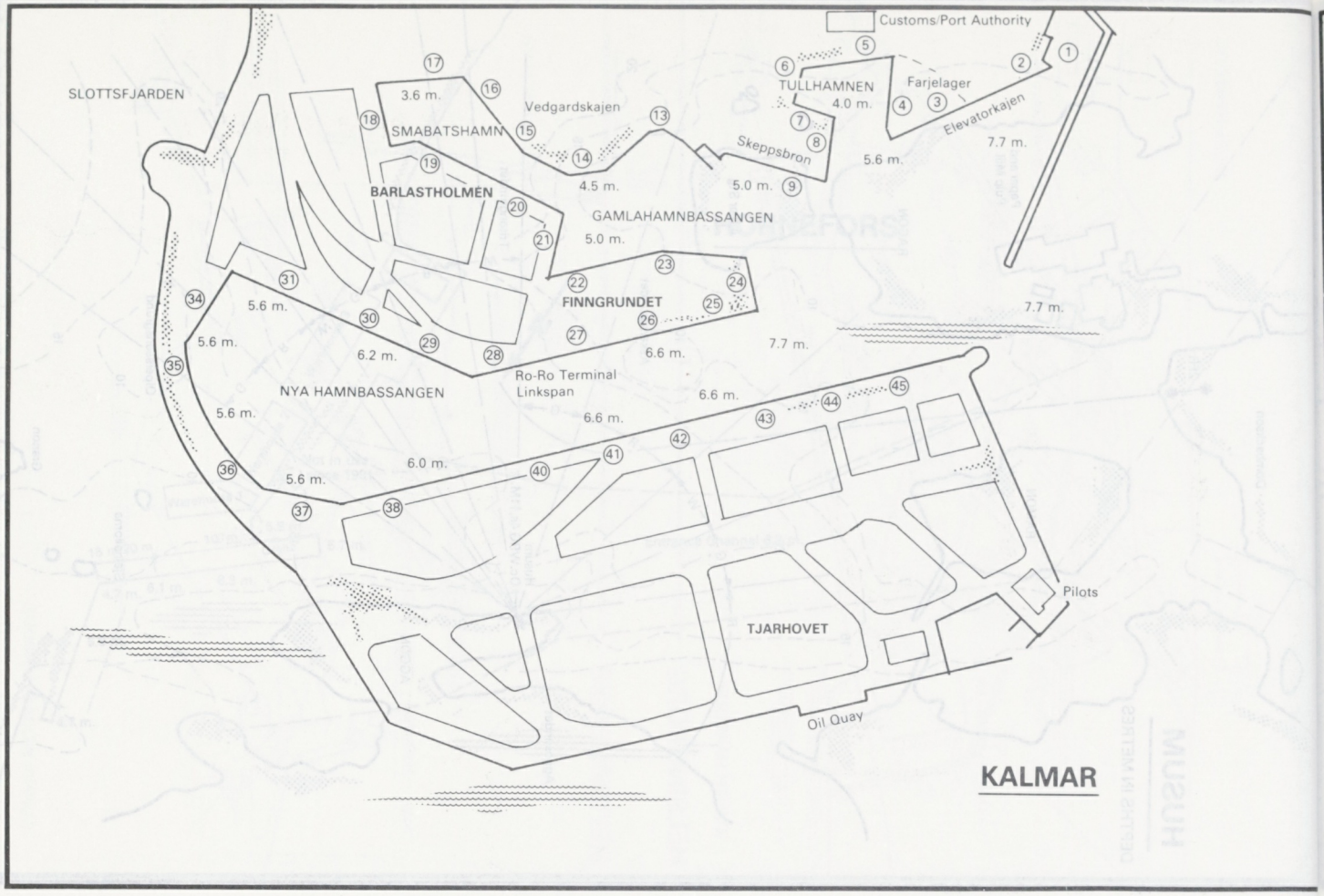
P811

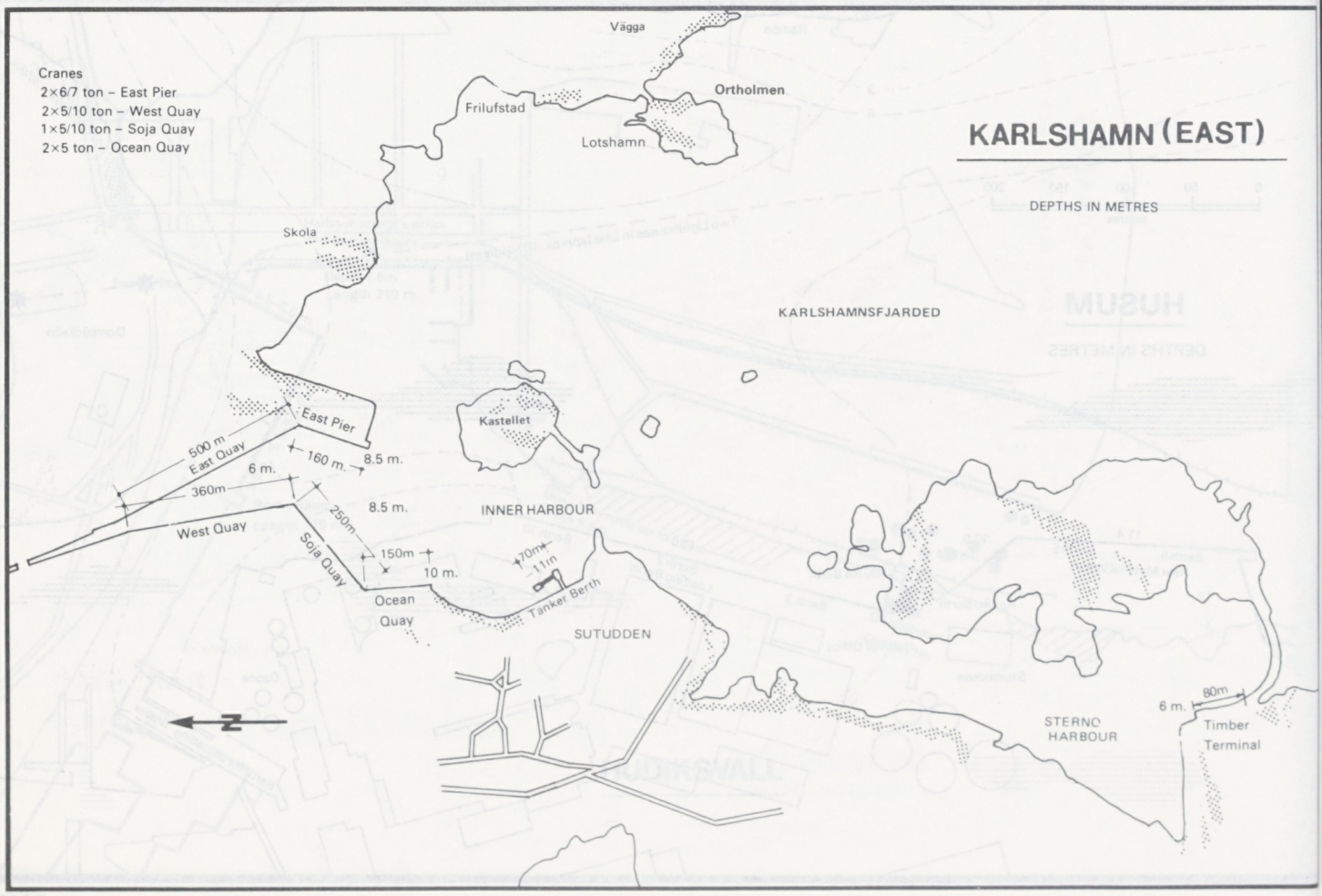

HORNEFORS
Warehouse 3
Warehouse 2
Warehouse 1
Not in use
since 1981
5.8 m.
16 m 20 m
107m
Crane
5.7 m.
4.7 m.
6.1 m.
6.3 m.
5.9 m.
4.7 m.
Entrance Channel 6.3 m.

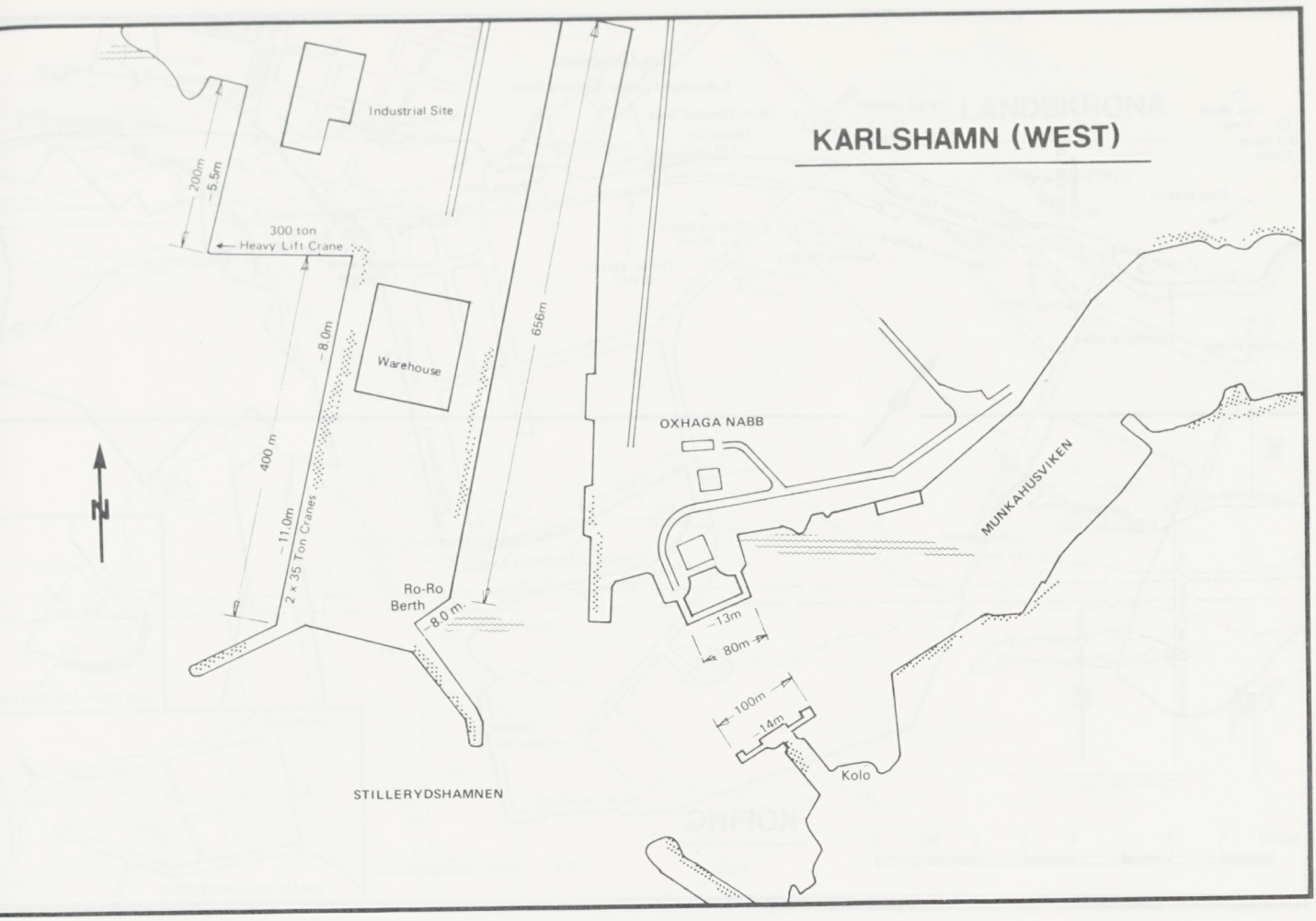

Harbour-master's office
and Custom-house
Post Office
Depth 7.5m
Length 210 m.
5.5-6.0 m.
5.5-6.0 m.
9.5m
Ro/Ro Ramp
Length 175 m.
Quay for vessels up to 100m
Depth 5.5m.
Oil Harbour
Depth 11m.
HUDIKSVALL

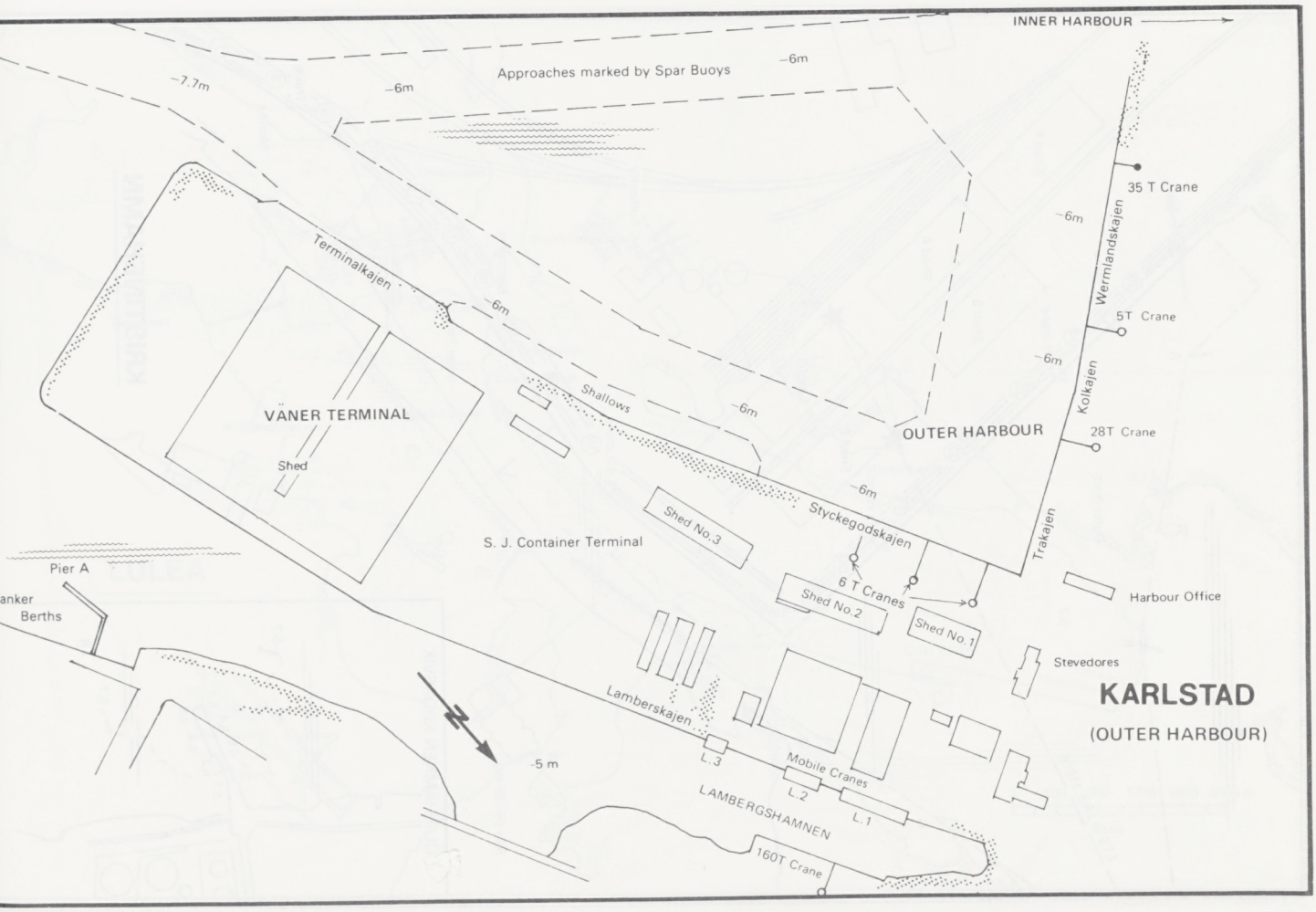

HUSUM
DEPTHS IN METRES
Paper and Pulp Mill
RAGON
Askar Stg
Askarsgrundet
Tritongrundet
Olperssonsgrund
Granon
Sjalhallorna
Dombackson
2FR
RAMON
Husum
Oc.WRG.4s.11M.
AGGON
Aggosundet
W
R
G
20
15
10

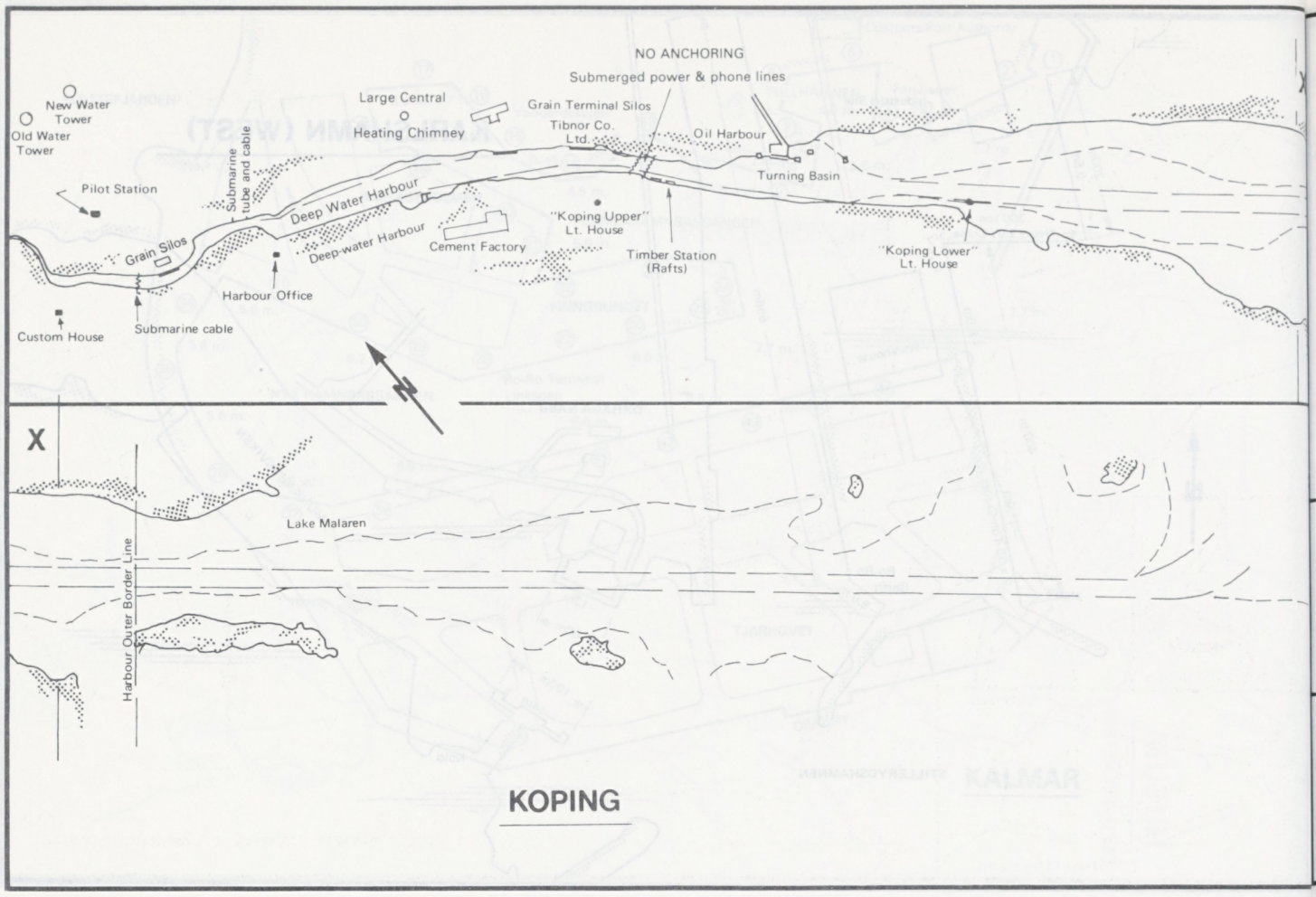

HUSUM
DEPTHS IN METRES
Ramön
0 50 100 150 200
metres
Two Lighthouses in Line (approx. 007degrees)
Dombäcksön
3
6
11.4
Berth 6
Berth 5
Raw Material Wharf
10.0
Berth 4
Ro/Ro Berth
Ro/Ro Berth
Berth 3
10.0
Berth 2
Loading Berth
Berth 10
Harbour Office
Storehouse
Ozone
Berth for unloading Timber

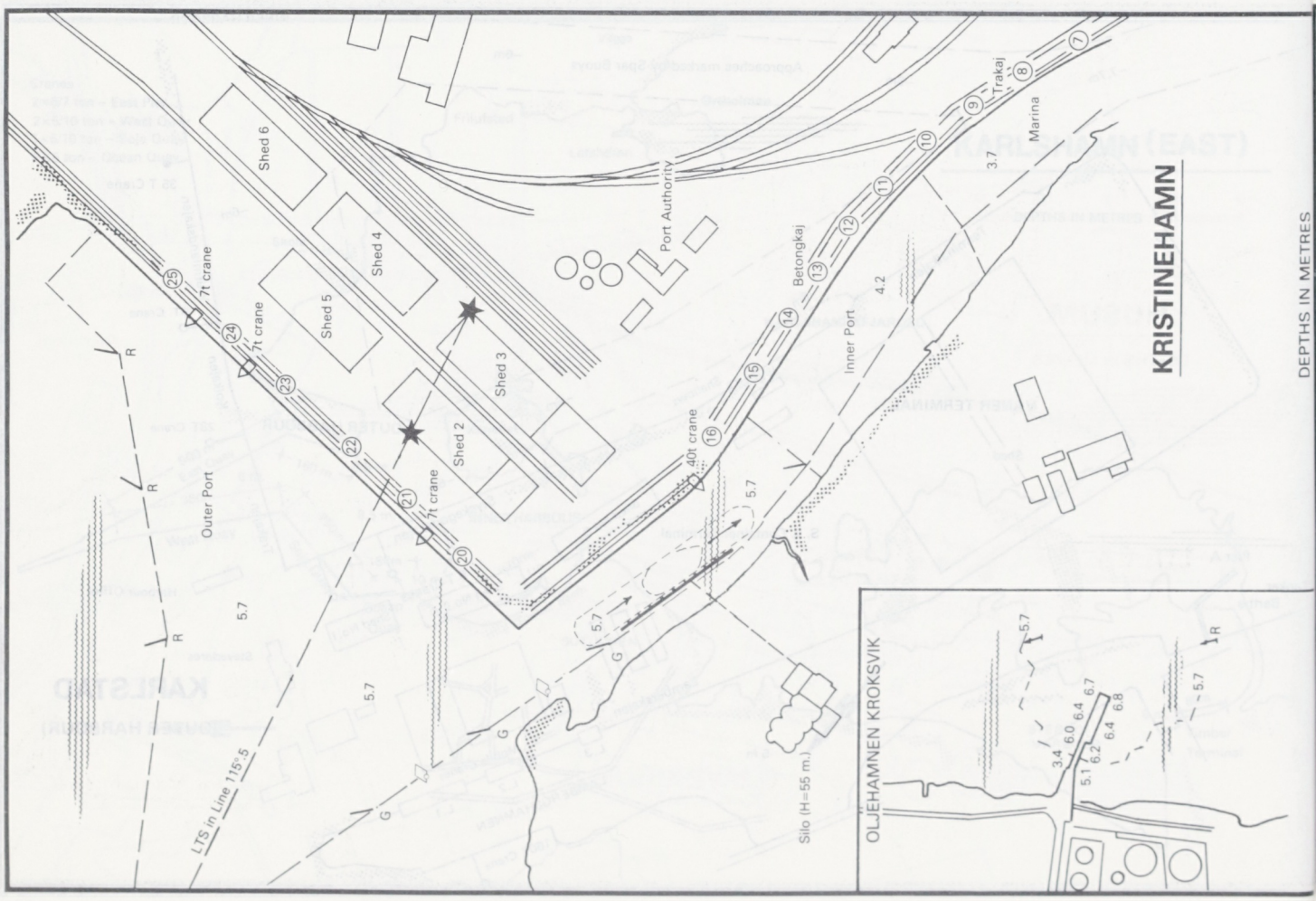

Customs/Port Authority
SLOTTSFJARDEN
SMABATSHAMN
Vedgardskajen
TULLHAMNEN
4.0 m.
Farjelager
Elevatorkajen
Skeppsbron
5.6 m.
7.7 m.
3.6 m.
BARLASTHOLMEN
4.5 m.
5.0 m.
GAMLAHAMNBASSANGEN
5.0 m.
FINNGRUNDET
5.6 m.
6.2 m.
6.6 m.
7.7 m.
NYA HAMNBASSANGEN
Ro-Ro Terminal
Linkspan
6.0 m.
Pilots
TJARHOVET
Oil Quay
KALMAR

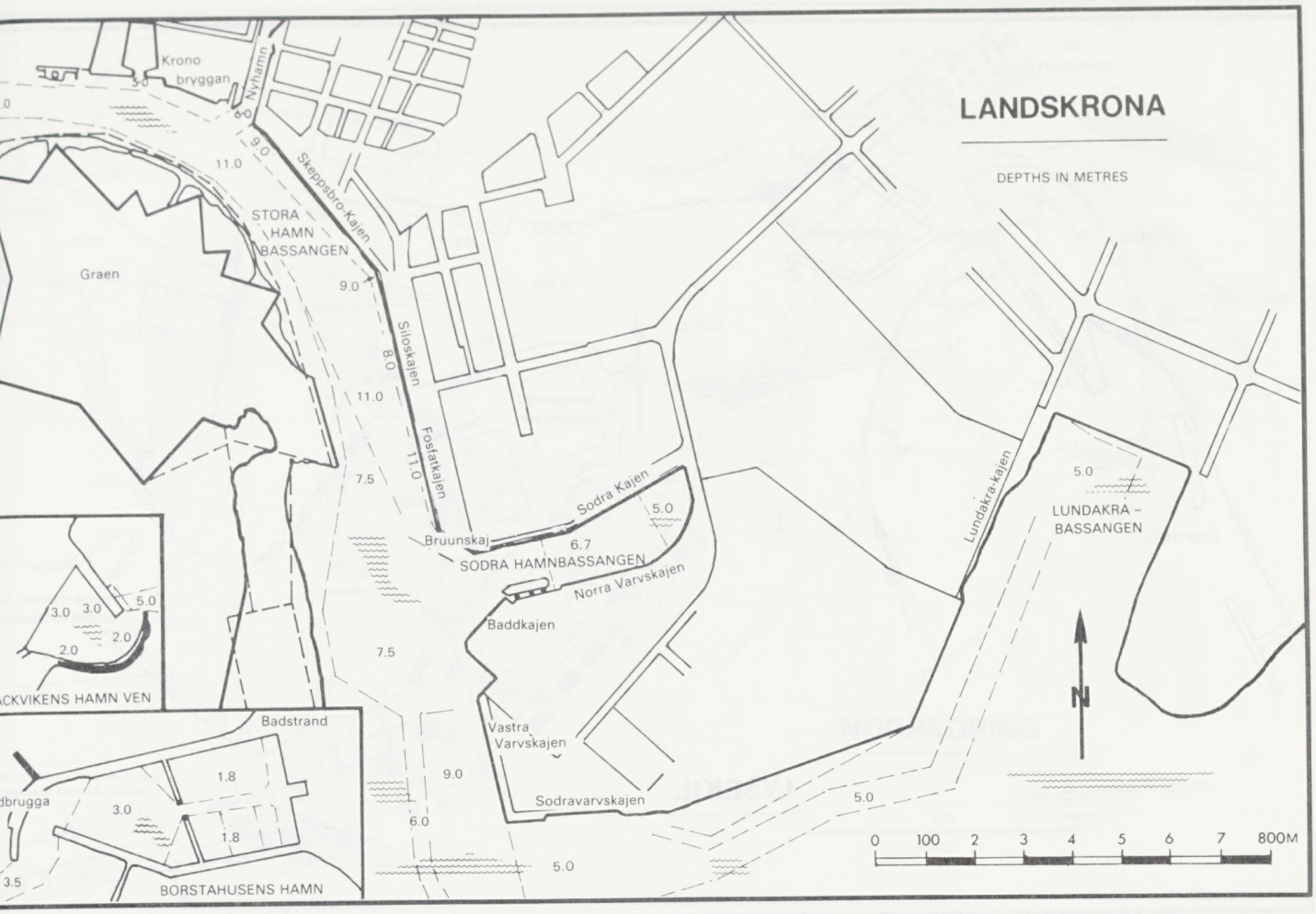

Cranes
2×6/7 ton – East Pier
2×5/10 ton – West Quay
1×5/10 ton – Soja Quay
2×5 ton – Ocean Quay
Vägga
Ortholmen
Frilufstad
Lotshamn
KARLSHAMN (EAST)
DEPTHS IN METRES
Skola
KARLSHAMNSFJARDED
Kastellet
East Pier
500 m
East Quay
160 m.
8.5 m.
6 m.
360m
West Quay
250m
Soja Quay
150m
10 m.
8.5 m.
INNER HARBOUR
70m
11m
Tanker Berth
Ocean
Quay
SUTUDDEN
STERNO
HARBOUR
6 m.
80m
Timber
Terminal

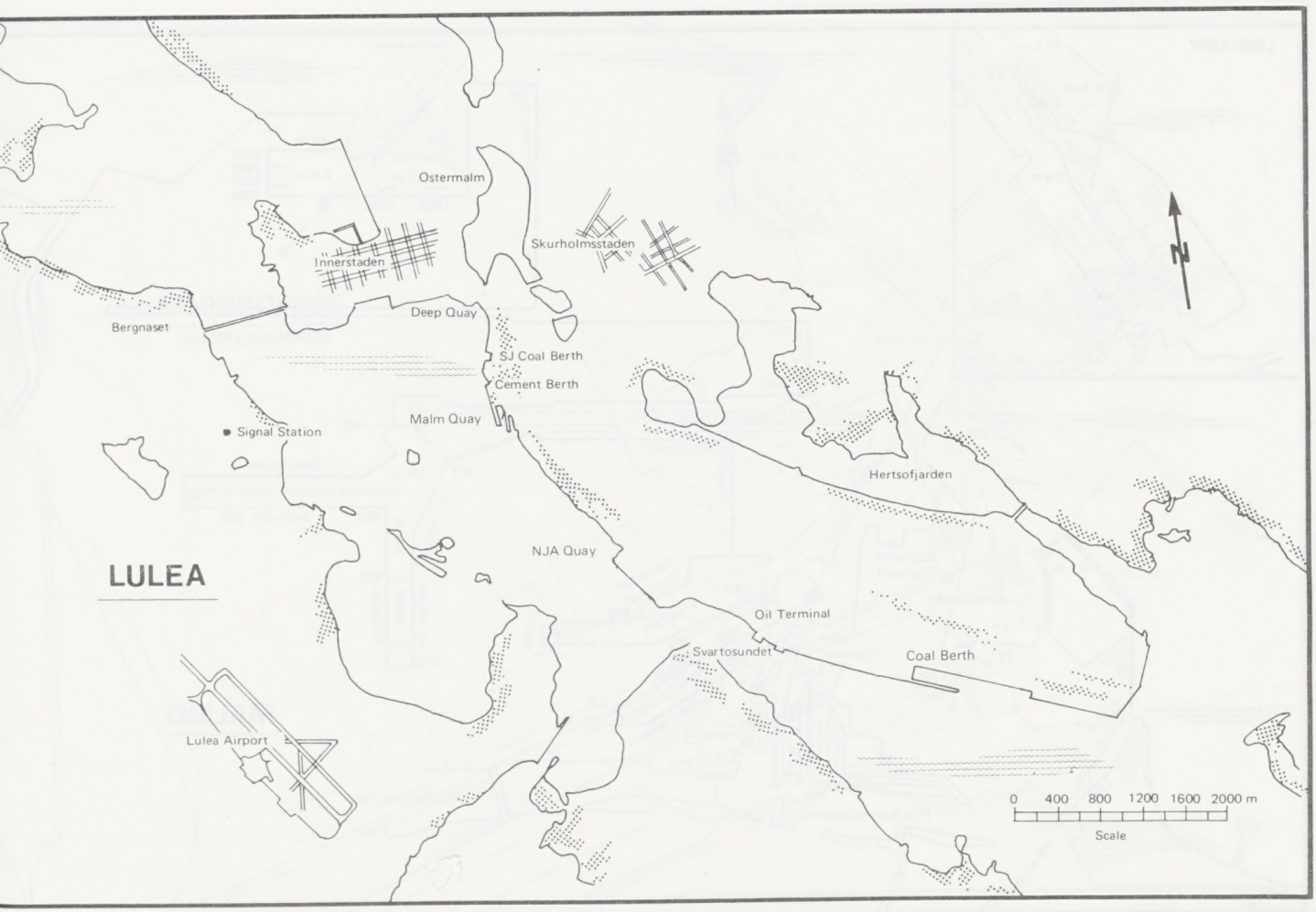

KARLSHAMN (WEST)
Industrial Site
200m
-5.5m
300 ton
Heavy Lift Crane
Warehouse
-8.0m
400 m
-11.0m
2 x 35 Ton Cranes
656m
Ro-Ro
Berth
-8.0 m
OXHAGA NABB
MUNKAHUSVIKEN
-13m
80m
100m
-14m
Kolo
STILLERYDSHAMNEN

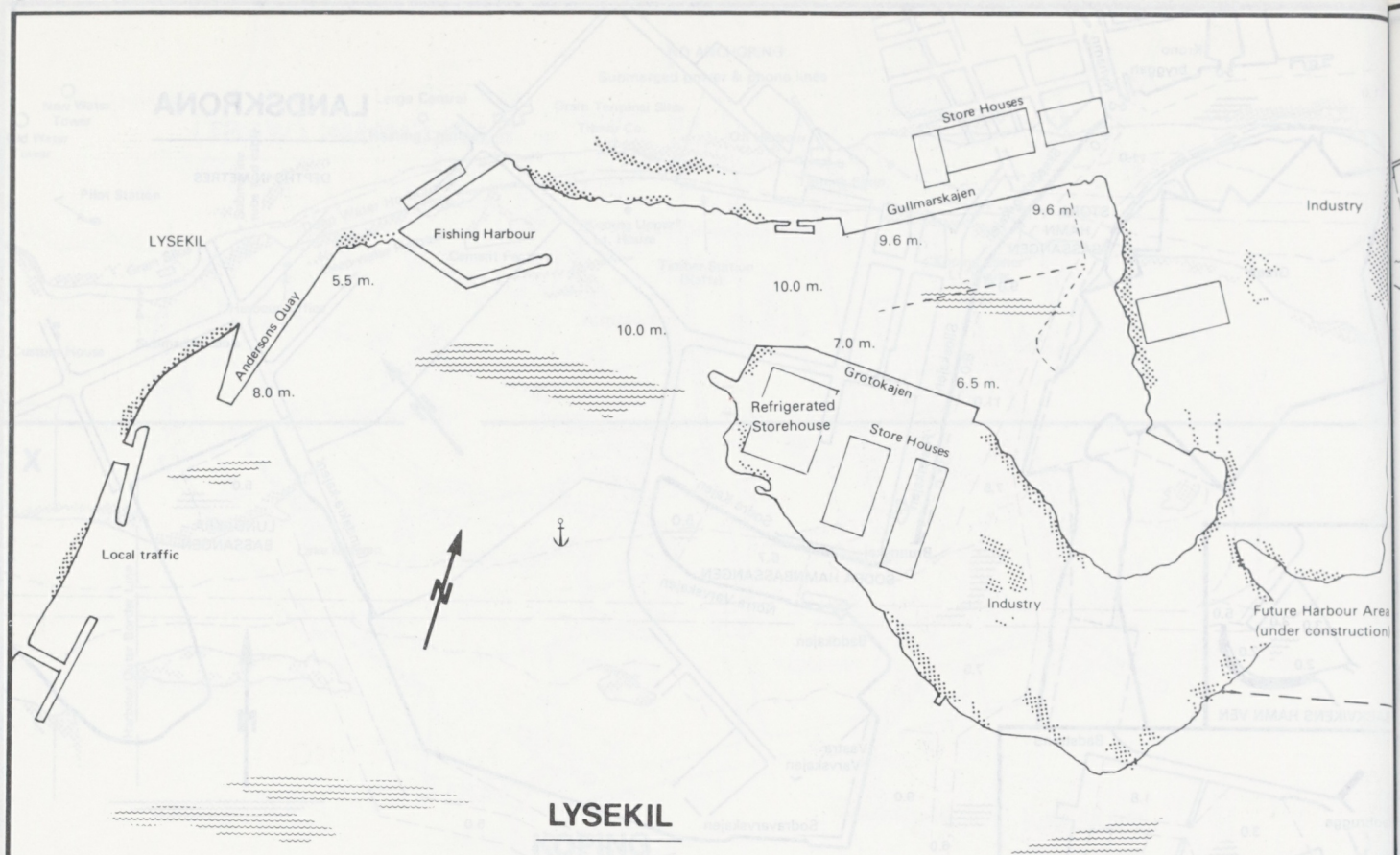

INNER HARBOUR
Approaches marked by Spar Buoys
-7.7m
-6m
-6m
-6m
35 T Crane
Wermlandskajen
5T Crane
-6m
Kolkajen
28T Crane
Terminalkajen
-6m
VÄNER TERMINAL
Shed
Shallows
-6m
OUTER HARBOUR
-6m
Styckegodskajen
Trakajen
Shed No.3
S. J. Container Terminal
Pier A
6 T Cranes
Shed No.2
Shed No.1
Harbour Office
anker
Berths
Stevedores
KARLSTAD
(OUTER HARBOUR)
Lamberskajen
-5 m
L.3
Mobile Cranes
L.2
L.1
LAMBERGSHAMNEN
160T Crane

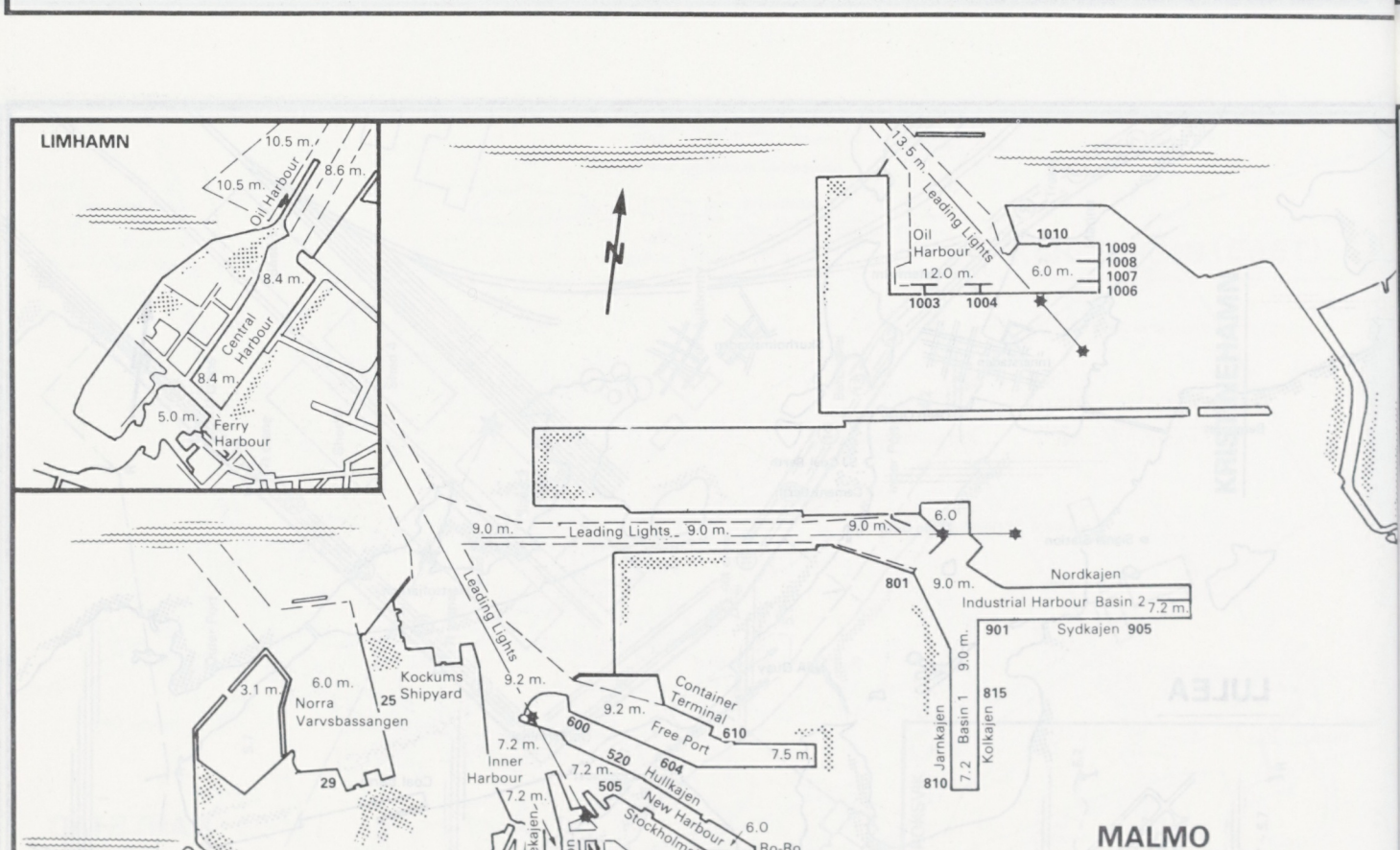

NO ANCHORING
Submerged power & phone lines
New Water Tower
Old Water Tower
Large Central Heating Chimney
Grain Terminal Silos
Tibnor Co. Ltd.
Oil Harbour
Turning Basin
Pilot Station
Submarine tube and cable
Deep Water Harbour
Grain Silos
Deep-water Harbour
Cement Factory
"Koping Upper" Lt. House
Timber Station (Rafts)
"Koping Lower" Lt. House
Harbour Office
Custom House
Submarine cable
X
Lake Malaren
Harbour Outer Border Line
KOPING

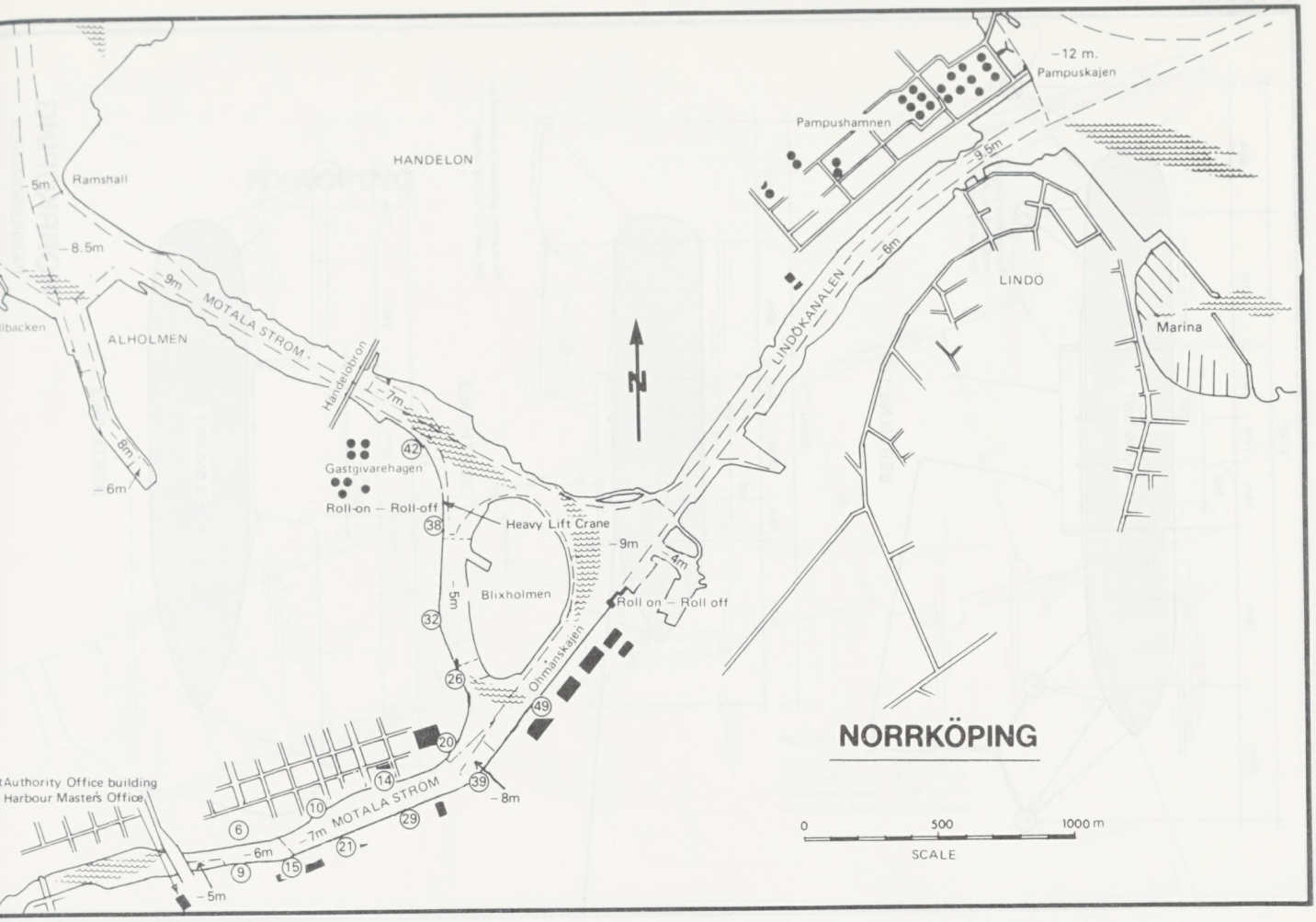

Shed 6
Shed 4
Shed 5
Shed 3
Shed 2
Port Authority
Betongkaj
Inner Port
Outer Port
Trakaj
Marina
7t crane
40t crane
Silo (H=55 m.)
LTS in Line 115°.5
OLJEHAMNEN KROKSVIK
KRISTINEHAMN
DEPTHS IN METRES

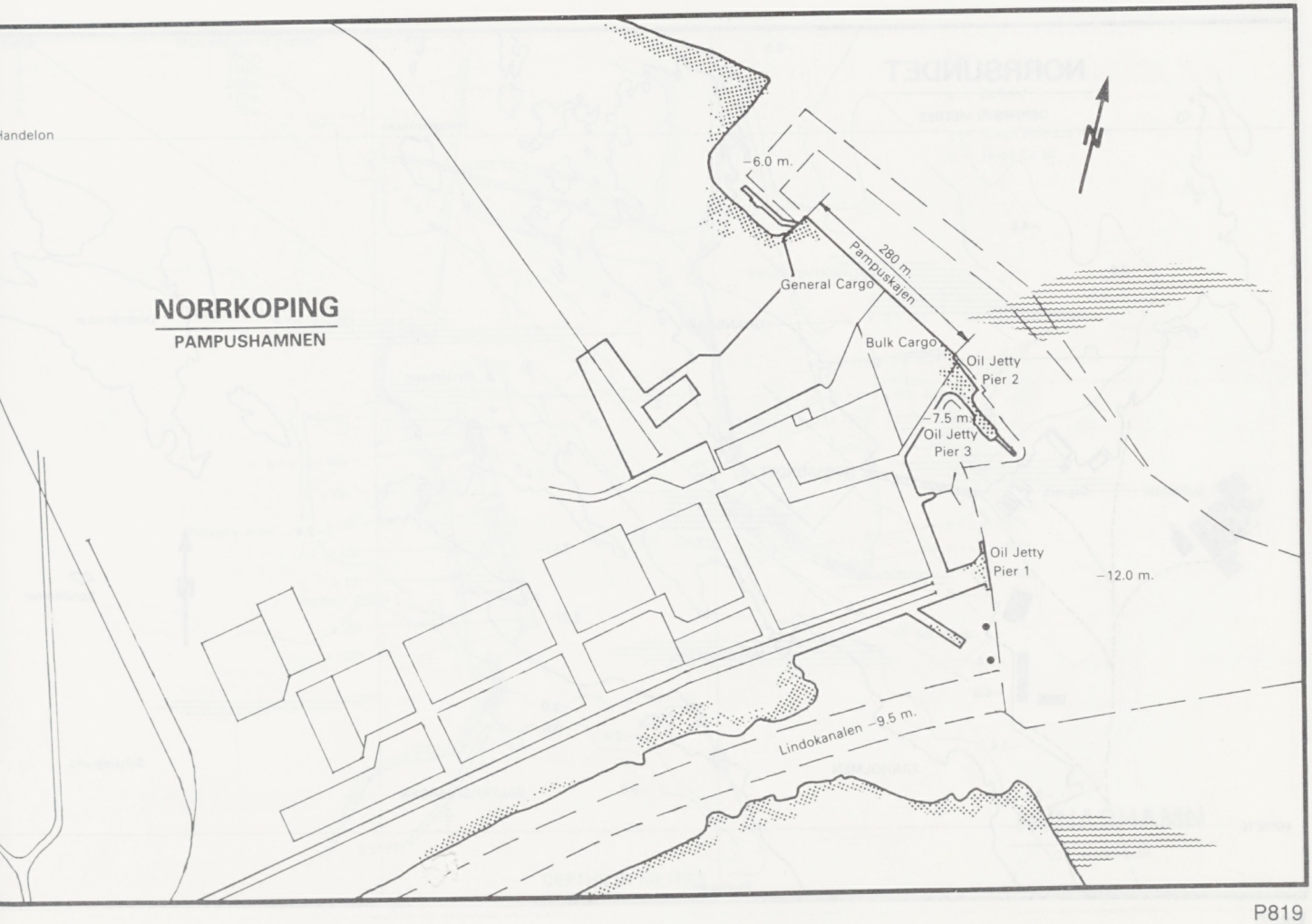

LANDSKRONA
DEPTHS IN METRES
Krono bryggan
Nyhamn
Skeppsbro-Kajen
STORA HAMN BASSANGEN
Graen
Siloskajen
Fosfatkajen
Sodra Kajen
Bruunskaj
SODRA HAMNBASSANGEN
Norra Varvskajen
Baddkajen
Vastra Varvskajen
Sodravarvskajen
Lundakra-kajen
LUNDAKRA - BASSANGEN
ACKVIKENS HAMN VEN
Badstrand
dbrugga
BORSTAHUSENS HAMN
N
0 100 2 3 4 5 6 7 800M

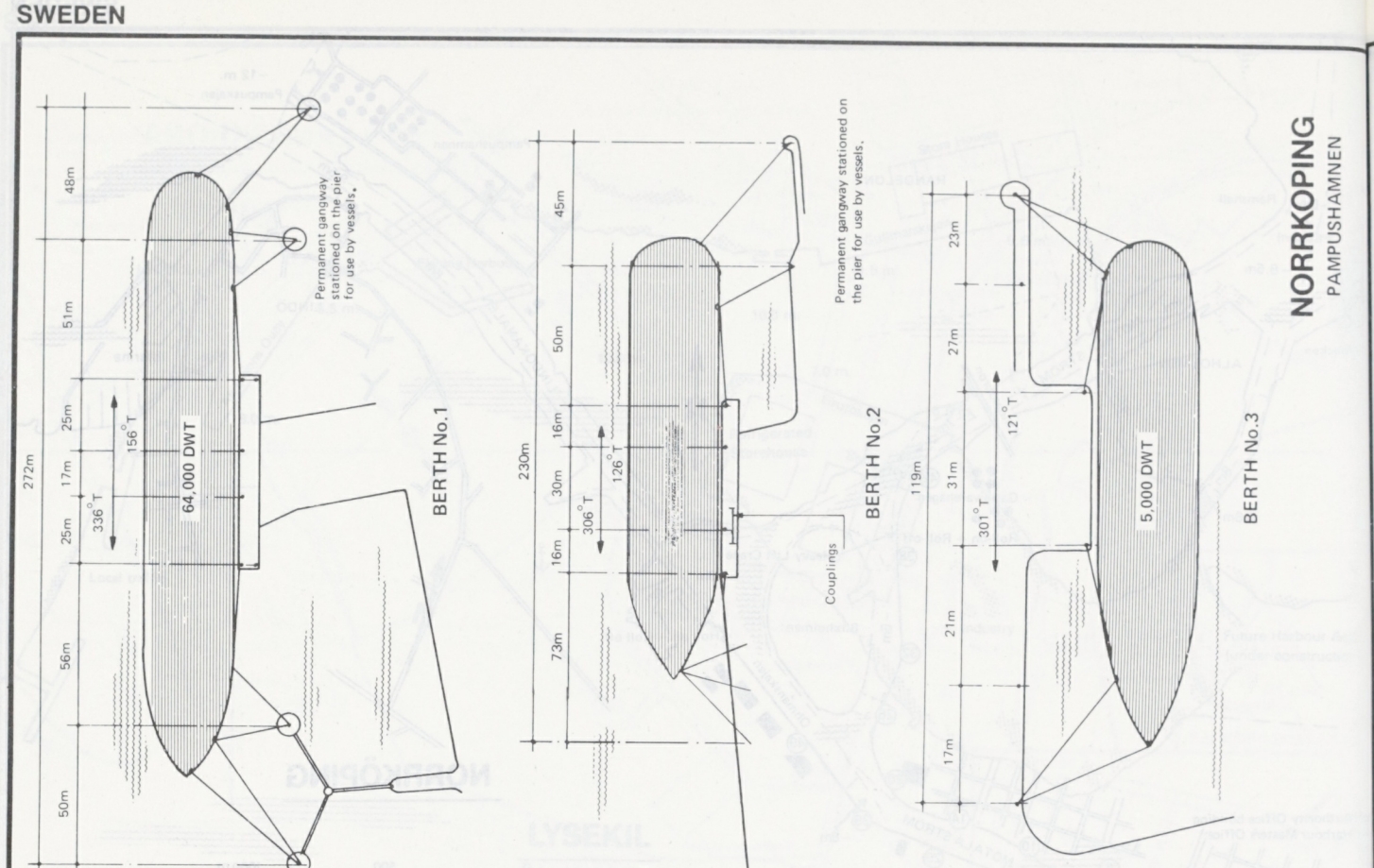

LULEA
Ostermalm
Innerstaden
Skurholmsstaden
Bergnaset
Deep Quay
SJ Coal Berth
Cement Berth
Malm Quay
Signal Station
NJA Quay
Hertsofjarden
Oil Terminal
Svartosundet
Coal Berth
Lulea Airport
N
0 400 800 1200 1600 2000 m
Scale

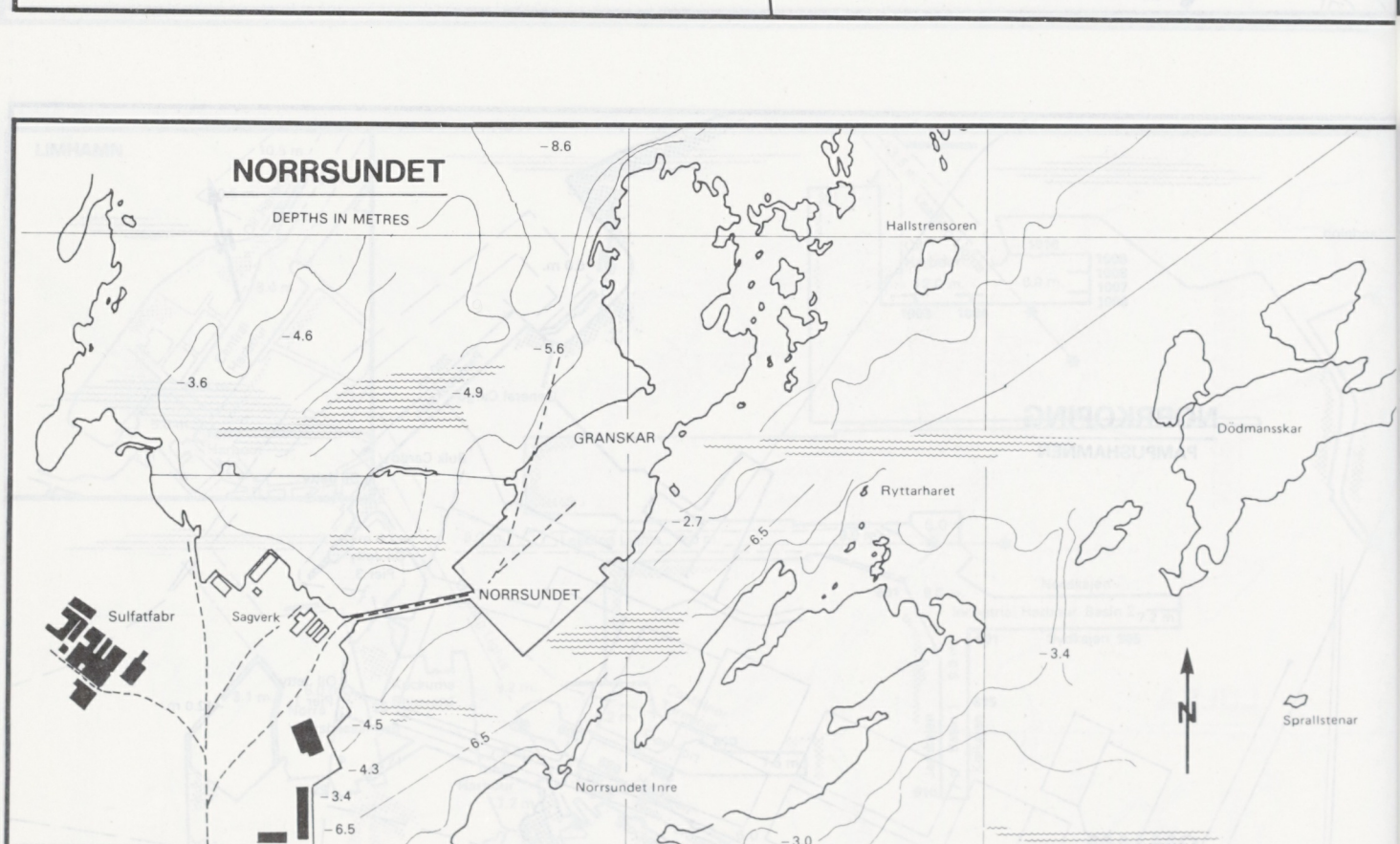

Store Houses
Gullmarskajen
9.6 m.
Industry
LYSEKIL
Fishing Harbour
9.6 m.
5.5 m.
10.0 m.
Andersons Quay
10.0 m.
7.0 m.
Grotokajen
6.5 m.
8.0 m.
Refrigerated Storehouse
Store Houses
Local traffic
Industry
Future Harbour Area (under construction)
LYSEKIL


LIMHAMN
10.5 m.
10.5 m.
Oil Harbour
8.6 m.
8.4 m.
Central Harbour
8.4 m.
5.0 m.
Ferry Harbour
13.5 m.
Leading Lights
Oil Harbour
1010
1009
1008
1007
1006
12.0 m.
6.0 m.
1003
1004
9.0 m.
Leading Lights
9.0 m.
9.0 m.
6.0
801
9.0 m.
Nordkajen
Industrial Harbour Basin 2
7.2 m.
901
Sydkajen 905
Leading Lights
9.2 m.
Container Terminal
9.2 m.
600
Free Port
610
7.5 m.
604
520
Hullkajen
7.2 m.
Inner Harbour
7.2 m.
505
New Harbour
6.0
Ro-Ro
Stockholmskajen
3.1 m.
6.0 m.
Norra Varvsbassangen
25
Kockums Shipyard
29
Hjalmarekajen
6.0 m.
Skeppsbron
7.2 m.
(305)
404
Customs
Pilots
Port Administration
Marshalling Yard
Jarnkajen
9.0 m.
7.2
Basin 1
815
Kolkajen
810
MALMO

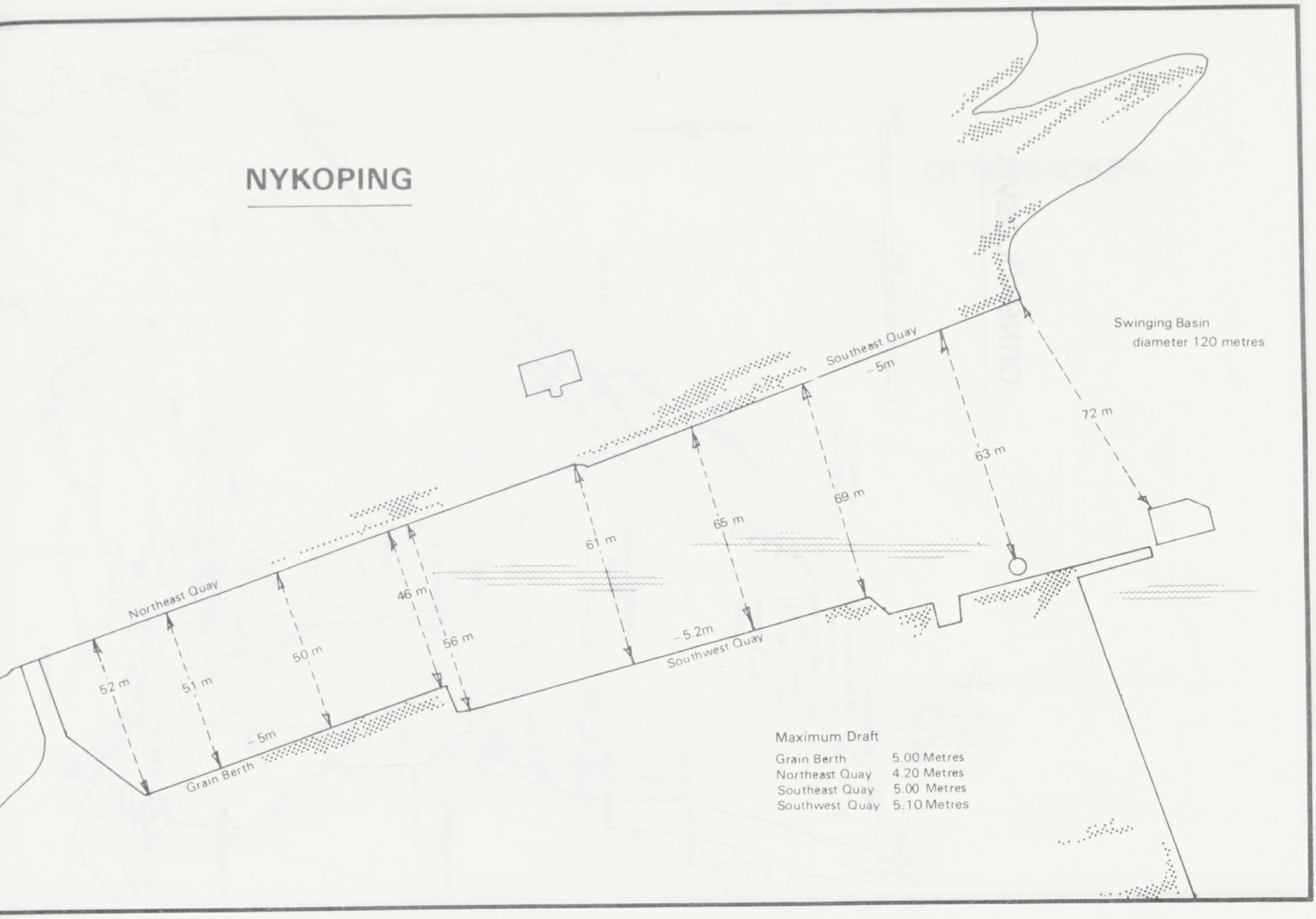

HANDELON
ALHOLMEN
LINDÖ
Ramshall
MOTALA STRÖM
Handelsbron
LINDÖKANALEN
Pampushamnen
Pampuskajen
Marina
Gastgivarehagen
Roll-on – Roll-off
Heavy Lift Crane
Blixholmen
Roll on – Roll off
Ohmansskajen
Authority Office building
Harbour Master's Office
NORRKÖPING
0
500
1000 m
SCALE


Handelon
NORRKOPING
PAMPUSHAMNEN
General Cargo
Bulk Cargo
Oil Jetty
Pier 2
Oil Jetty
Pier 3
Oil Jetty
Pier 1
280 m.
Pampuskajen
Lindokanalen


NORRKOPING
PAMPUSHAMNEN
BERTH No.1
64,000 DWT
272m
48m
51m
25m
17m
25m
56m
50m
156° T
336° T
Permanent gangway stationed on the pier for use by vessels.
BERTH No.2
230m
45m
50m
16m
30m
16m
73m
126° T
306° T
Permanent gangway stationed on the pier for use by vessels.
Couplings
BERTH No.3
5,000 DWT
119m
23m
27m
31m
21m
17m
121° T
301° T


NORRSUNDET
DEPTHS IN METRES
Hallstrensoren
GRANSKAR
Ryttarharet
Dödmansskar
NORRSUNDET
Sulfatfabr
Sagverk
Norrsundet Inre
Sprallstenar
FARHOLMEN
SALTARSFJARDEN
Saltarsgrund
Storharen
60°56'N
17° 12'E
N
-8.6
-4.6
-3.6
-4.9
-5.6
-2.7
-6.5
-3.4
-4.5
-4.3
-3.4
-6.5
-3.4
-3.9
-6.5
-3.0
-6.0
-2.4
-9.9

NYKOPING



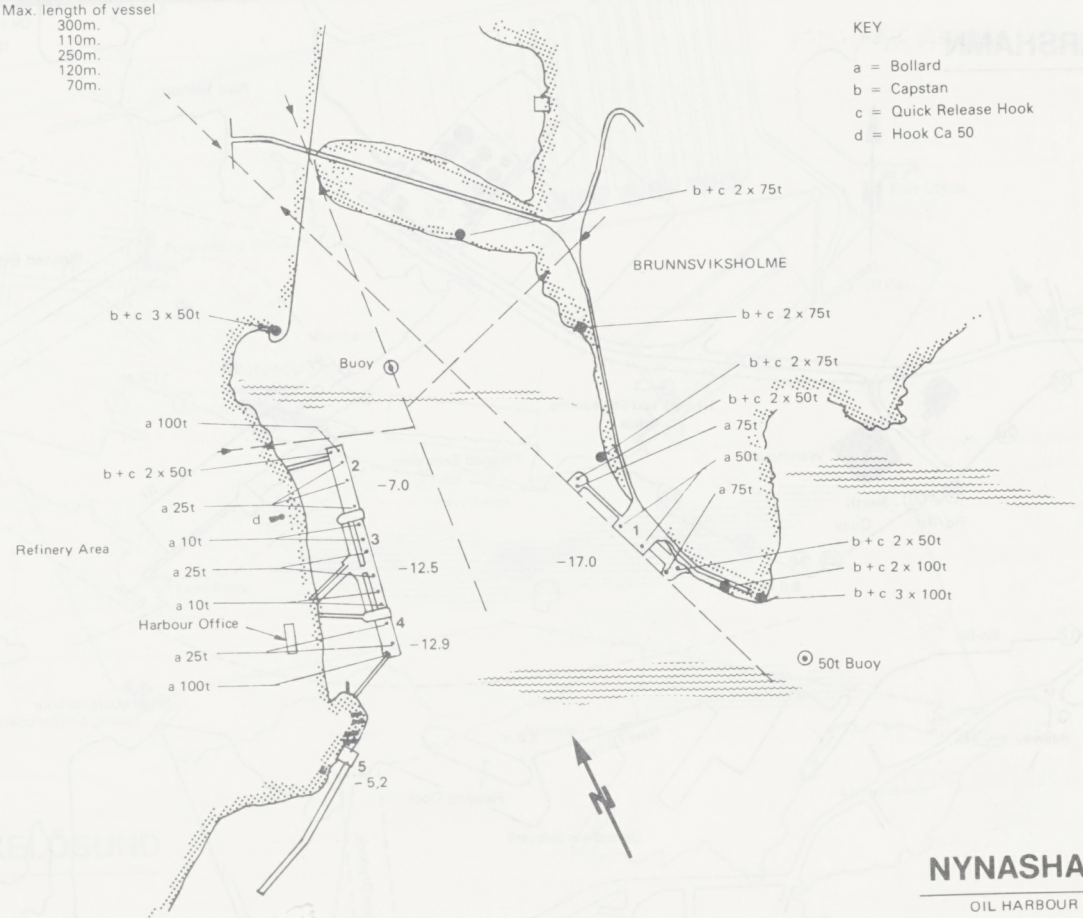
NYNASHAMN

OIL HARBOUR

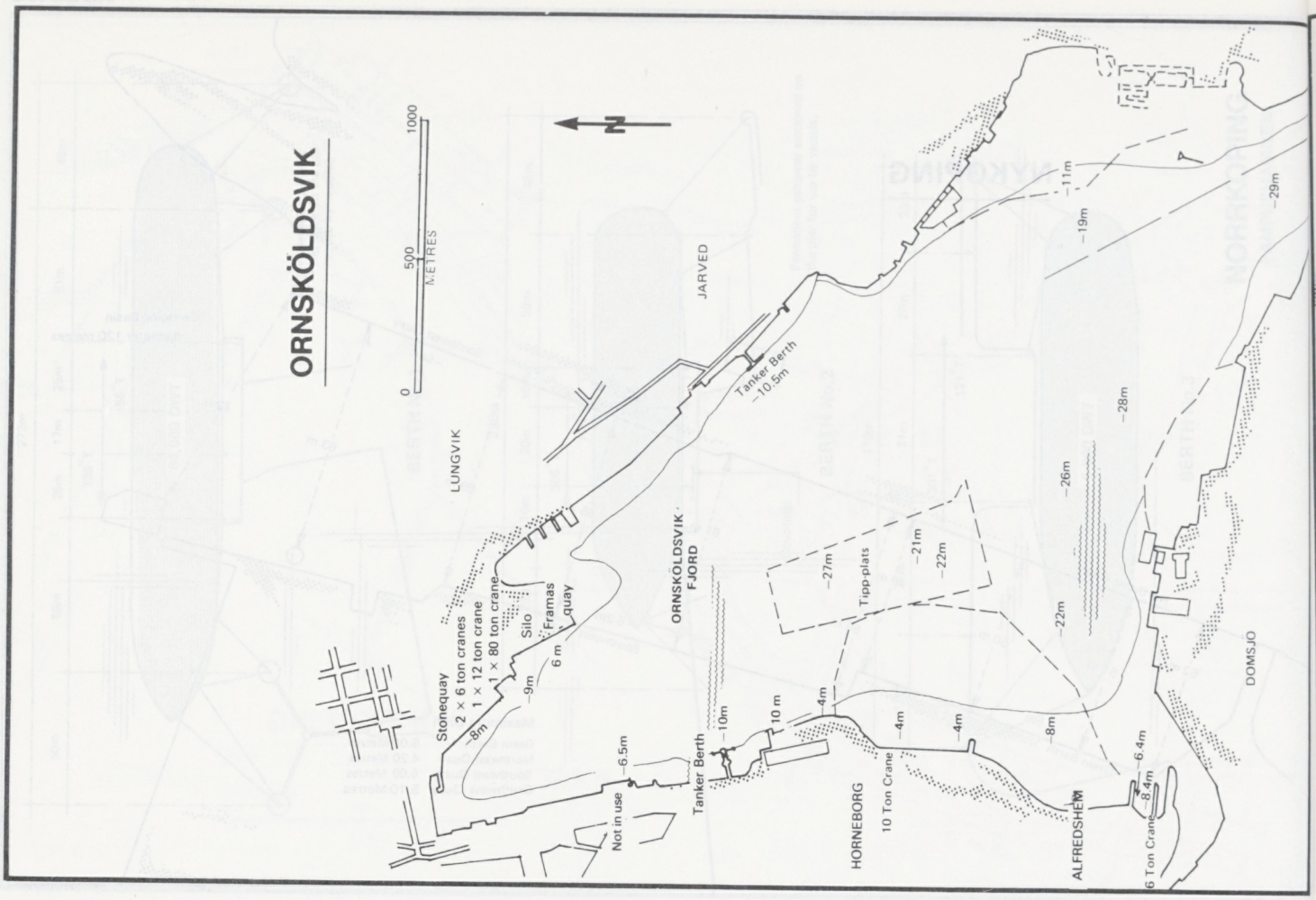
Berth	Max. length of vessel
1	300m.
2	110m.
3	250m.
4	120m.
5	70m.

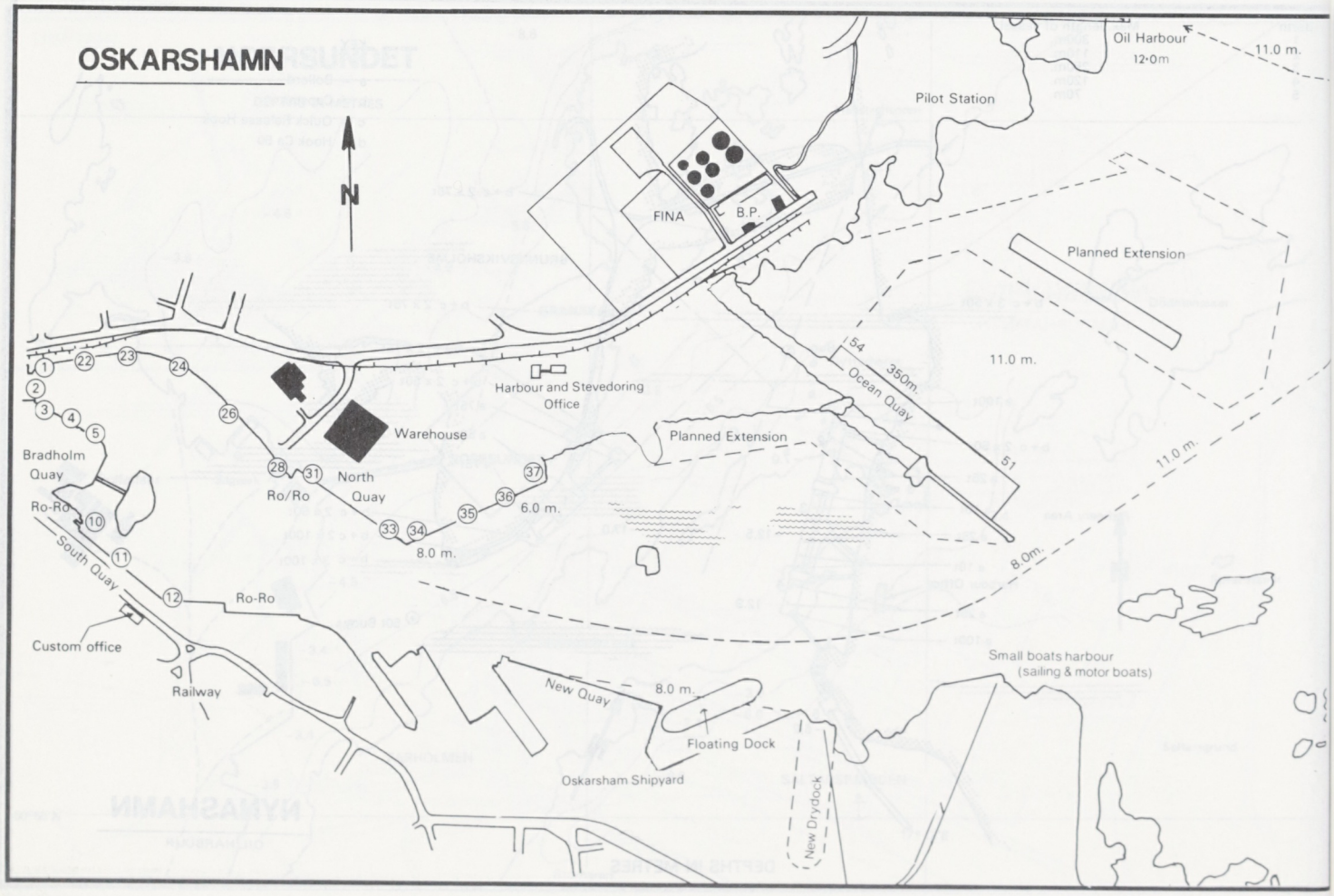
KEY

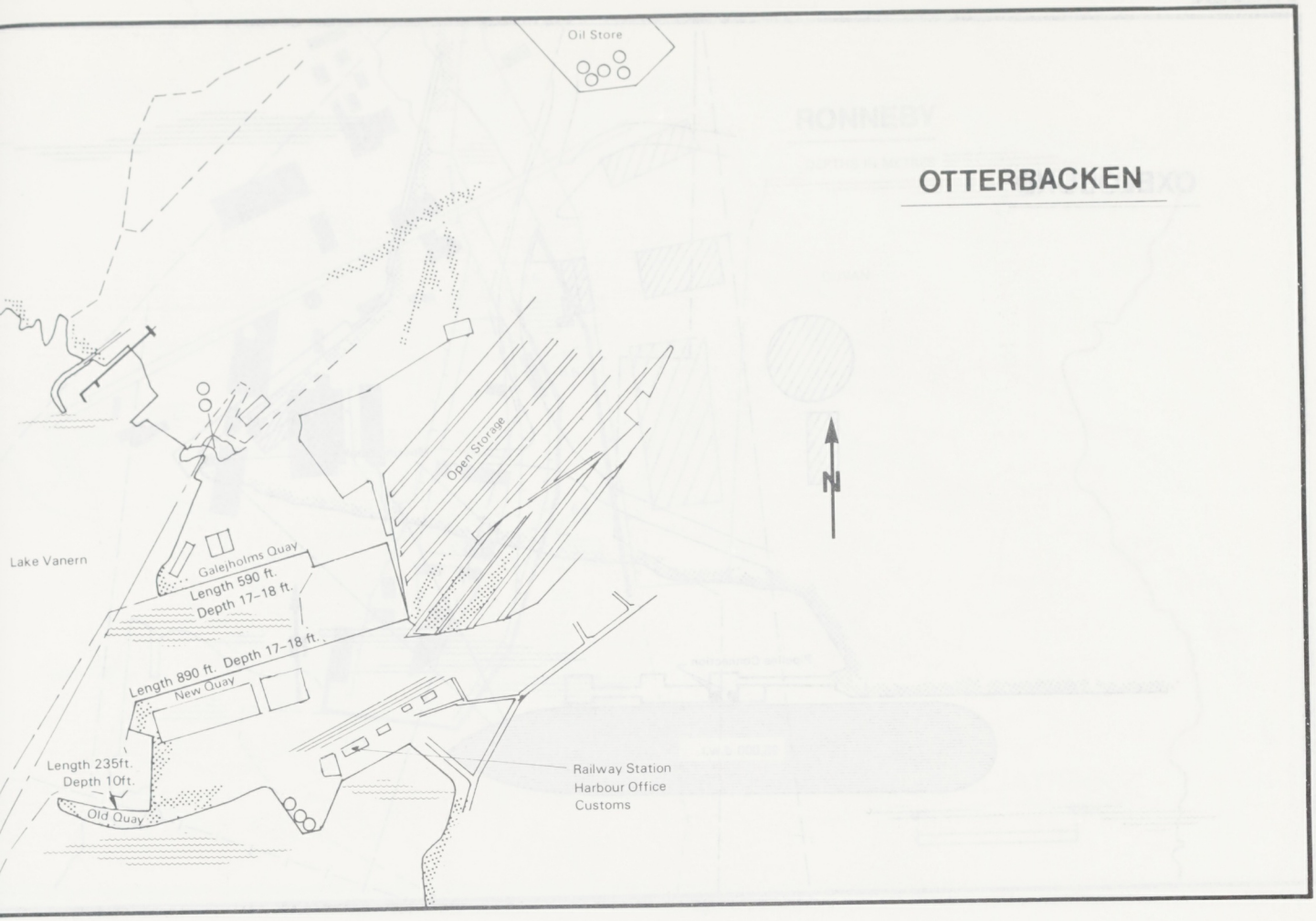
a = Bollard
b = Capstan
c = Quick Release Hook
d = Hook Ca 50

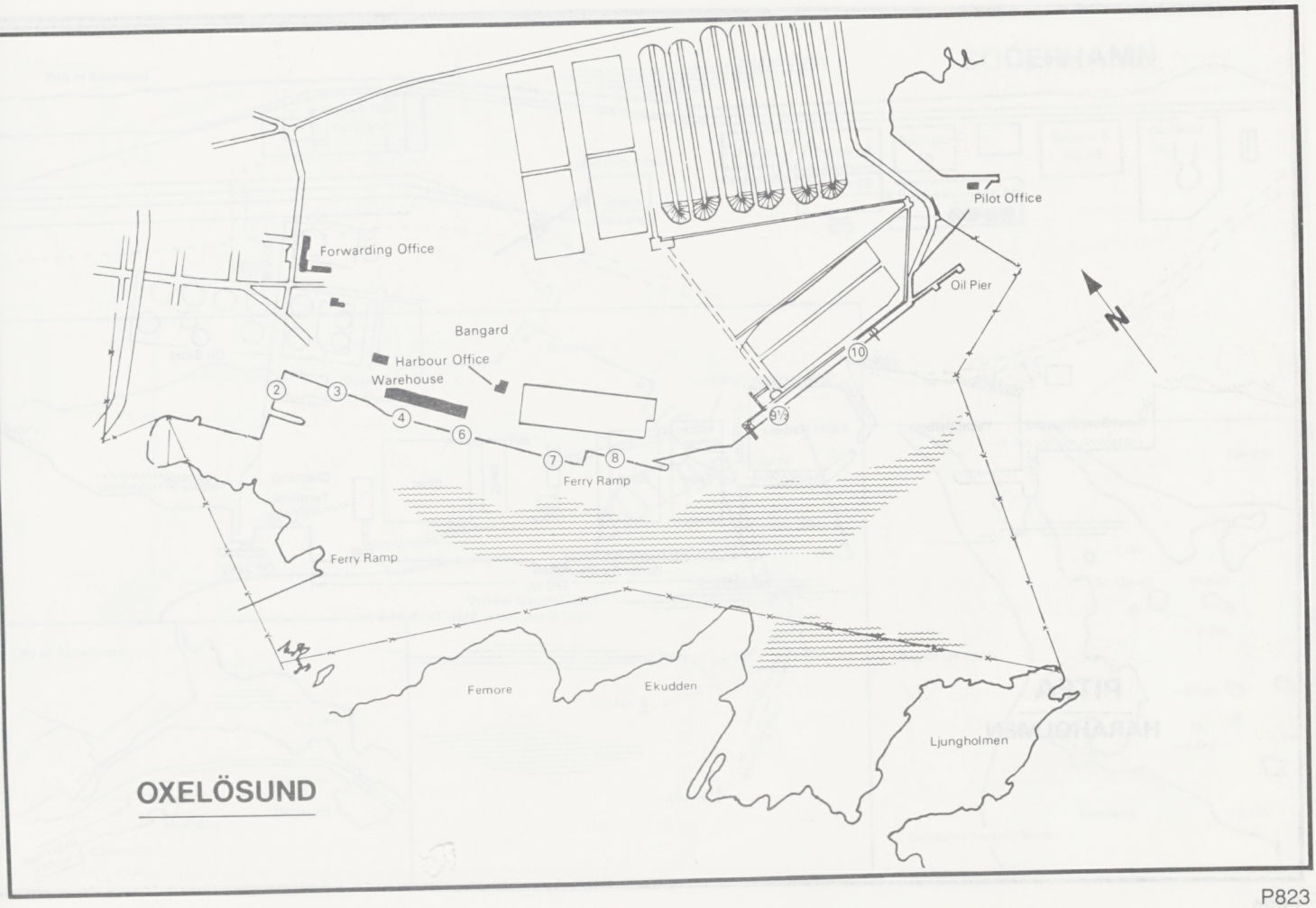


DEPTHS IN METRES

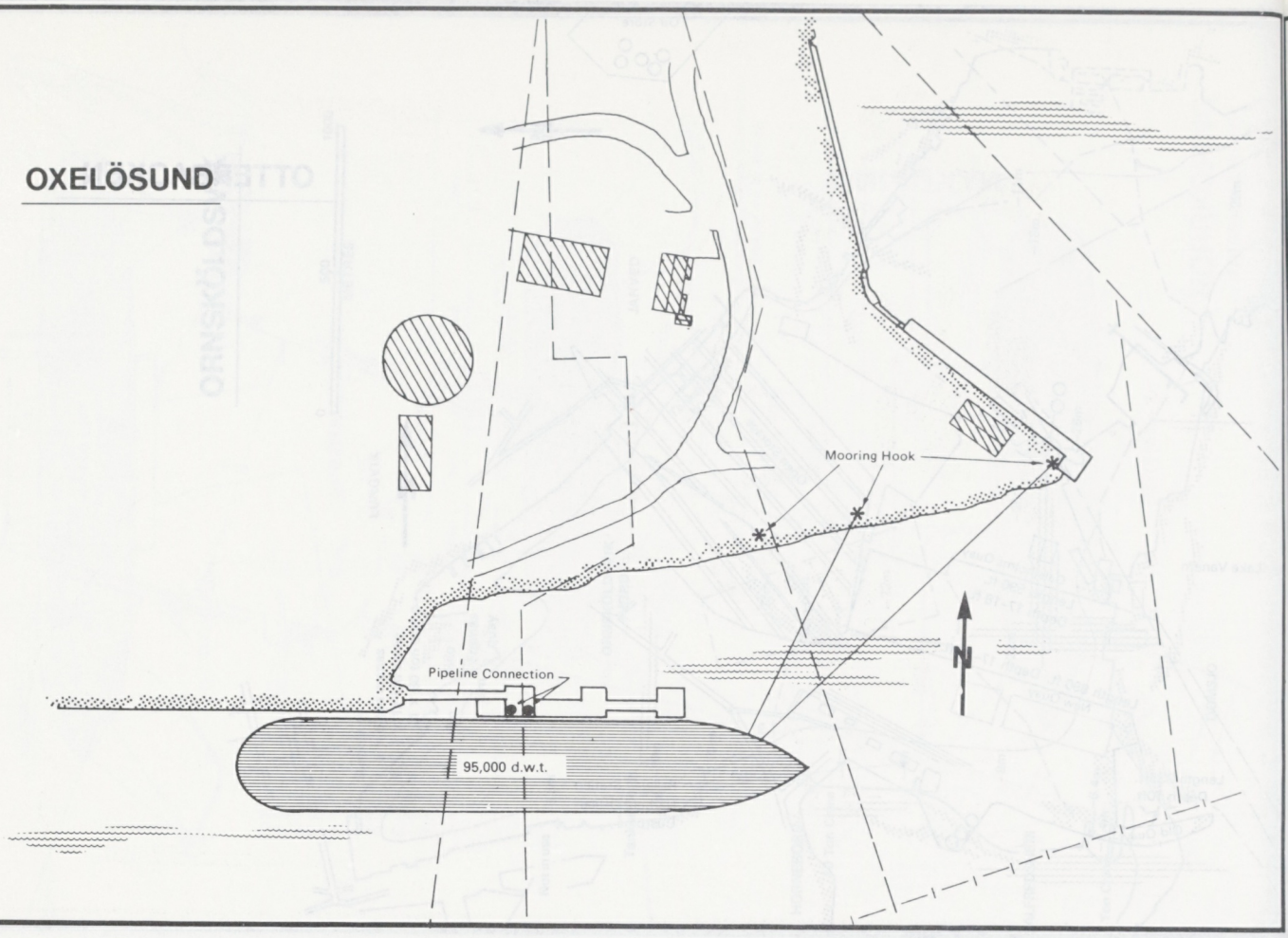

ORNSKÖLDSVIK
0
500
1000
METRES
N
LUNGVIK
JARVED
ORNSKÖLDSVIK FJORD
DOMSJO
HORNEBORG
ALFREDSHEM
Stonequay
2 × 6 ton cranes
1 × 12 ton crane
1 × 80 ton crane
Silo
Framas quay
6 m
Tanker Berth
–10.5m
Not in use
–6.5m
Tipp-plats
10 Ton Crane
6 Ton Crane
–8m
–9m
–10m
–27m
–21m
–22m
–11m
–19m
–29m
–28m
–26m
–4m
–8.4m
–6.4m

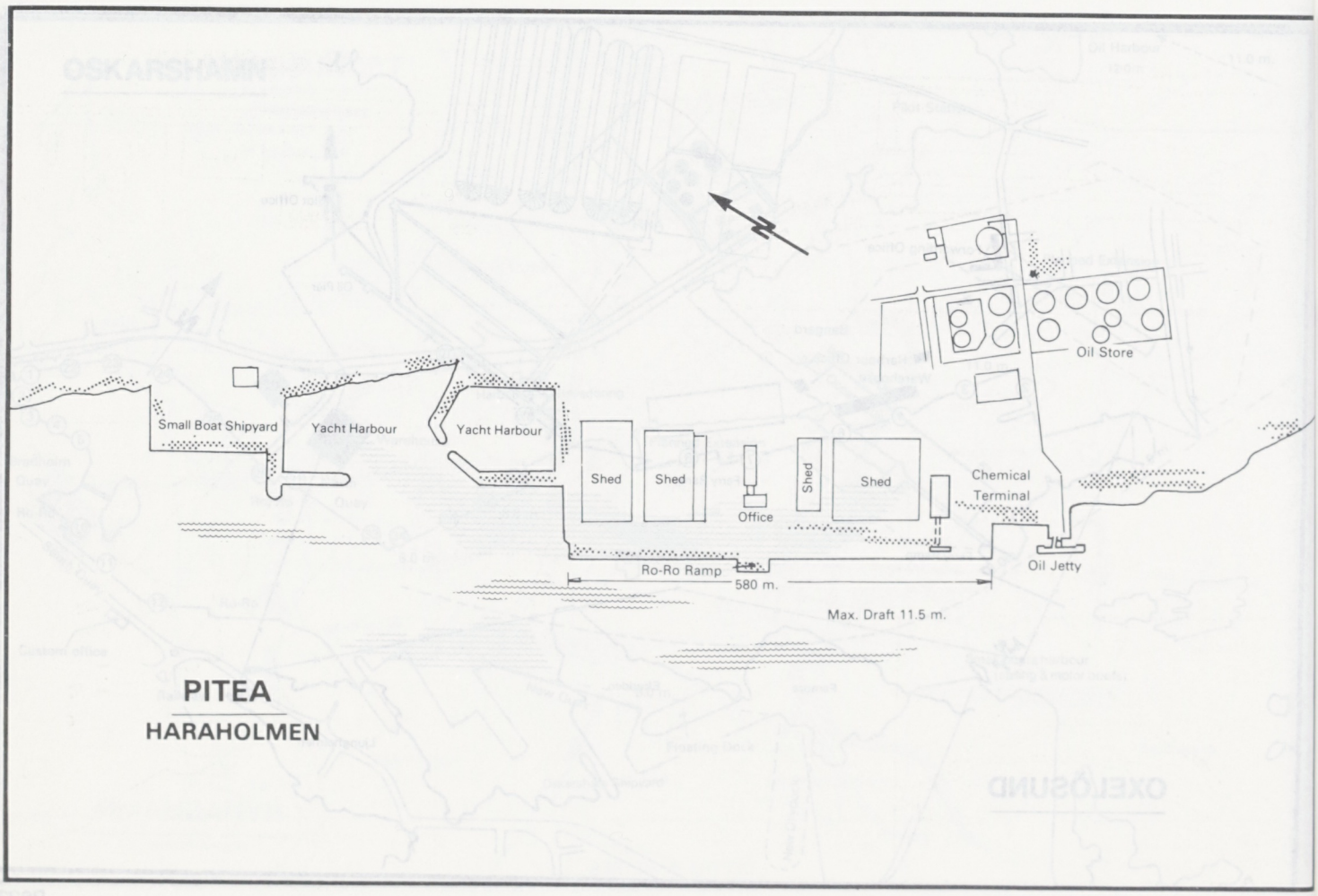

OSKARSHAMN
N
Oil Harbour
12·0m
11.0 m.
Pilot Station
FINA
B.P.
Planned Extension
Harbour and Stevedoring Office
Warehouse
Bradholm Quay
Ro-Ro
Ro/Ro
North Quay
Ocean Quay
154
350m.
51
11.0 m.
6.0 m.
8.0 m.
South Quay
Custom office
Railway
New Quay
Floating Dock
Oskarsham Shipyard
New Drydock
Small boats harbour
(sailing & motor boats)


Oil Store
OTTERBACKEN
Open Storage
N
Lake Vanern
Galejholms Quay
Length 590 ft.
Depth 17–18 ft.
Length 890 ft. Depth 17–18 ft.
New Quay
Length 235ft.
Depth 10ft.
Old Quay
Railway Station
Harbour Office
Customs


Pilot Office
Forwarding Office
Oil Pier
Bangard
Harbour Office
Warehouse
N
2
3
4
6
7
8
9
10
Ferry Ramp
Ferry Ramp
Femore
Ekudden
Ljungholmen
OXELÖSUND

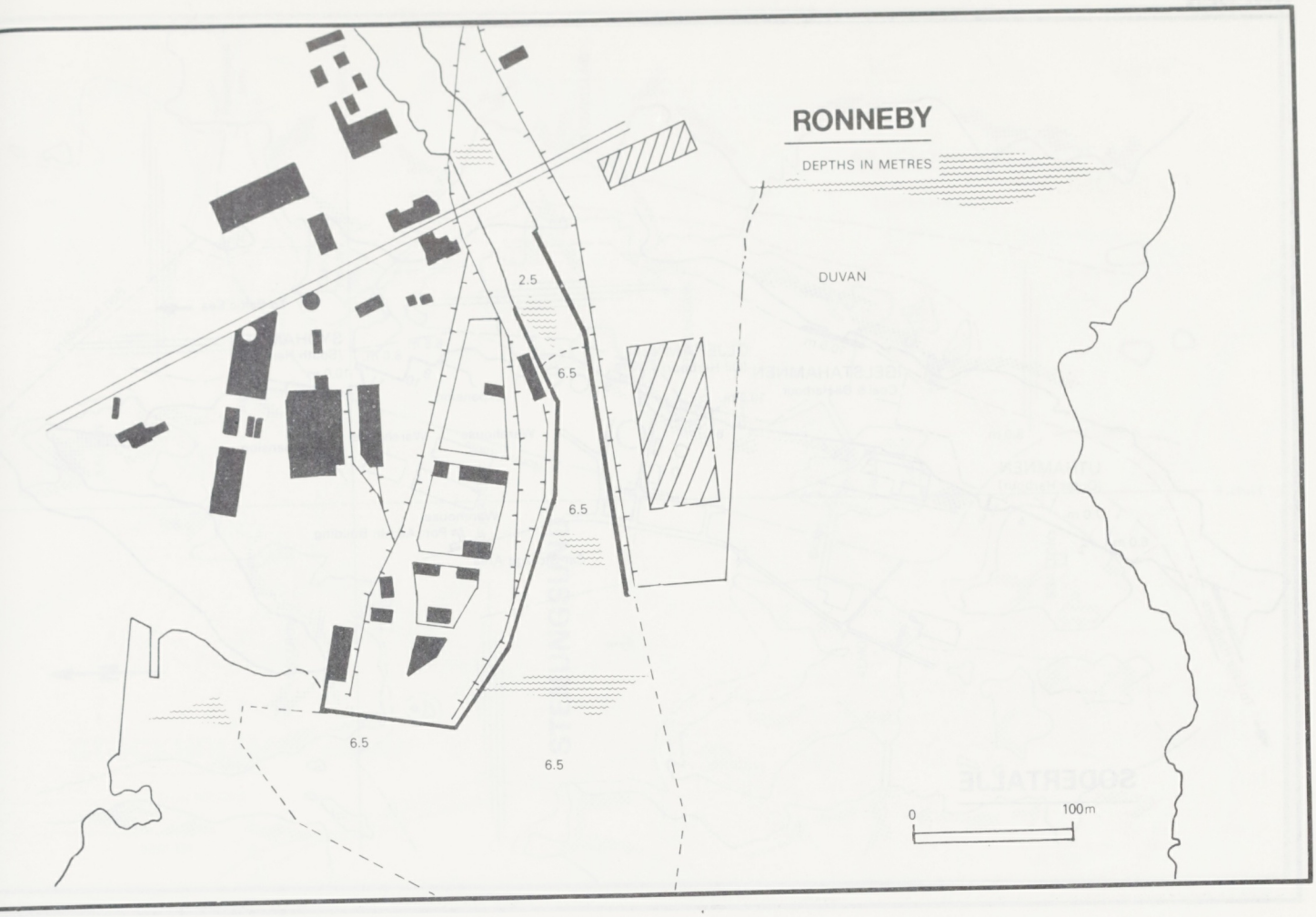
OXELÖSUND

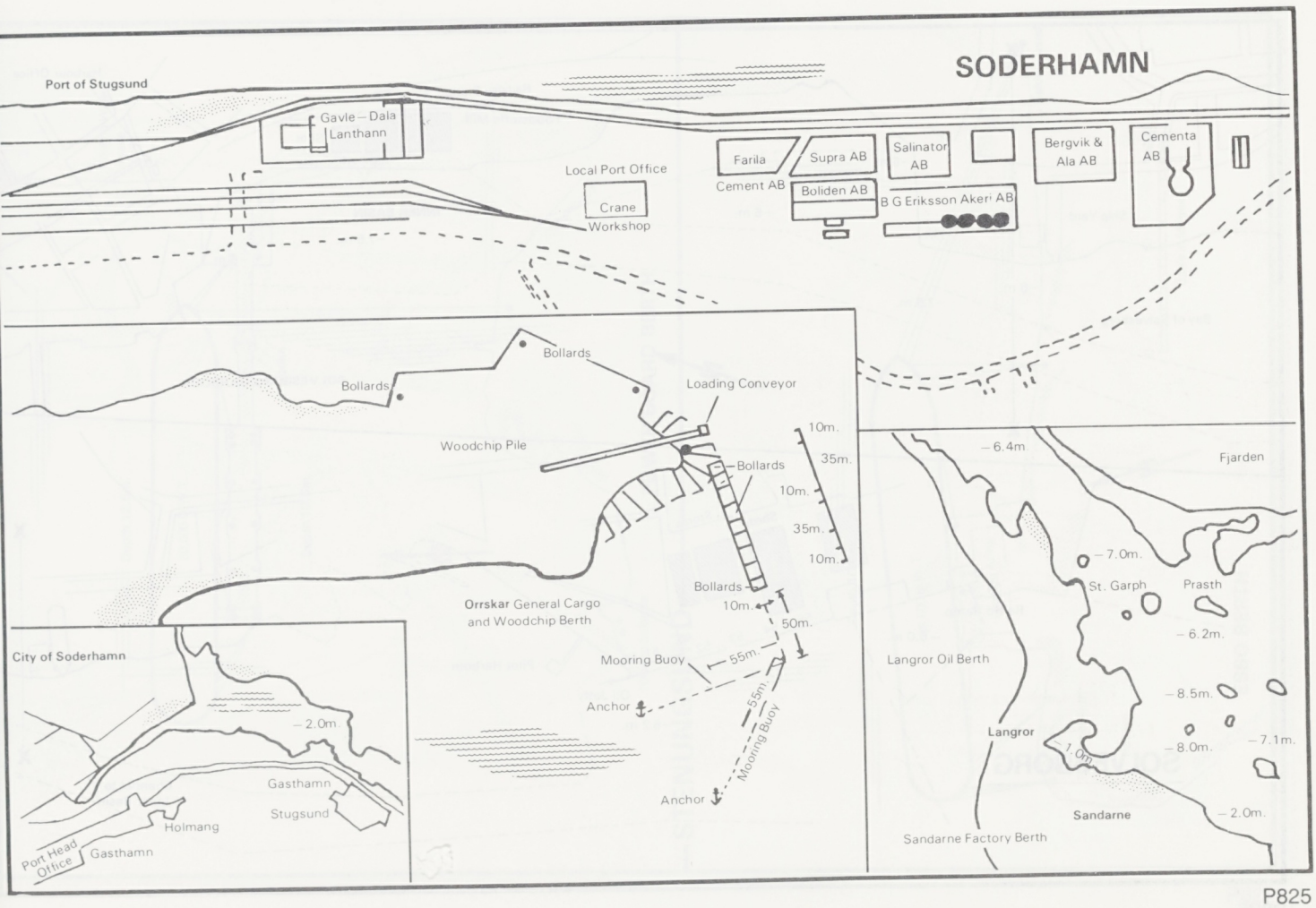


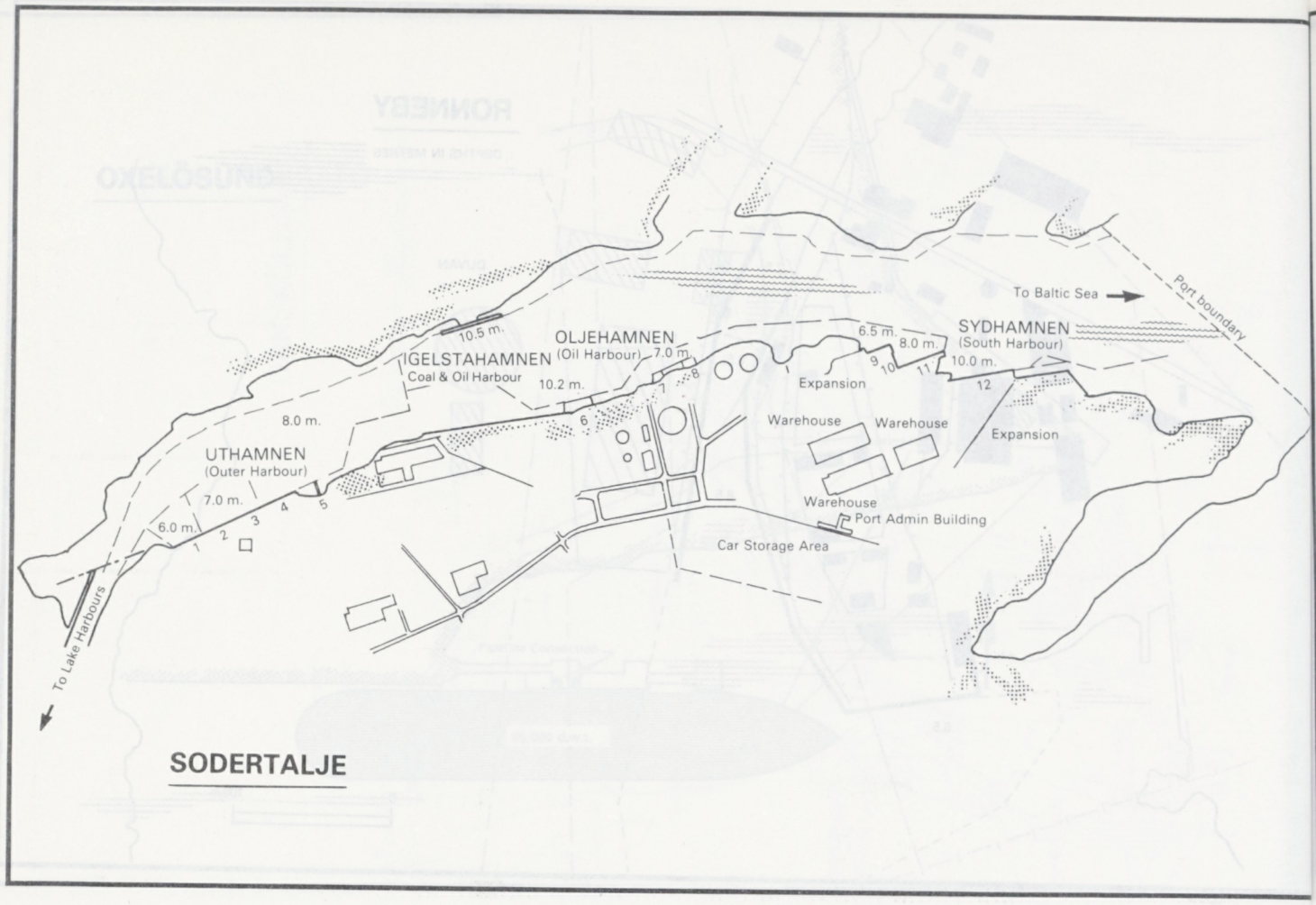


PITEA

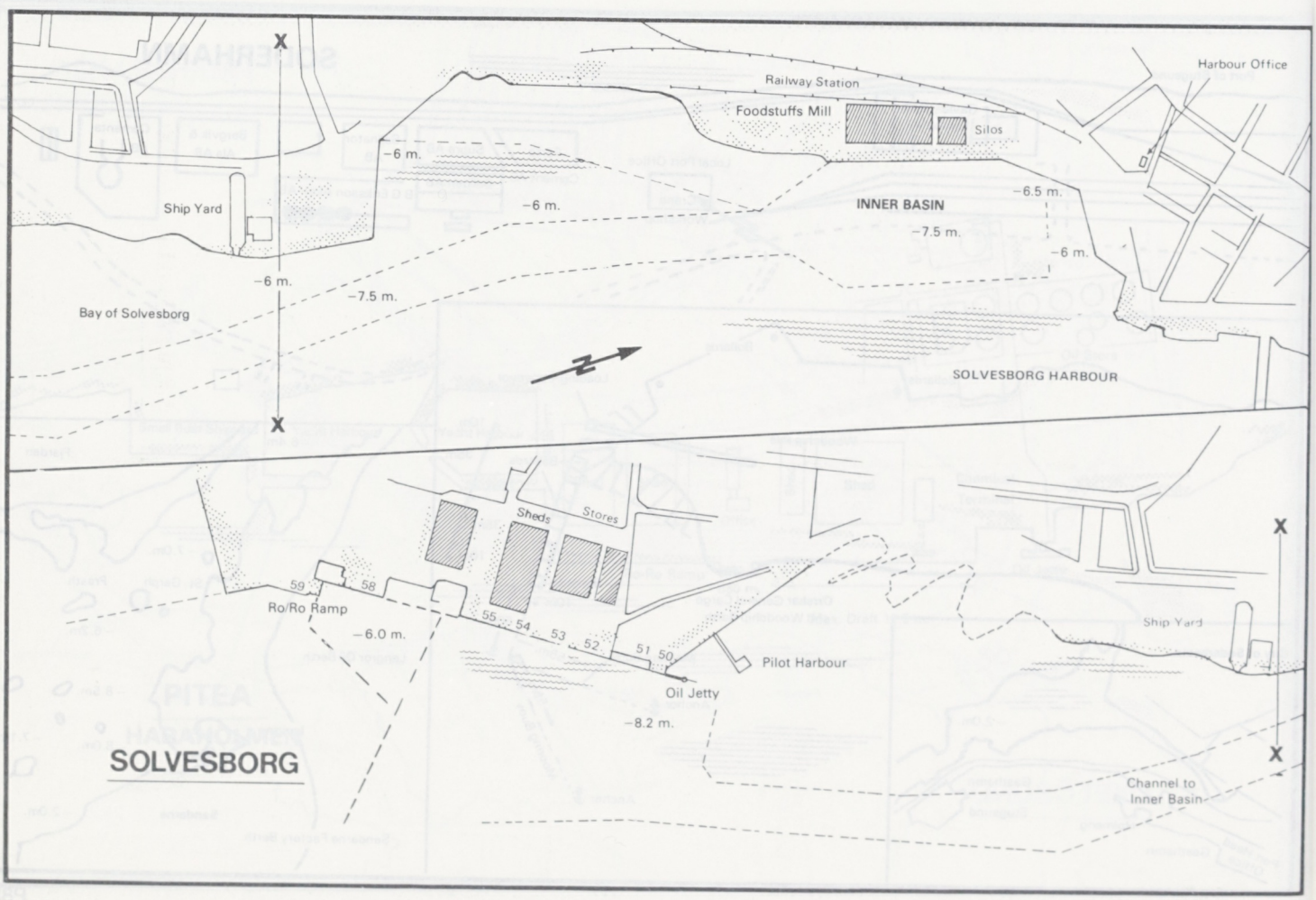
HARAHOLMEN


RONNEBY
DEPTHS IN METRES
DUVAN
2.5
6.5
6.5
6.5
6.5
0
100m

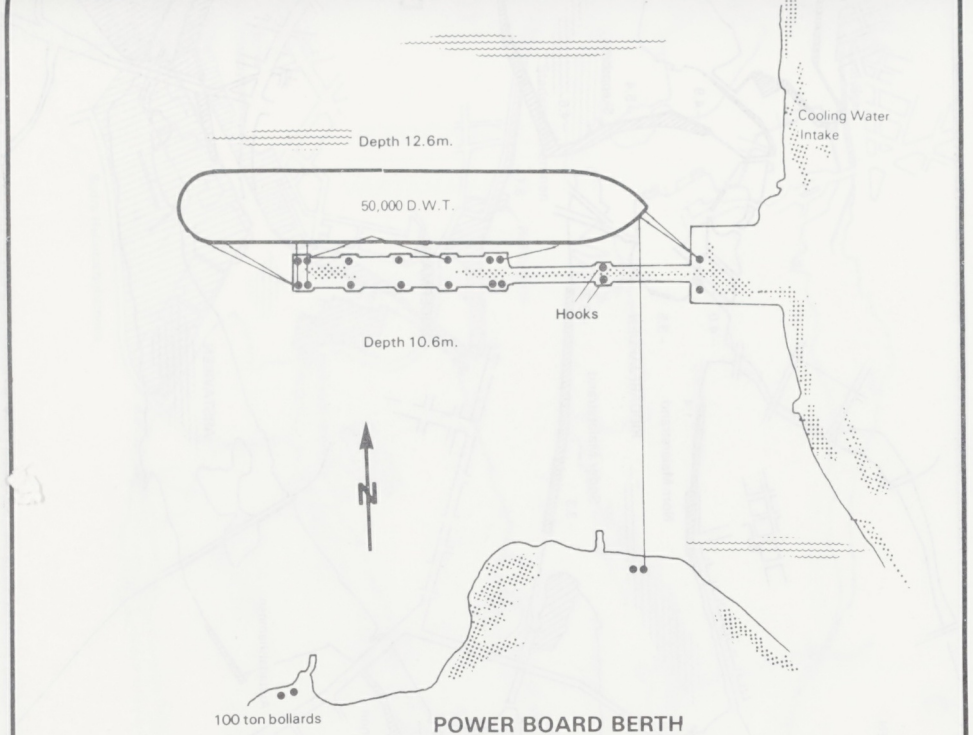

SODERHAMN
Port of Stugsund
Gavle—Dala Lanthann
Local Port Office
Crane
Workshop
Farila Cement AB
Supra AB
Salinator AB
Boliden AB
B G Eriksson Akeri AB
Bergvik & Ala AB
Cementa AB
Bollards
Bollards
Loading Conveyor
Woodchip Pile
Bollards
10m.
35m.
10m.
35m.
10m.
Bollards
Orrskar General Cargo and Woodchip Berth
10m.
50m.
Mooring Buoy
55m.
Anchor
55m.
Mooring Buoy
Anchor
City of Soderhamn
—2.0m
Gasthamn
Stugsund
Holmang
Port Head Office
Gasthamn
—6.4m
Fjarden
—7.0m.
St. Garph
Prasth
—6.2m.
Langror Oil Berth
—8.5m.
Langror
—8.0m.
—7.1m.
—1.0m
Sandarne
—2.0m.
Sandarne Factory Berth



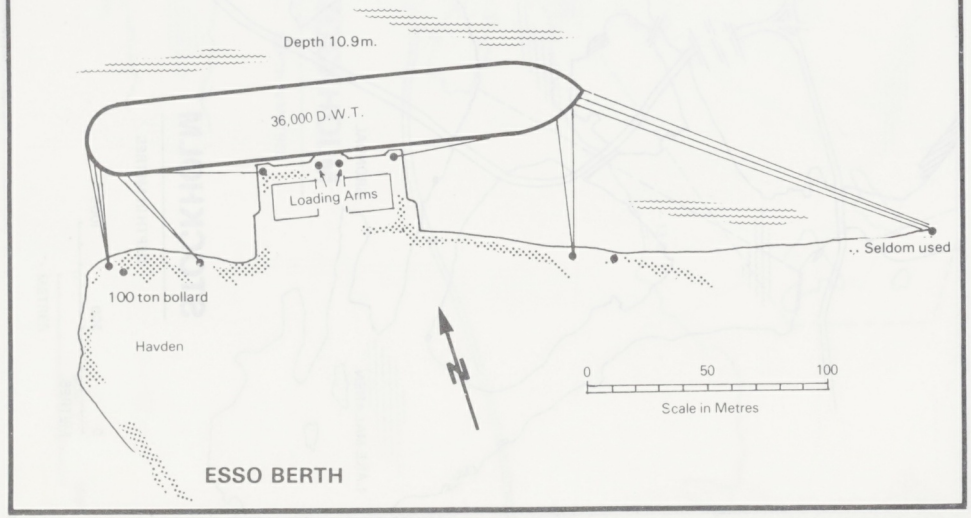
SODERTALJE

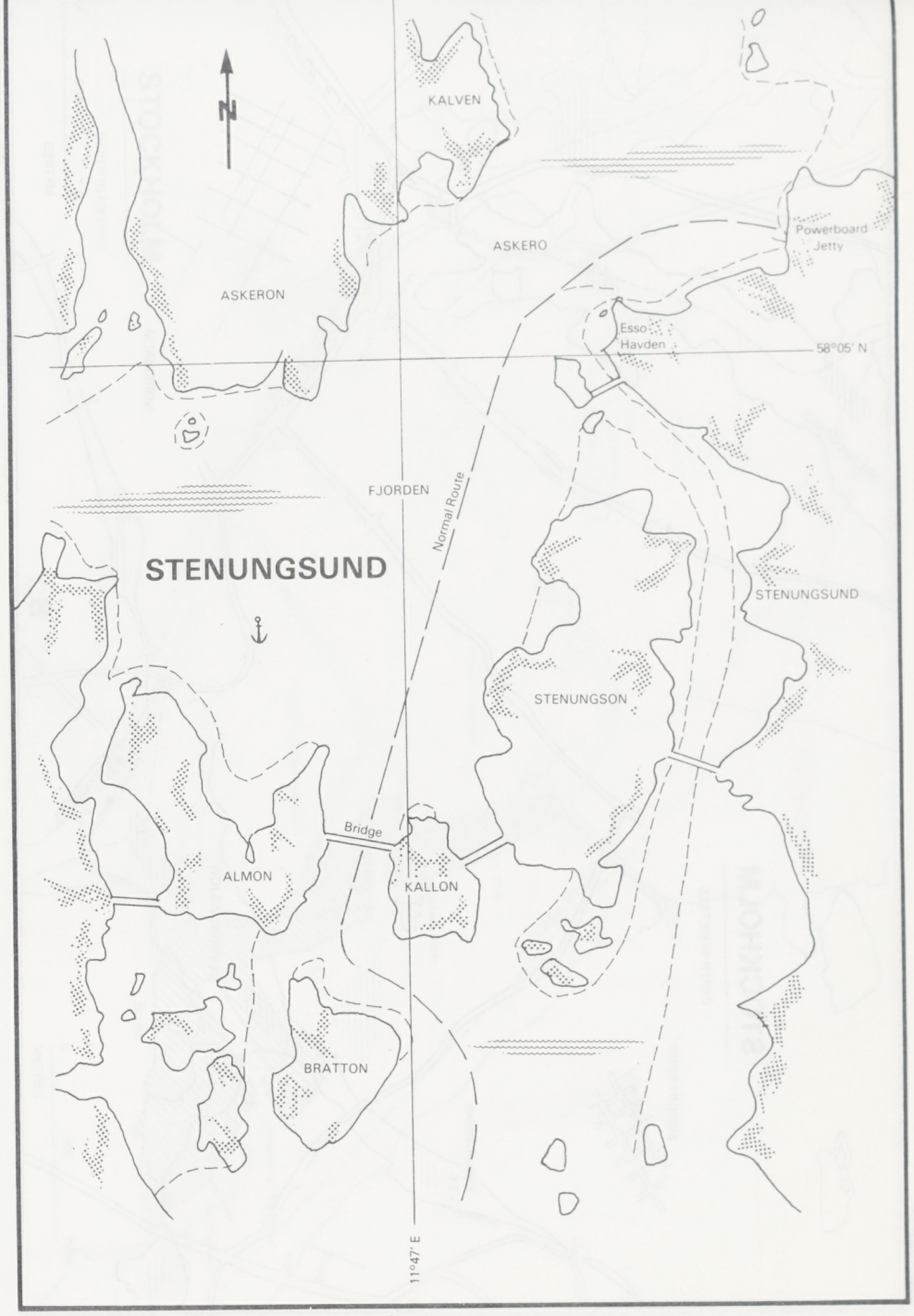


SOLVESBORG

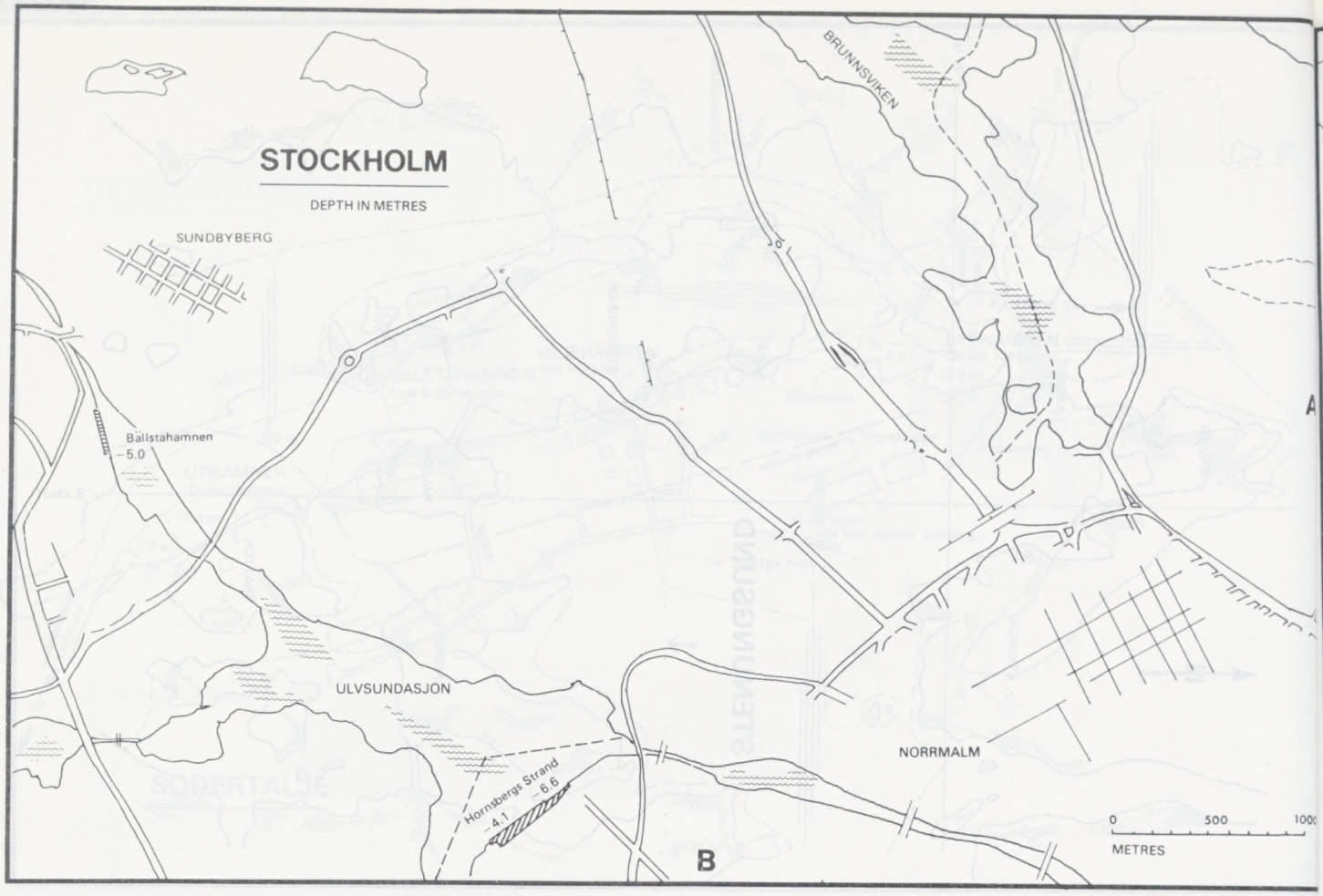


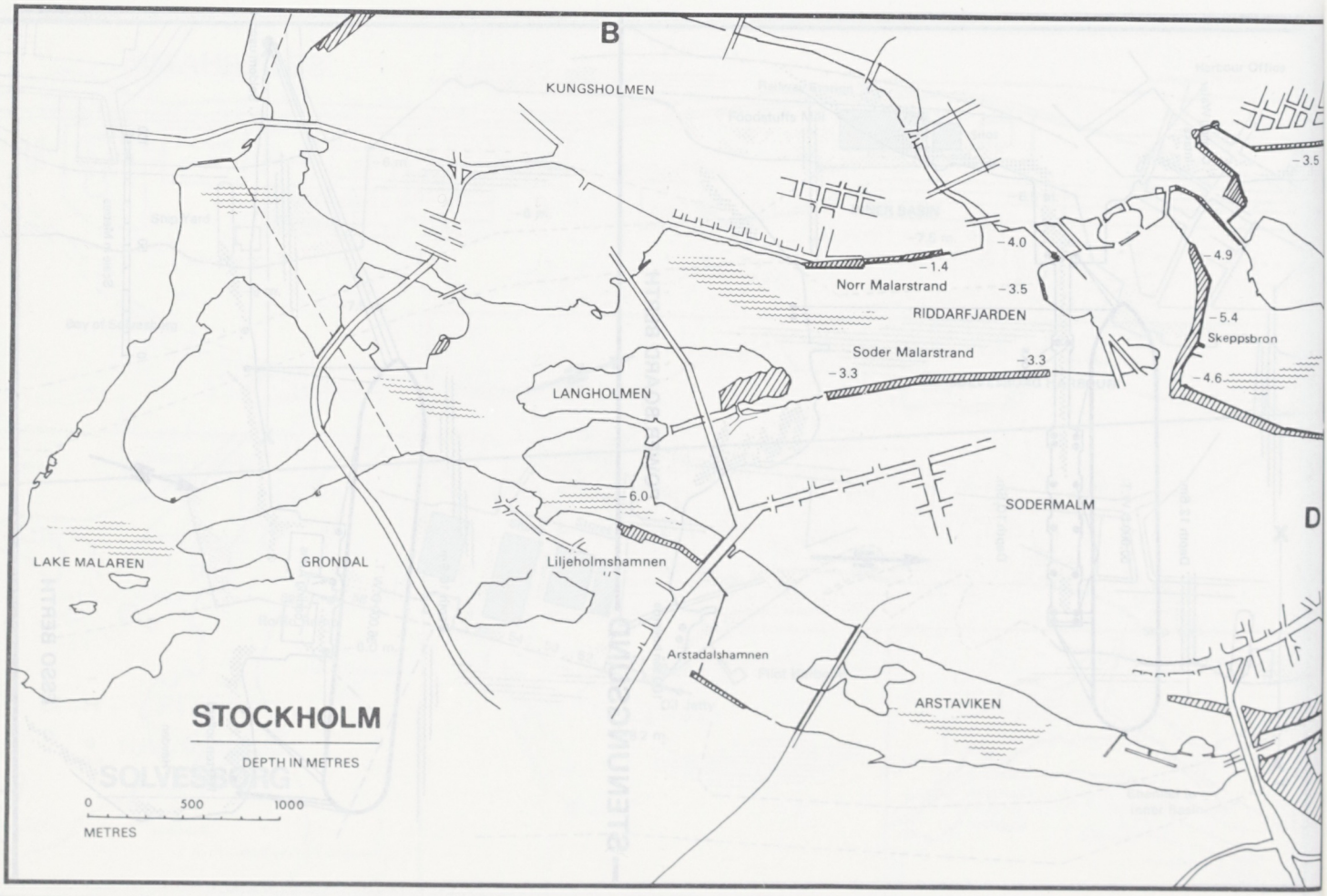
STENUNGSUND

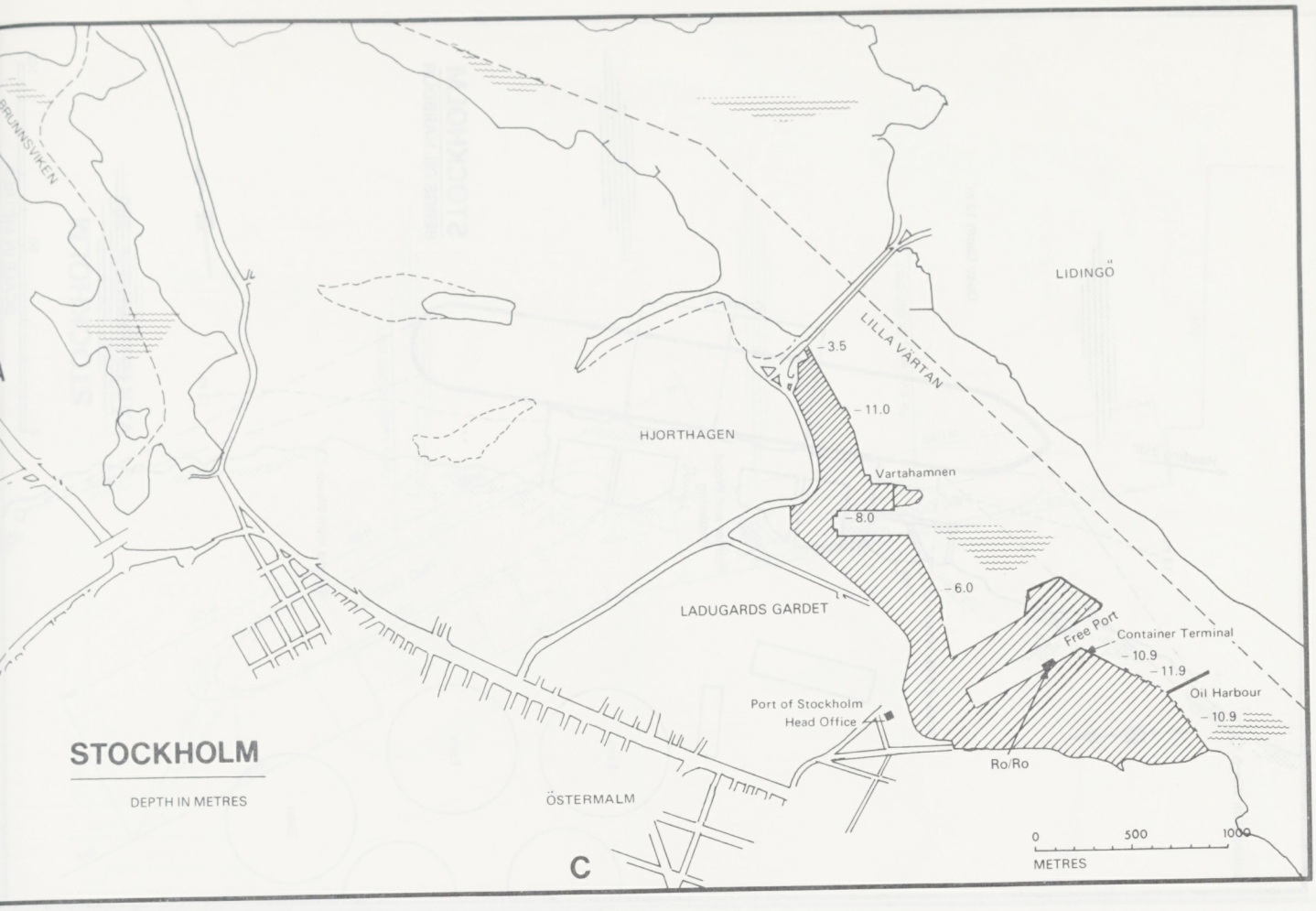


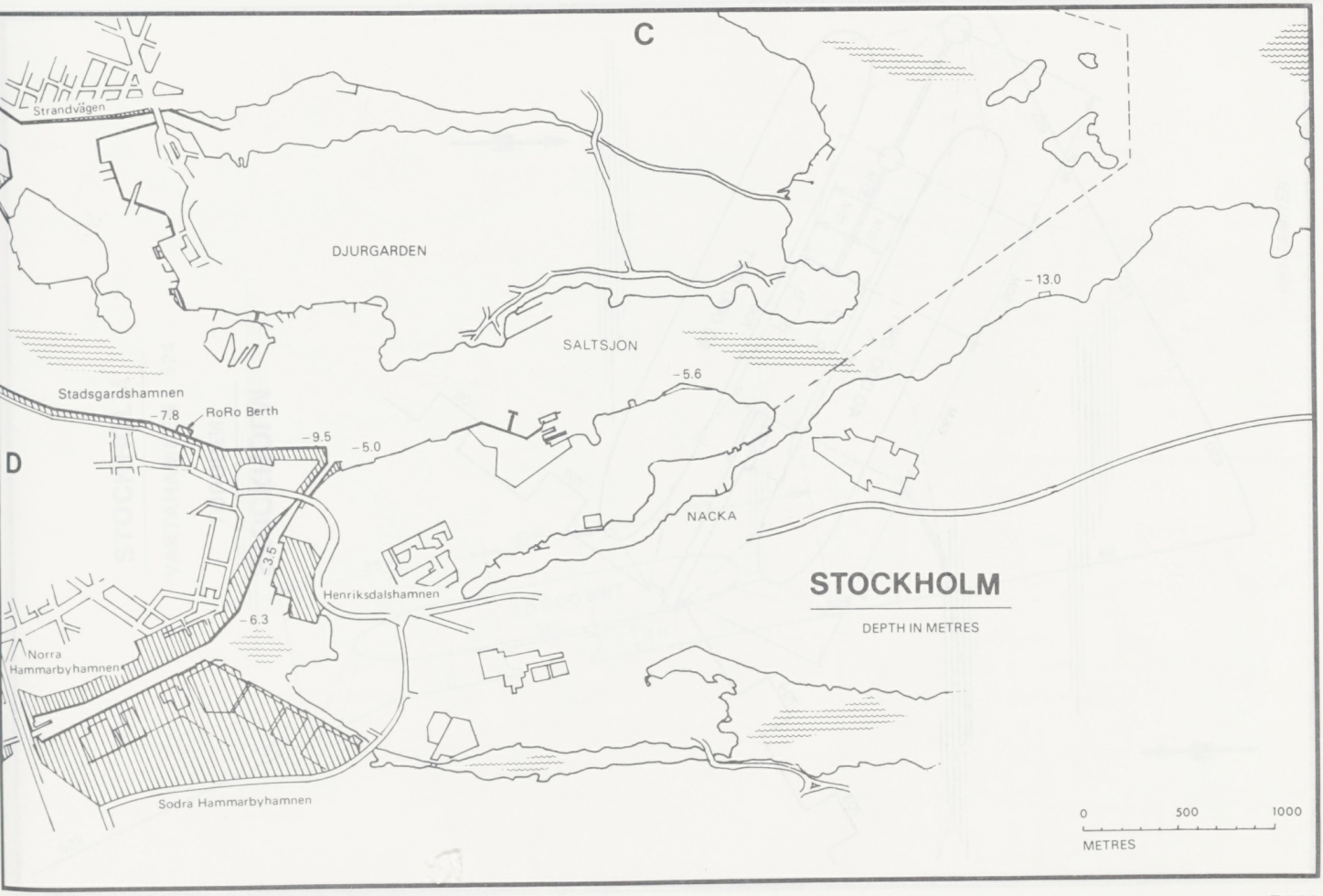


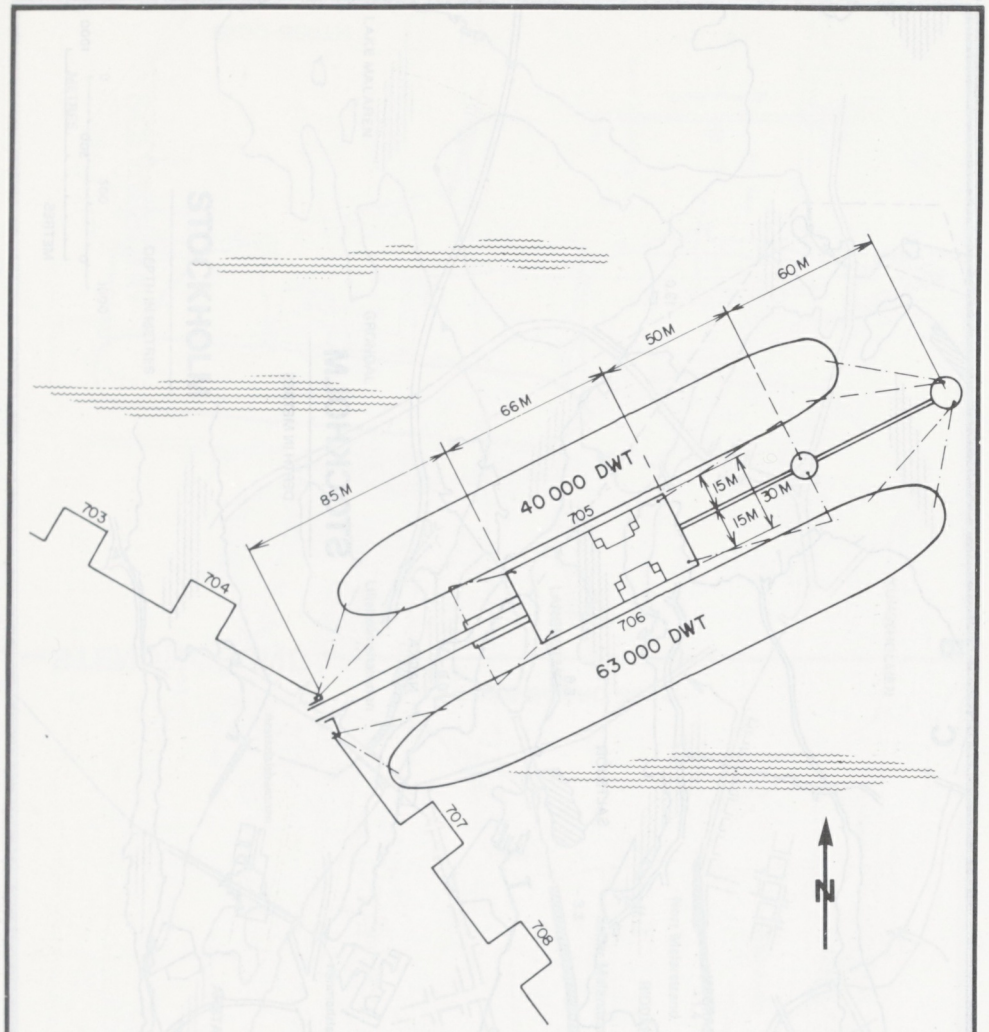
P827


STOCKHOLM
DEPTH IN METRES
SUNDBYBERG
BRUNNSVIKEN
Ballstahamnen
– 5.0
ULVSUNDASJON
Hornsbergs Strand
– 4.1
– 6.6
NORRMALM
0
500
1000
METRES
B


B
KUNGSHOLMEN
– 3.5
– 4.0
– 1.4
Norr Malarstrand
– 3.5
RIDDARFJARDEN
– 4.9
– 5.4
Skeppsbron
Soder Malarstrand
– 3.3
– 3.3
– 4.6
LANGHOLMEN
– 6.0
SODERMALM
D
LAKE MALAREN
GRONDAL
Liljeholmshamnen
Arstadalshamnen
ARSTAVIKEN
STOCKHOLM
DEPTH IN METRES
0
500
1000
METRES

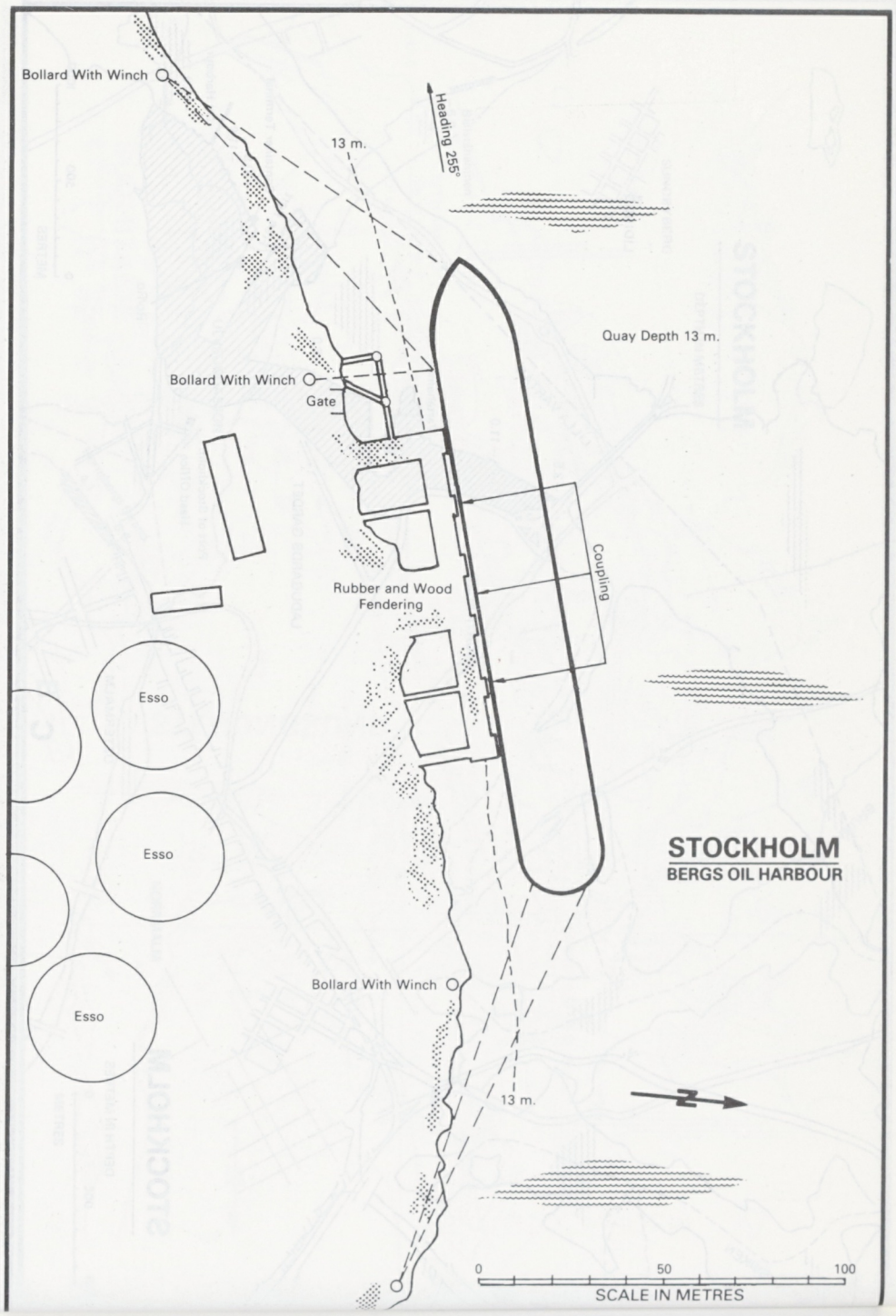

BRUNNSVIKEN
LIDINGÖ
LILLA VÄRTAN
-3.5
-11.0
HJORTHAGEN
Vartahamnen
-8.0
-6.0
LADUGARDS GARDET
Free Port
Container Terminal
-10.9
-11.9
Oil Harbour
-10.9
Port of Stockholm
Head Office
Ro/Ro
STOCKHOLM
DEPTH IN METRES
ÖSTERMALM
C
0
500
1000
METRES


C
Strandvägen
DJURGARDEN
-13.0
SALTSJON
-5.6
Stadsgardshamnen
-7.8
RoRo Berth
-9.5
-5.0
D
NACKA
-3.5
Henriksdalshamnen
-6.3
Norra
Hammarbyhamnen
STOCKHOLM
DEPTH IN METRES
Sodra Hammarbyhamnen
0
500
1000
METRES



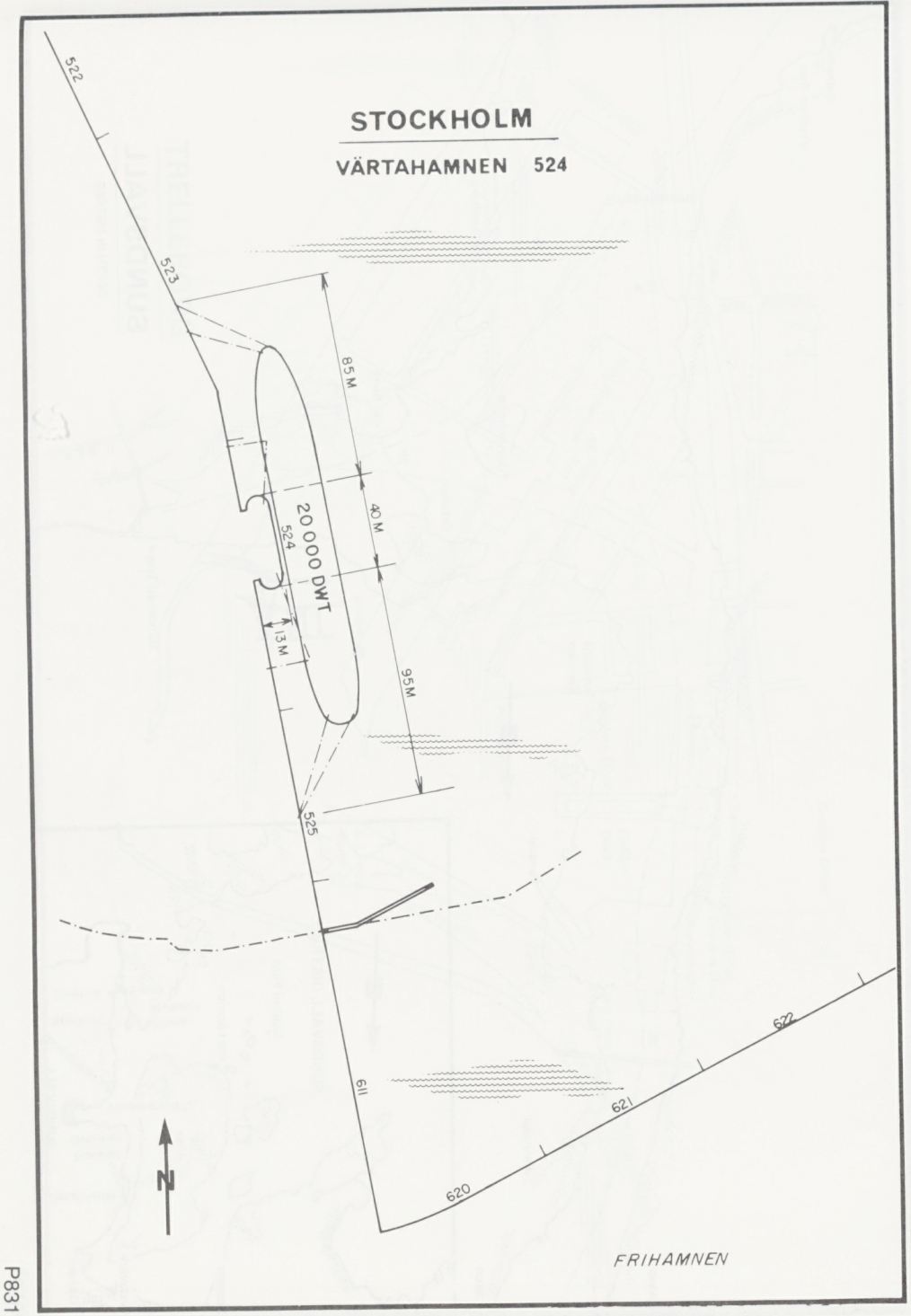
STOCKHOLM

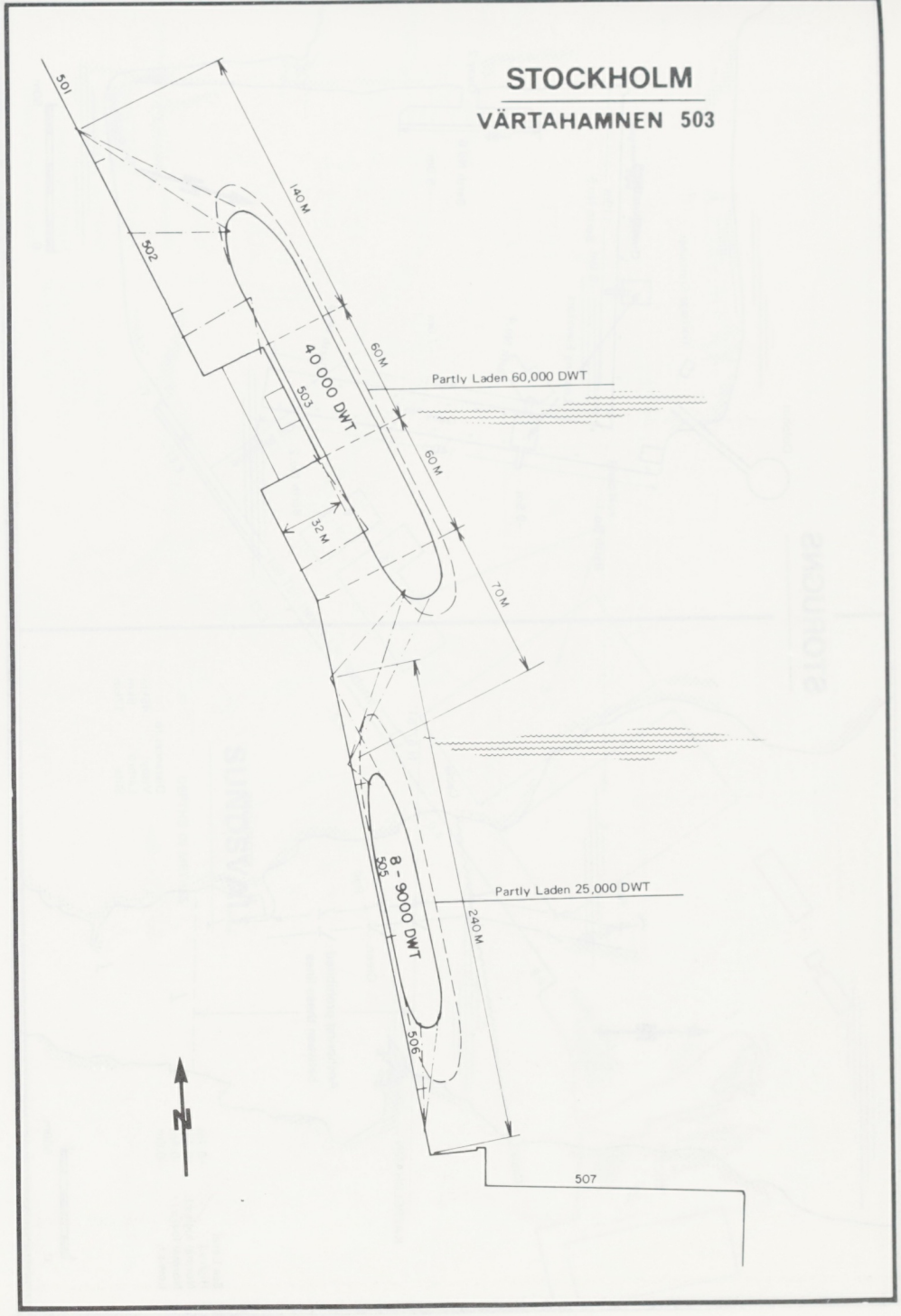
LOUDDEN



STOCKHOLM

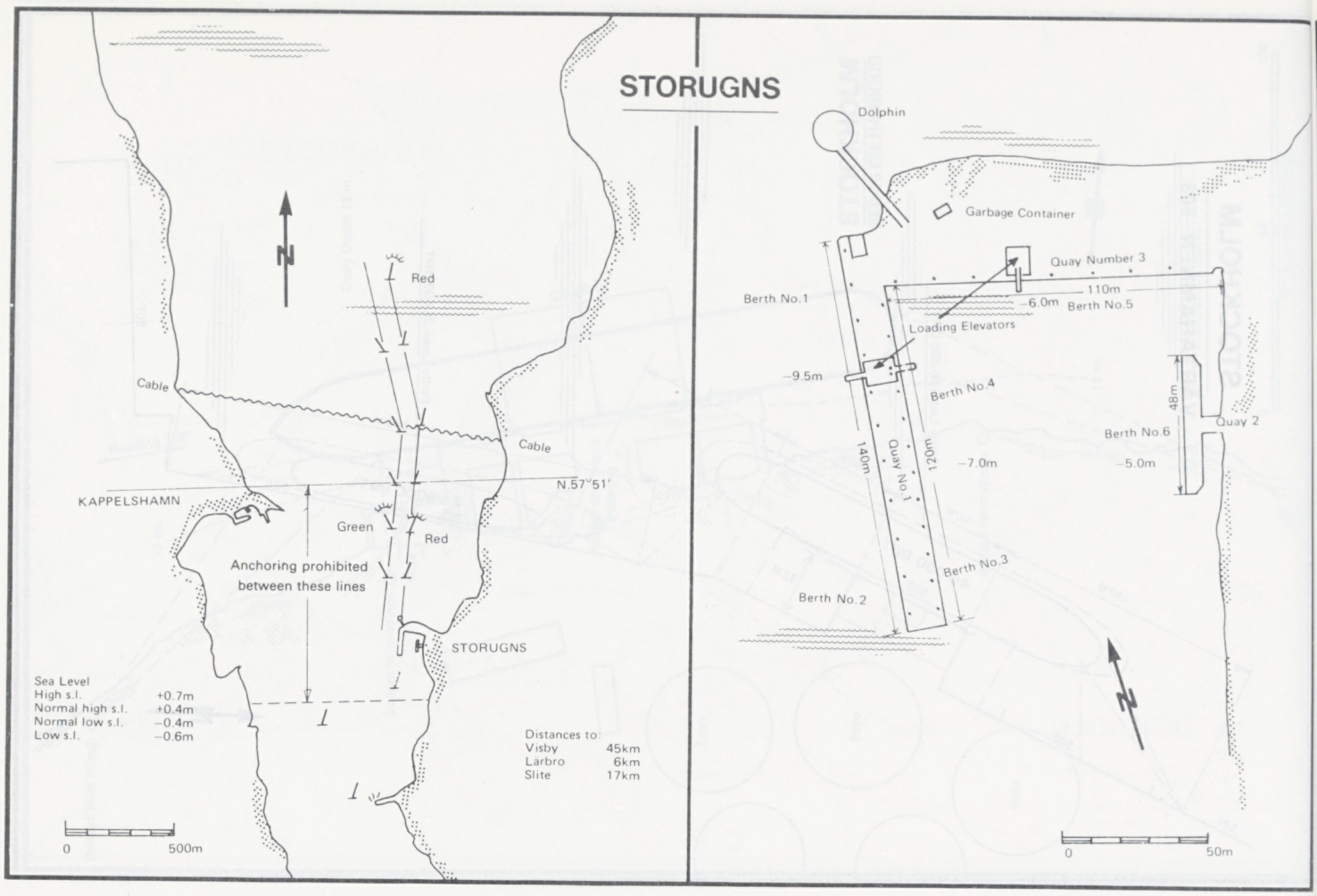
BERGS OIL HARBOUR

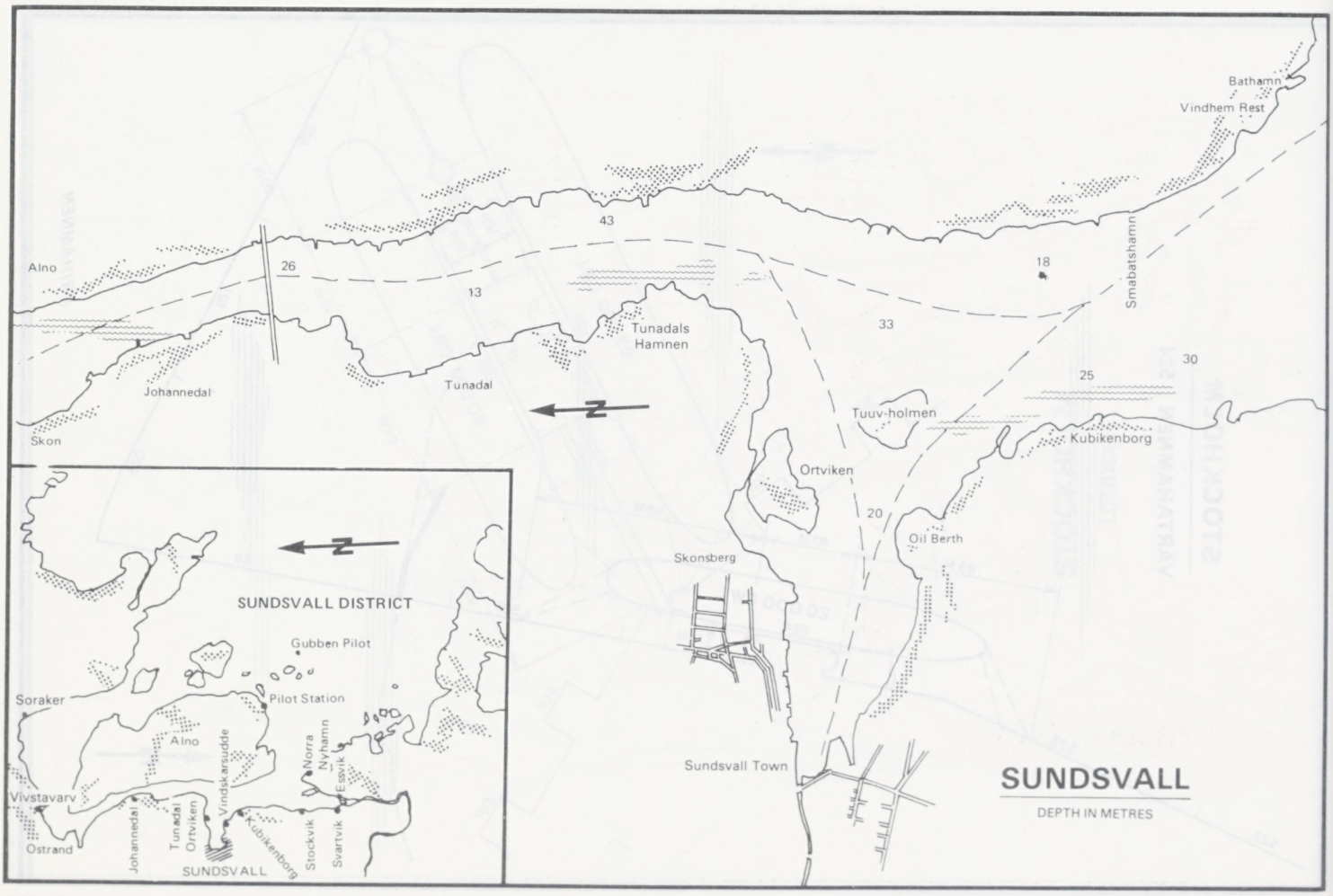

STOCKHOLM
VÄRTAHAMNEN 524
522
523
85 M
40 M
95M
20 000 DWT
524
13 M
525
611
620
621
622
N
FRIHAMNEN

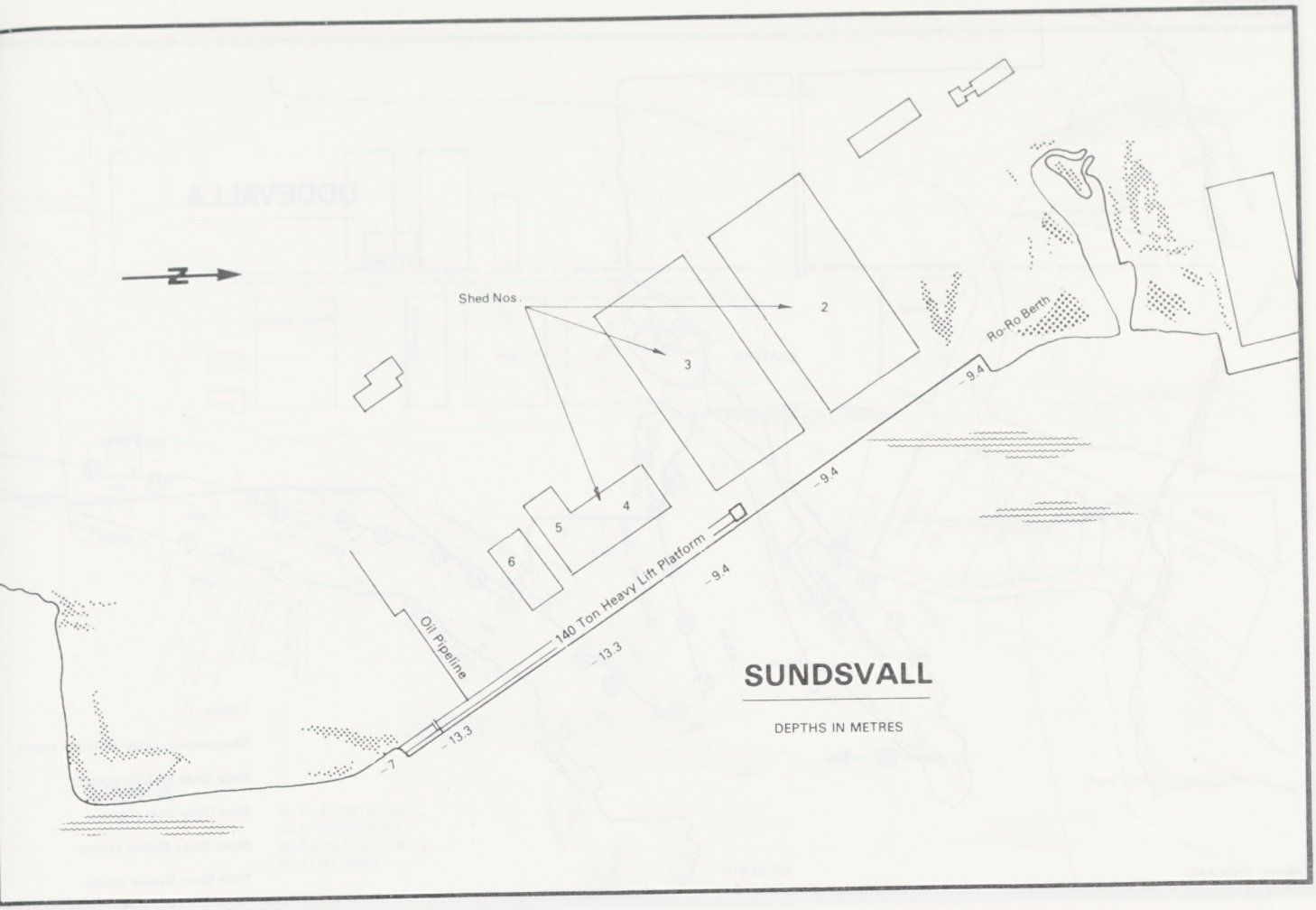

STOCKHOLM
VÄRTAHAMNEN 503
501
502
140 M
60M
40 000 DWT
503
Partly Laden 60,000 DWT
60 M
32M
70M
8 - 9000 DWT
505
Partly Laden 25,000 DWT
240 M
506
507
N

P831

SWEDEN

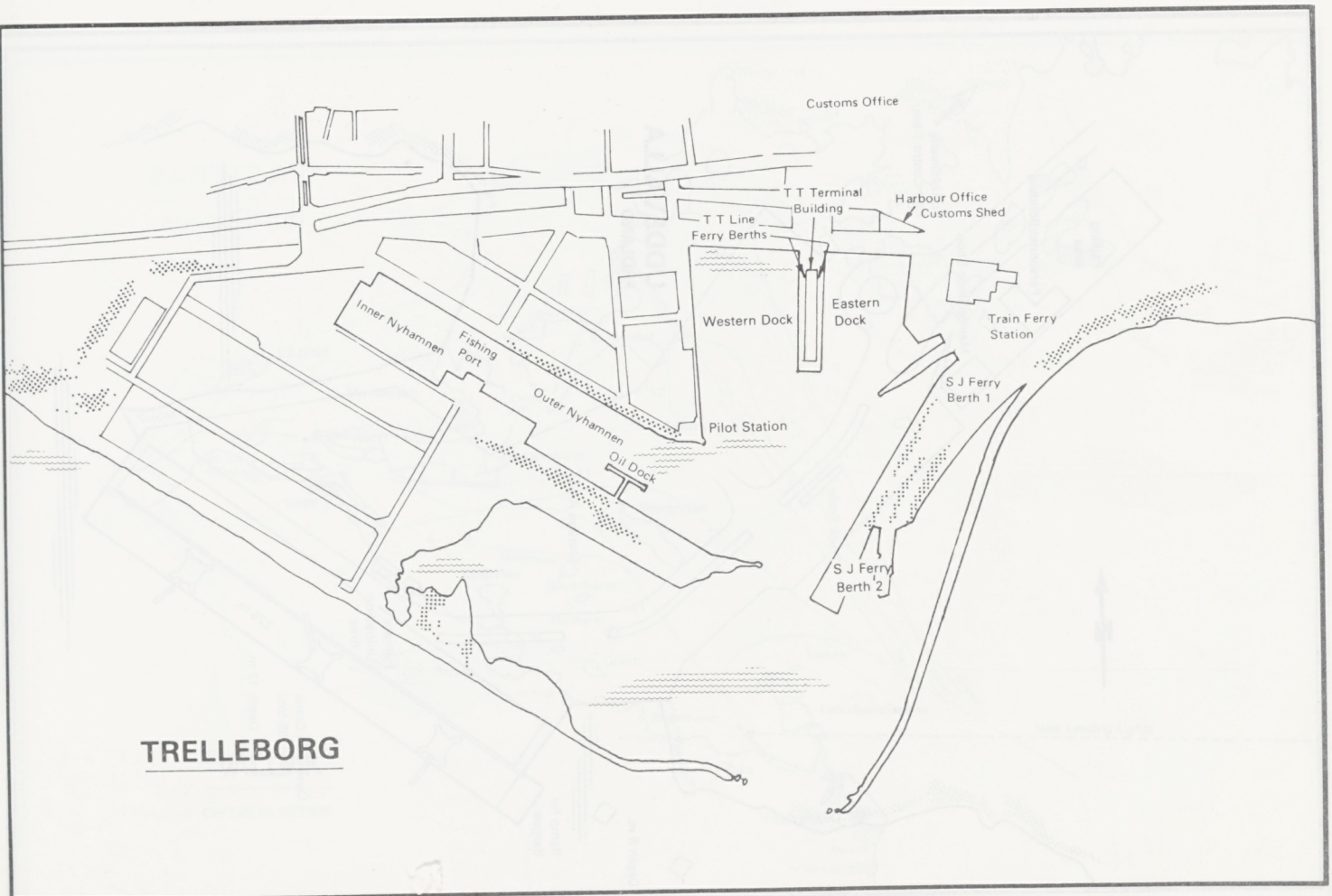

STORUGNS
N
Red
Cable
Cable
KAPPELSHAMN
N.57°51'
Green
Red
Anchoring prohibited
between these lines
STORUGNS
Sea Level
High s.l. +0.7m
Normal high s.l. +0.4m
Normal low s.l. −0.4m
Low s.l. −0.6m
Distances to:
Visby 45km
Lärbro 6km
Slite 17km
0 500m
Dolphin
Garbage Container
Quay Number 3
110m
Berth No.1
−6.0m
Berth No.5
Loading Elevators
−9.5m
Berth No.4
48m
Quay 2
Berth No.6
−5.0m
140m
Quay No.1
120m
−7.0m
Berth No.3
Berth No.2
N
0 50m


Bathamn
Vindhem Rest
43
Alno
26
13
18
Smabatshamn
33
Tunadals
Hamnen
30
25
Johannedal
Tunadal
Tuuv-holmen
Kubikenborg
Skon
Ortviken
20
Oil Berth
Skonsberg
Sundsvall Town
SUNDSVALL
DEPTH IN METRES
SUNDSVALL DISTRICT
Gubben Pilot
Soraker
Pilot Station
Alno
Norra Nyhamn
Essvik
Vindskärsudde
Vivstavarv
Tunadal
Ortviken
Kubikenborg
Stockvik
Svartvik
Ostrand
Johannedal
SUNDSVALL

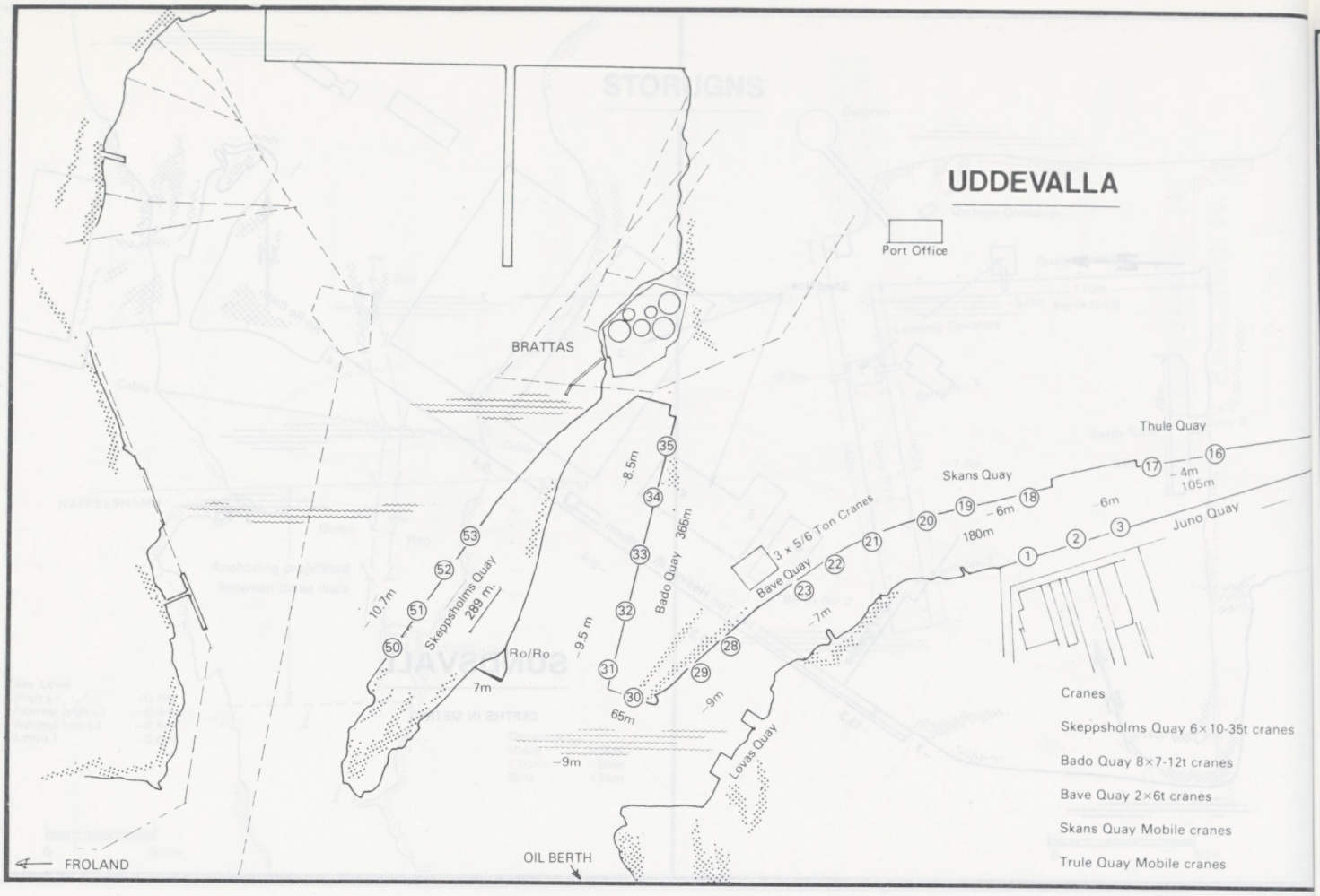


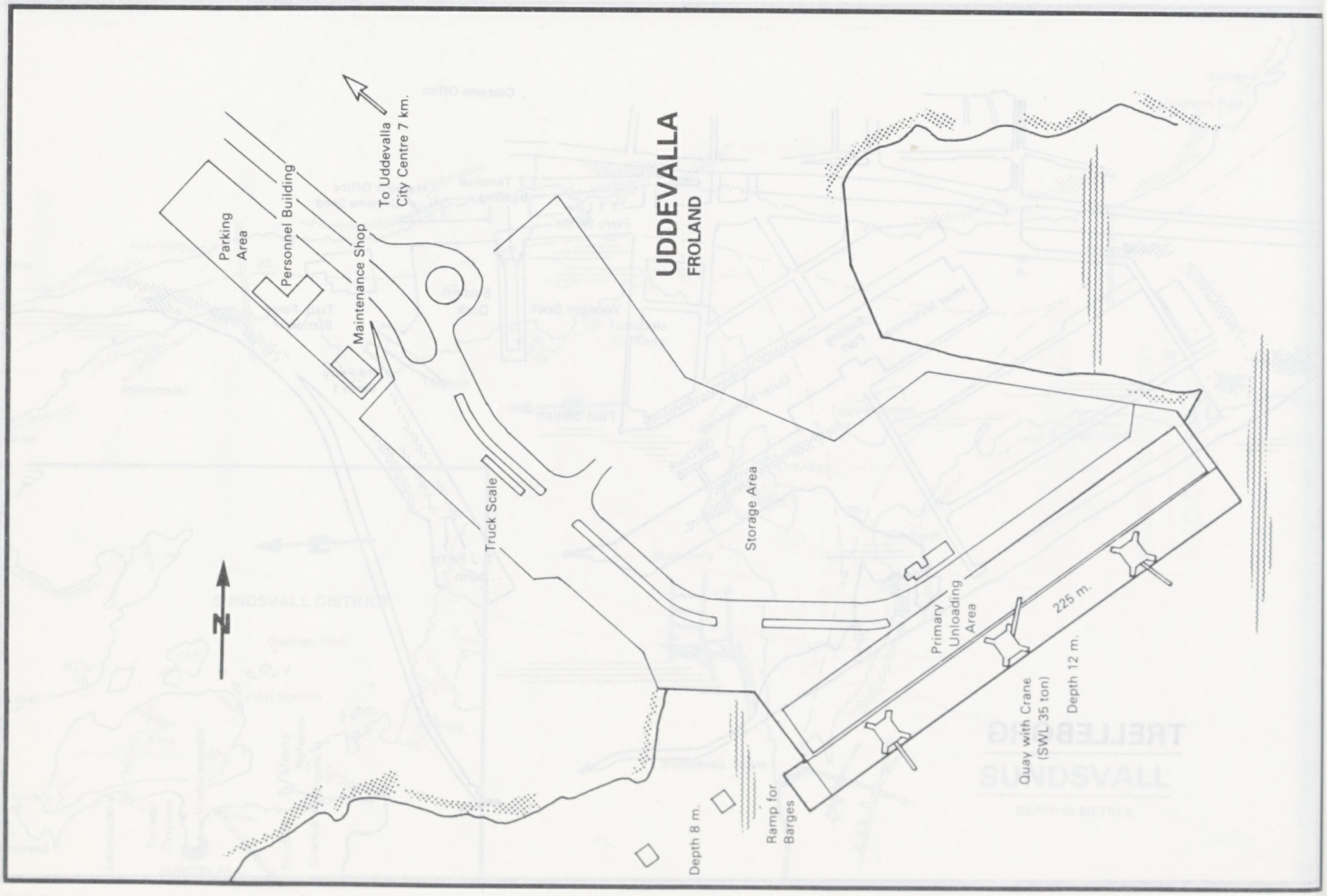
SUNDSVALL

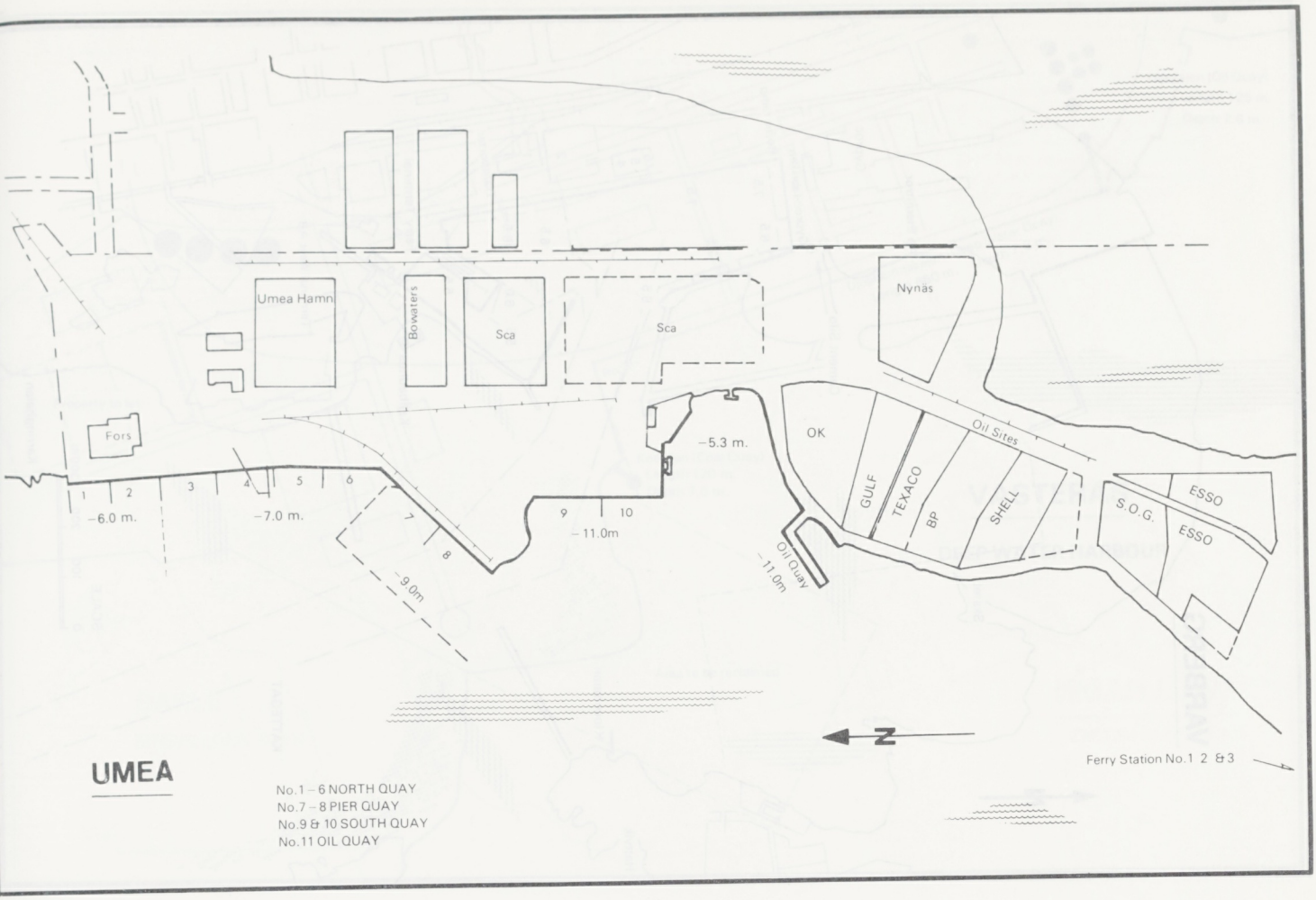
DEPTHS IN METRES



TRELLEBORG

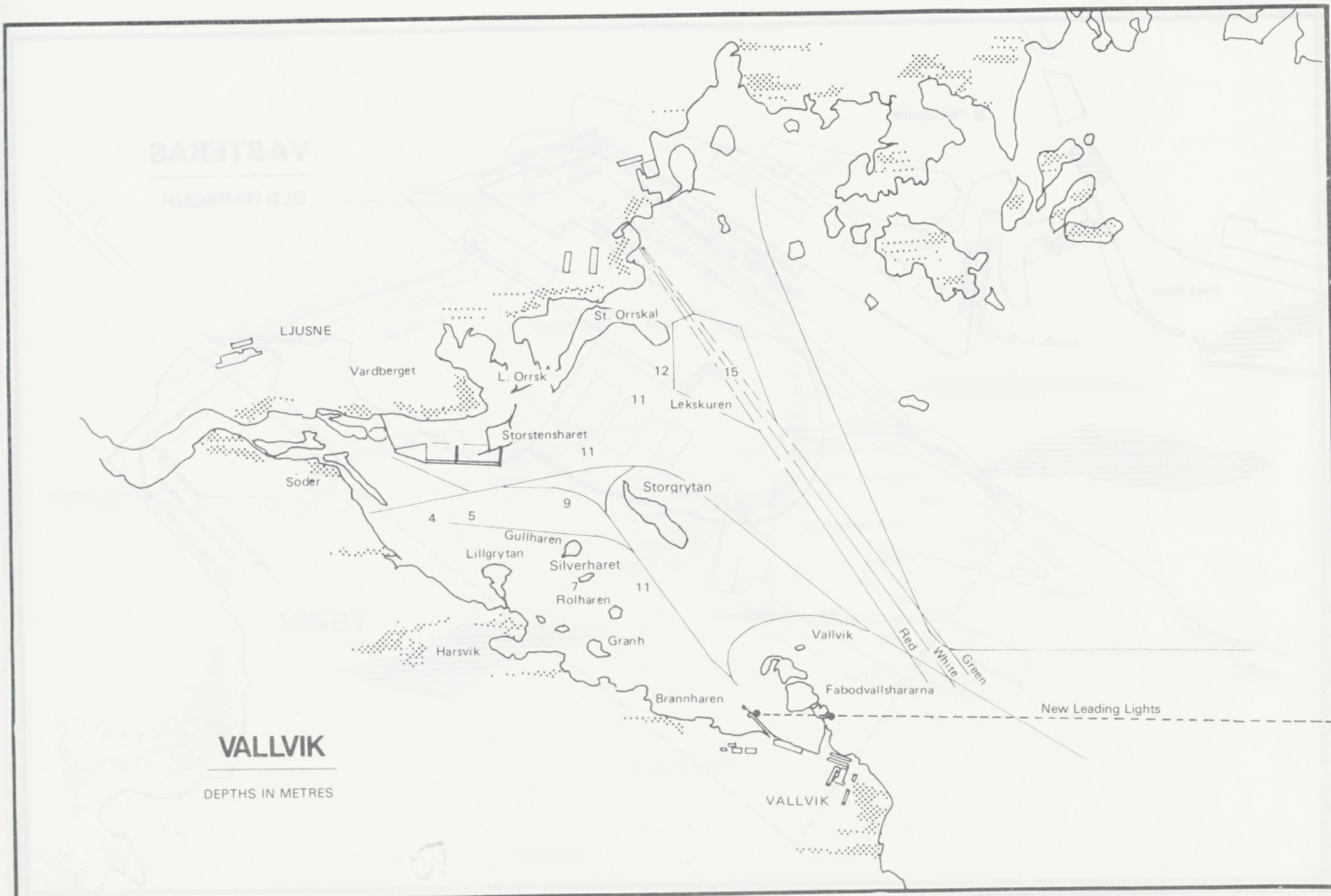

UDDEVALLA
Port Office
BRATTAS
Thule Quay
Skans Quay
Juno Quay
Bave Quay
Bado Quay 365m
Skeppsholms Quay 289 m.
Ro/Ro
Lovas Quay
3 x 5/6 Ton Cranes
180m
105m
65m
-10.7m
-8.5m
-9.5 m
-9m
-7m
-4m
-6m
7m
FROLAND
OIL BERTH
Cranes
Skeppsholms Quay 6×10-35t cranes
Bado Quay 8×7-12t cranes
Bave Quay 2×6t cranes
Skans Quay Mobile cranes
Trule Quay Mobile cranes


UDDEVALLA
FROLAND
To Uddevalla City Centre 7 km.
Parking Area
Personnel Building
Maintenance Shop
Truck Scale
Storage Area
Primary Unloading Area
225 m.
Depth 12 m.
Quay with Crane (SWL 35 ton)
Depth 8 m.
Ramp for Barges
N



UMEA

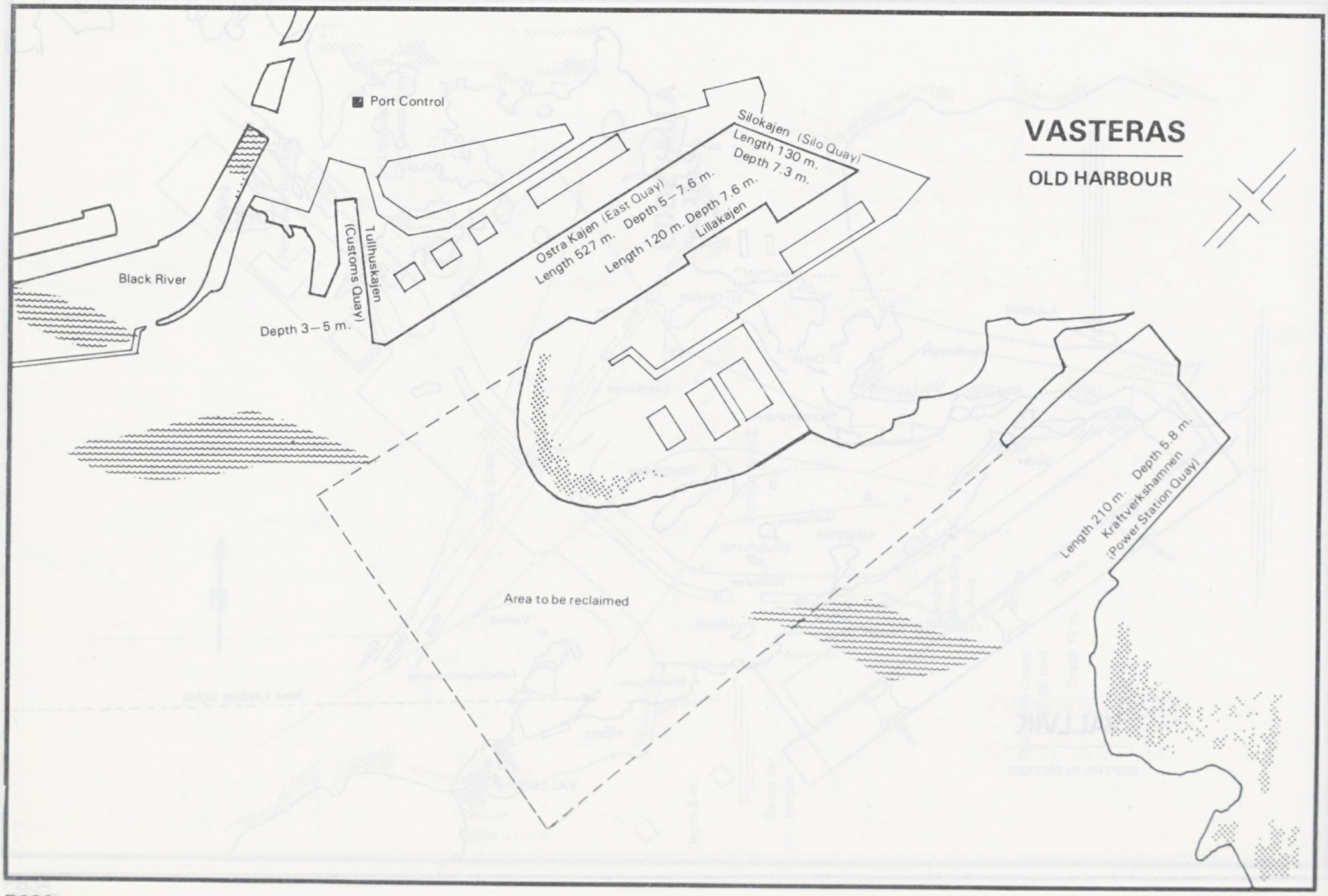
No.1 – 6 NORTH QUAY
No.7 – 8 PIER QUAY
No.9 & 10 SOUTH QUAY
No.11 OIL QUAY

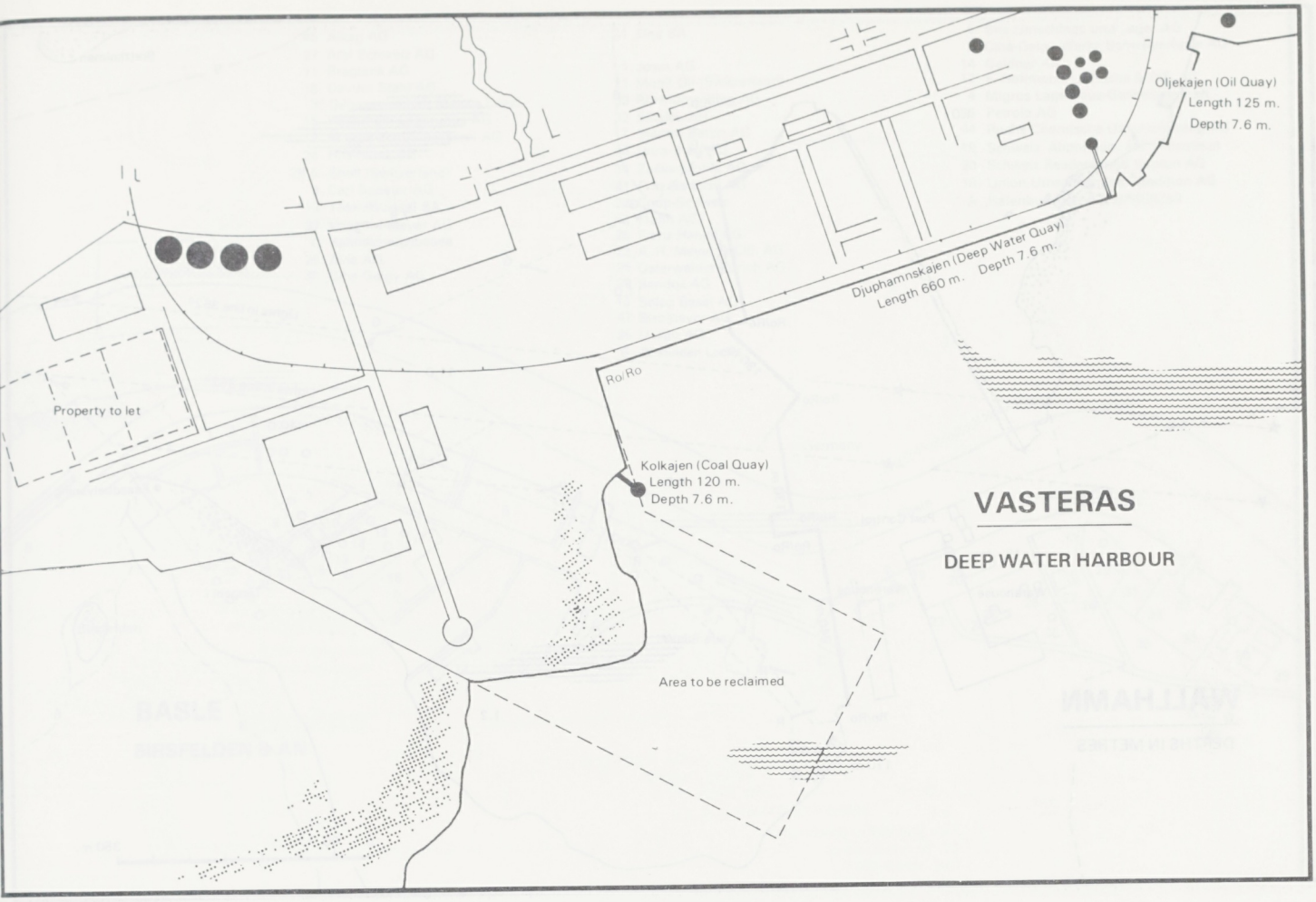


VALLVIK

DEPTHS IN METRES

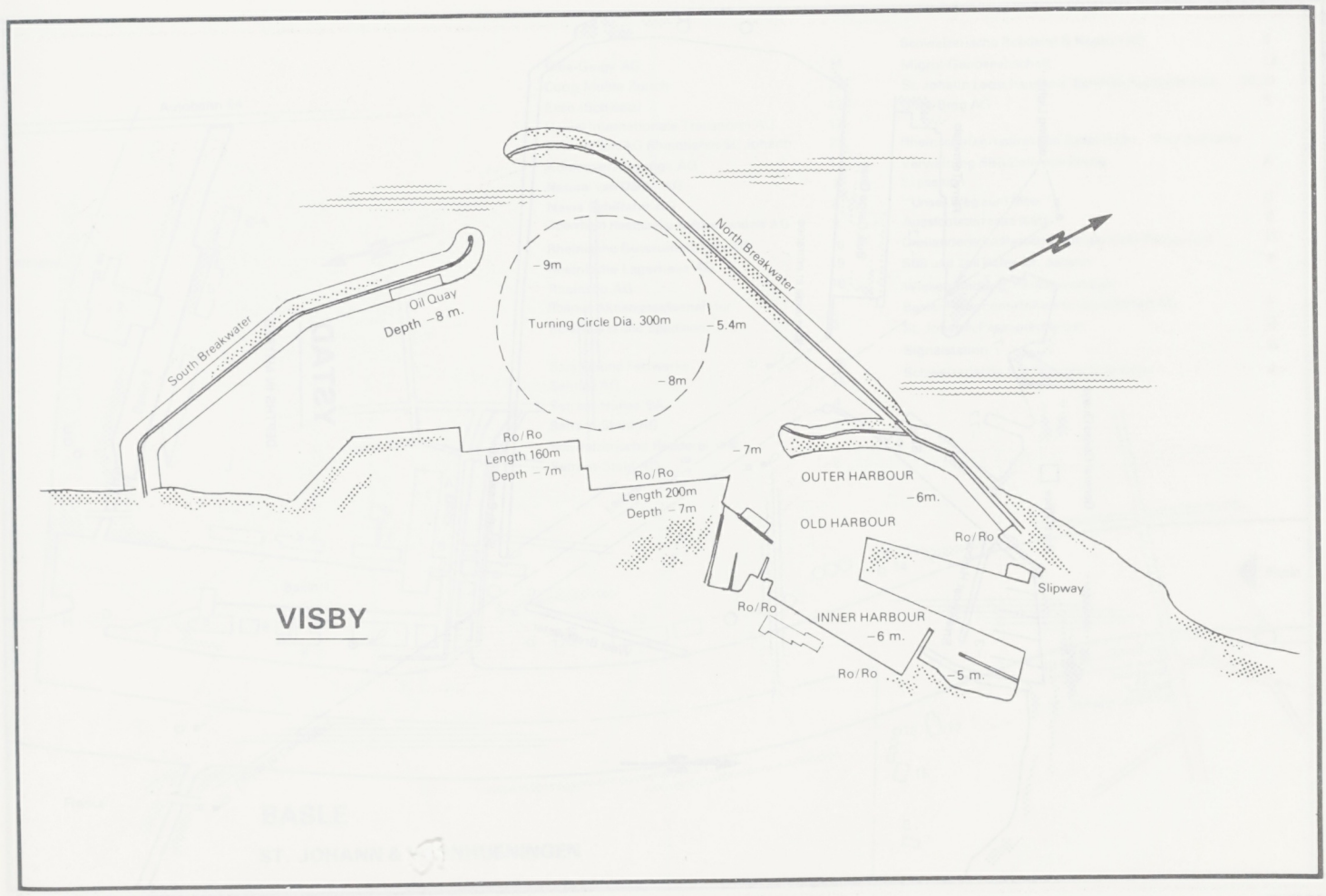
VARBERG
Ab Eternitror
Gyproc
Gyproc-fabriken
Ro/ro ramp
Transporter
Ferry Terminal
Terminal West AB
Kallbadhus
Cement Silo
Skaret
Klovehamn
Hattvik
KATTEGAT
Karringhalan
SCALE
0 100 200 300m
N


VASTERAS
OLD HARBOUR
Port Control
Black River
Depth 3–5 m.
Tullhuskajen (Customs Quay)
Ostra Kajen (East Quay)
Length 527 m. Depth 5–7.6 m.
Length 120 m. Depth 7.6 m.
Lillakajen
Silokajen (Silo Quay)
Length 130 m.
Depth 7.3 m.
Area to be reclaimed
Length 210 m. Depth 5.8 m.
Kraftverkshamnen
(Power Station Quay)

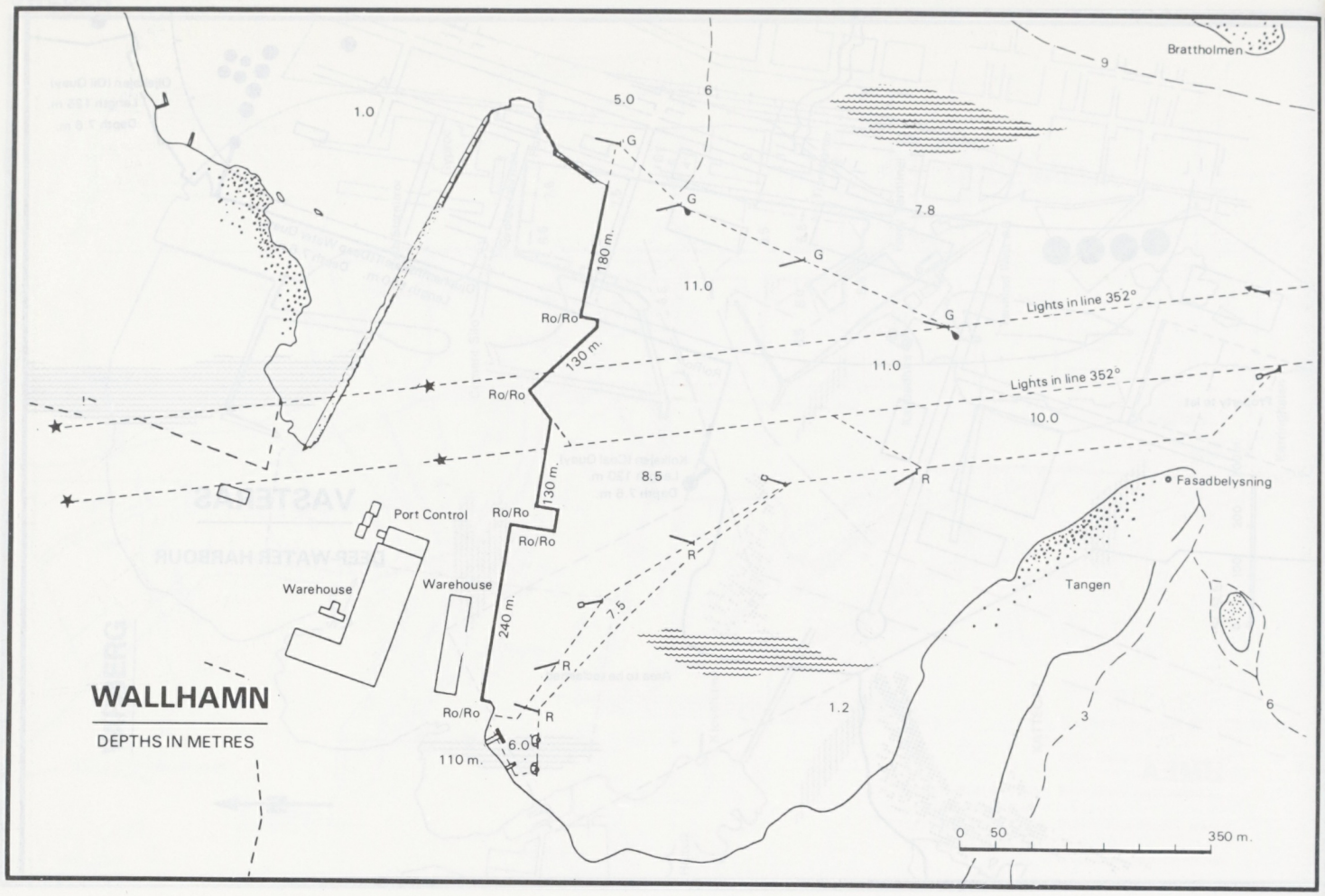


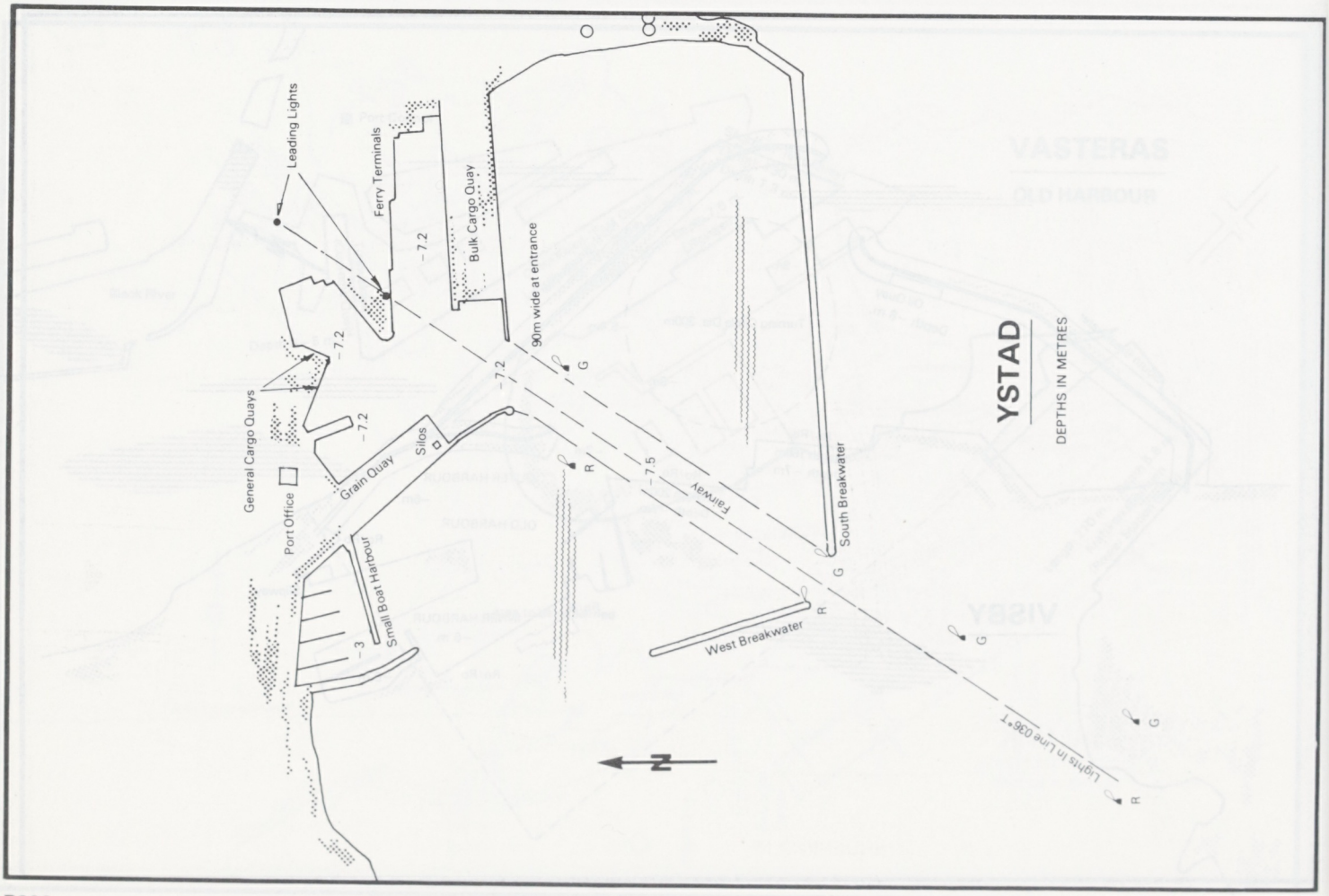
VASTERAS

DEEP WATER HARBOUR



VISBY


Brattholmen
9
6
5.0
1.0
G
7.8
180 m.
11.0
Ro/Ro
130 m.
Lights in line 352°
11.0
Ro/Ro
Lights in line 352°
10.0
130 m.
8.5
R
Fasadbelysning
Port Control
Ro/Ro
Ro/Ro
Warehouse
Warehouse
Tangen
240 m.
7.5
R
WALLHAMN
DEPTHS IN METRES
Ro/Ro
R
1.2
3
6
6.0
110 m.
0
50
350 m.


Leading Lights
Ferry Terminals
Bulk Cargo Quay
90m wide at entrance
YSTAD
DEPTHS IN METRES
General Cargo Quays
Port Office
Grain Quay
Silos
Small Boat Harbour
Fairway
South Breakwater
West Breakwater
Lights in Line 036°T
N

45 Alkag AG
27 Aral Schweiz AG
11 Bragtank AG
16 Davum Stahl AG
3 Genossenschaft Migros Basel
15 Hochrhein Lagerungs AG
2 Migros Zentralpackerei AG
24 Rheintank AG
28,5 Shell (Switzerland)
8 Carl Spaeter AG
13 Total (Suisse) SA
37 Voegtlin-Meyer AG
C Bahndienstgebaude
26 Avia AG
30 Ciba-Geigy AG

31 Fina SA

1 Jowa AG
21 Mobil Oil (Switzerland)
33 Rheinumschlag AG
32 Sihelco AG
17 Stamm Beton AG
38 Ultra-Brag AG
34 Zuckermuhle AG
41 Fritz Bertschi AG
22 Coop-Schweiz
43 Florin AG
29 Franz Haniel AG
23 A. H. Meyer & CIE. AG
25 Osterwalder Zurich AG
39 Sandoz AG
10 Solco Basel AG
42 Stromeyer AG
35 Usego AG
B Birsfelden Locks

6 Birs Umschlags und Lager AG
9 Ciba-Geigy Werke Schweizerhalle AG
14 Geldner AG
12 F. Hoffmann-La Roche & CIE. AG
4 Migros Lagerhaus-Genossenschaft
36 Petrola AG
44 Roche Chemische Unternehmung AG
19 Schweiz. Aluminium AG (Alusuisse)
20 Schweiz Reederei und Neptun AG
18 Union Umschlag und Spedition AG
A Hafenburo Baselland/SBB/Zoll

BASLE

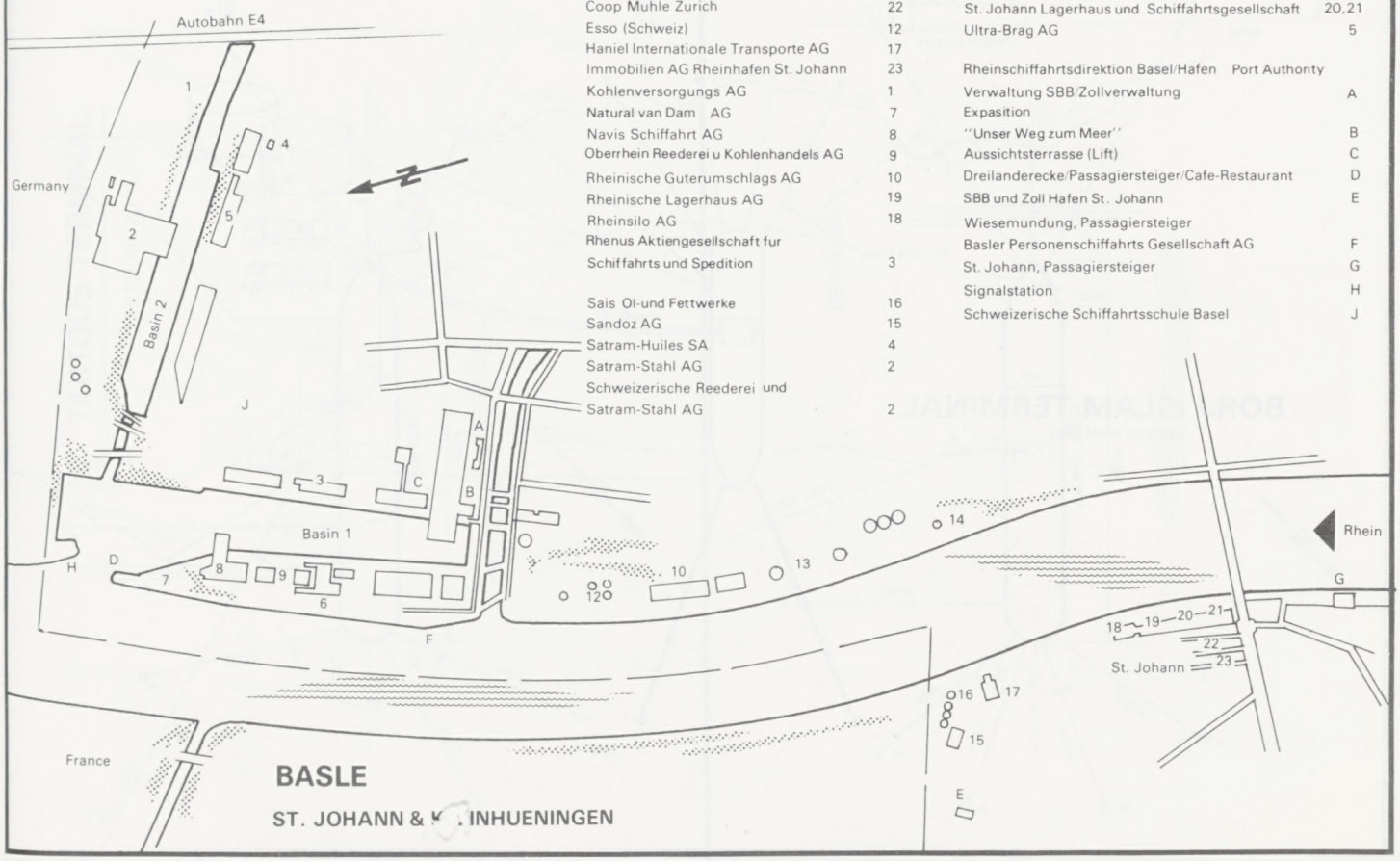
BIRSFELDEN & AN

Ciba-Geigy AG 14
Coop Muhle Zurich 22
Esso (Schweiz) 12
Haniel Internationale Transporte AG 17
Immobilien AG Rheinhafen St. Johann 23
Kohlenversorgungs AG 1
Natural van Dam AG 7
Navis Schiffahrt AG 8
Oberrhein Reederei u Kohlenhandels AG 9
Rheinische Guterumschlags AG 10
Rheinische Lagerhaus AG 19
Rheinsilo AG 18
Rhenus Aktiengesellschaft fur Schiffahrts und Spedition 3

Sais Ol-und Fettwerke 16
Sandoz AG 15
Satram-Huiles SA 4
Satram-Stahl AG 2
Schweizerische Reederei und Satram-Stahl AG 2

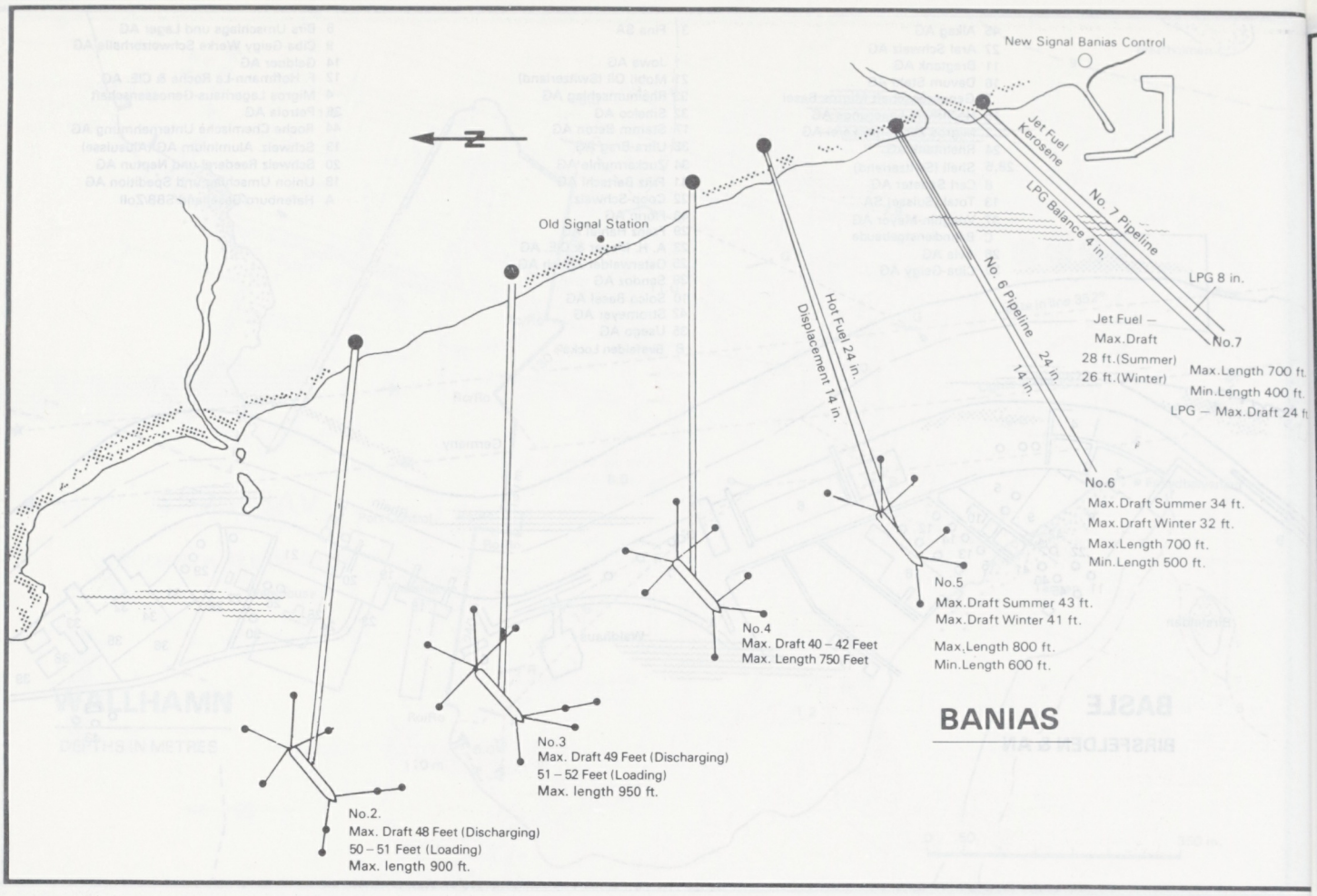
Schweizerische Reederei & Neptun AG 6
Migrol-Genossenschaft 13
St. Johann Lagerhaus und Schiffahrtsgesellschaft 20,21
Ultra-Brag AG 5

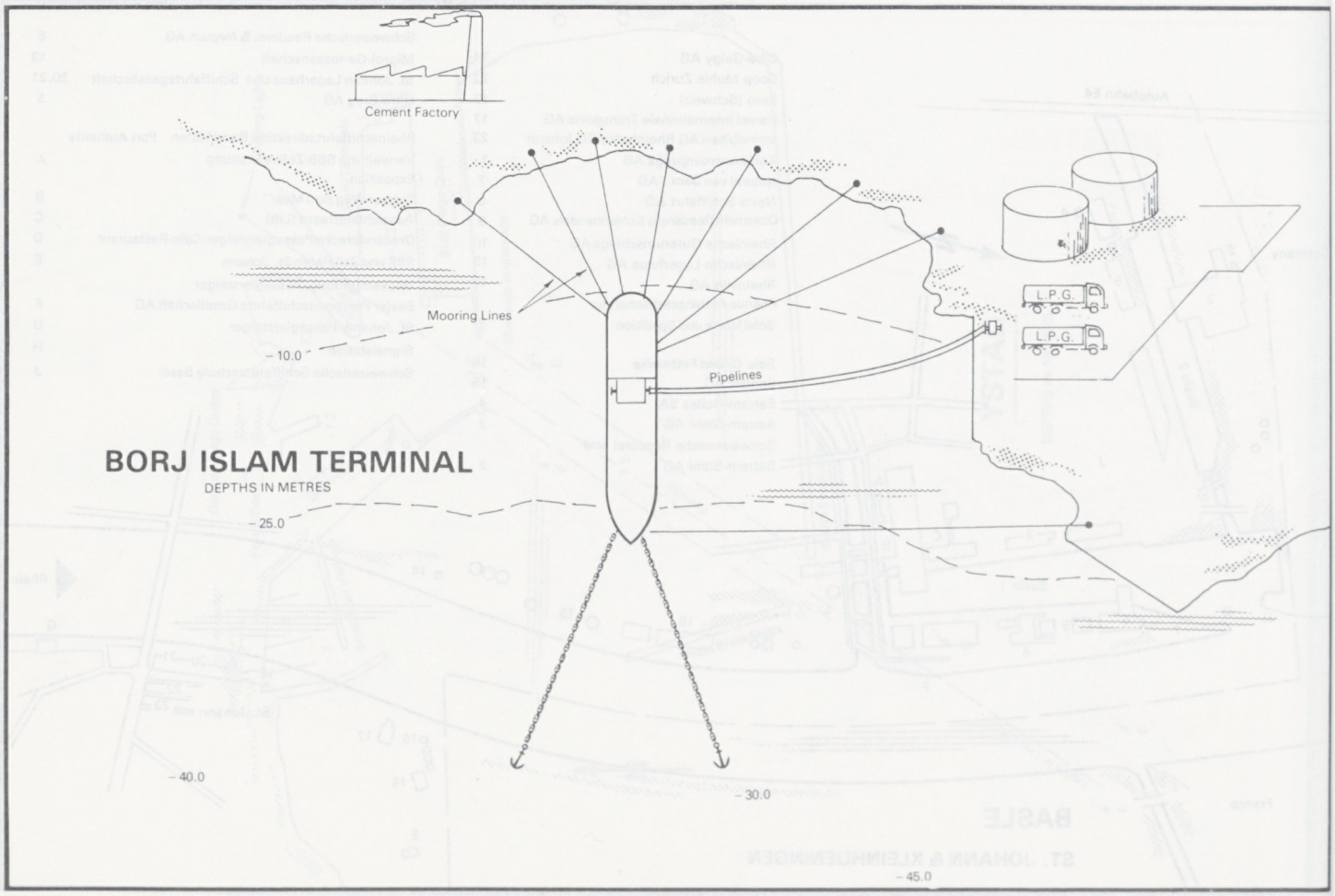
Rheinschiffahrtsdirektion Basel/Hafen Port Authority
Verwaltung SBB/Zollverwaltung A
Expasition
"Unser Weg zum Meer" B
Aussichtsterrasse (Lift) C
Dreilanderecke/Passagiersteiger/Cafe-Restaurant D
SBB und Zoll Hafen St. Johann E
Wiesemundung, Passagiersteiger
Basler Personenschiffahrts Gesellschaft AG F
St. Johann, Passagiersteiger G
Signalstation H
Schweizerische Schiffahrtsschule Basel J



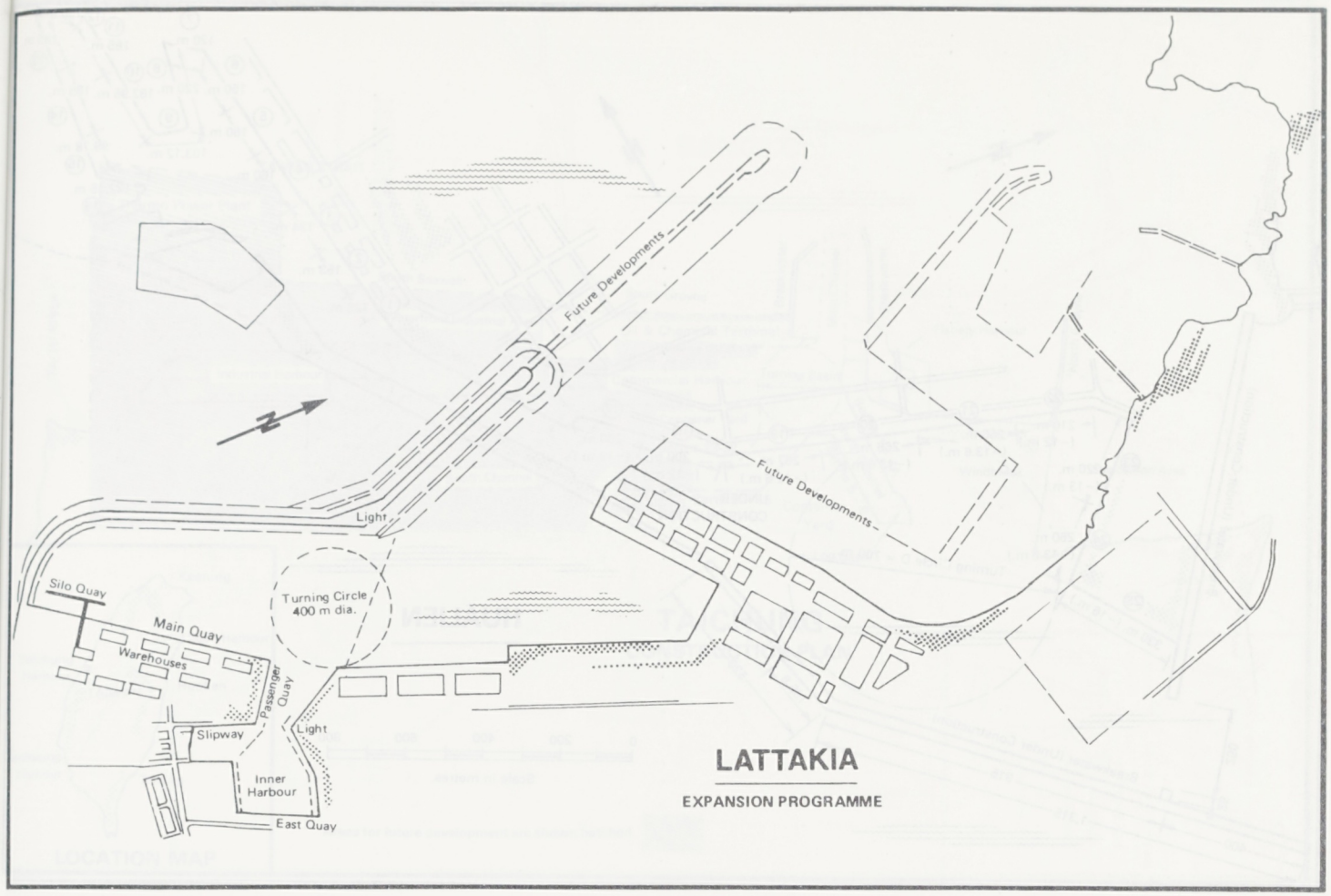
BASLE

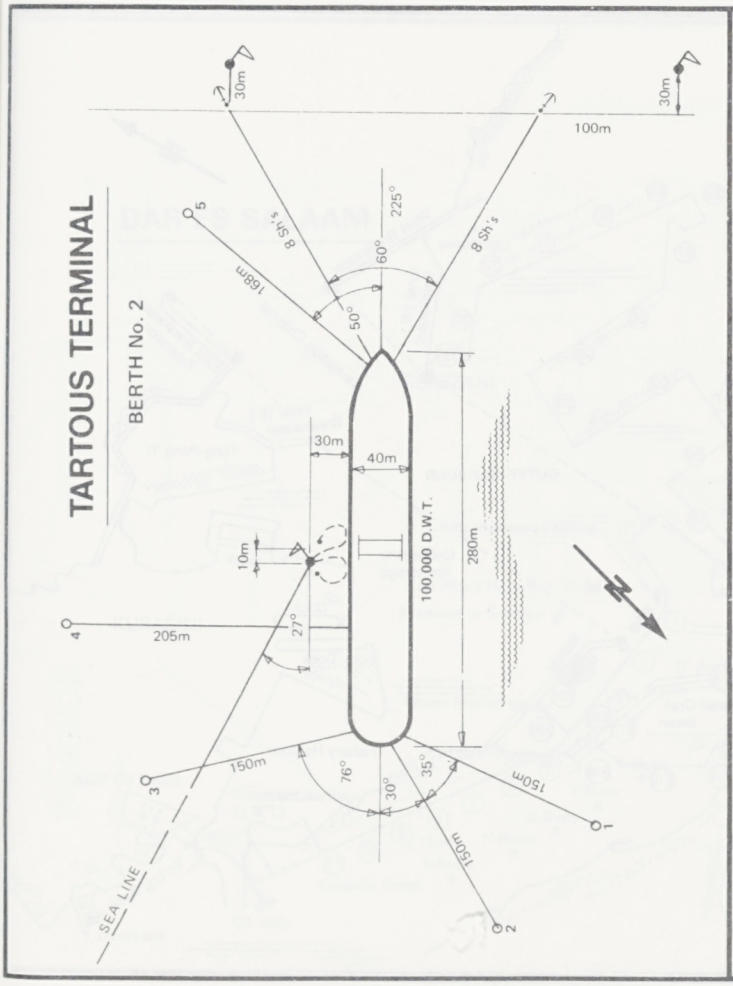
ST. JOHANN & K[illegible]INHUENINGEN

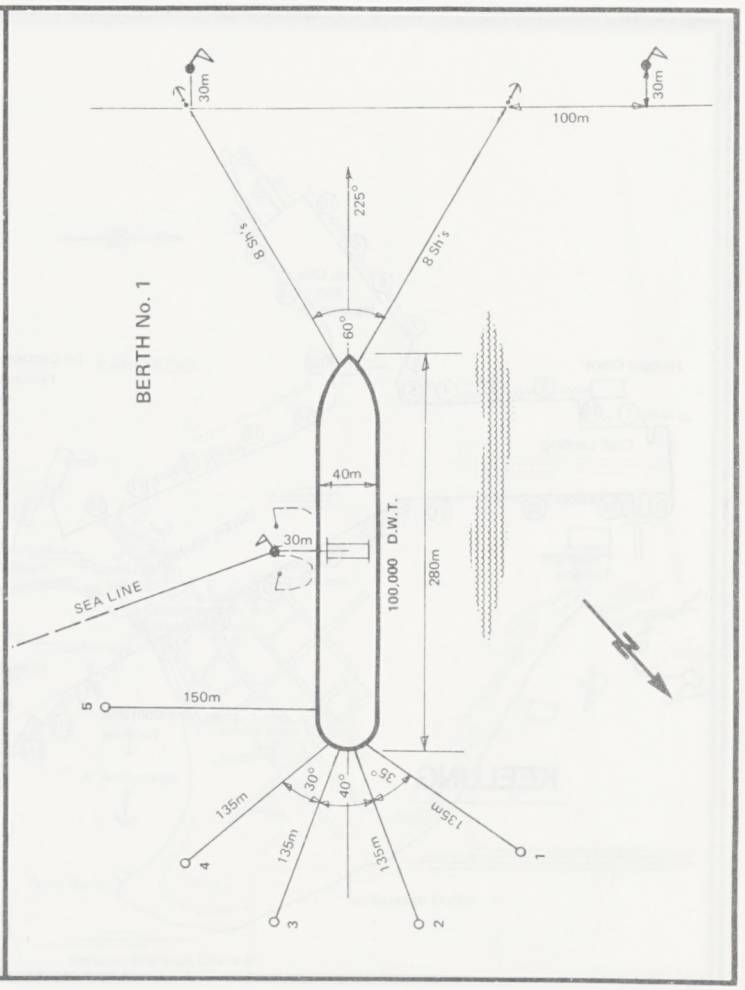


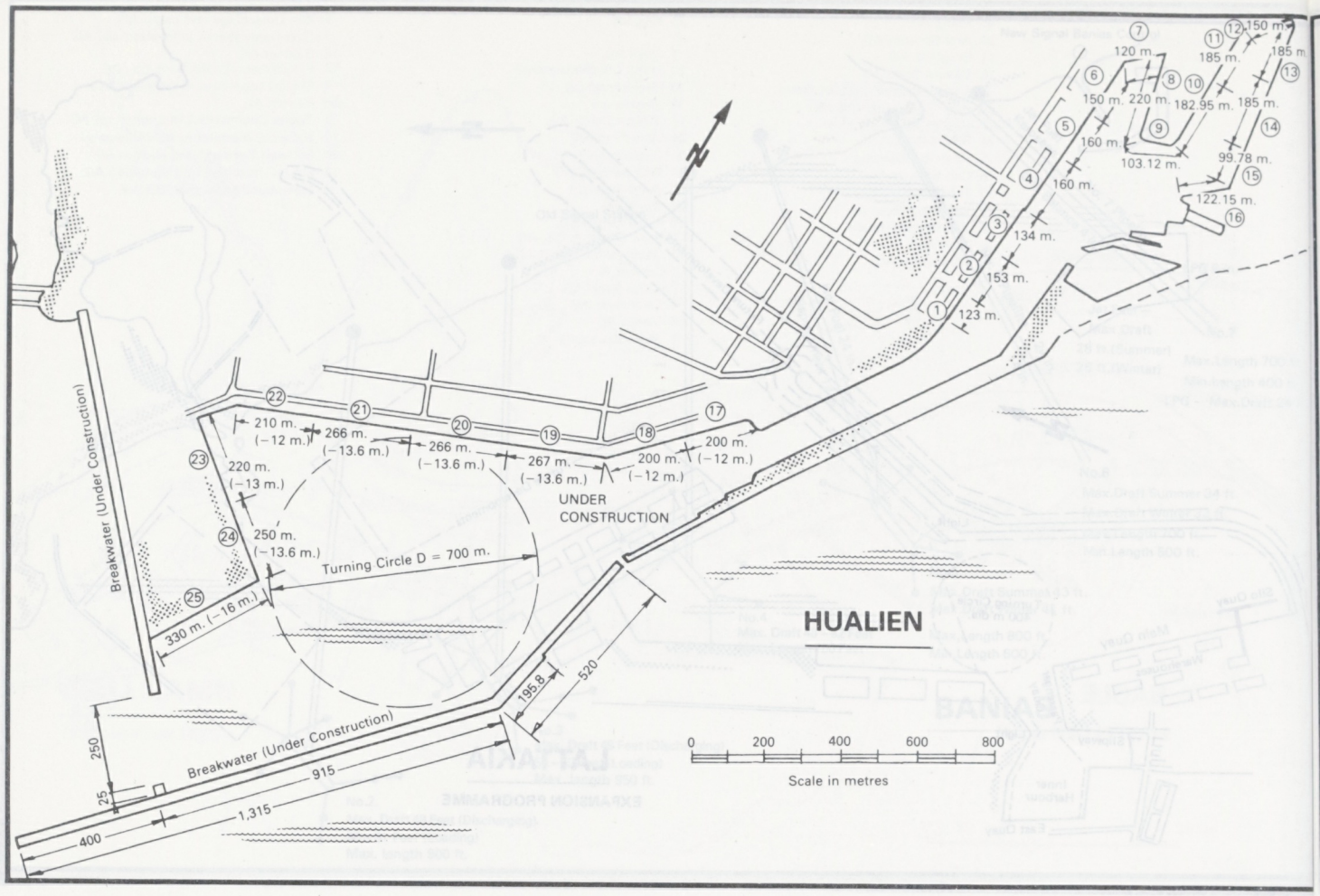


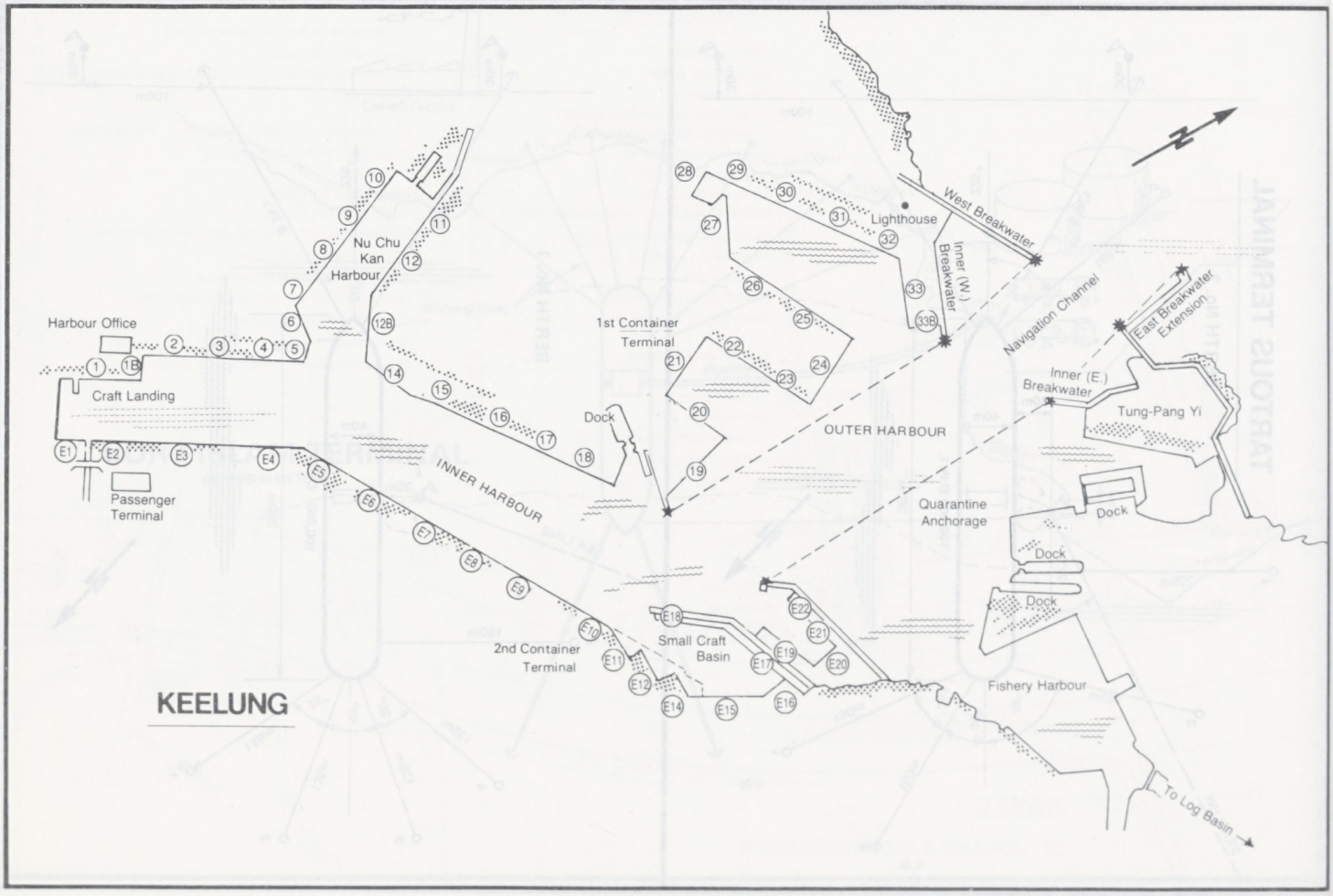
"Plan supplied by Ship's Master"

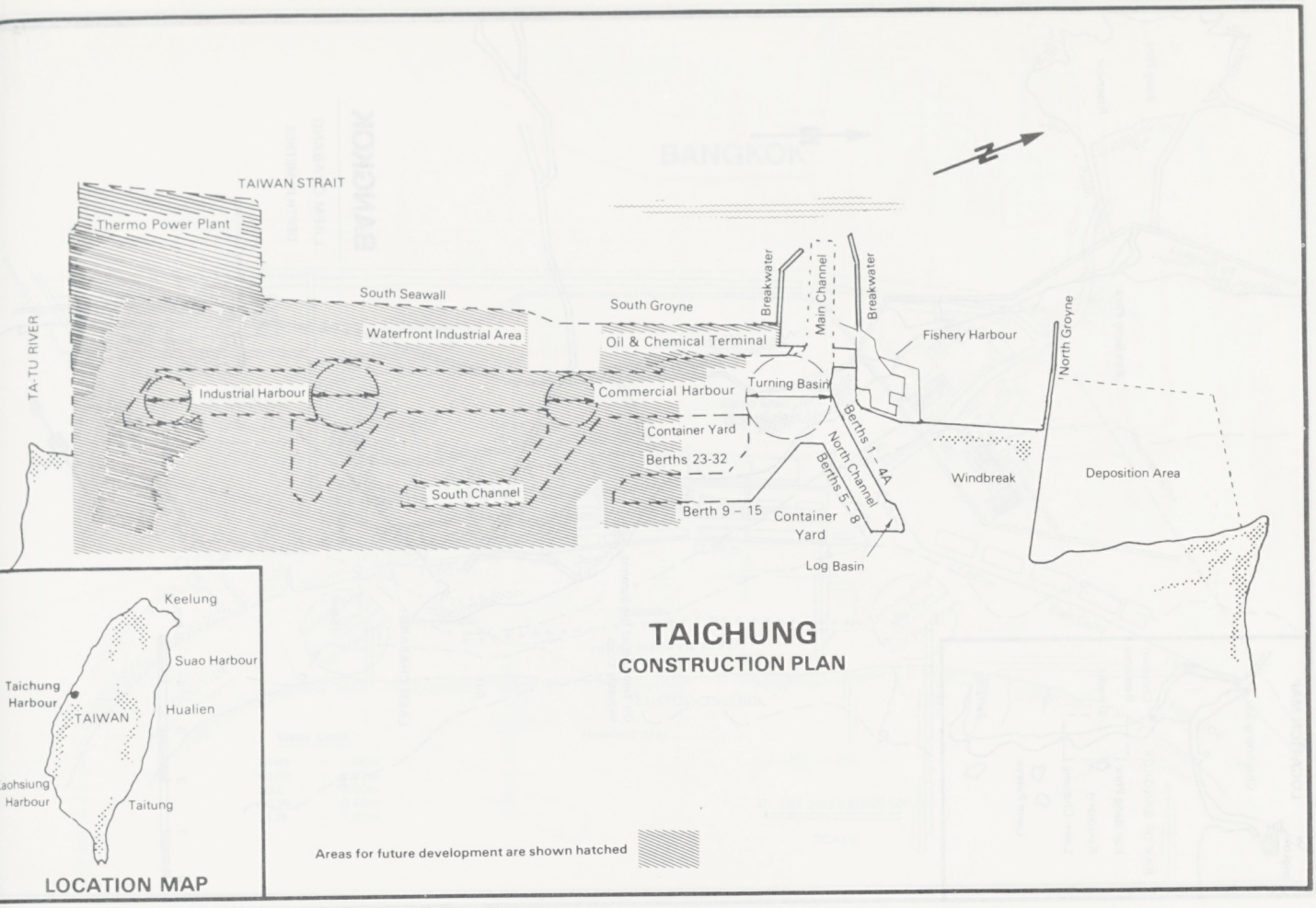

Future Developments
Future Developments
Light
Silo Quay
Main Quay
Warehouses
Turning Circle
400 m dia.
Passenger Quay
Slipway
Light
Inner Harbour
East Quay
LATTAKIA
EXPANSION PROGRAMME

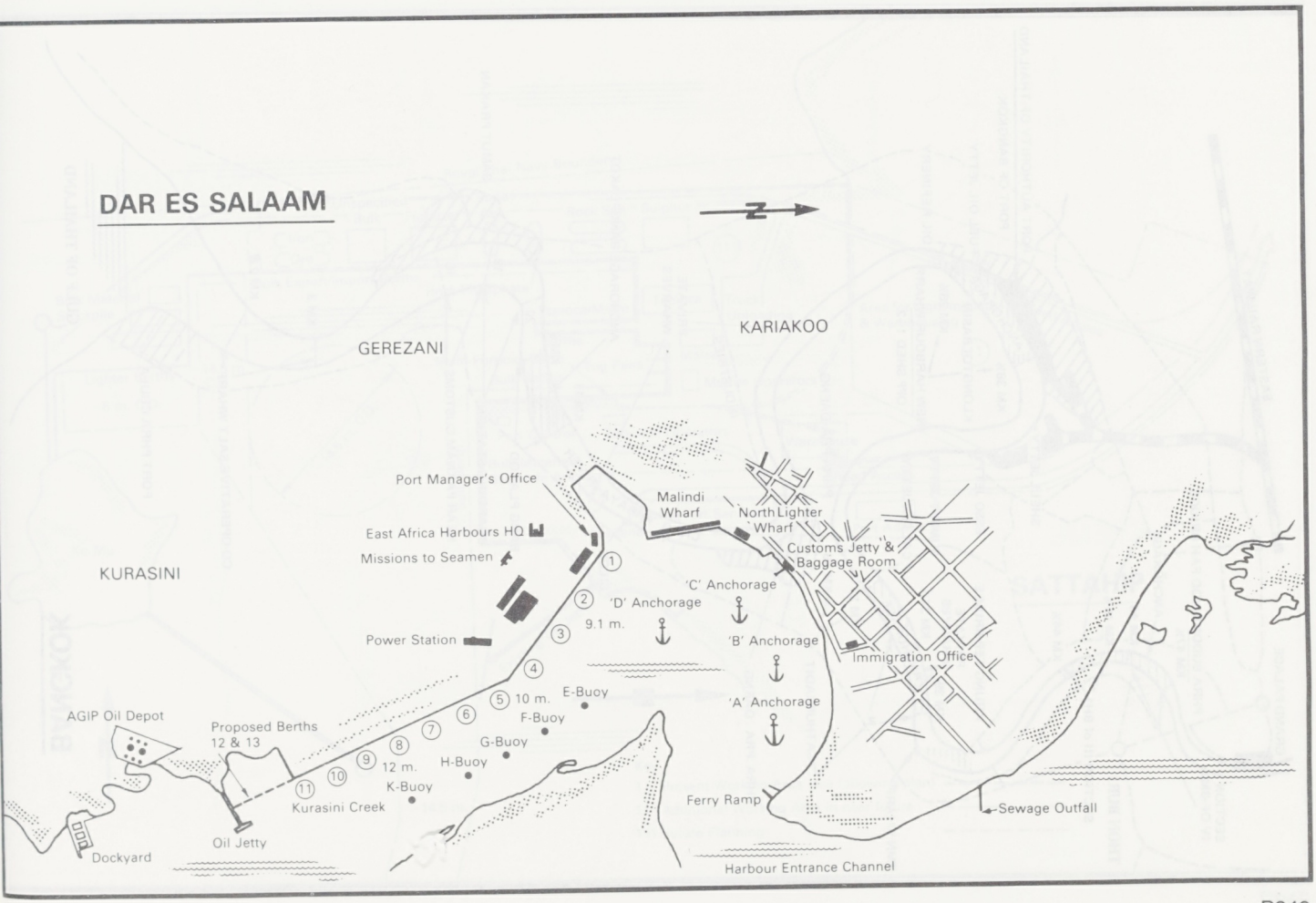

TARTOUS TERMINAL
BERTH No. 2
30m
30m
100m
8 Shs
8 Shs
225°
60°
50°
168m
30m
40m
10m
27°
205m
100,000 D.W.T.
280m
150m
76°
30°
35°
150m
150m
SEA LINE

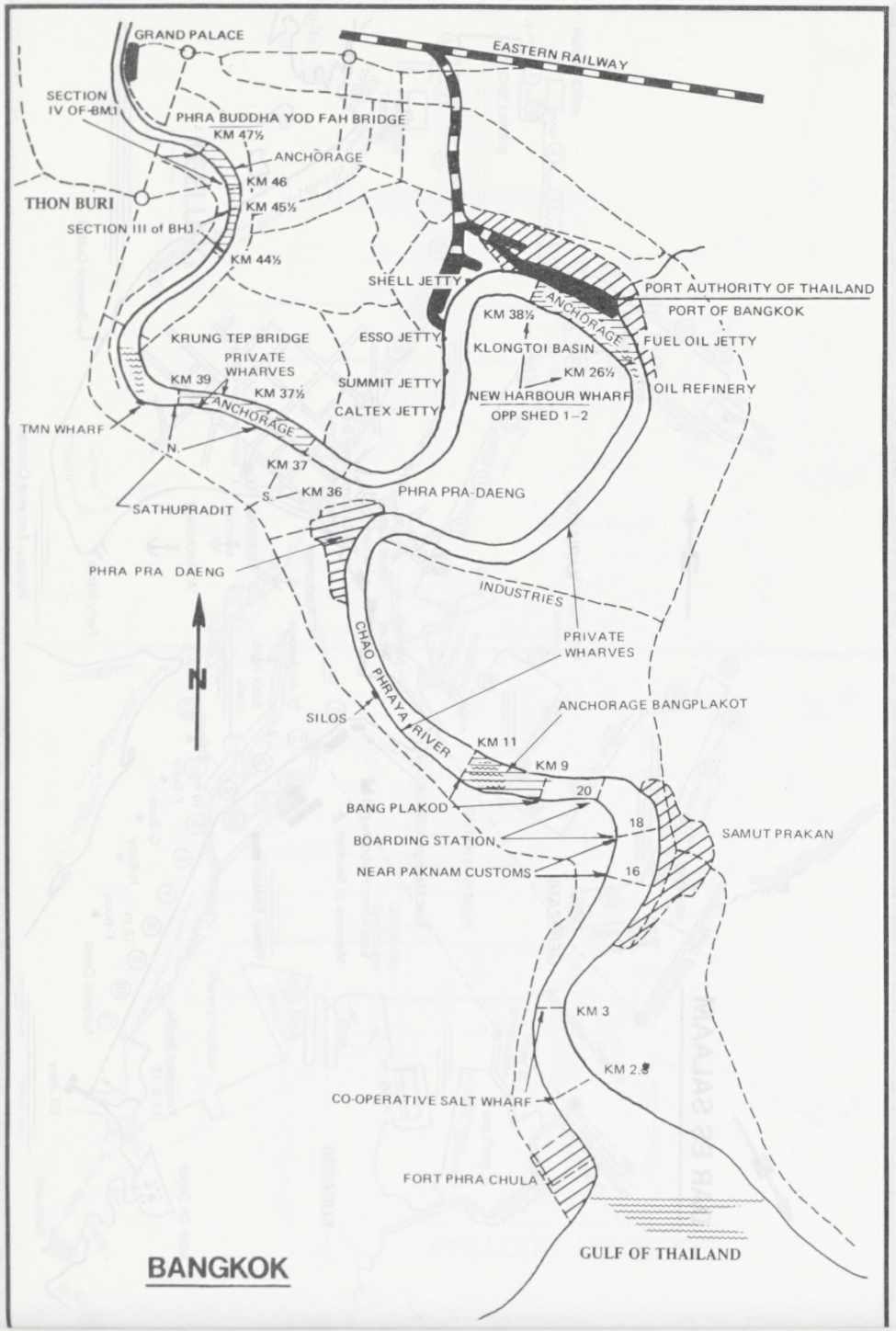

BERTH No. 1
30m
30m
100m
8 Shs
8 Shs
225°
60°
40m
30m
100,000 D.W.T.
280m
SEA LINE
150m
135m
135m
135m
135m
30°
40°
35°

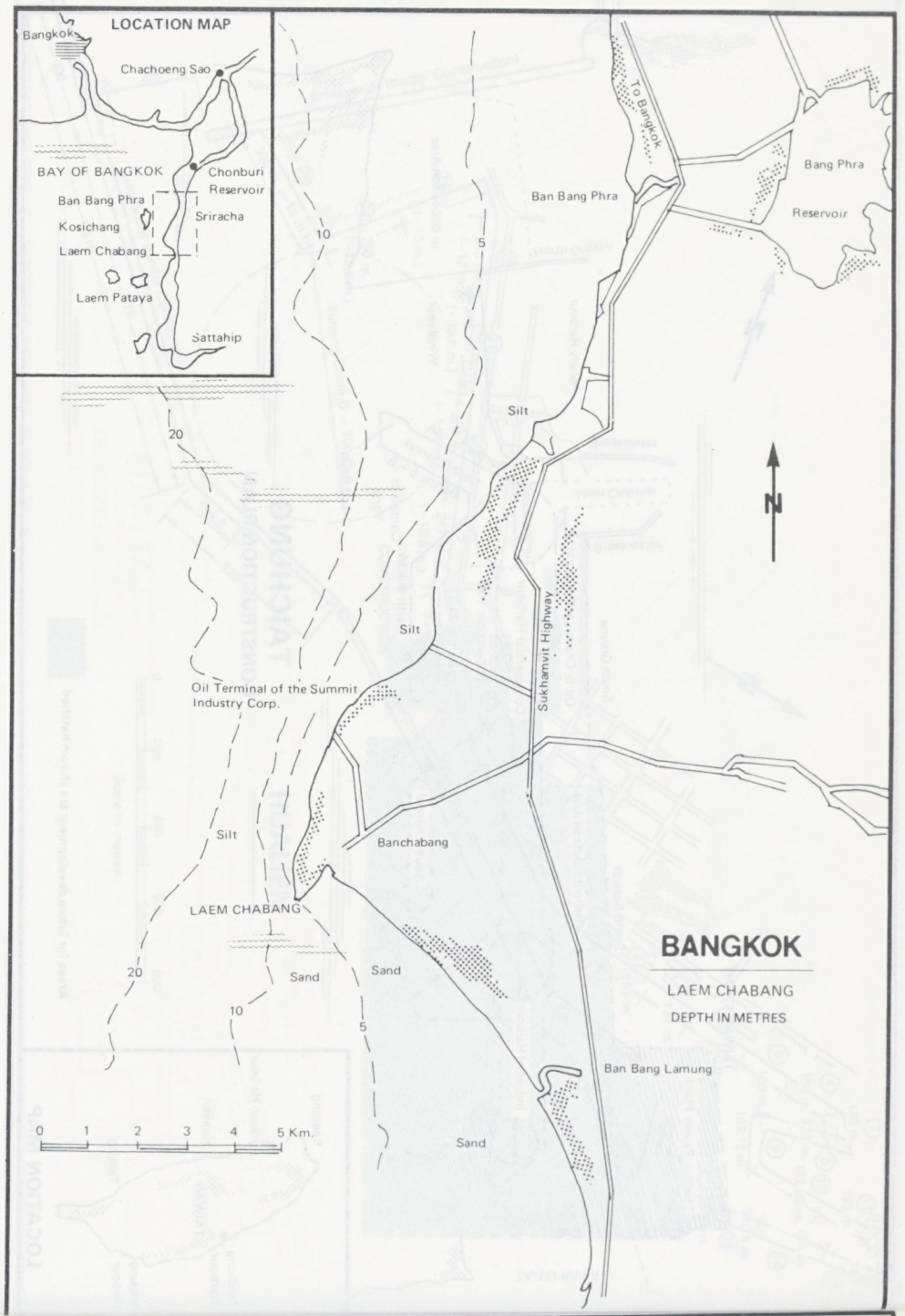

HUALIEN
UNDER CONSTRUCTION
Breakwater (Under Construction)
Turning Circle D = 700 m.
Breakwater (Under Construction)
210 m. (−12 m.)
266 m. (−13.6 m.)
266 m. (−13.6 m.)
267 m. (−13.6 m.)
200 m. (−12 m.)
200 m. (−12 m.)
220 m. (−13 m.)
250 m. (−13.6 m.)
330 m. (−16 m.)
195.8
520
915
1,315
400
250
25
120 m.
150 m.
220 m.
182.95 m.
185 m.
185 m.
185 m.
160 m.
103.12 m.
99.78 m.
160 m.
134 m.
153 m.
123 m.
122.15 m.
0 200 400 600 800
Scale in metres


KEELUNG
Harbour Office
Craft Landing
Passenger Terminal
Nu Chu Kan Harbour
INNER HARBOUR
1st Container Terminal
Dock
2nd Container Terminal
Small Craft Basin
OUTER HARBOUR
Lighthouse
West Breakwater
Inner (W.) Breakwater
Navigation Channel
East Breakwater Extension
Inner (E.) Breakwater
Tung-Pang Yi
Quarantine Anchorage
Dock
Dock
Dock
Fishery Harbour
To Log Basin

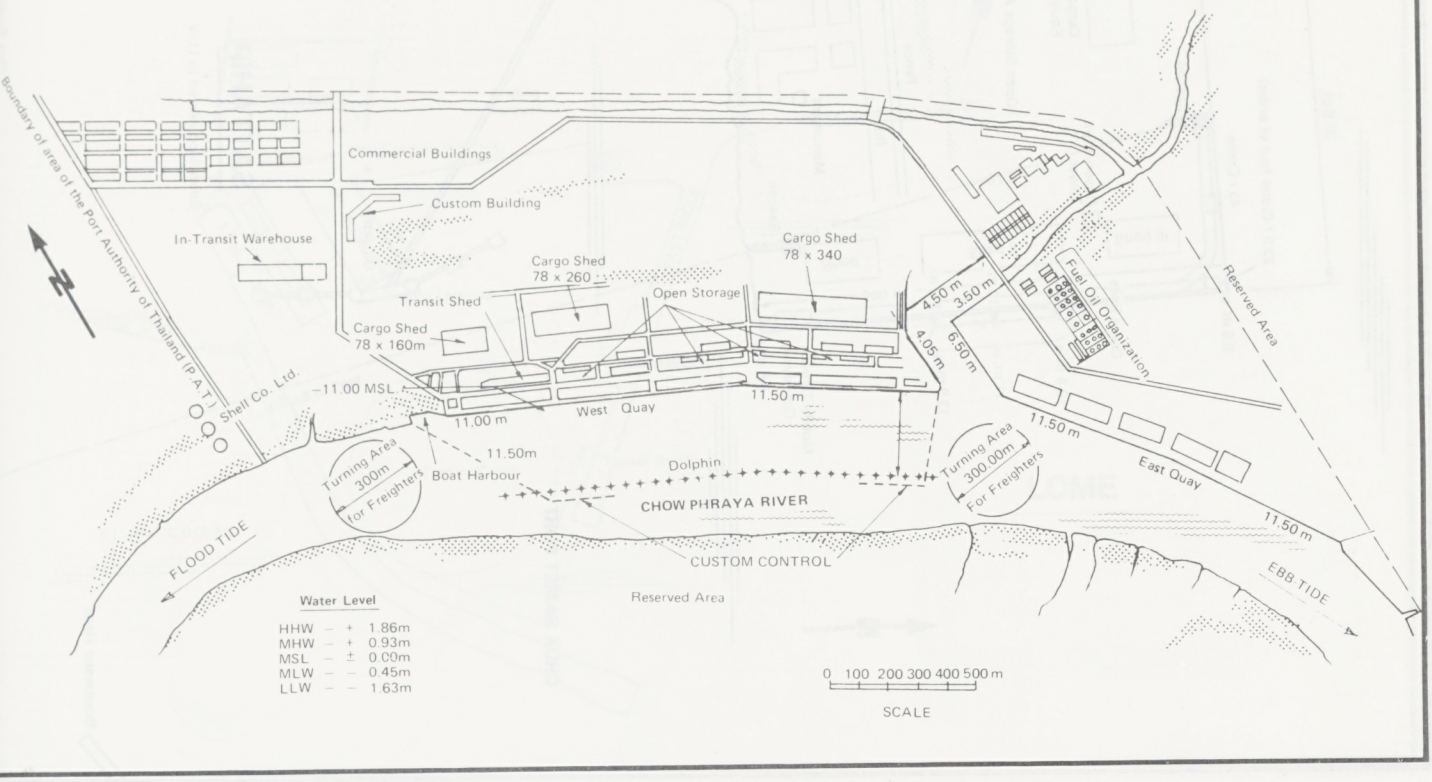

TAIWAN STRAIT
Thermo Power Plant
South Seawall
South Groyne
Breakwater
Main Channel
Breakwater
Waterfront Industrial Area
Oil & Chemical Terminal
Fishery Harbour
North Groyne
TA-TU RIVER
Industrial Harbour
Commercial Harbour
Turning Basin
Container Yard
Berths 23-32
Berths 1 – 4A
North Channel
Berths 5 – 8
Windbreak
Deposition Area
South Channel
Berth 9 – 15
Container Yard
Log Basin
Keelung
Suao Harbour
Taichung Harbour
TAIWAN
Hualien
Taitung
LOCATION MAP
TAICHUNG
CONSTRUCTION PLAN
Areas for future development are shown hatched

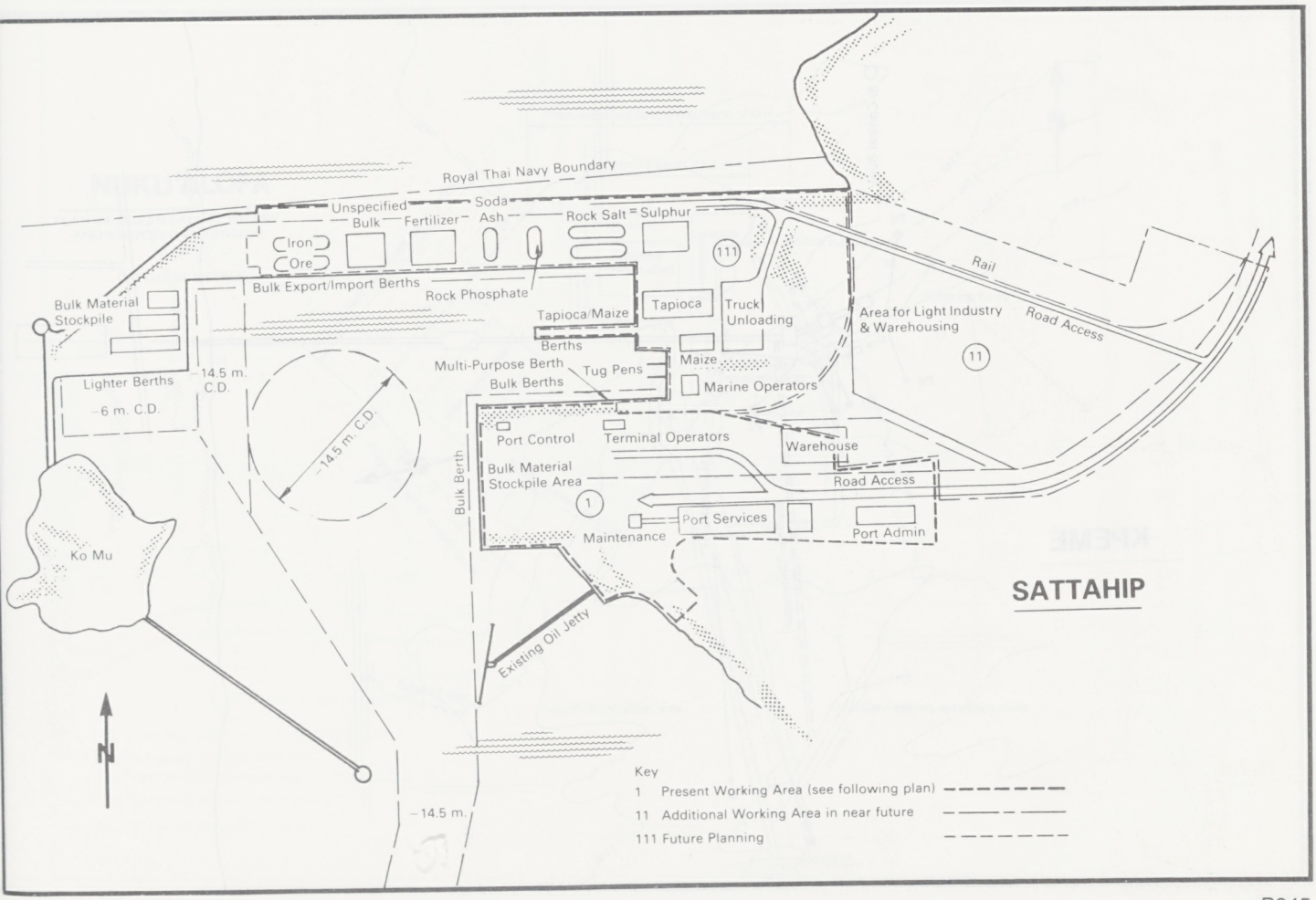

DAR ES SALAAM
KARIAKOO
GEREZANI
KURASINI
Port Manager's Office
East Africa Harbours HQ
Missions to Seamen
Power Station
Malindi Wharf
North Lighter Wharf
Customs Jetty & Baggage Room
'C' Anchorage
'D' Anchorage
9.1 m.
'B' Anchorage
Immigration Office
'A' Anchorage
E-Buoy
10 m.
F-Buoy
G-Buoy
H-Buoy
12 m.
K-Buoy
AGIP Oil Depot
Proposed Berths 12 & 13
Kurasini Creek
Oil Jetty
Dockyard
Ferry Ramp
Sewage Outfall
Harbour Entrance Channel


GRAND PALACE
EASTERN RAILWAY
SECTION IV OF BHJ
PHRA BUDDHA YOD FAH BRIDGE
KM 47½
ANCHORAGE
KM 46
THON BURI
KM 45½
SECTION III of BHJ
KM 44½
SHELL JETTY
PORT AUTHORITY OF THAILAND
PORT OF BANGKOK
ANCHORAGE
KM 38½
KRUNG TEP BRIDGE
ESSO JETTY
KLONGTOI BASIN
FUEL OIL JETTY
PRIVATE WHARVES
KM 39
KM 37½
SUMMIT JETTY
KM 26½
OIL REFINERY
ANCHORAGE
CALTEX JETTY
NEW HARBOUR WHARF
OPP SHED 1–2
TMN WHARF
N.
KM 37
S.
KM 36
PHRA PRA-DAENG
SATHUPRADIT
PHRA PRA DAENG
INDUSTRIES
PRIVATE WHARVES
CHAO PHRAYA RIVER
SILOS
ANCHORAGE BANGPLAKOT
KM 11
KM 9
20
BANG PLAKOD
18
BOARDING STATION
SAMUT PRAKAN
NEAR PAKNAM CUSTOMS
16
KM 3
KM 2.8
CO-OPERATIVE SALT WHARF
FORT PHRA CHULA
GULF OF THAILAND
BANGKOK


THAILAND
LOCATION MAP
Bangkok
Chachoeng Sao
BAY OF BANGKOK
Chonburi
Reservoir
Ban Bang Phra
Sriracha
Kosichang
Laem Chabang
Laem Pataya
Sattahip
To Bangkok
Bang Phra
Reservoir
Ban Bang Phra
10
5
20
Silt
N
Silt
Sukhamvit Highway
Oil Terminal of the Summit Industry Corp.
Silt
Banchabang
LAEM CHABANG
20
Sand
Sand
10
5
Ban Bang Lamung
Sand
0 1 2 3 4 5 Km.
BANGKOK
LAEM CHABANG
DEPTH IN METRES

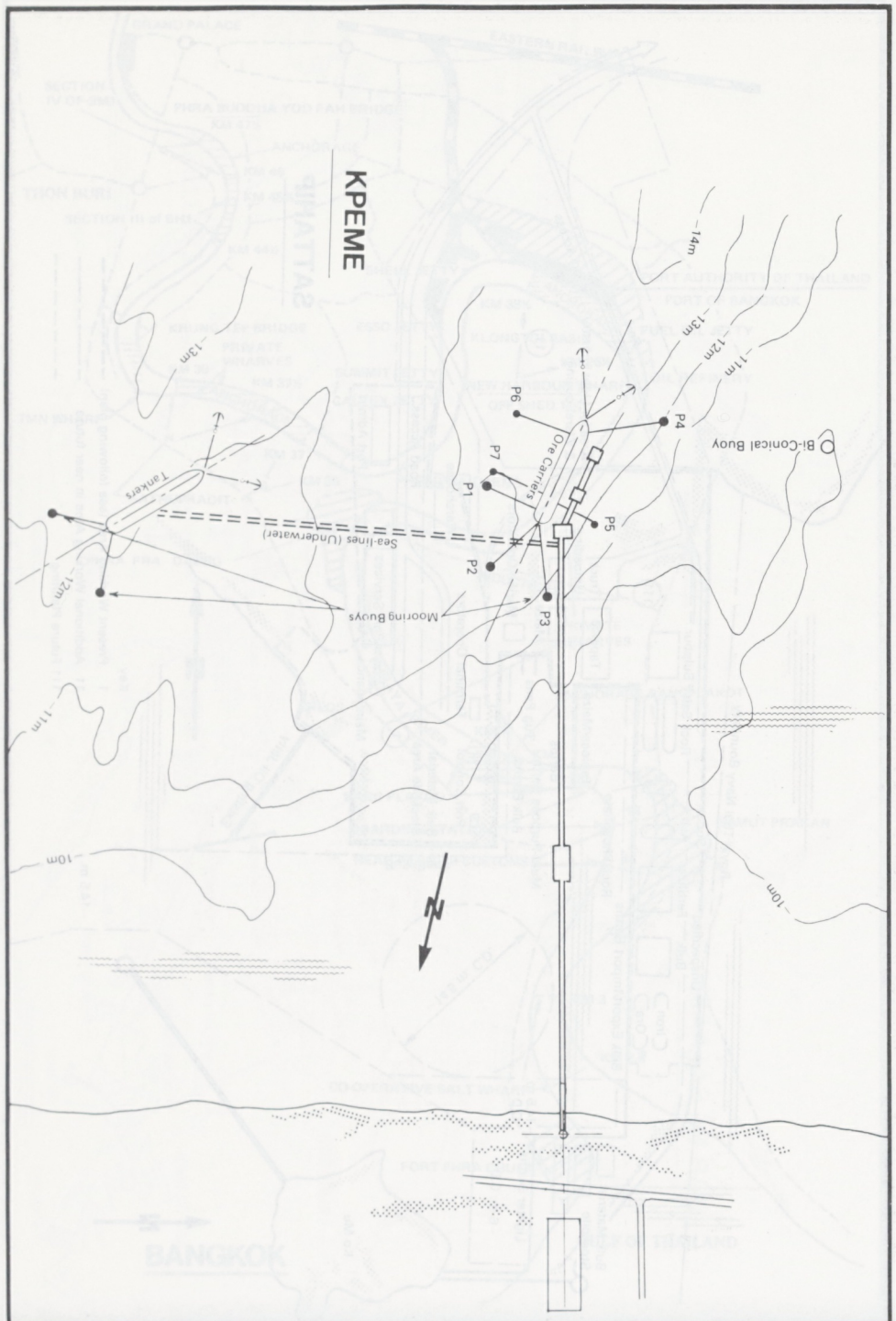
BANGKOK



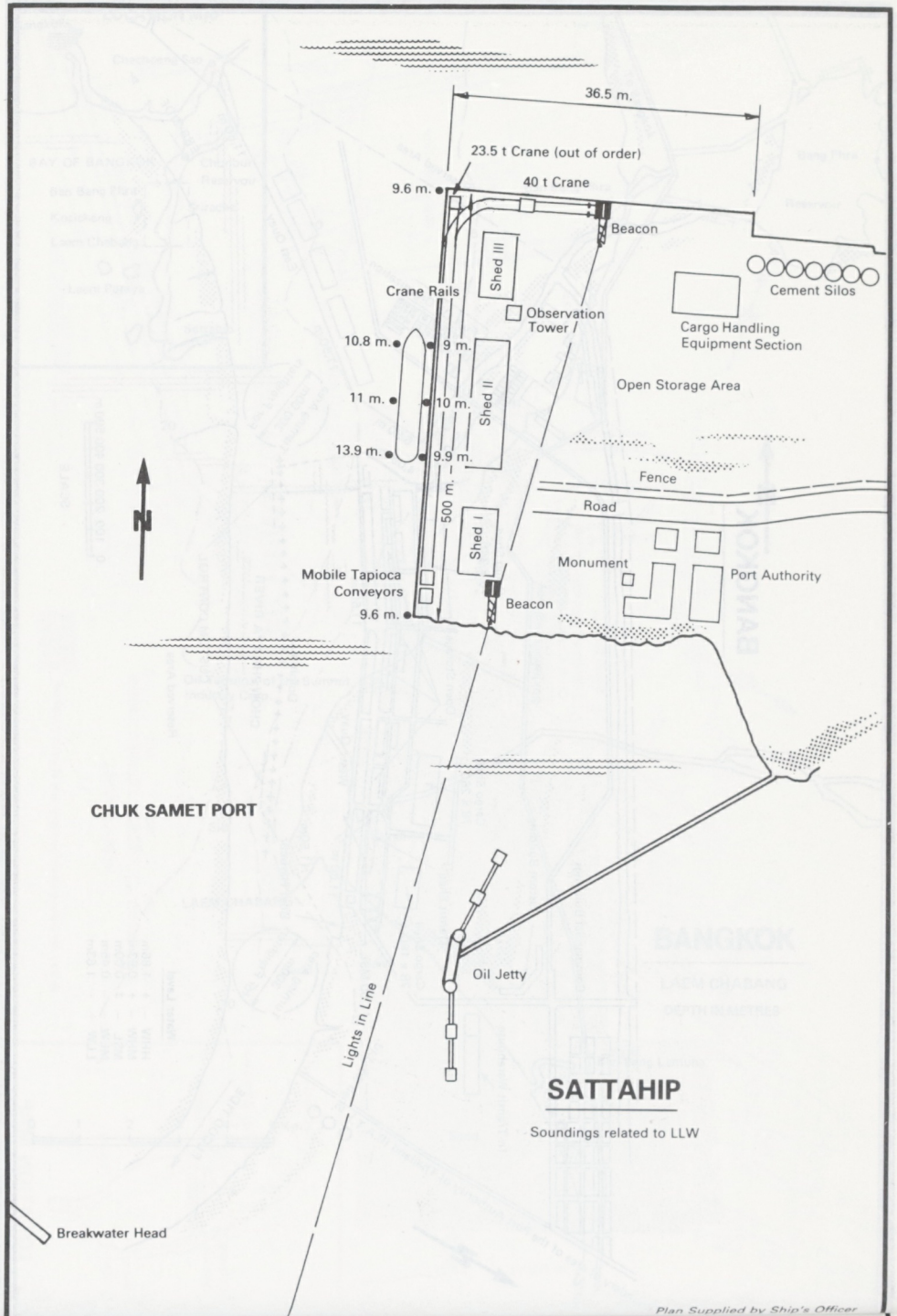


SATTAHIP

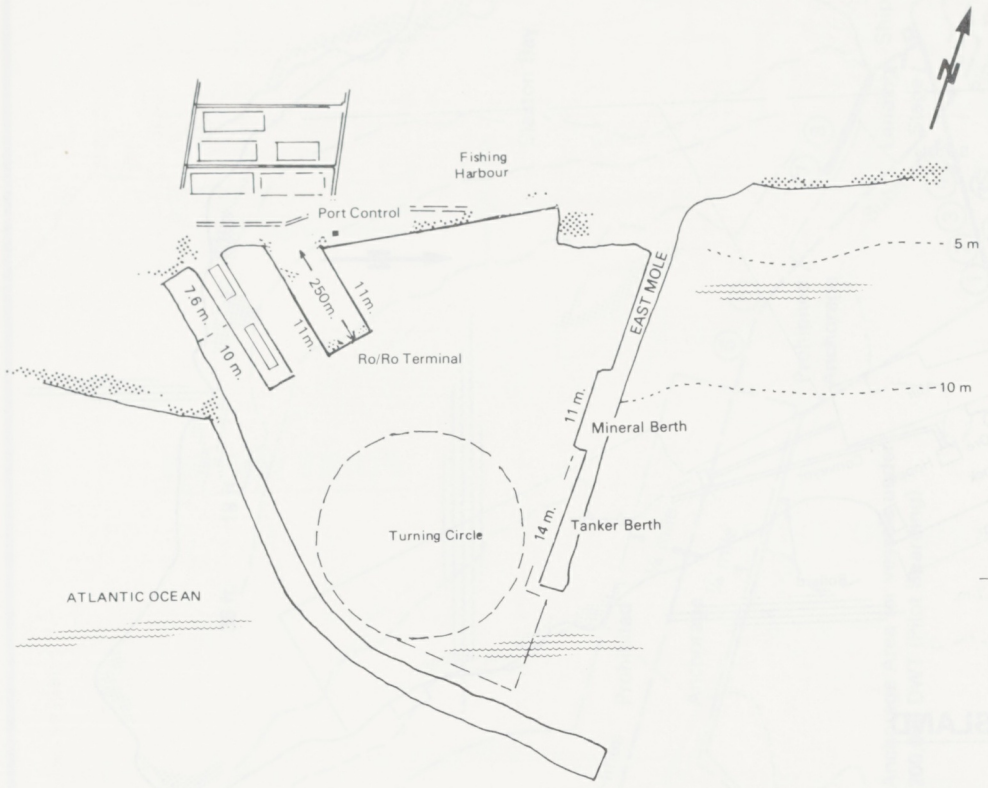
KPEME



CHUK SAMET PORT



Plan Supplied by Ship's Officer

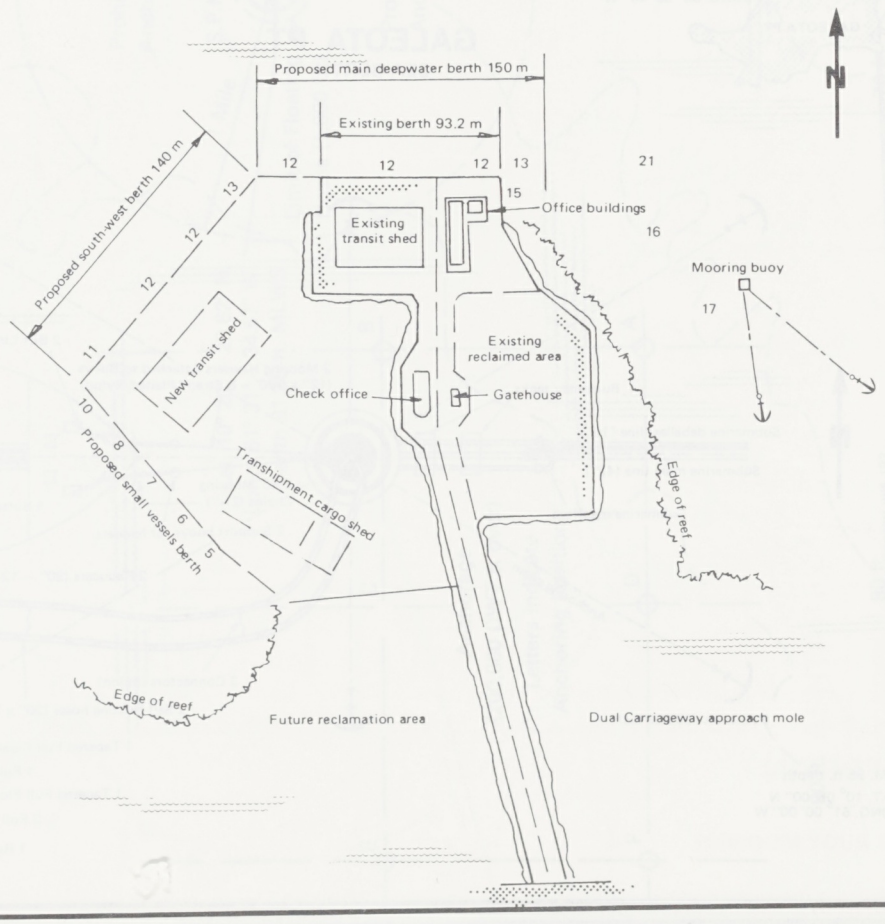


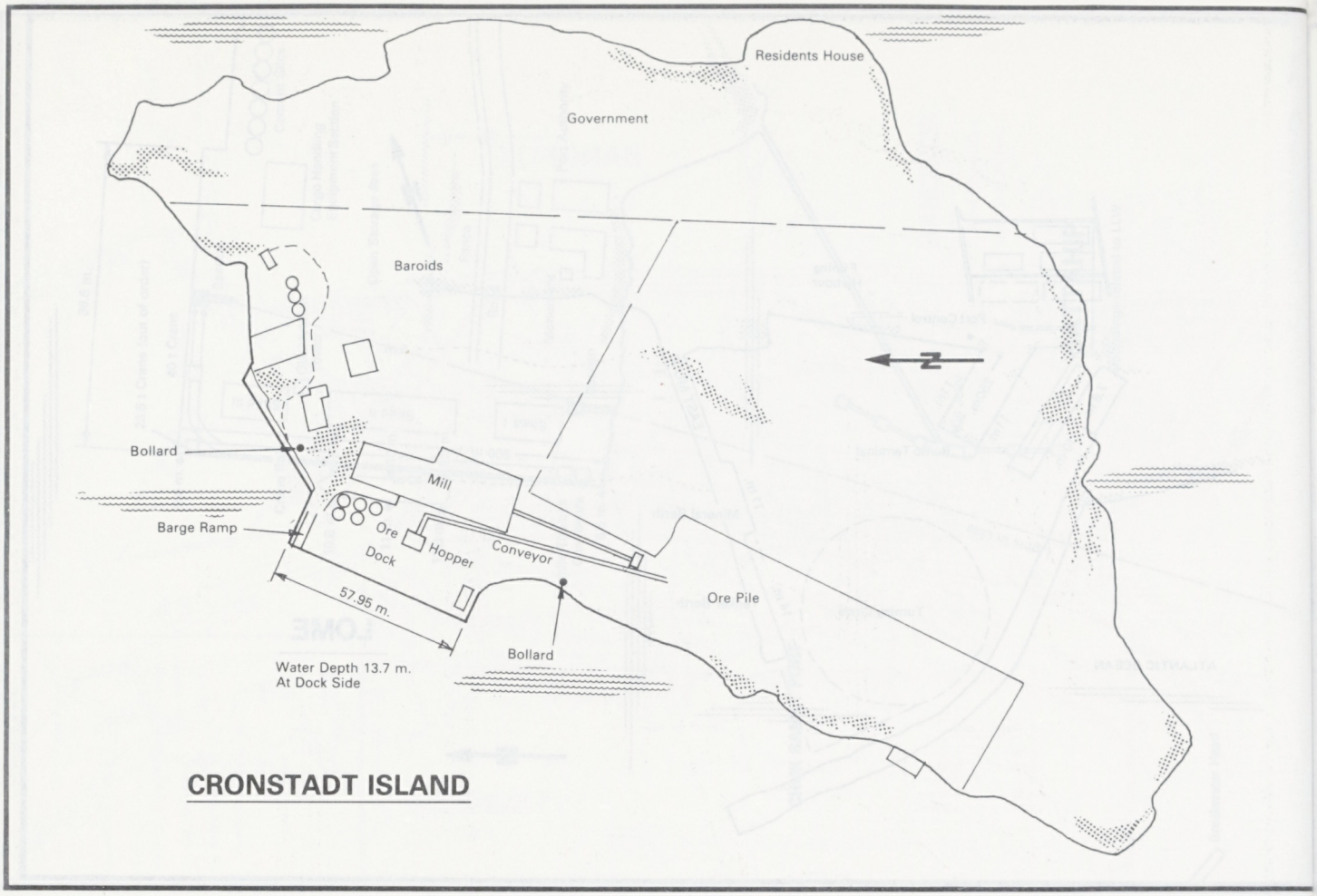
LOME

NUKU'ALOFA

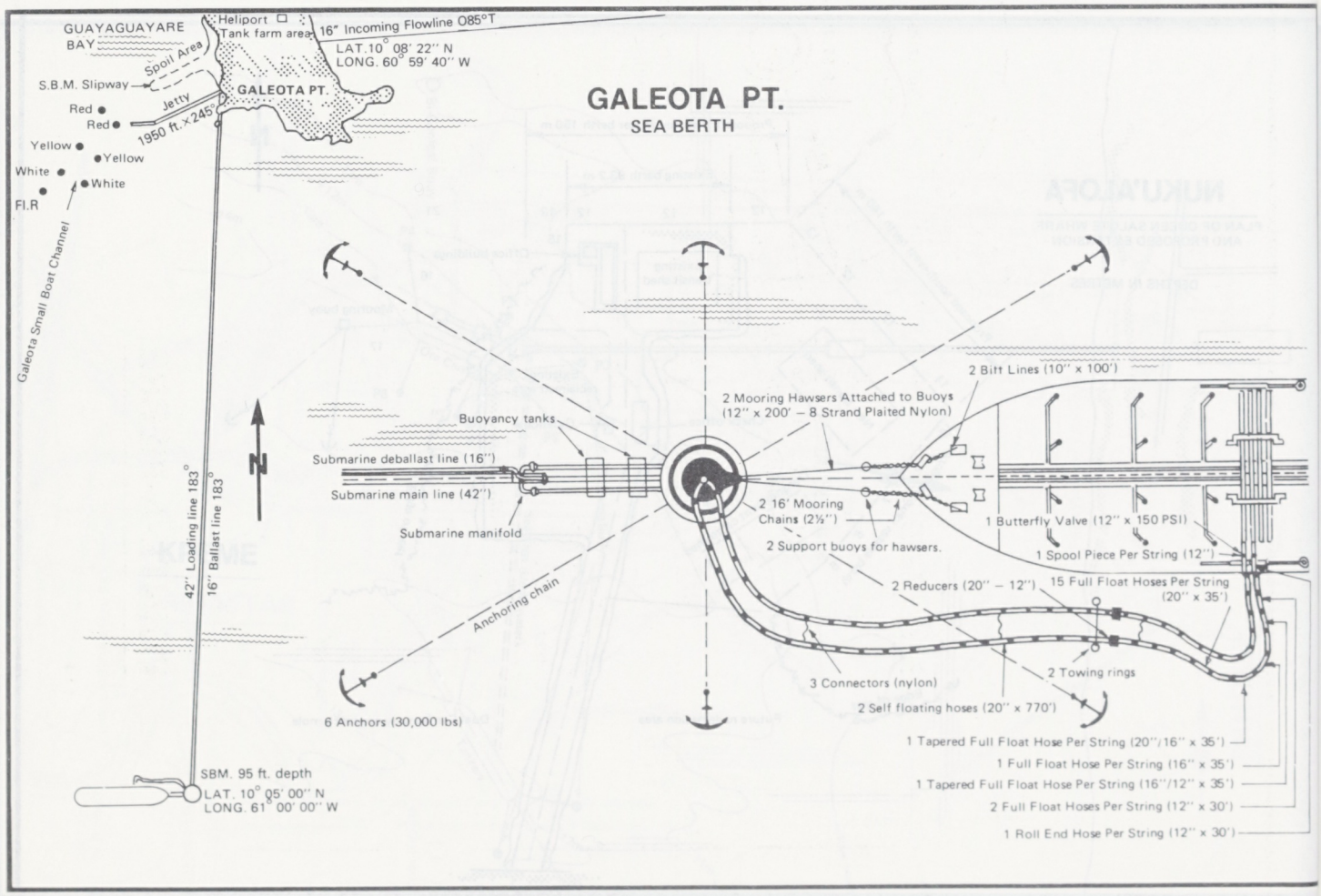
PLAN OF QUEEN SALOTE WHARF AND PROPOSED EXTENSION

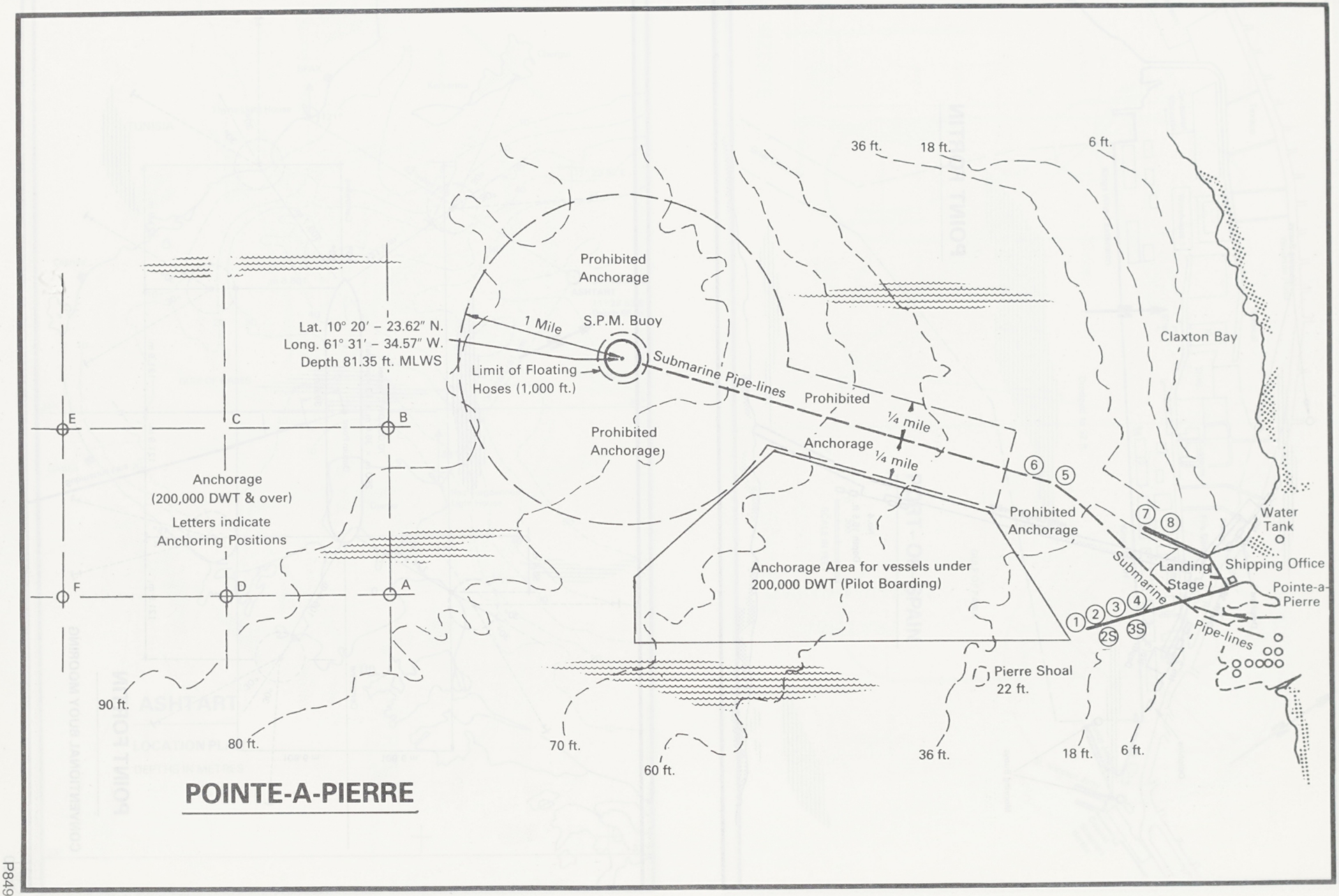
DEPTHS IN METRES





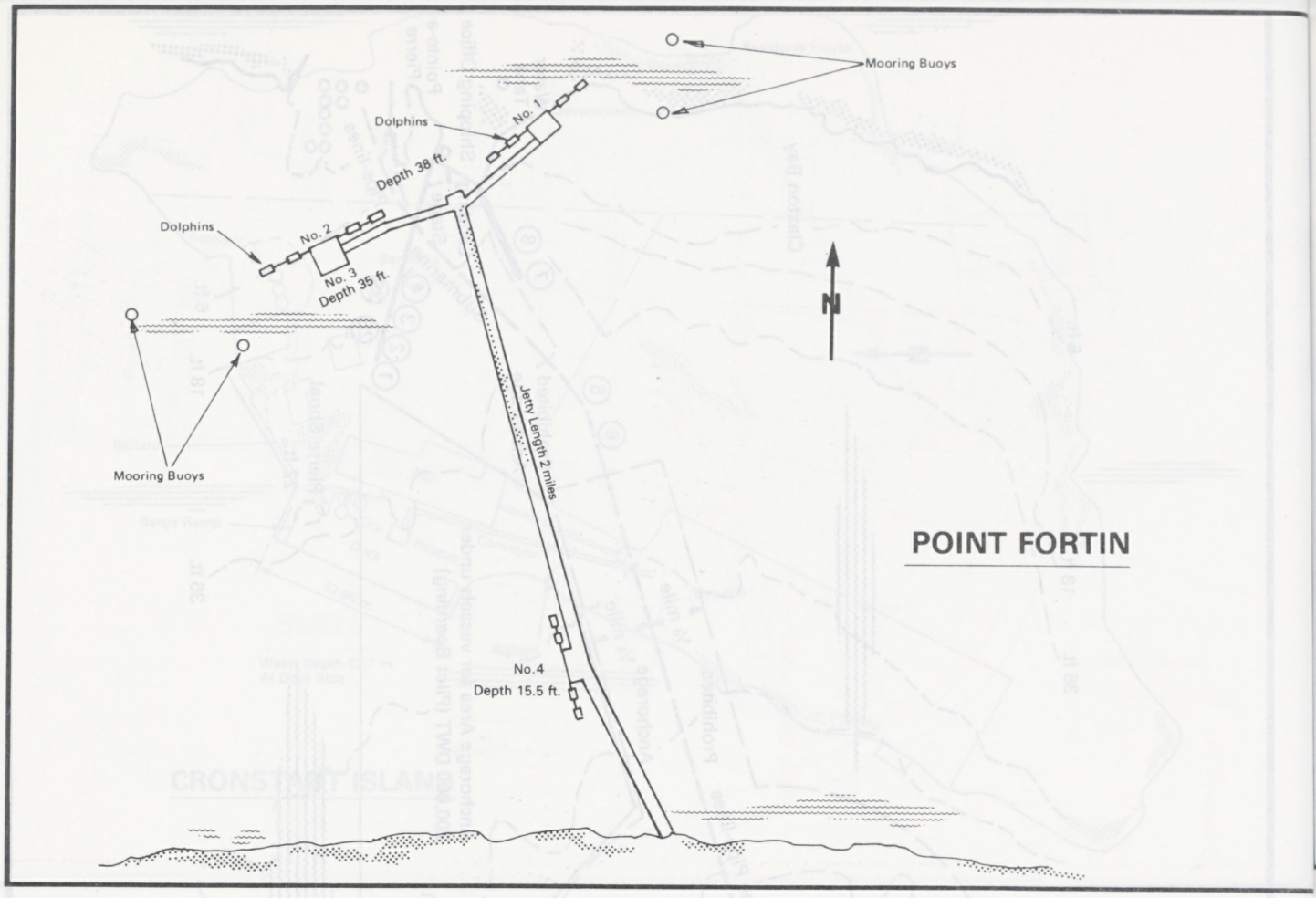
CRONSTADT ISLAND

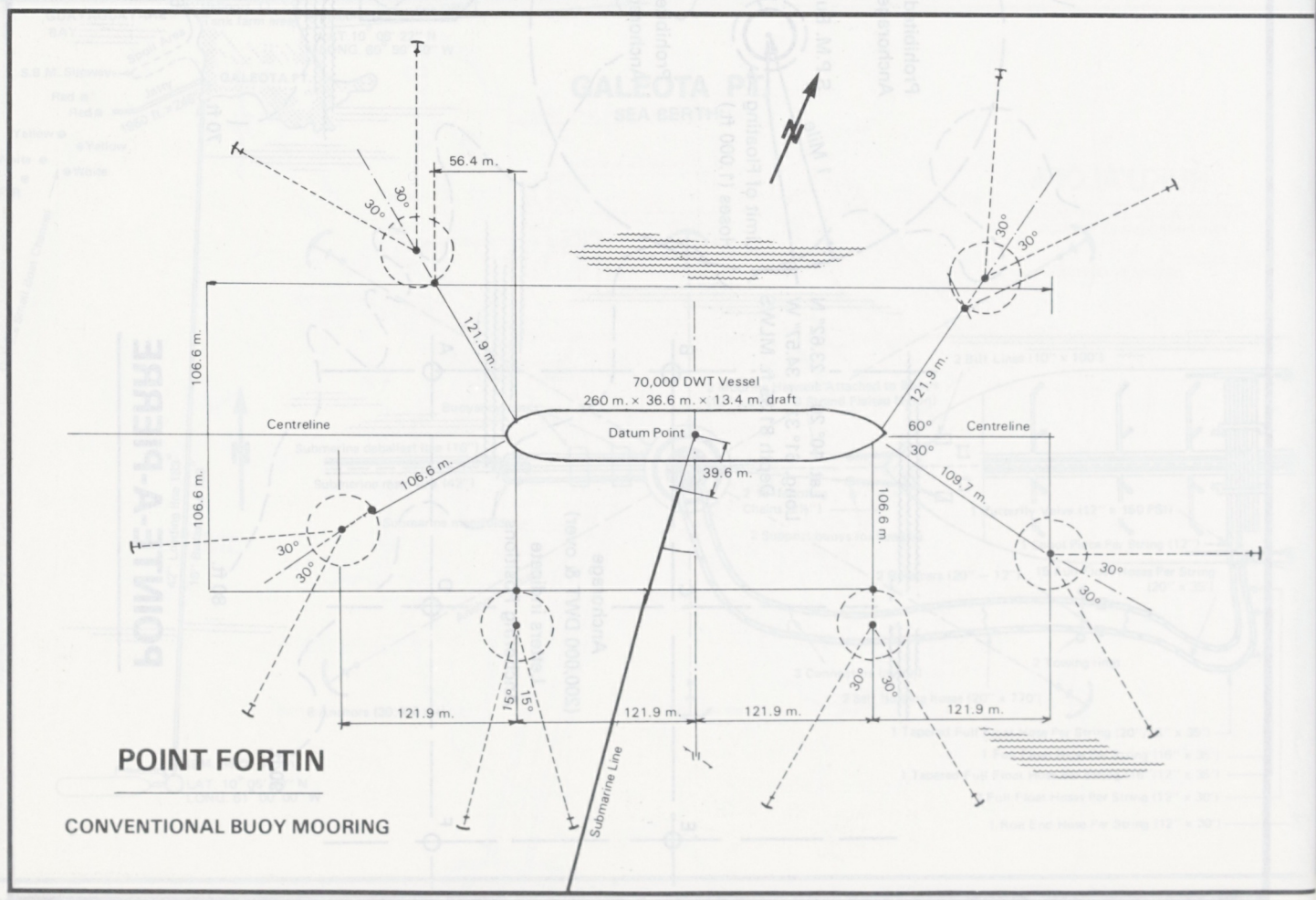


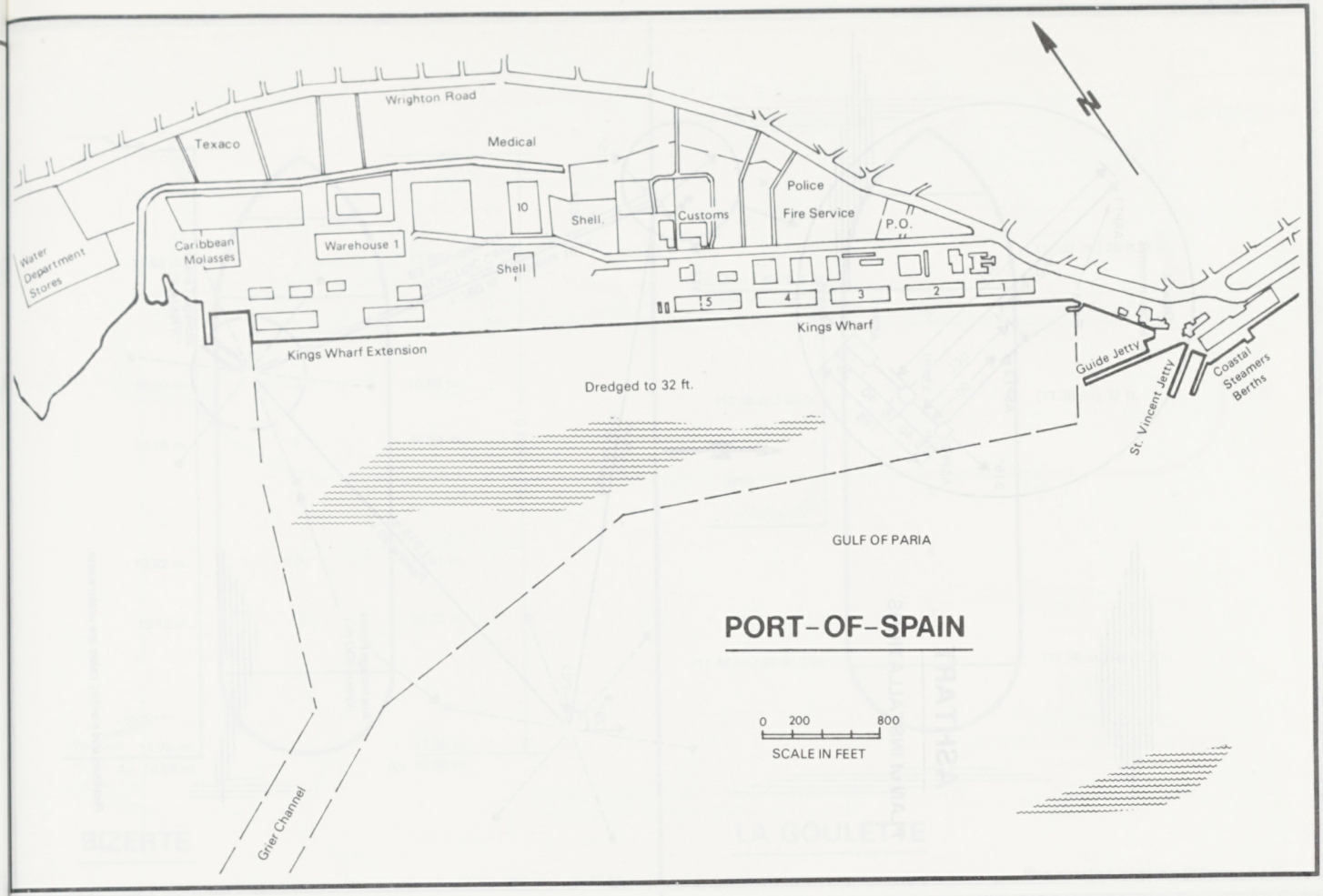


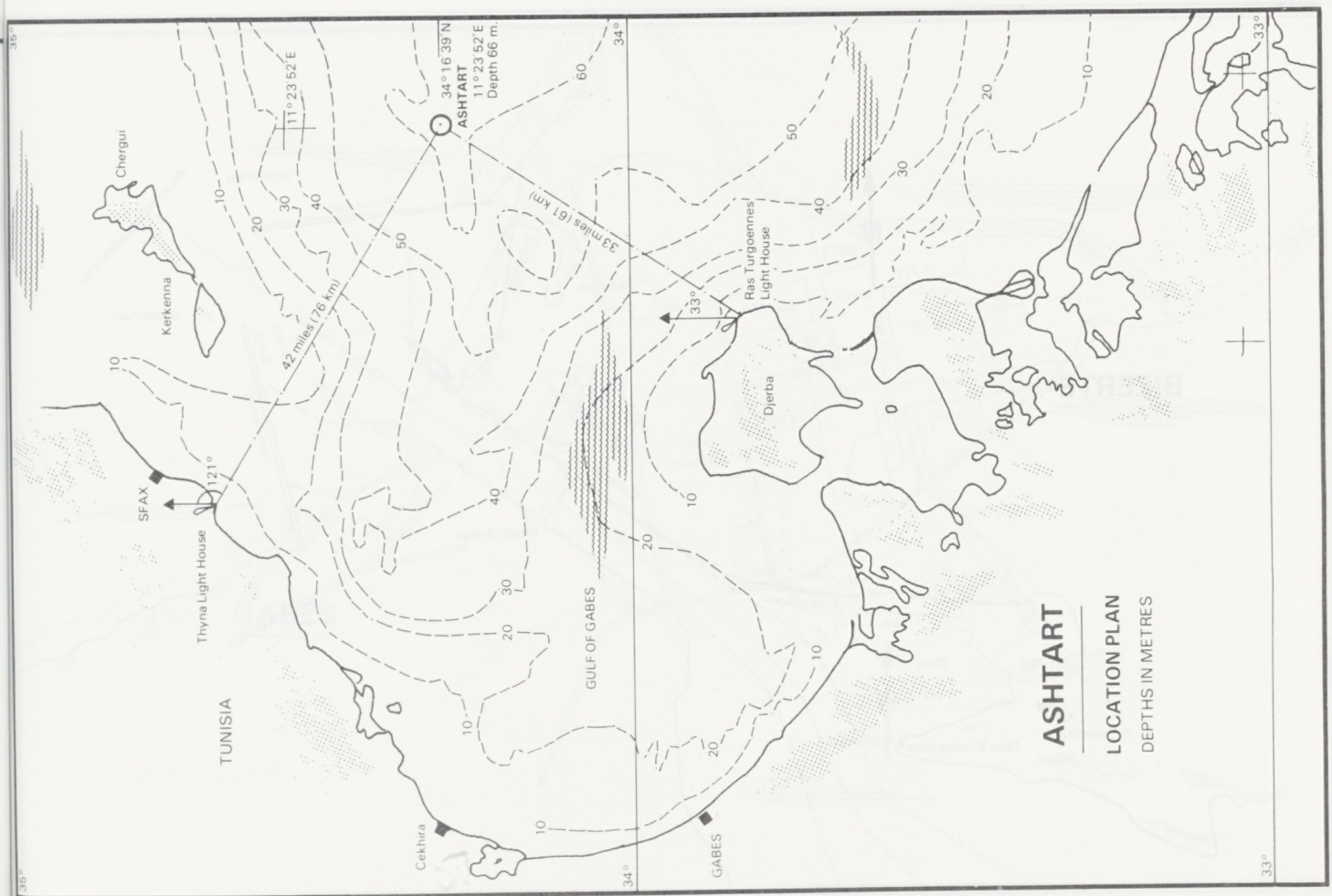
POINTE-A-PIERRE

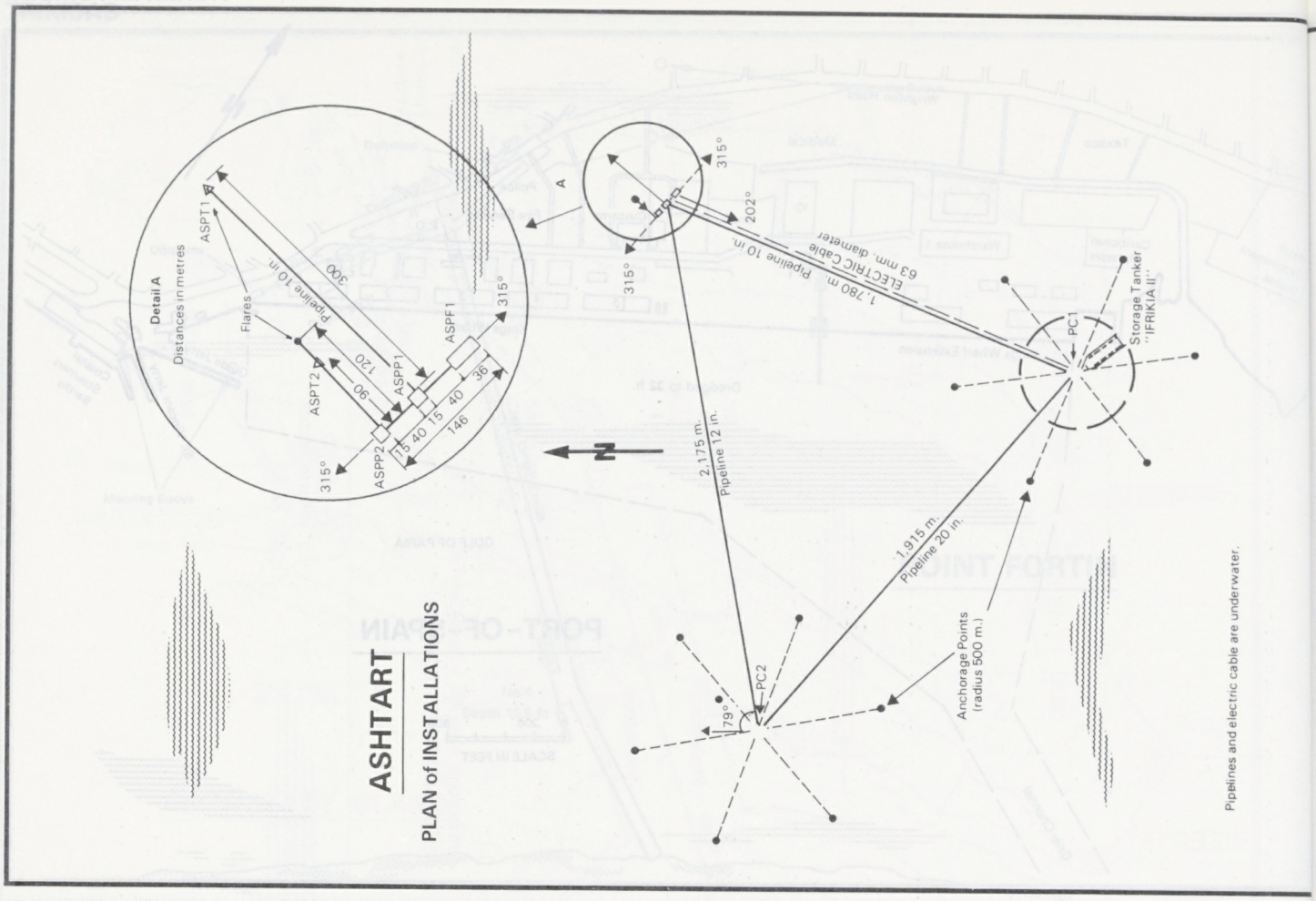
TRINIDAD

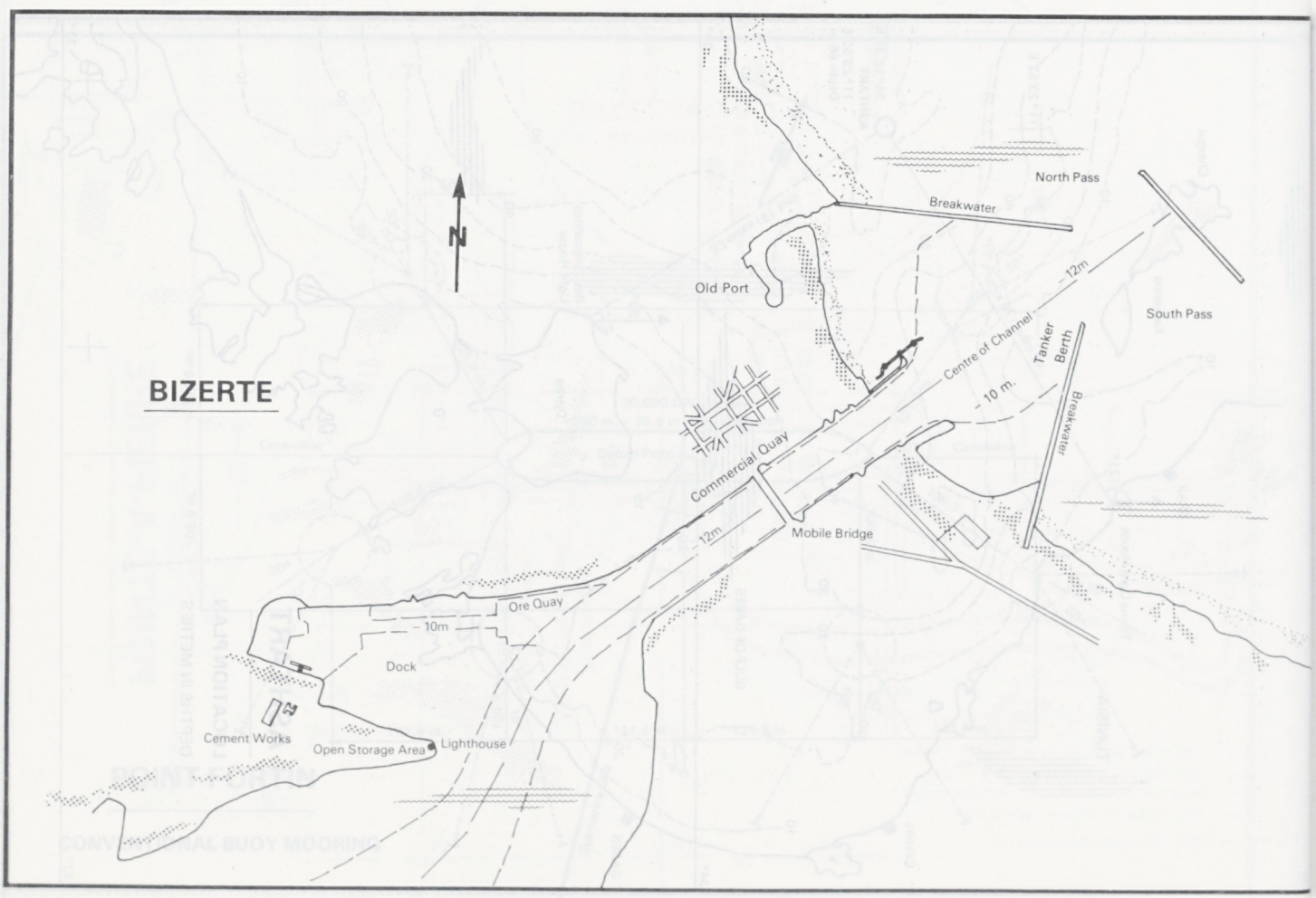

Mooring Buoys
Dolphins
No. 1
Depth 38 ft.
Dolphins
No. 2
No. 3
Depth 35 ft.
Mooring Buoys
Jetty Length 2 miles
No.4
Depth 15.5 ft.
N
POINT FORTIN

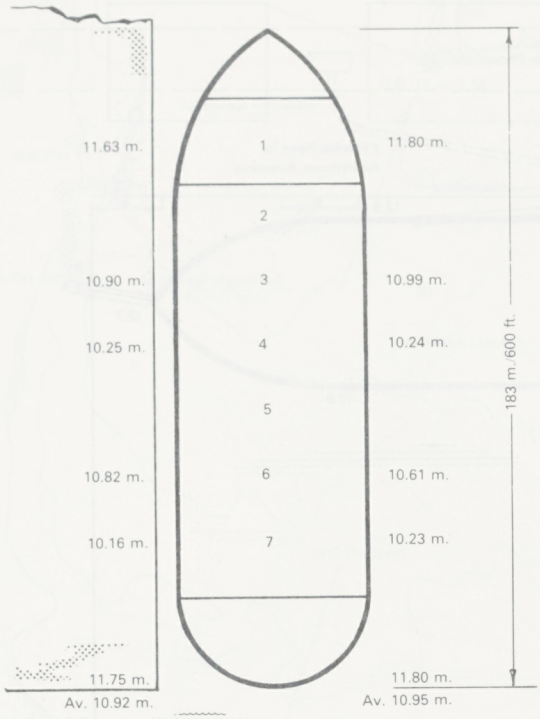

N
56.4 m.
30°
30°
106.6 m.
121.9 m.
70,000 DWT Vessel
260 m. × 36.6 m. × 13.4 m. draft
Centreline
Datum Point
39.6 m.
60°
Centreline
30°
109.7 m.
106.6 m.
106.6 m.
106.6 m.
30°
30°
30°
30°
30°
30°
30°
30°
15°
15°
121.9 m.
121.9 m.
121.9 m.
121.9 m.
Submarine Line
POINT FORTIN
CONVENTIONAL BUOY MOORING


Wrighton Road
Texaco
Medical
Police
Fire Service
Customs
Shell
10
P.O.
Water Department Stores
Caribbean Molasses
Warehouse 1
Shell
5
4
3
2
1
Kings Wharf
Kings Wharf Extension
Guide Jetty
St. Vincent Jetty
Coastal Steamers Berths
Dredged to 32 ft.
GULF OF PARIA
PORT-OF-SPAIN
0 200 800
SCALE IN FEET
Grier Channel


34° 16 39 N
ASHTART
11° 23 52 E
Depth 66 m.
11° 23 52 E
33 miles (61 km)
42 miles (76 km)
121°
Chergui
Kerkenna
SFAX
Thyna Light House
TUNISIA
GULF OF GABES
Ras Turgeennes Light House
Djerba
Cekhira
GABES
ASHTART
LOCATION PLAN
DEPTHS IN METRES

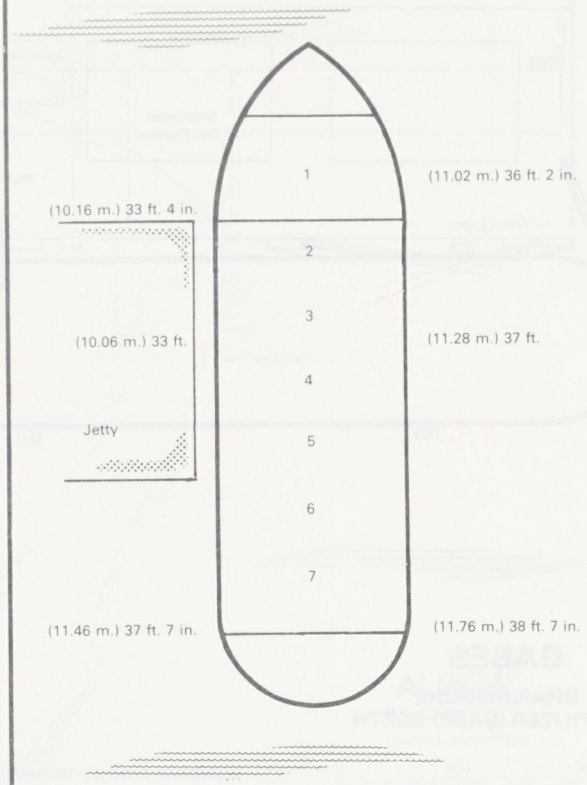

ASHTART
PLAN of INSTALLATIONS
Detail A
Distances in metres
ASPT1
ASPT2
ASPP1
ASPP2
ASPF1
Flares
Pipeline 10 in.
300
120
90
315°
40
36
15
146
75
A
202°
1,780 m. Pipeline 10 in.
63 mm. diameter
ELECTRIC Cable
PC1
Storage Tanker
"IFRIKIA II"
2,175 m.
Pipeline 12 in.
1,915 m.
Pipeline 20 in.
PC2
79°
Anchorage Points
(radius 500 m.)
Pipelines and electric cable are underwater.


BIZERTE
North Pass
Breakwater
Old Port
12m
South Pass
Centre of Channel
10 m.
Tanker Berth
Breakwater
Commercial Quay
Mobile Bridge
12m
Ore Quay
10m
Dock
Cement Works
Open Storage Area
Lighthouse



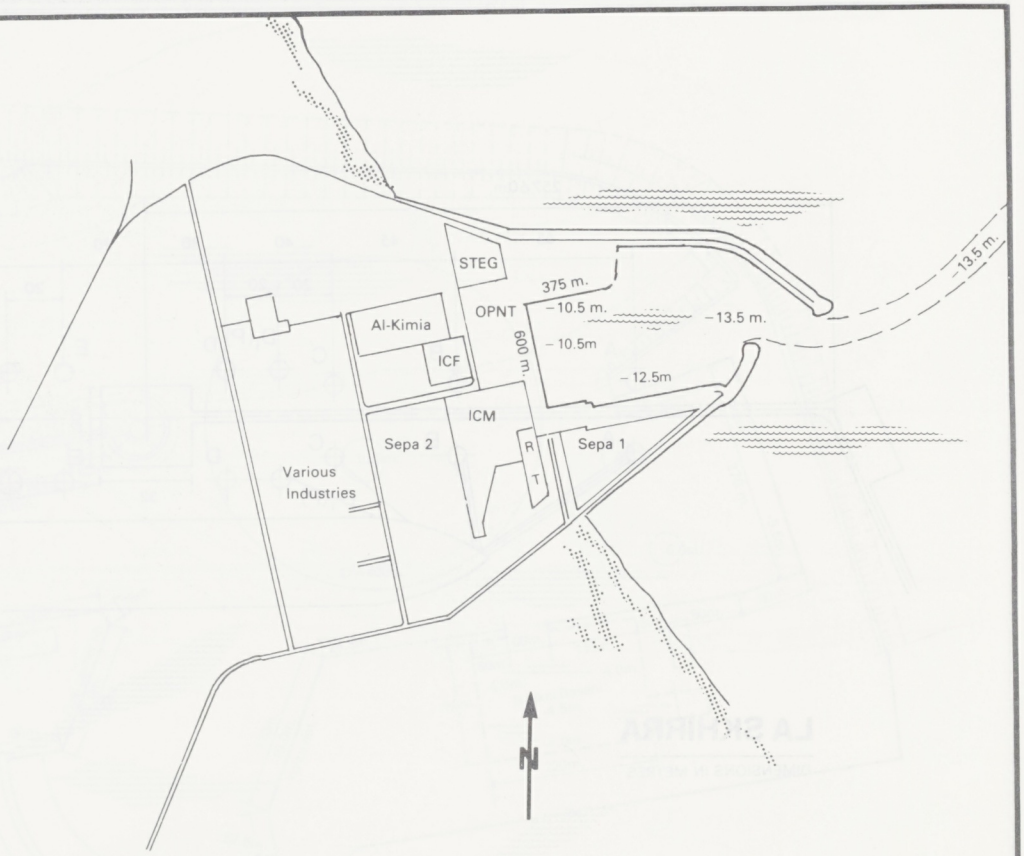
BIZERTE

Plan supplied by Ship's Officers 31.12.81

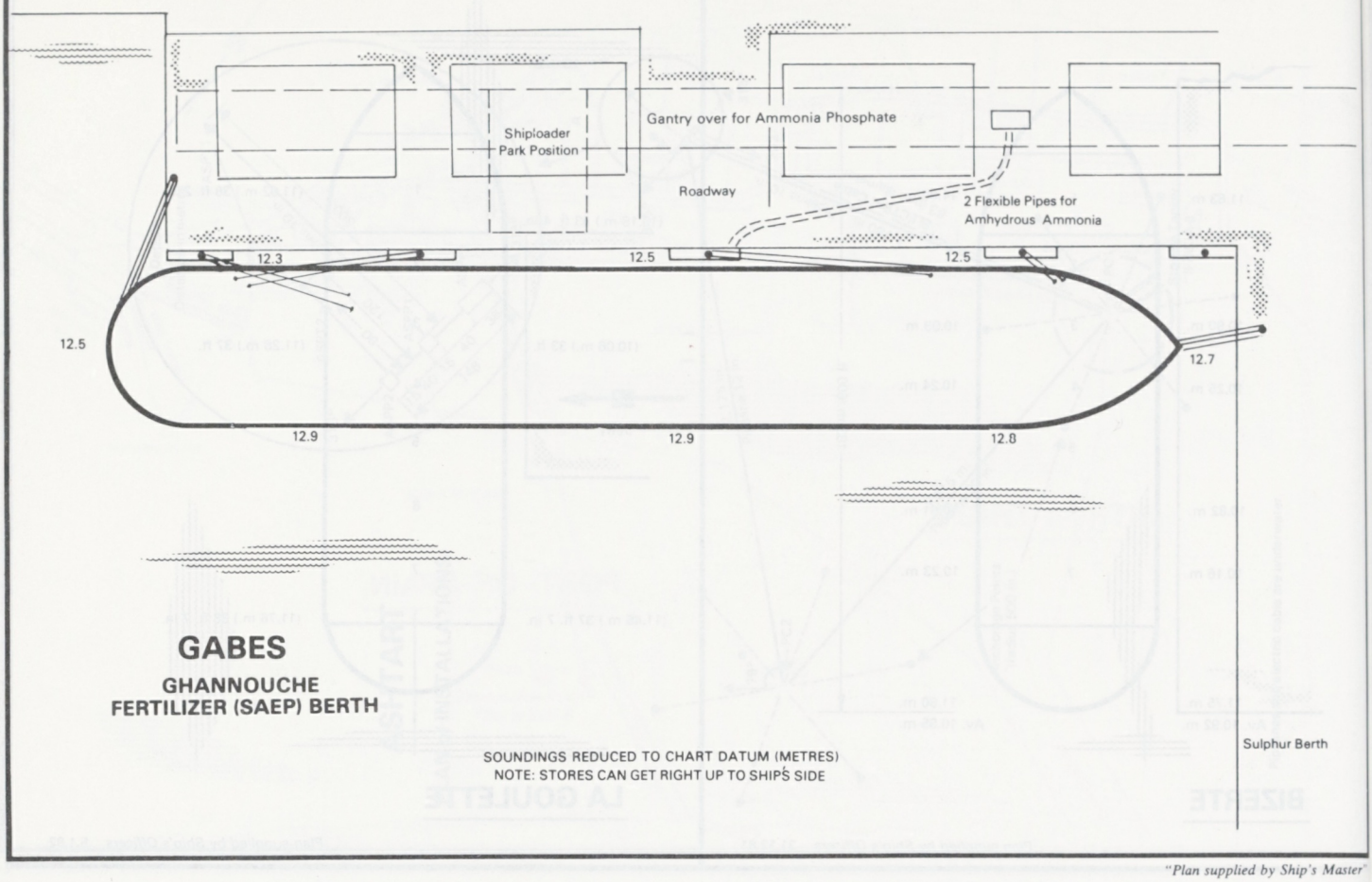


LA GOULETTE

Plan supplied by Ship's Officers 5.1.82



GABES

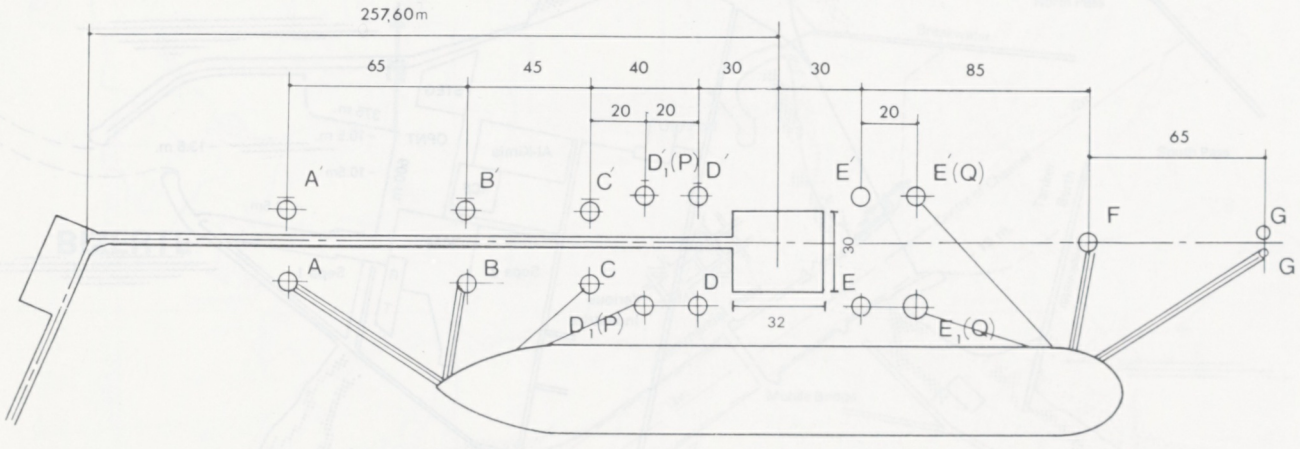


GABES

GHANNOUCHE
FERTILIZER (SAEP) BERTH

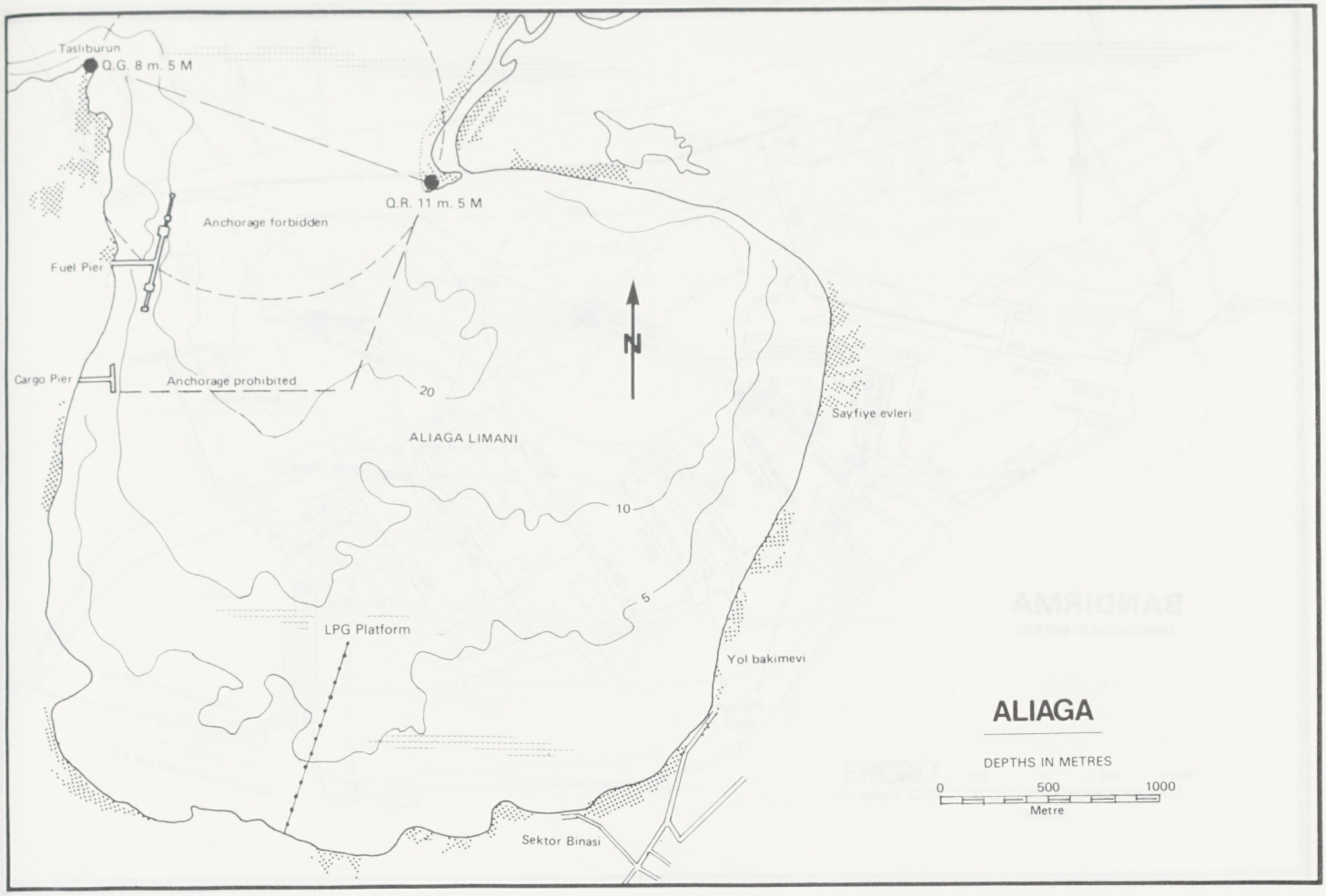
SOUNDINGS REDUCED TO CHART DATUM (METRES)
NOTE: STORES CAN GET RIGHT UP TO SHIPS SIDE

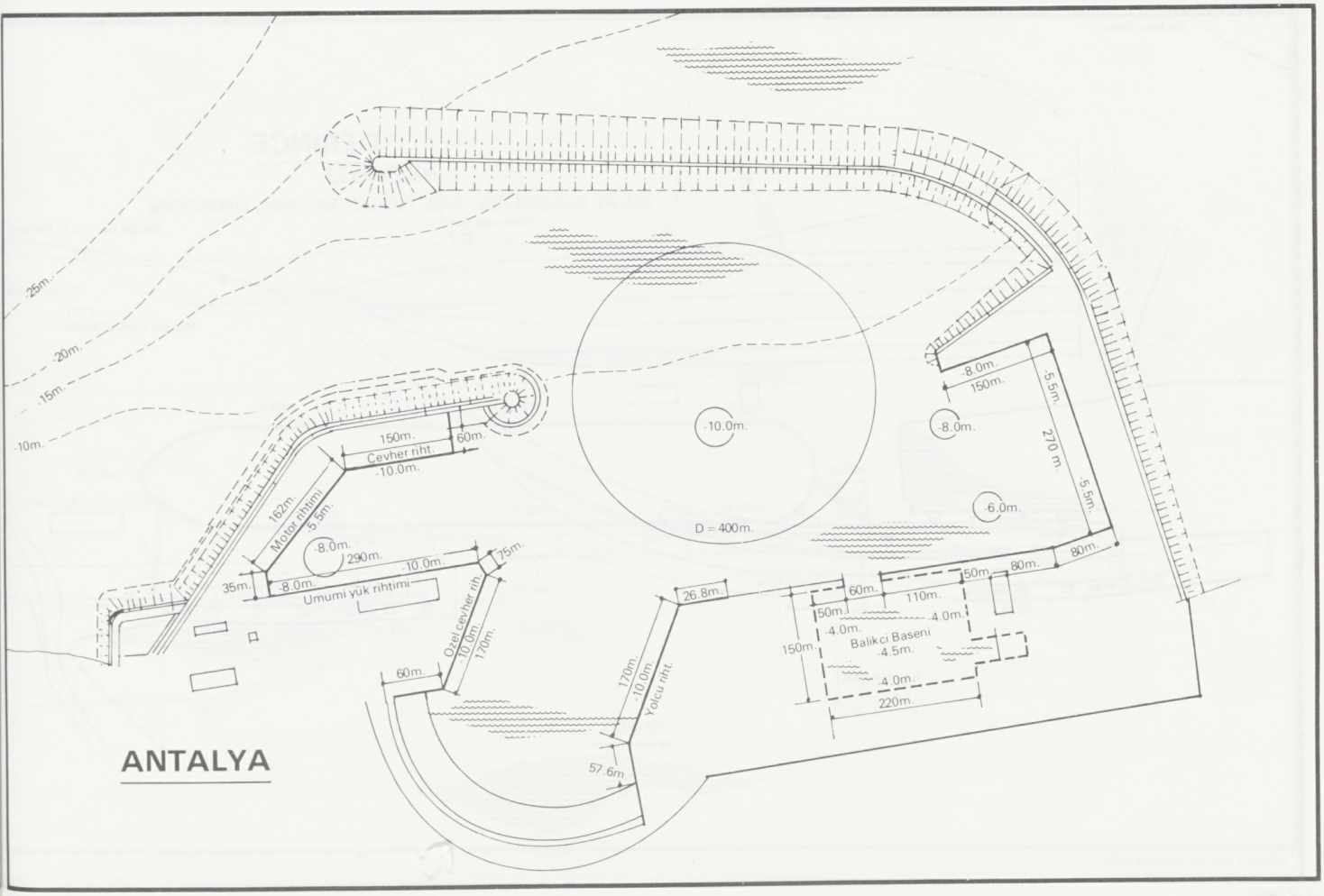
"Plan supplied by Ship's Master"

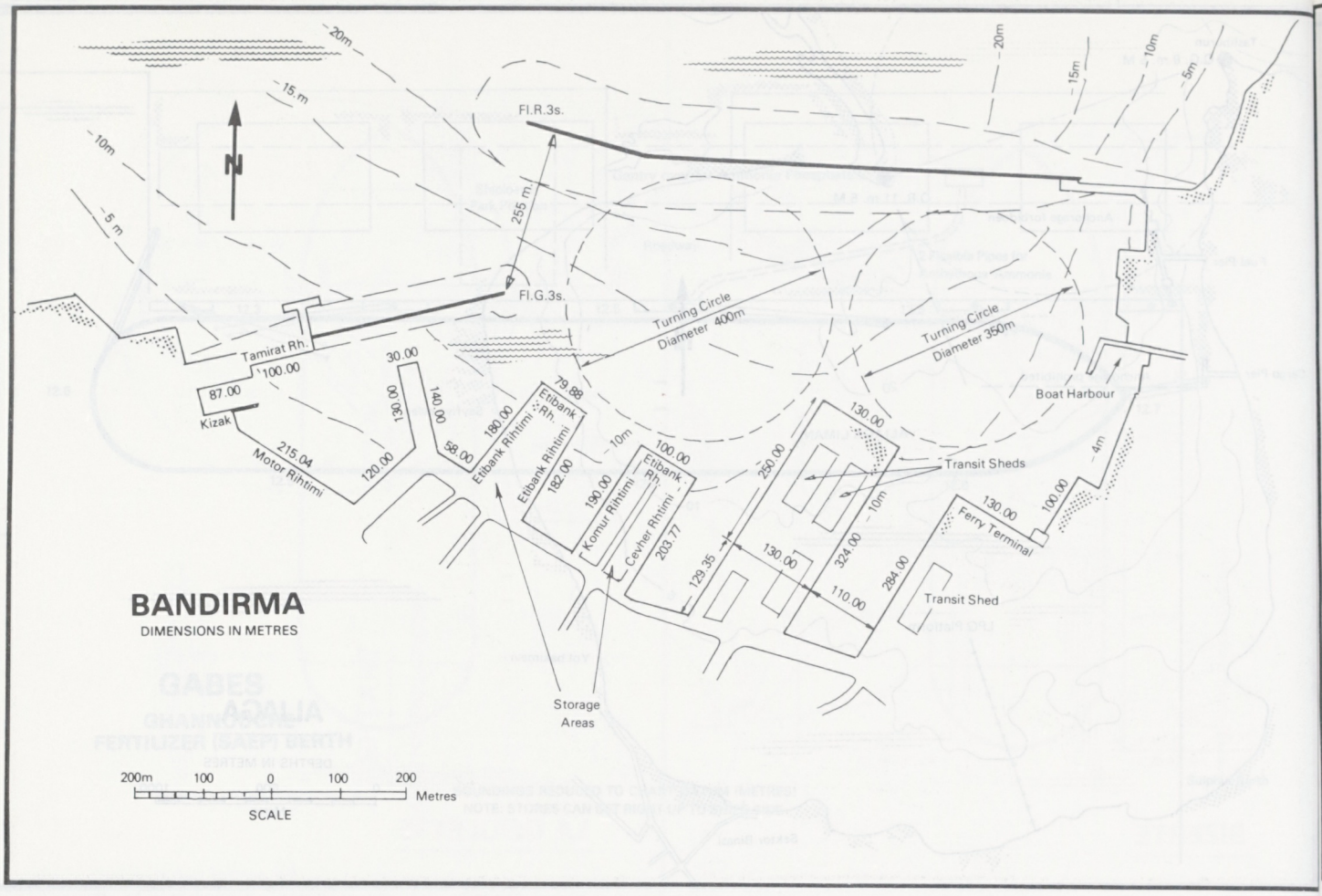


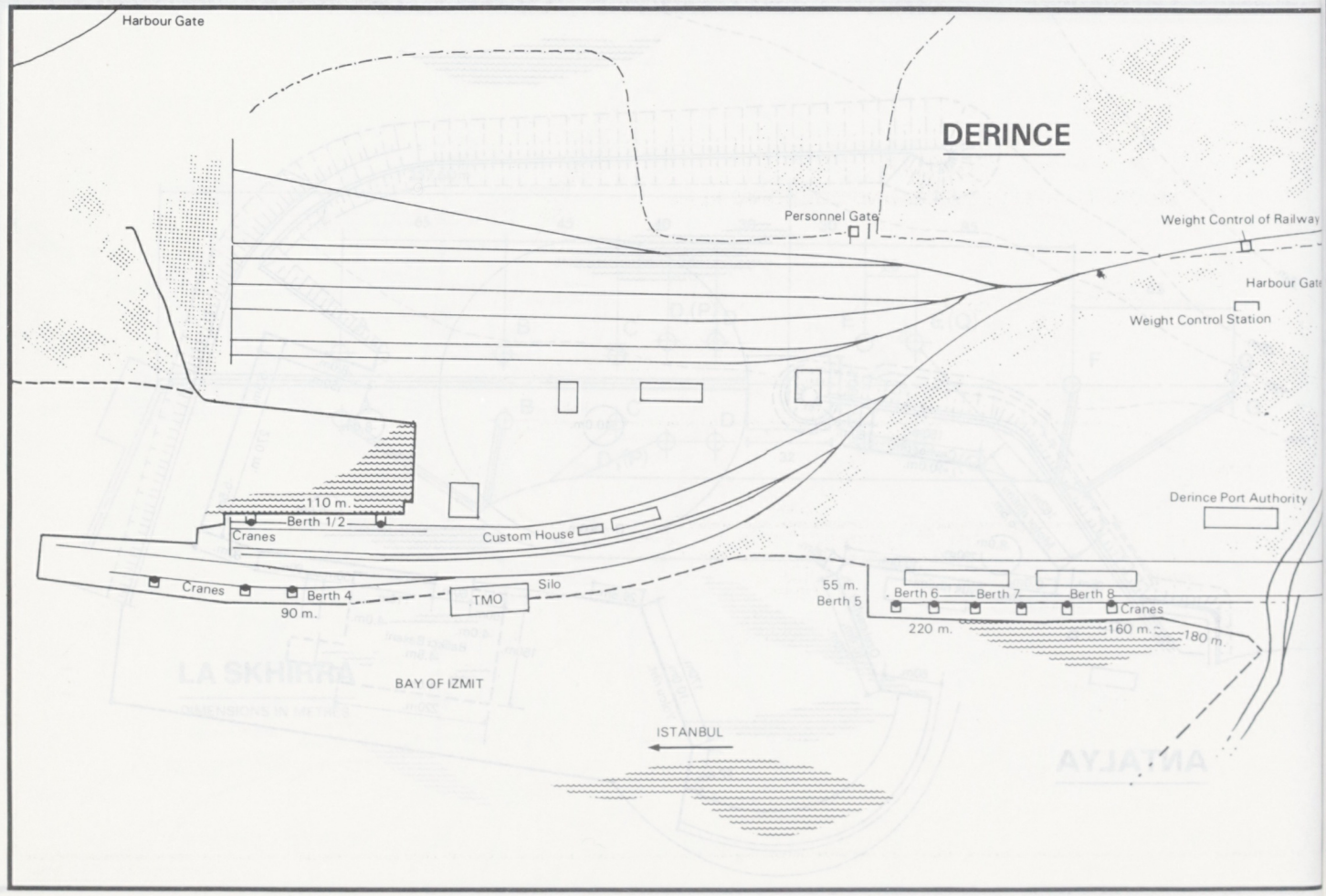
LA SKHIRRA

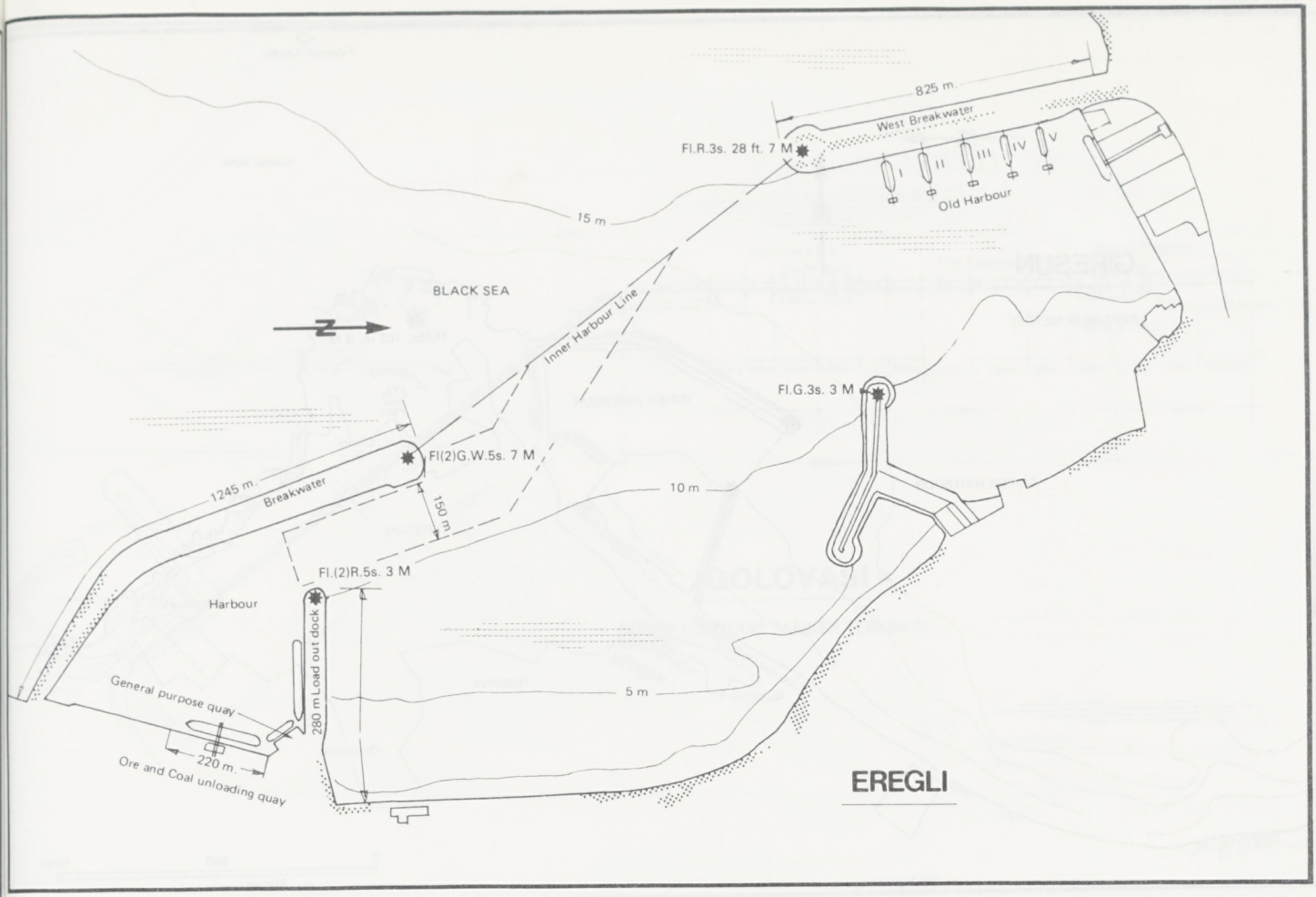
DIMENSIONS IN METRES


Tasliburun
Q.G. 8 m. 5 M
Q.R. 11 m. 5 M
Anchorage forbidden
Fuel Pier
Cargo Pier
Anchorage prohibited
20
ALIAGA LIMANI
10
5
N
Sayfiye evleri
LPG Platform
Yol bakimevi
Sektor Binasi
ALIAGA
DEPTHS IN METRES
0
500
1000
Metre


25m.
20m.
15m.
10m.
150m.
60m.
Cevher riht.
10.0m.
162m.
Motor rihtimi
5.5m.
8.0m.
290m.
10.0m.
35m.
8.0m.
Umumi yük rihtimi
75m.
Ozel cevher rih.
10.0m.
170m.
60m.
D = 400m.
10.0m.
8.0m.
150m.
8.0m.
5.5m.
270 m.
5.5m.
6.0m.
80m.
80m.
150m.
60m.
110m.
150m.
4.0m.
4.0m.
Balikci Baseni
4.5m.
4.0m.
220m.
150m
26.8m.
170m
10.0m.
Yolcu riht.
57.6m.
ANTALYA

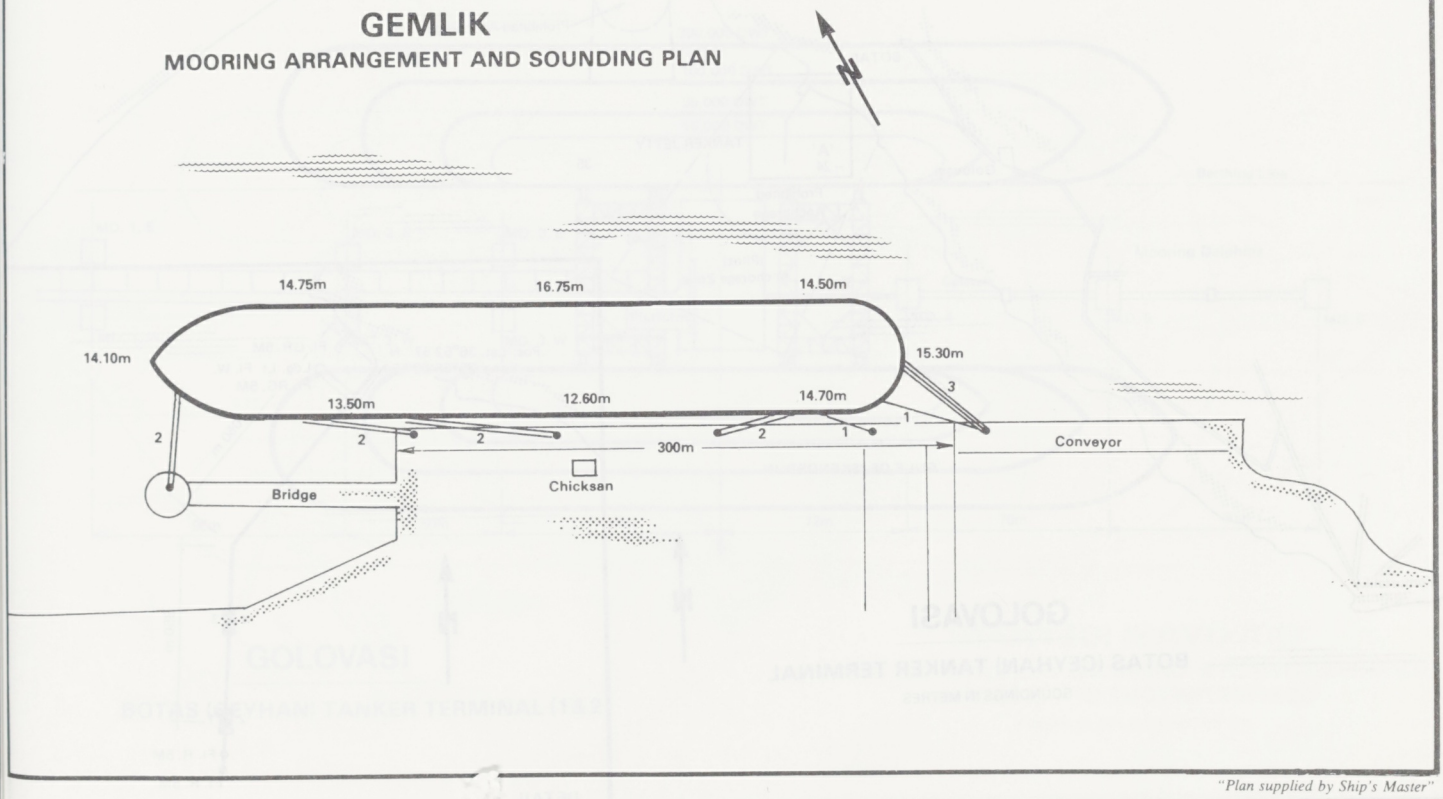

20m
15m
10m
5m
N
Fl.R.3s.
Fl.G.3s.
255 m
Turning Circle
Diameter 400m
Turning Circle
Diameter 350m
Tamirat Rh.
100.00
87.00
Kizak
215.04
Motor Rihtimi
120.00
30.00
130.00
140.00
58.00
180.00
Etibank Rihtimi
Etibank Rh.
79.88
182.00
190.00
Komur Rihtimi
Cevher Rihtimi
203.77
100.00
Etibank Rh.
129.35
130.00
250.00
324.00
110.00
264.00
Transit Sheds
Transit Shed
Ferry Terminal
130.00
100.00
Boat Harbour
BANDIRMA
DIMENSIONS IN METRES
Storage
Areas
200m 100 0 100 200
Metres
SCALE


Harbour Gate
DERINCE
Personnel Gate
Weight Control of Railway
Harbour Gate
Weight Control Station
Derince Port Authority
110 m.
Berth 1/2
Cranes
Custom House
Cranes
Berth 4
90 m.
TMO
Silo
55 m.
Berth 5
Berth 6
Berth 7
Berth 8
Cranes
220 m.
160 m.
180 m.
BAY OF IZMIT
ISTANBUL

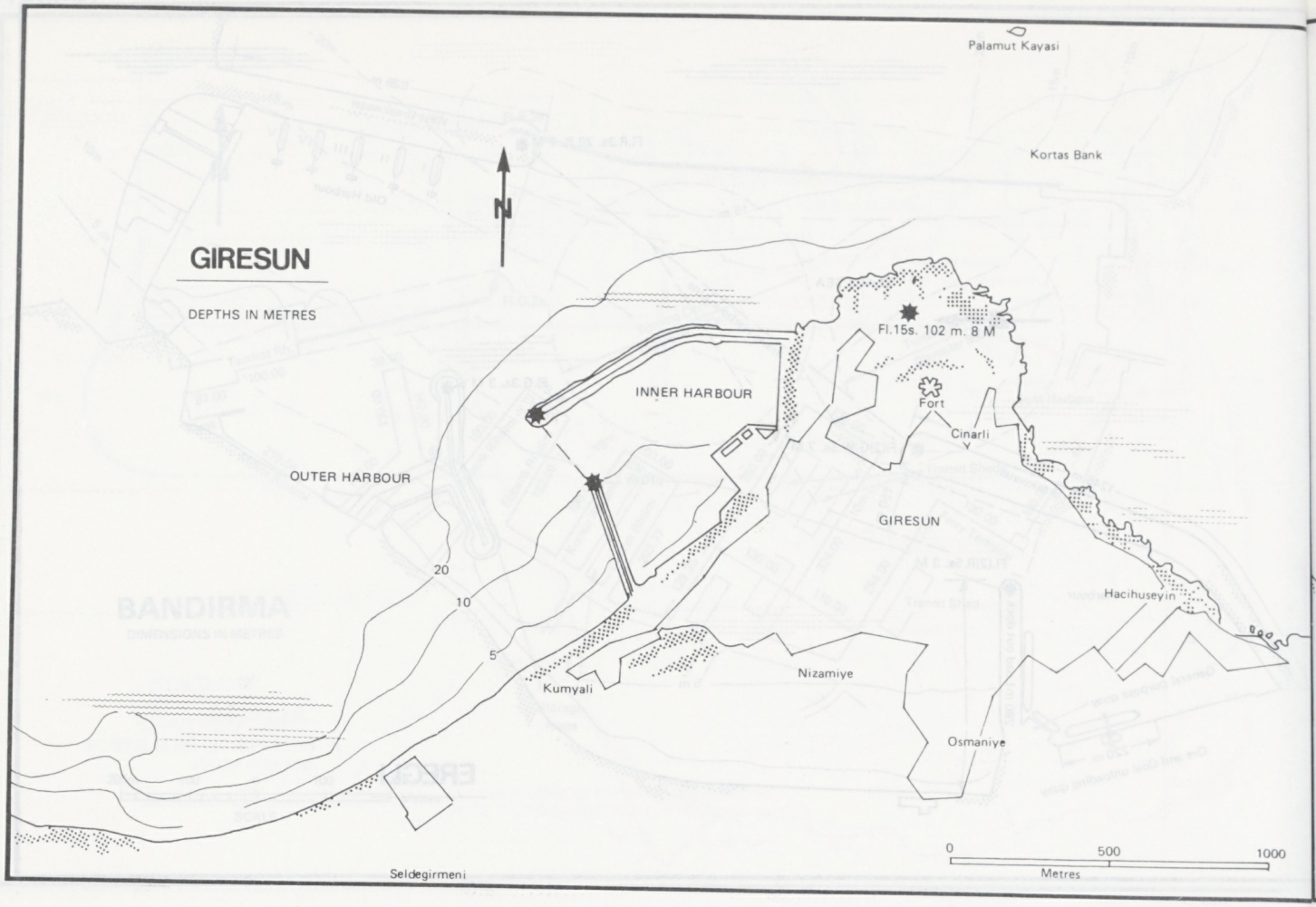


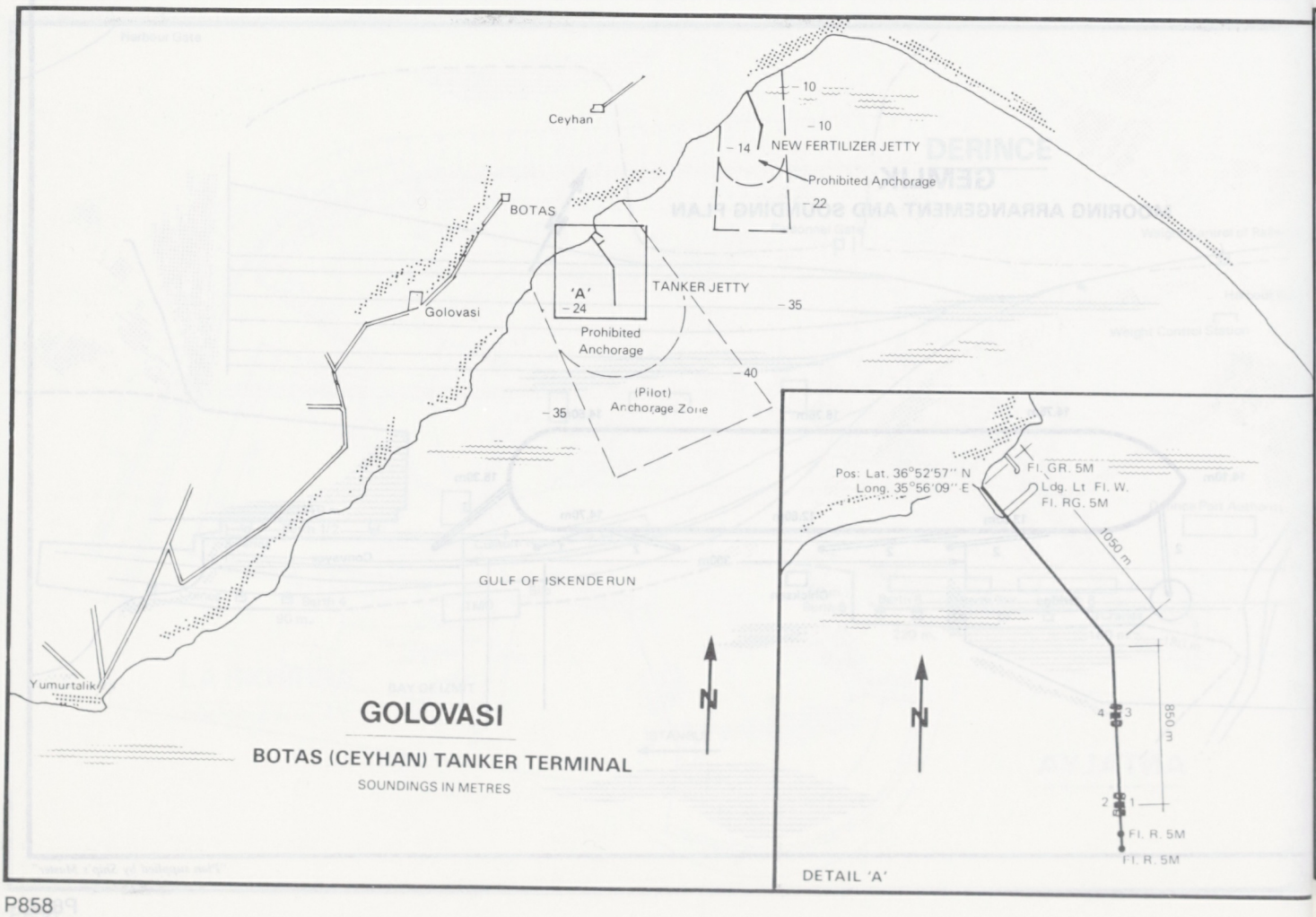
GEMLIK

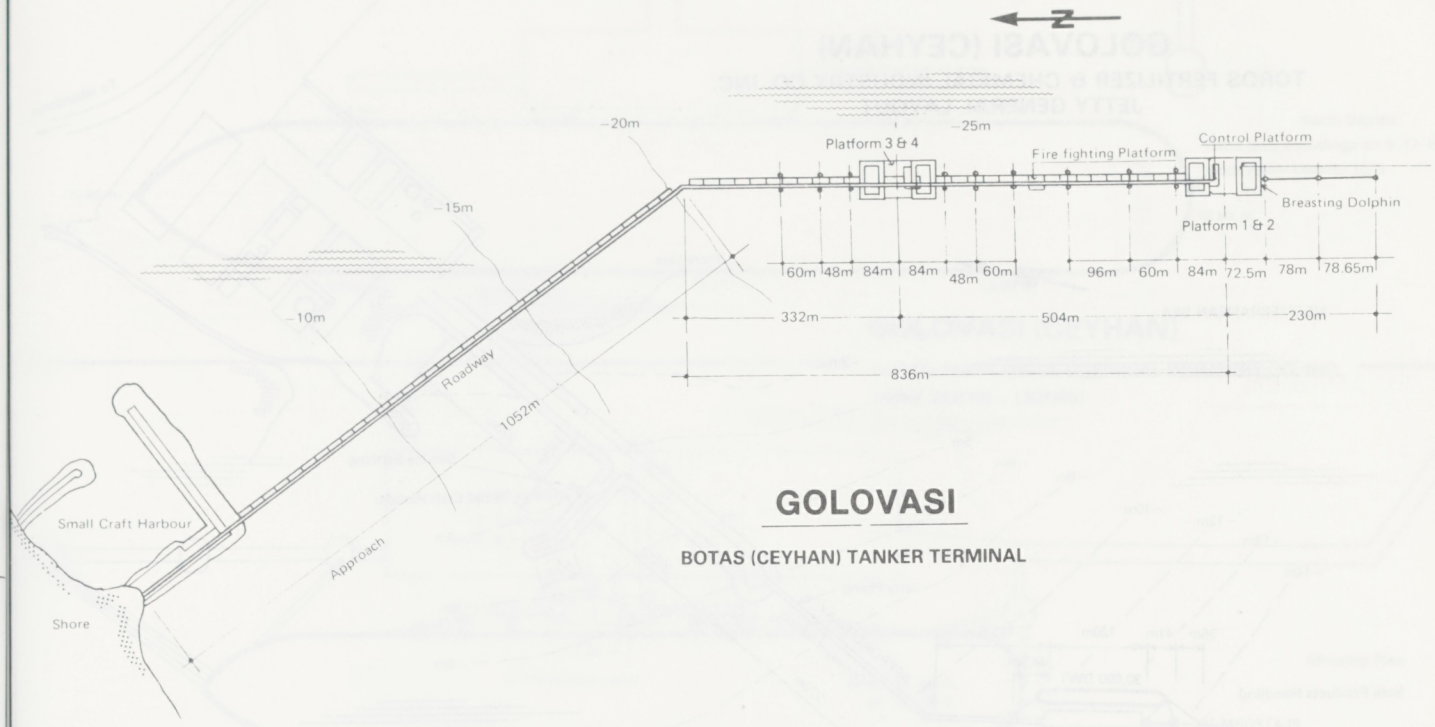
MOORING ARRANGEMENT AND SOUNDING PLAN



"Plan supplied by Ship's Master"

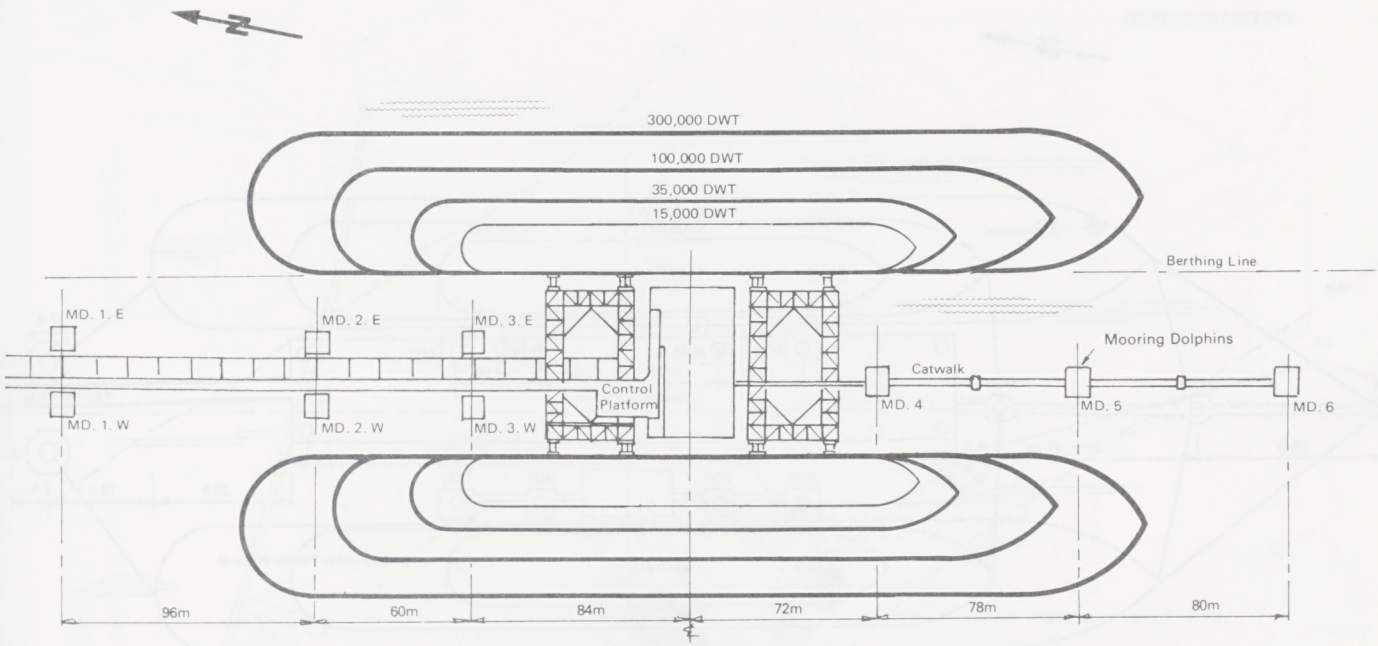

Palamut Kayasi
Kortas Bank
N
GIRESUN
DEPTHS IN METRES
Fl.15s. 102 m. 8 M
INNER HARBOUR
Fort
Cinarli
OUTER HARBOUR
GIRESUN
20
10
5
Hacihuseyin
Kumyali
Nizamiye
Osmaniye
0
500
1000
Metres
Seldegirmeni


Ceyhan
10
10
14
NEW FERTILIZER JETTY
Prohibited Anchorage
22
BOTAS
'A'
24
TANKER JETTY
35
Golovasi
Prohibited
Anchorage
40
(Pilot)
Anchorage Zone
35
GULF OF ISKENDERUN
Yumurtalik
N
GOLOVASI
BOTAS (CEYHAN) TANKER TERMINAL
SOUNDINGS IN METRES
Pos: Lat. 36°52'57" N
Long. 35°56'09" E
Fl. GR. 5M
Ldg. Lt. Fl. W.
Fl. RG. 5M
1050 m
850 m
4
3
2
1
Fl. R. 5M
Fl. R. 5M
N
DETAIL 'A'



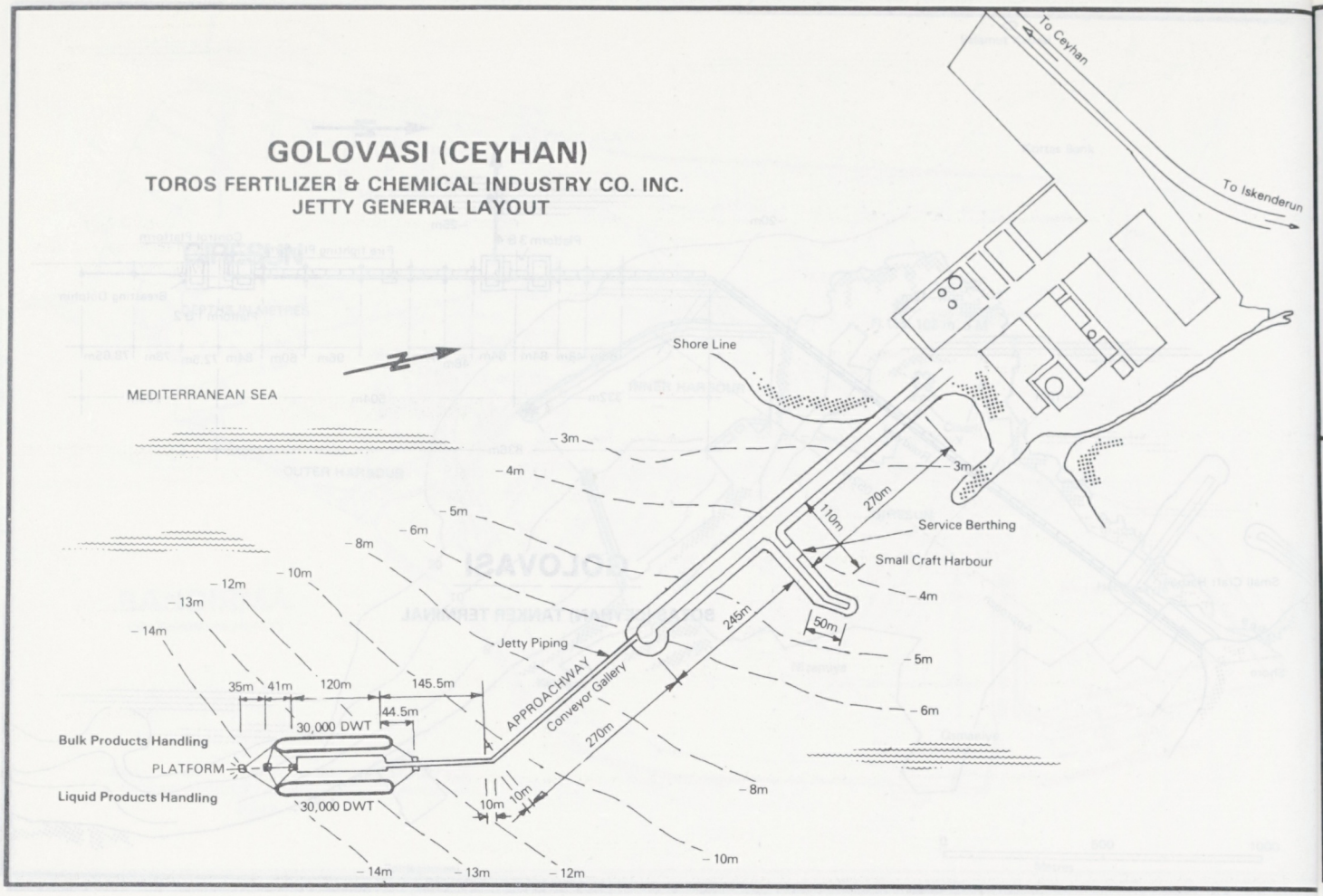
GOLOVASI

BOTAS (CEYHAN) TANKER TERMINAL



GOLOVASI

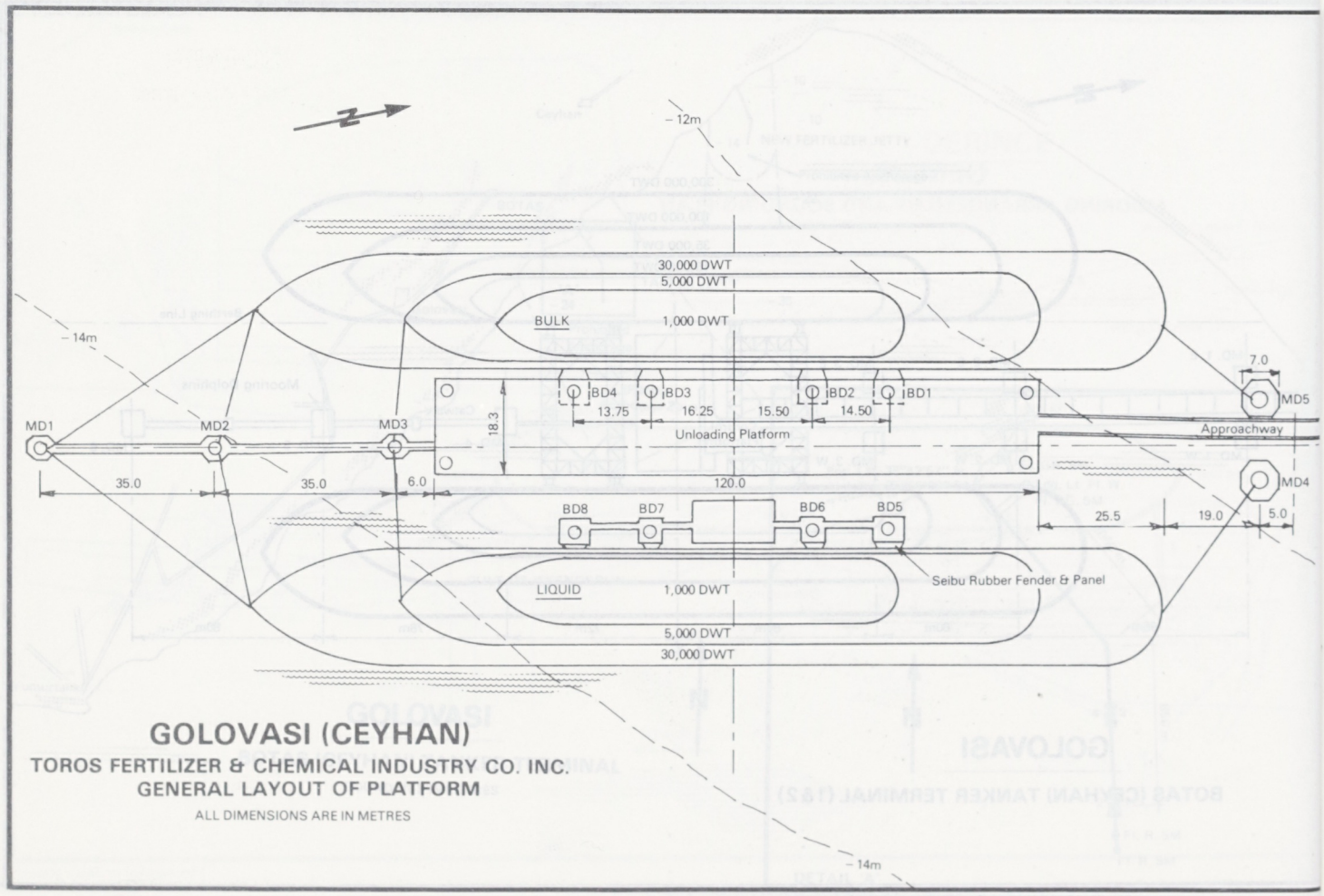
BOTAS (CEYHAN) TANKER TERMINAL (1&2)



GOLOVASI (CEYHAN)

TOROS FERTILIZER & CHEMICAL INDUSTRY CO. INC.

JETTY GENERAL LAYOUT

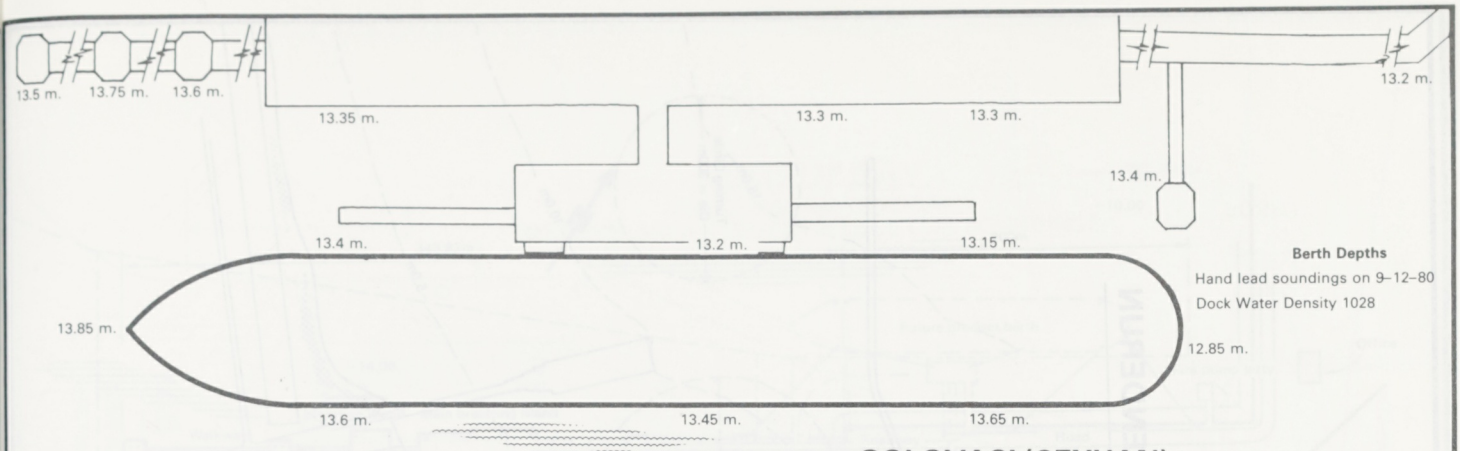


GOLOVASI (CEYHAN)

TOROS FERTILIZER & CHEMICAL INDUSTRY CO. INC.

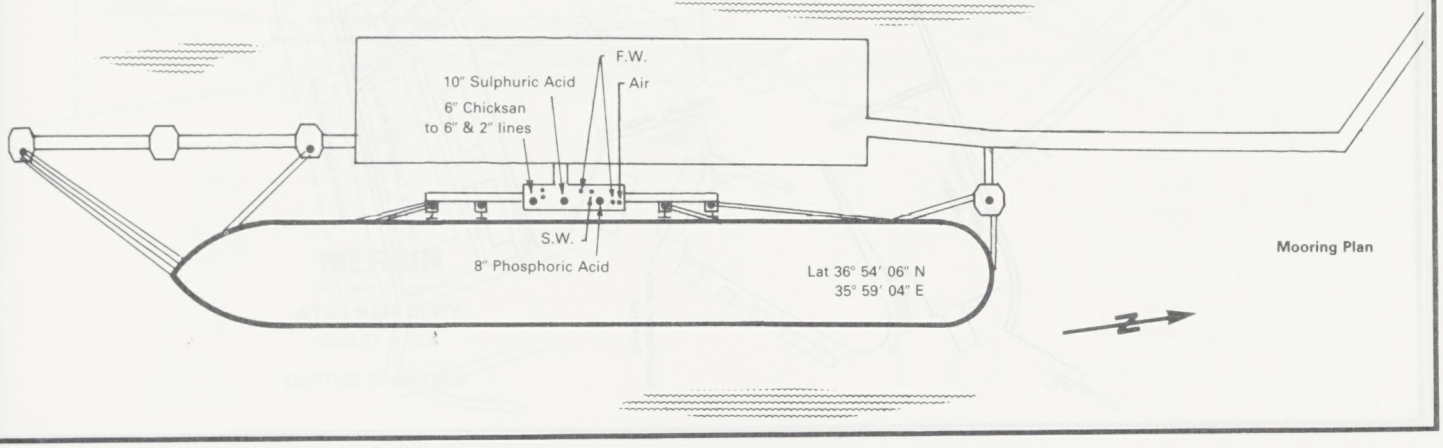
GENERAL LAYOUT OF PLATFORM

ALL DIMENSIONS ARE IN METRES



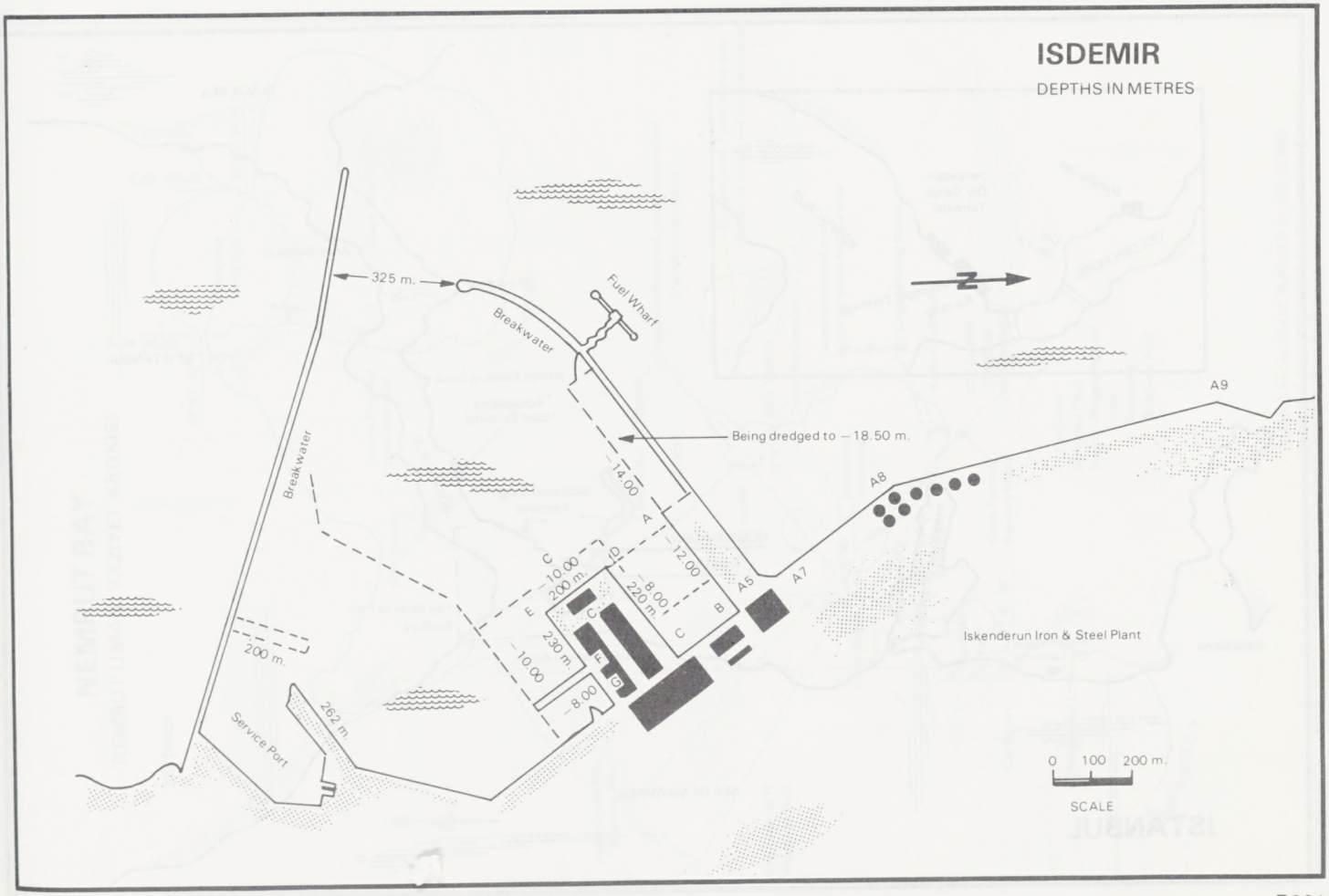
GOLOVASI (CEYHAN)

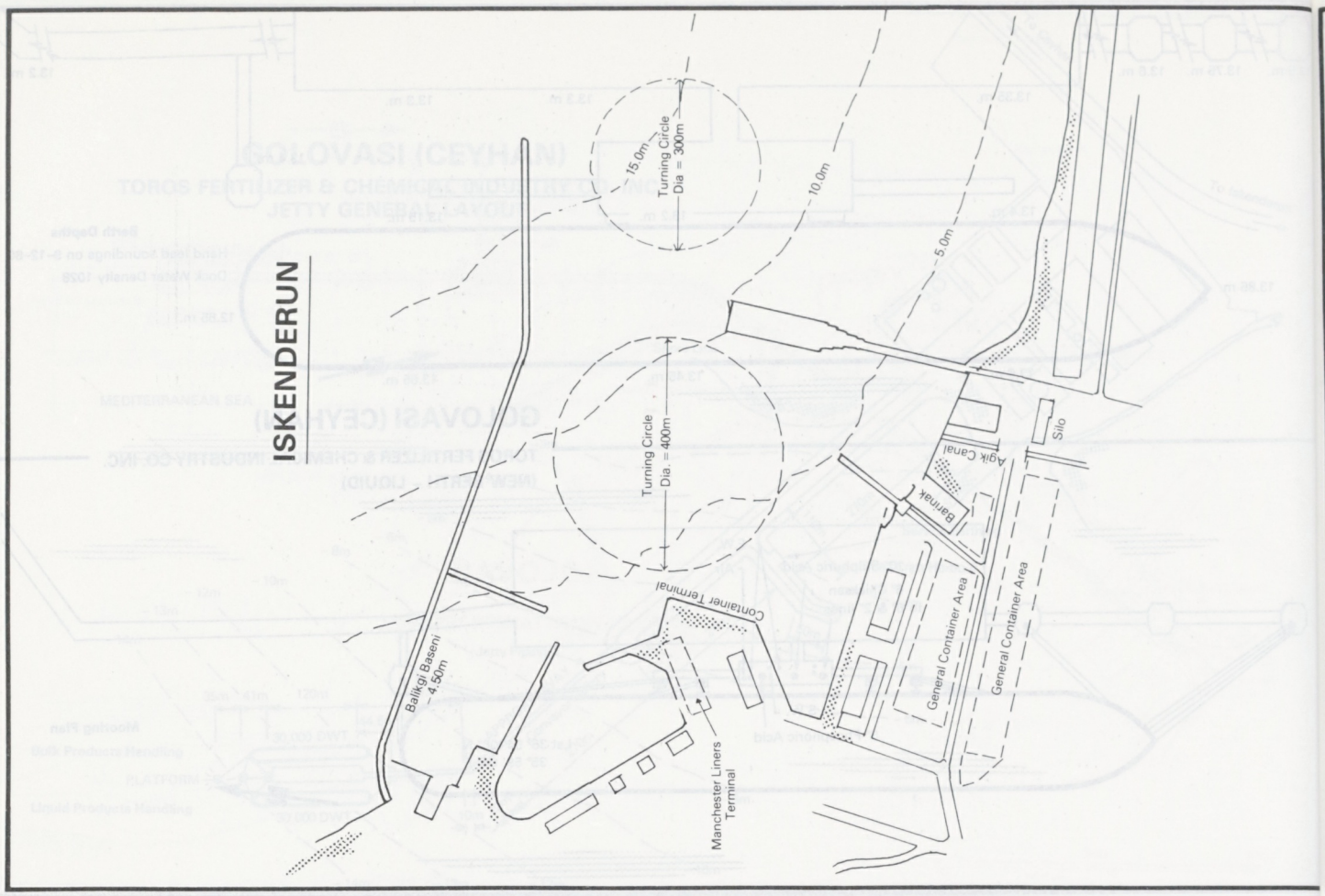
TOROS FERTILIZER & CHEMICAL INDUSTRY CO. INC.
(NEW BERTH – LIQUID)

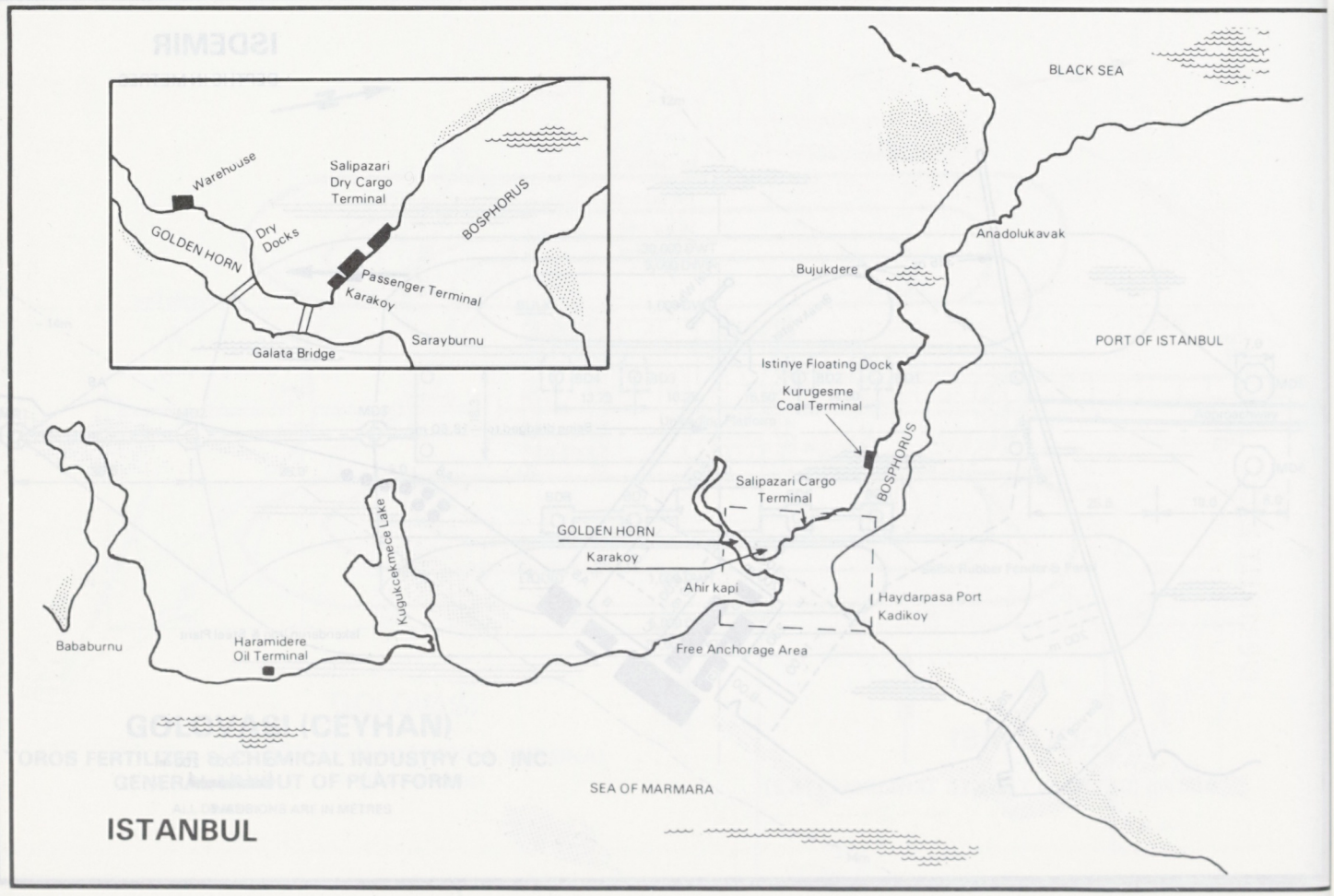


ISDEMIR

DEPTHS IN METRES

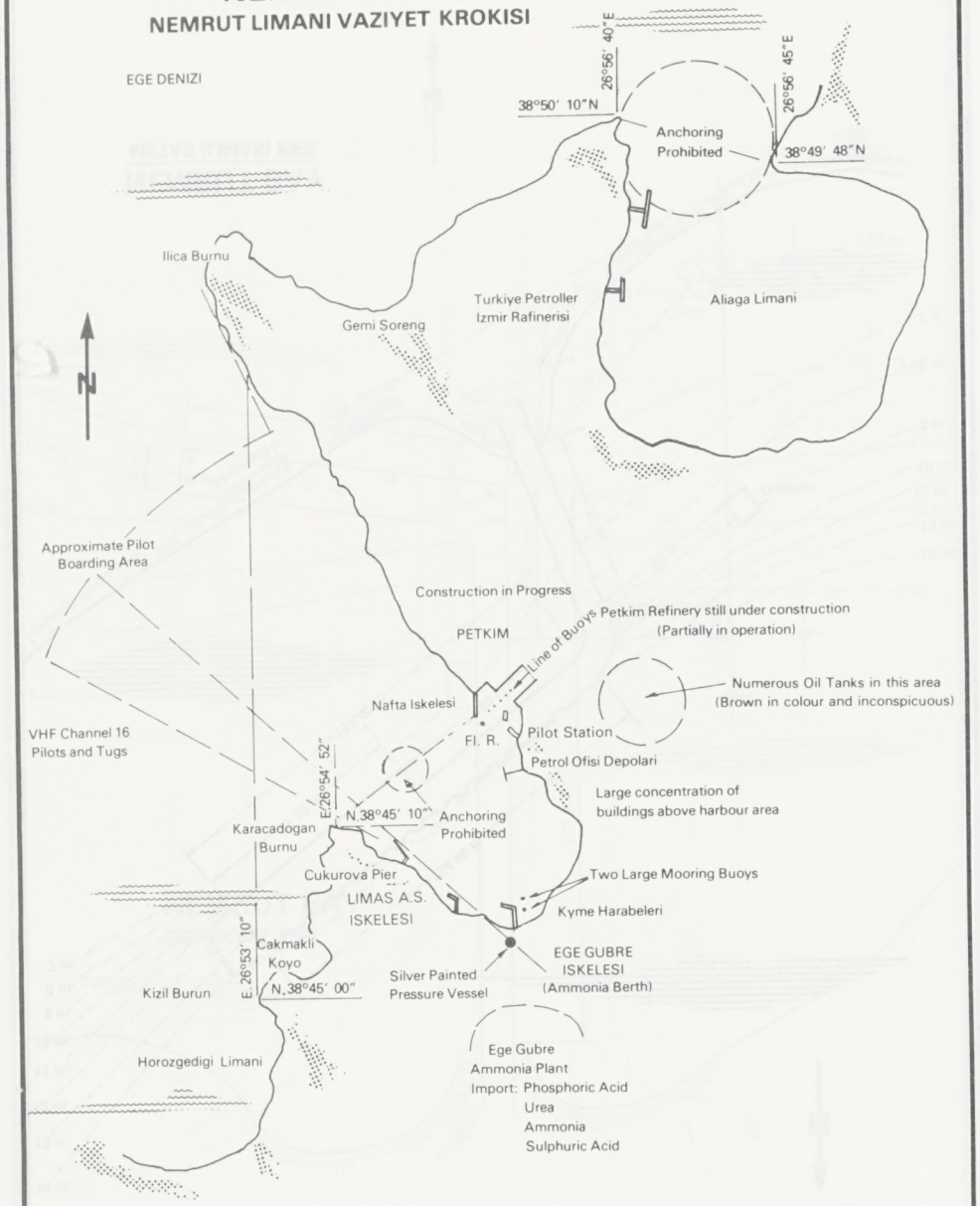



ISKENDERUN
Turning Circle
Dia. = 300m
15.0m
10.0m
5.0m
Turning Circle
Dia. = 400m
Silo
Agik Canal
Bannak
Container Terminal
General Container Area
General Container Area
Balikgi Baseni
- 4.5m
Manchester Liners
Terminal


Warehouse
Salipazari
Dry Cargo
Terminal
BOSPHORUS
GOLDEN HORN
Dry
Docks
Passenger Terminal
Karakoy
Galata Bridge
Sarayburnu
BLACK SEA
Anadolukavak
Bujukdere
PORT OF ISTANBUL
Istinye Floating Dock
Kurugesme
Coal Terminal
BOSPHORUS
Salipazari Cargo
Terminal
GOLDEN HORN
Karakoy
Ahir kapi
Haydarpasa Port
Kadikoy
Kugukcekmece Lake
Bababurnu
Haramidere
Oil Terminal
Free Anchorage Area
SEA OF MARMARA
ISTANBUL

NEMRUT BAY

NEMRUT LIMANI VAZIYET KROKISI

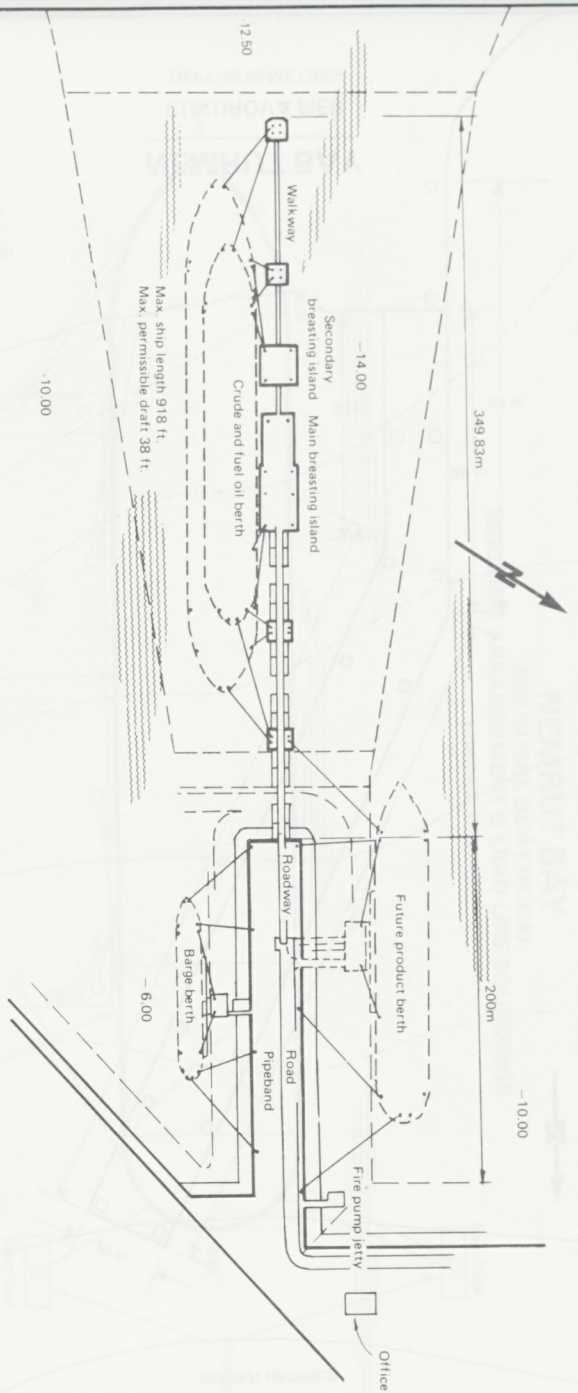


TRACING FROM CHART SUPPLIED BY EGE GUBRE RECEIVERS AND OPERATORS OF THE AMMONIA PLANT

MERSIN

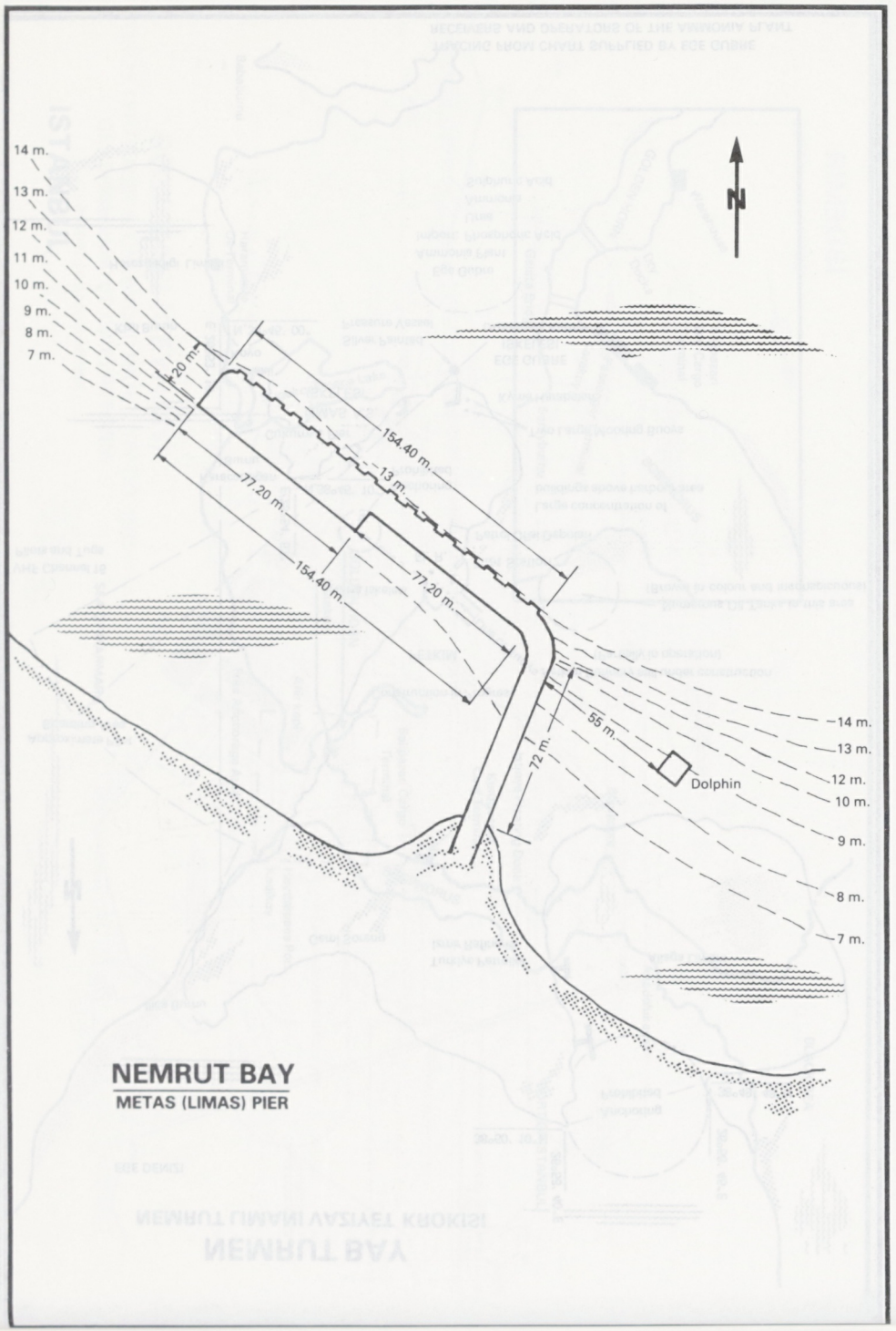
ATAS REFINERY WHARF AREA

DEPTHS IN METRES



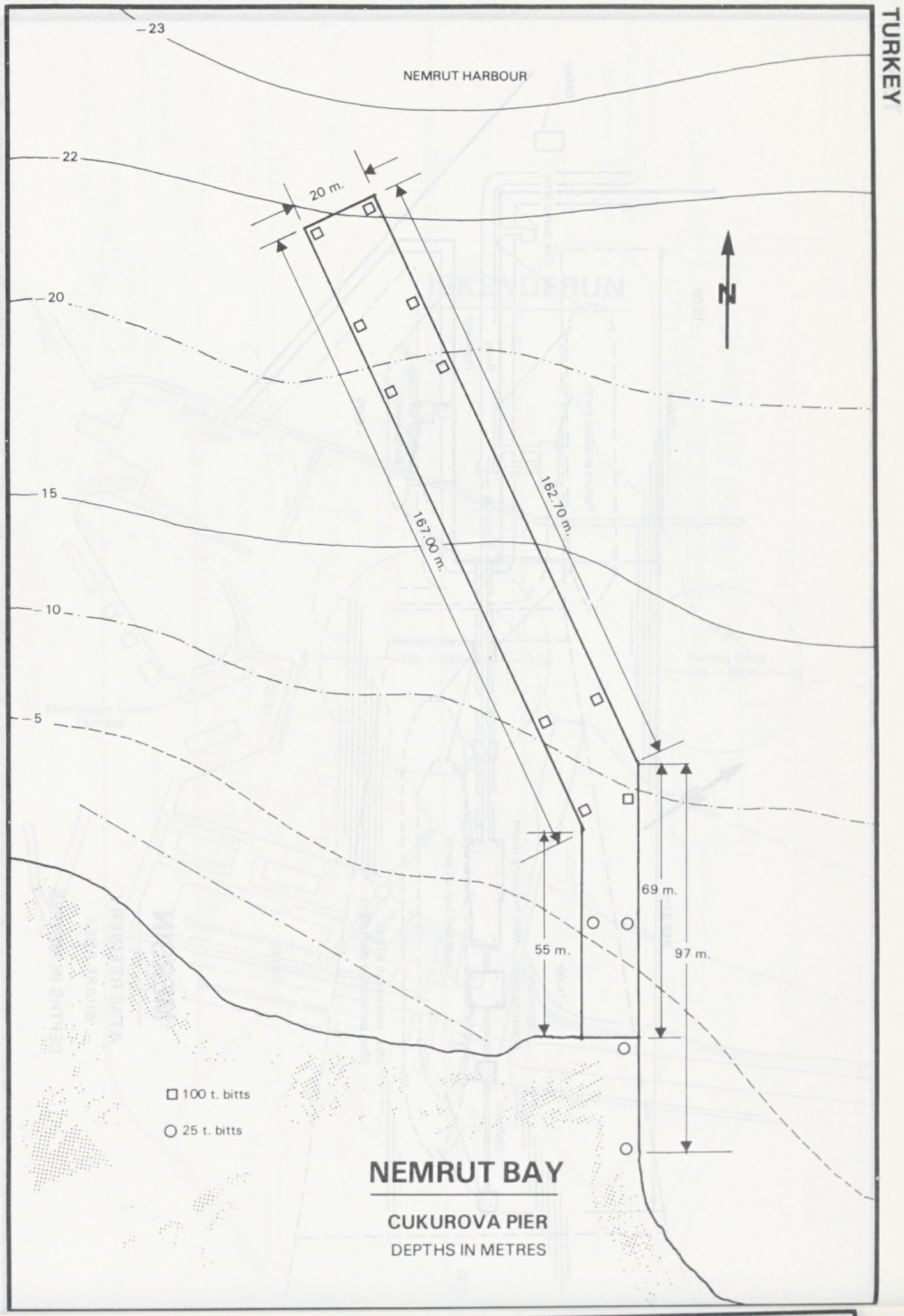
TURKEY

P863



NEMRUT BAY

METAS (LIMAS) PIER



NEMRUT BAY

CUKUROVA PIER

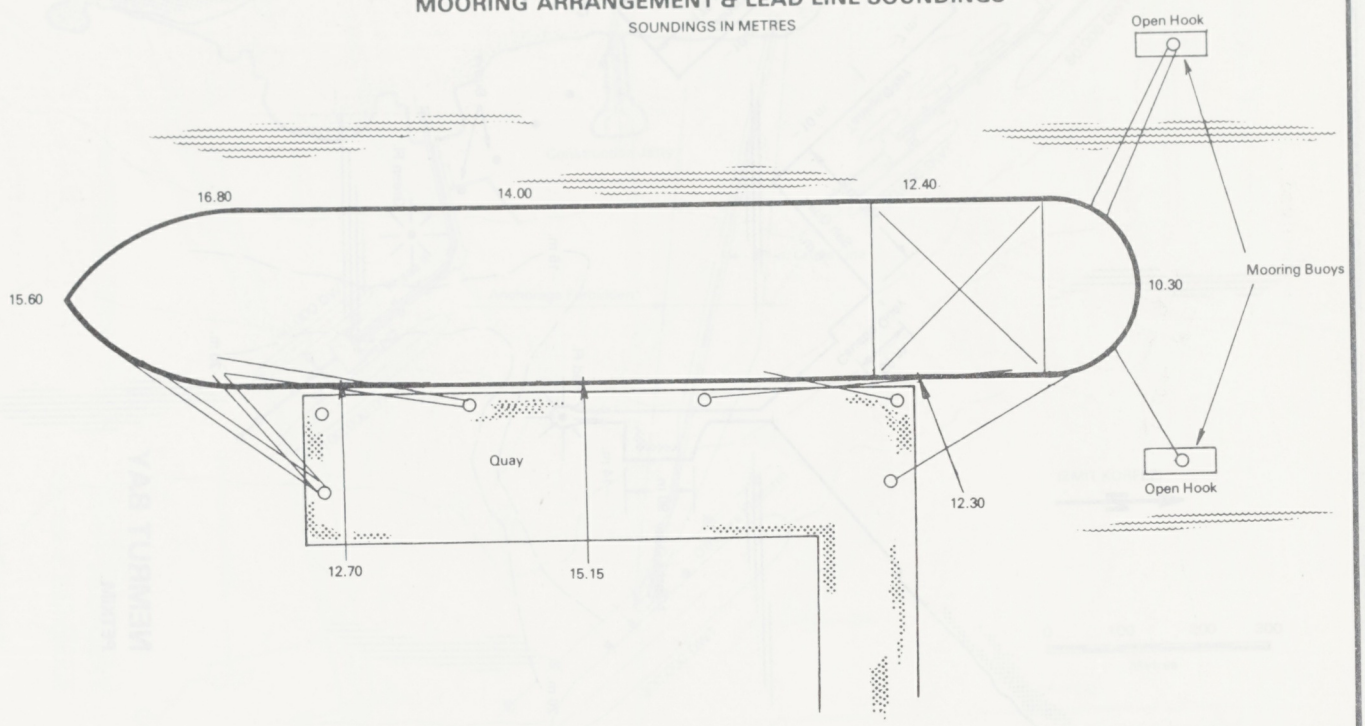
DEPTHS IN METRES

NEMRUT BAY

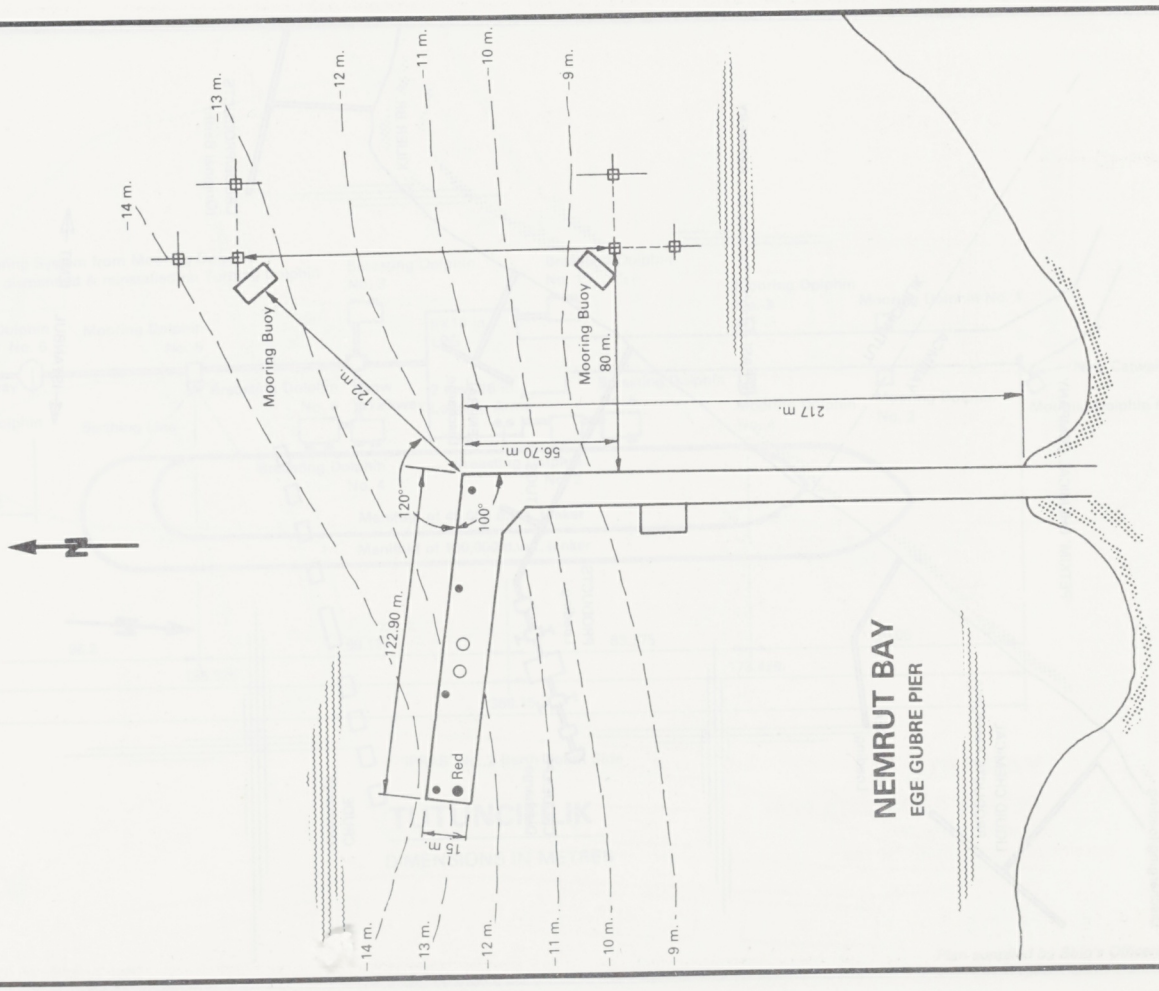
EGE GUBRE QUAY (FOCA)

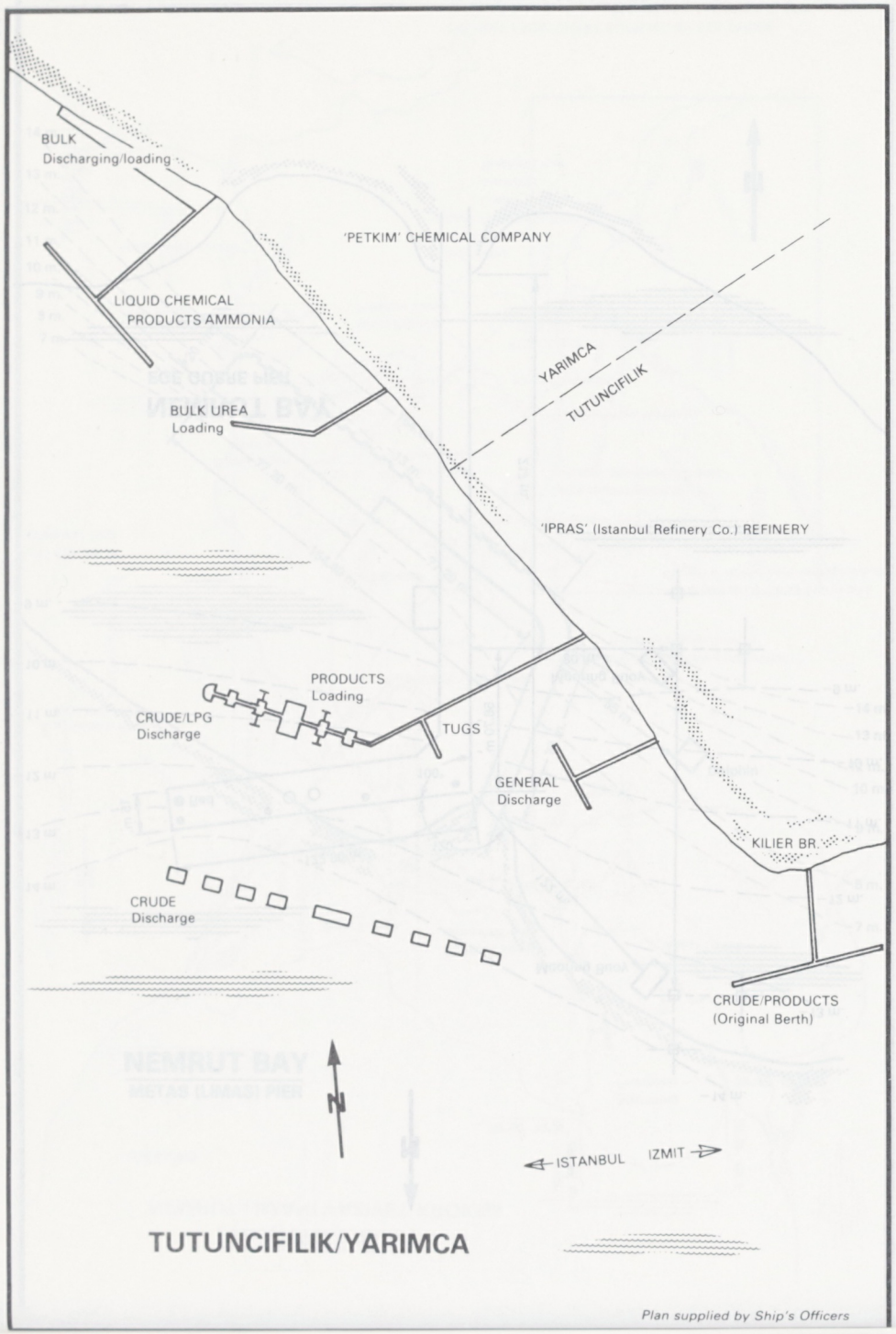
MOORING ARRANGEMENT & LEAD LINE SOUNDINGS

SOUNDINGS IN METRES



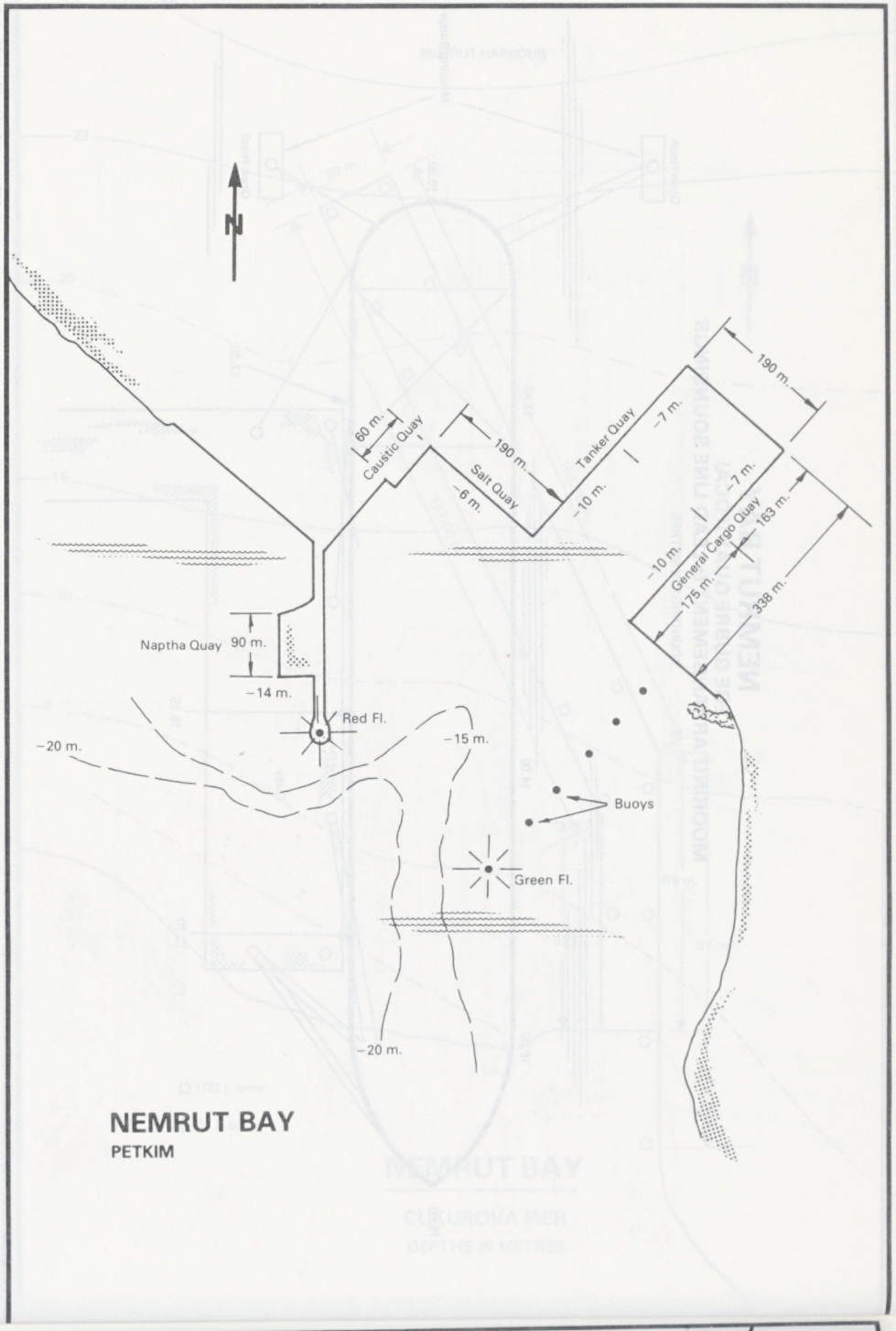
"Plan supplied by Ship's Master"





TUTUNCIFILIK/YARIMCA

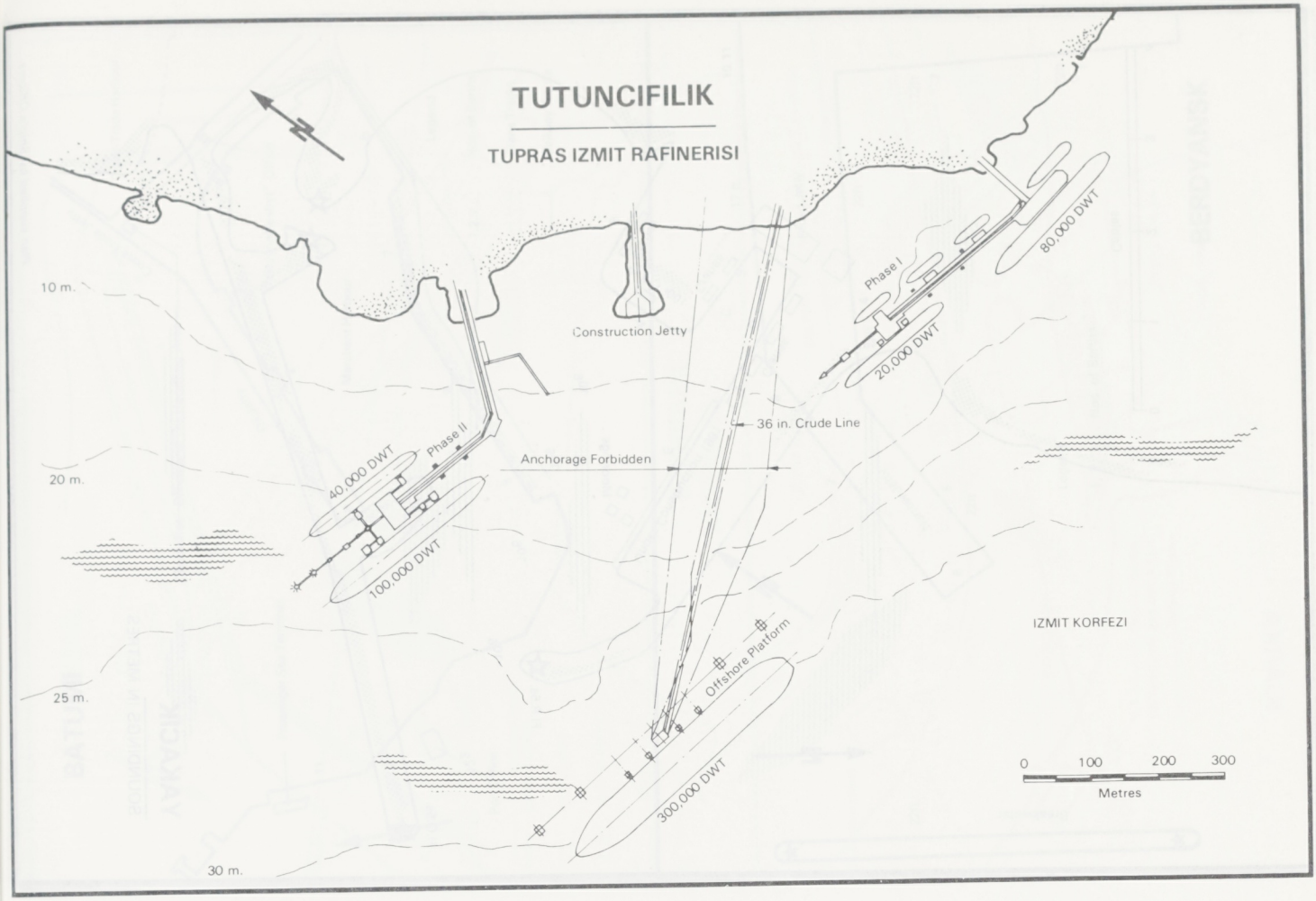
Plan supplied by Ship's Officers

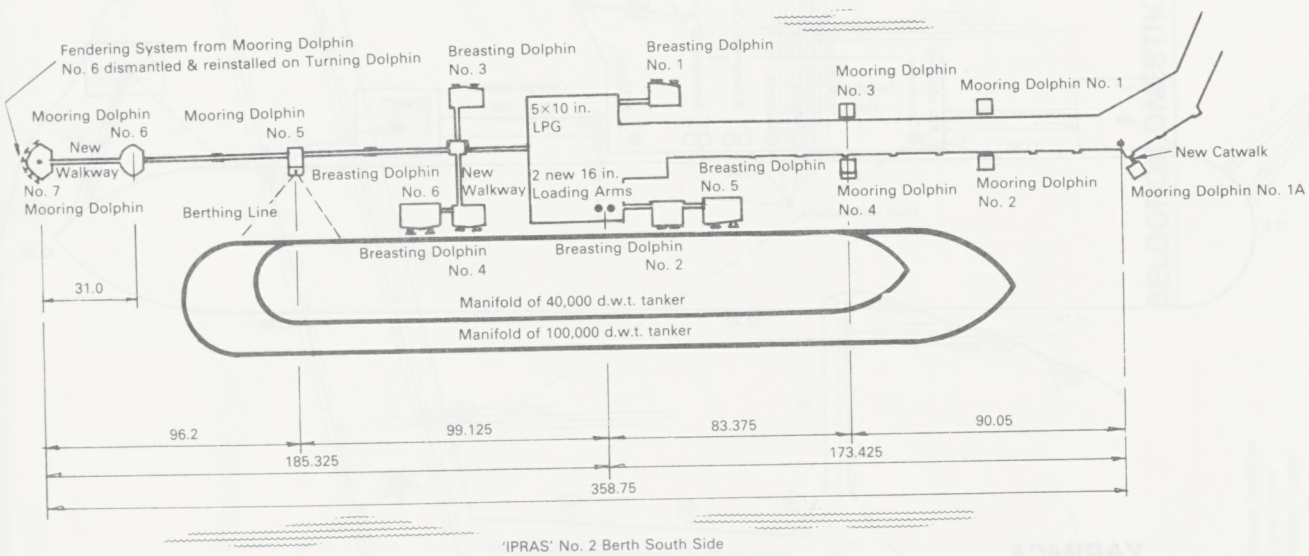


NEMRUT BAY
PETKIM

TUTUNCIFILIK

TUPRAS IZMIT RAFINERISI





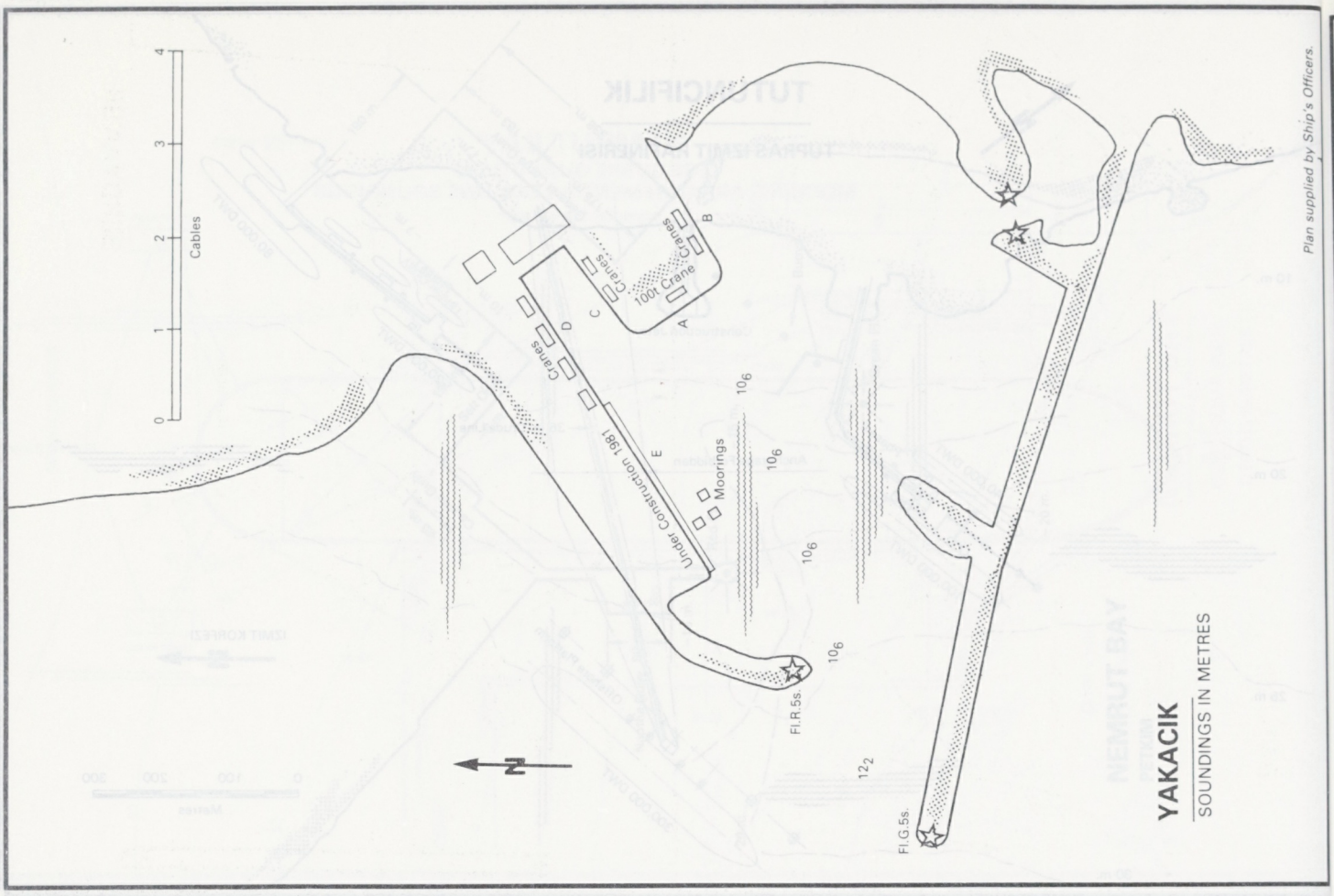
'IPRAS' No. 2 Berth South Side

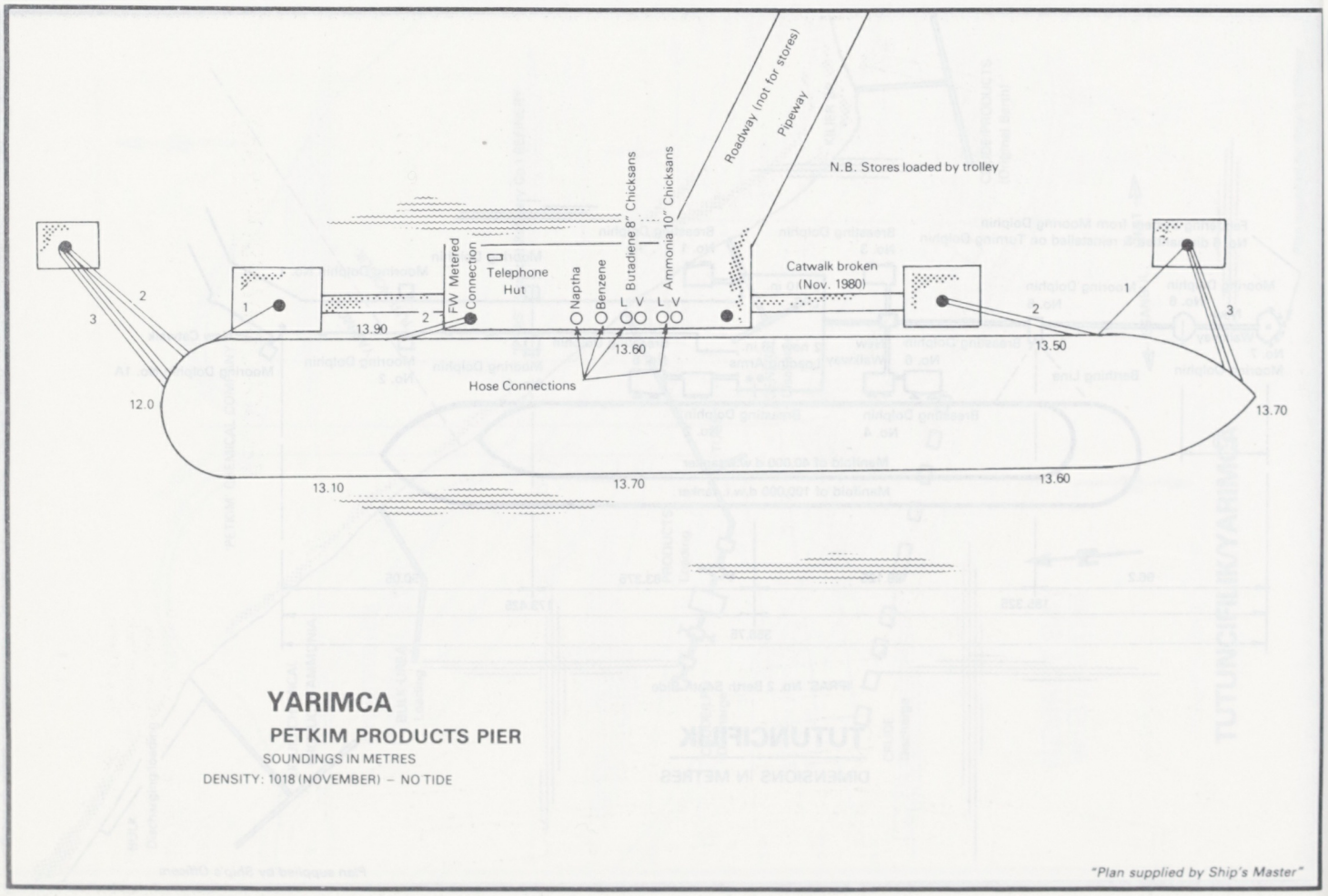
TUTUNCIFILIK

DIMENSIONS IN METRES

Plan supplied by Ship's Officers

Plan supplied by Ship's Officers





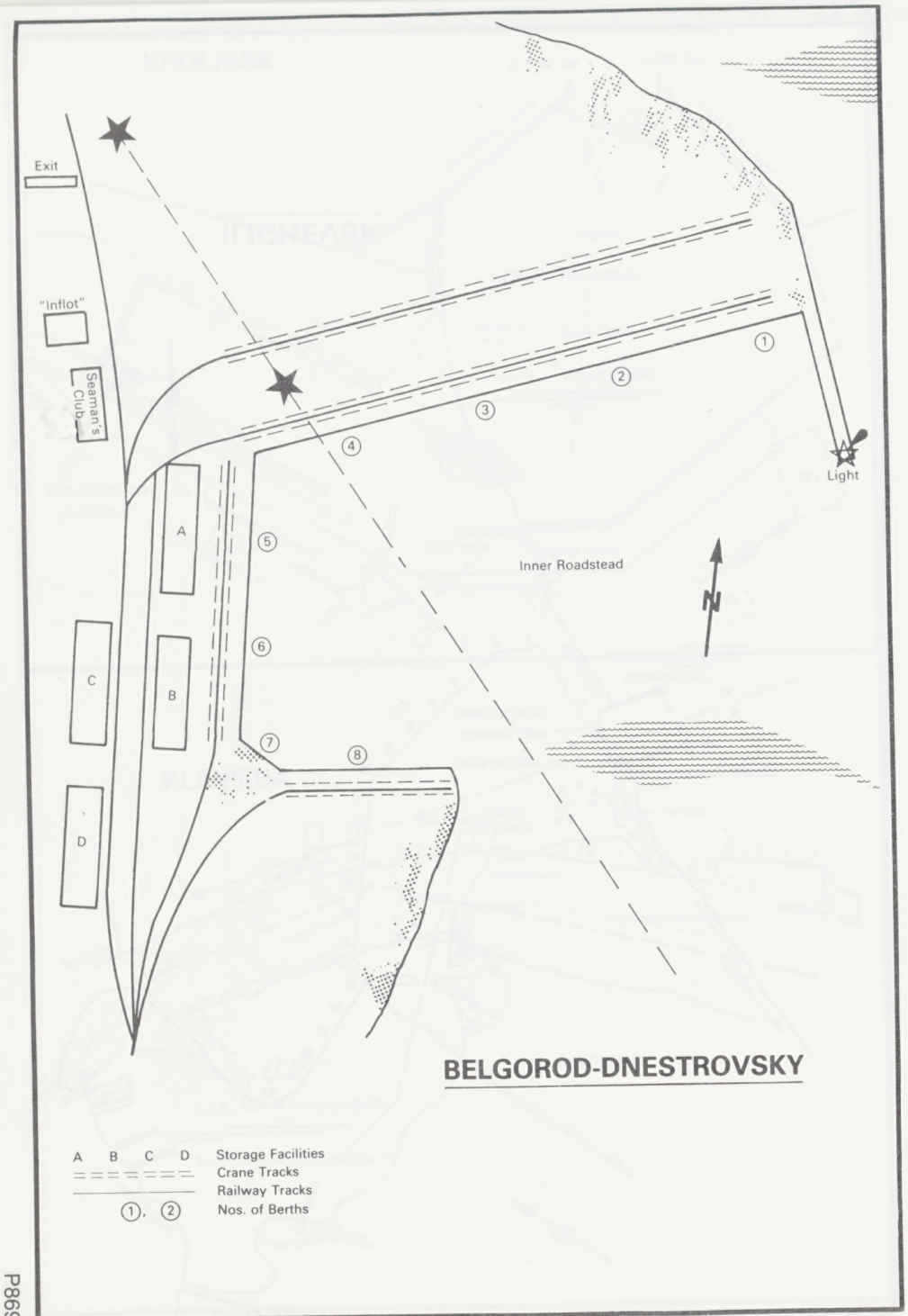
YARIMCA

PETKIM PRODUCTS PIER

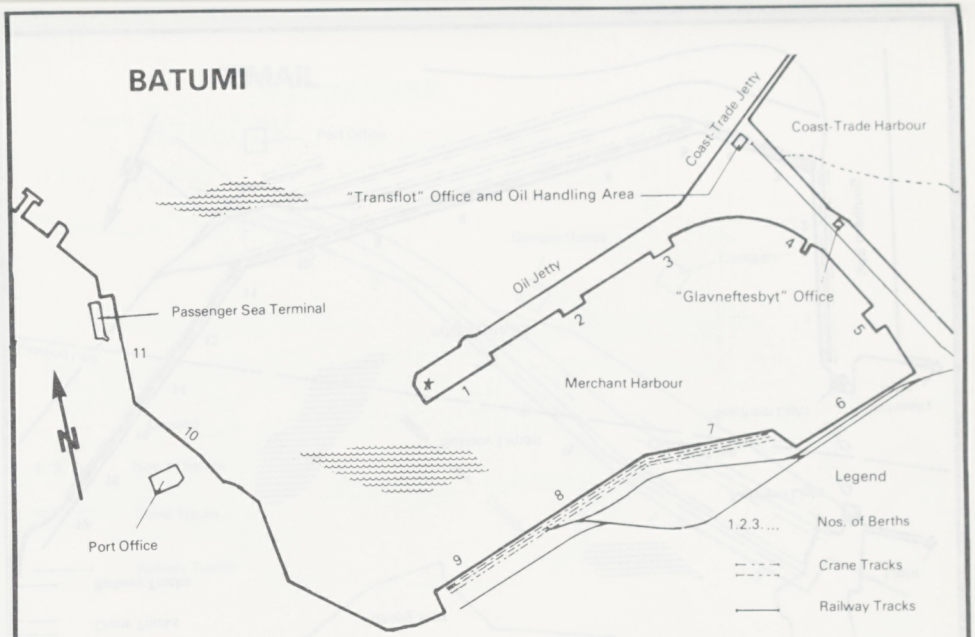
SOUNDINGS IN METRES

DENSITY: 1018 (NOVEMBER) – NO TIDE

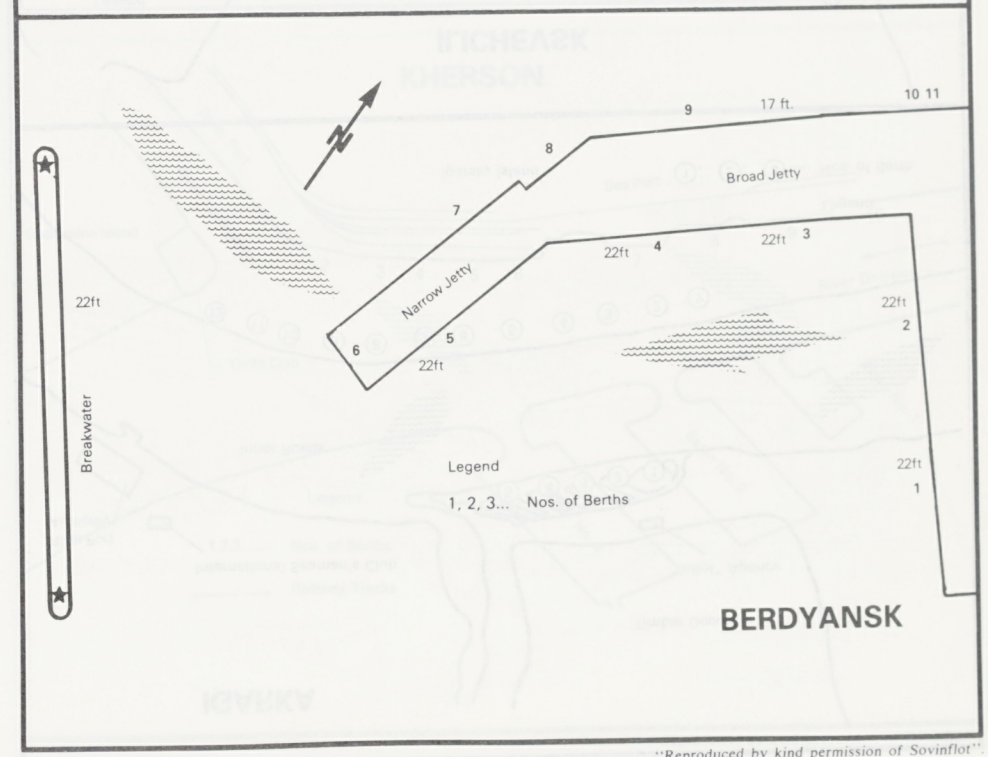
"Plan supplied by Ship's Master"



BELGOROD-DNESTROVSKY



BATUMI



BERDYANSK

U.S.S.R.

P869

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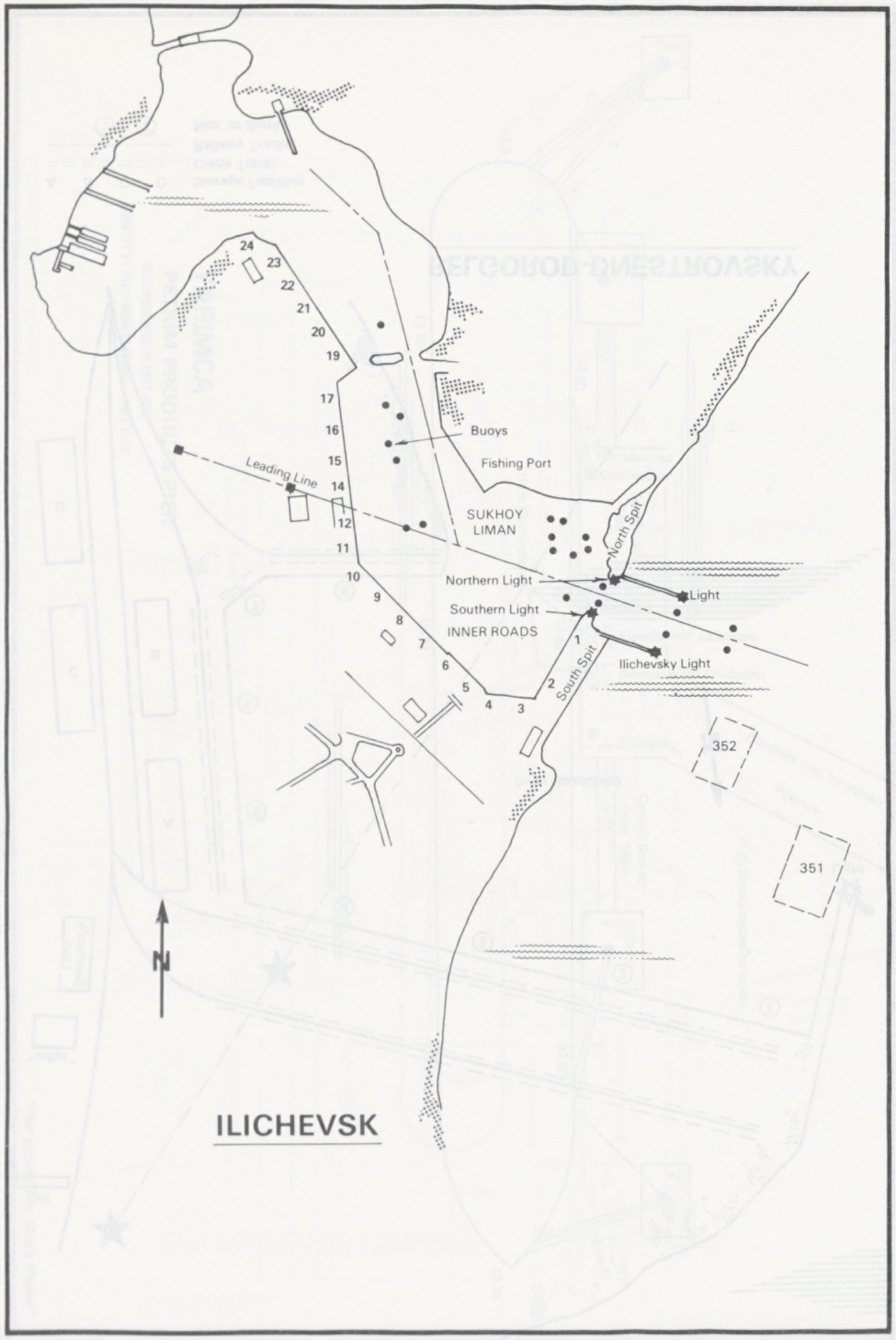
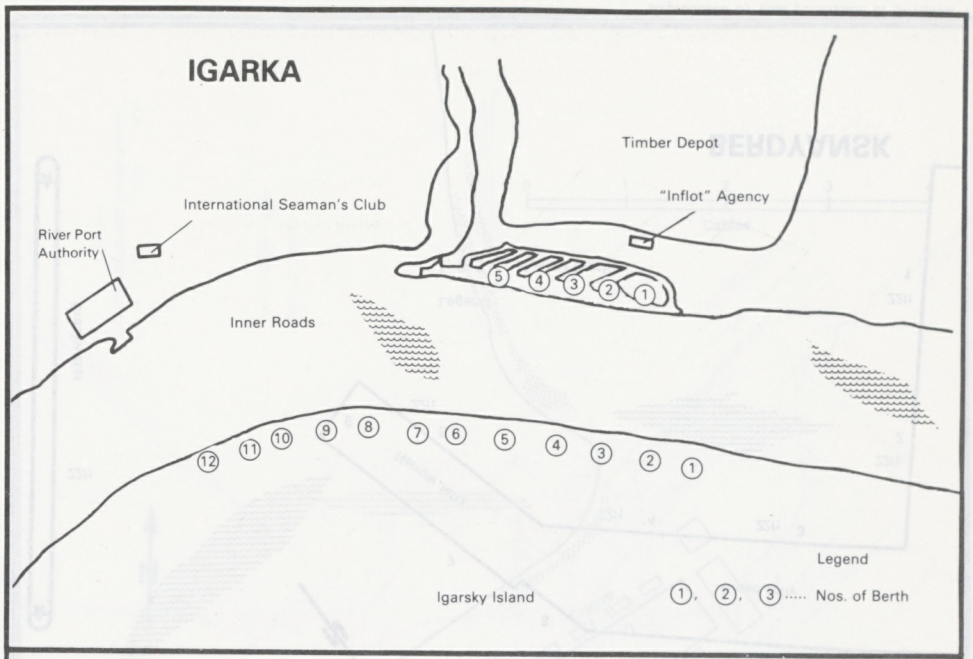
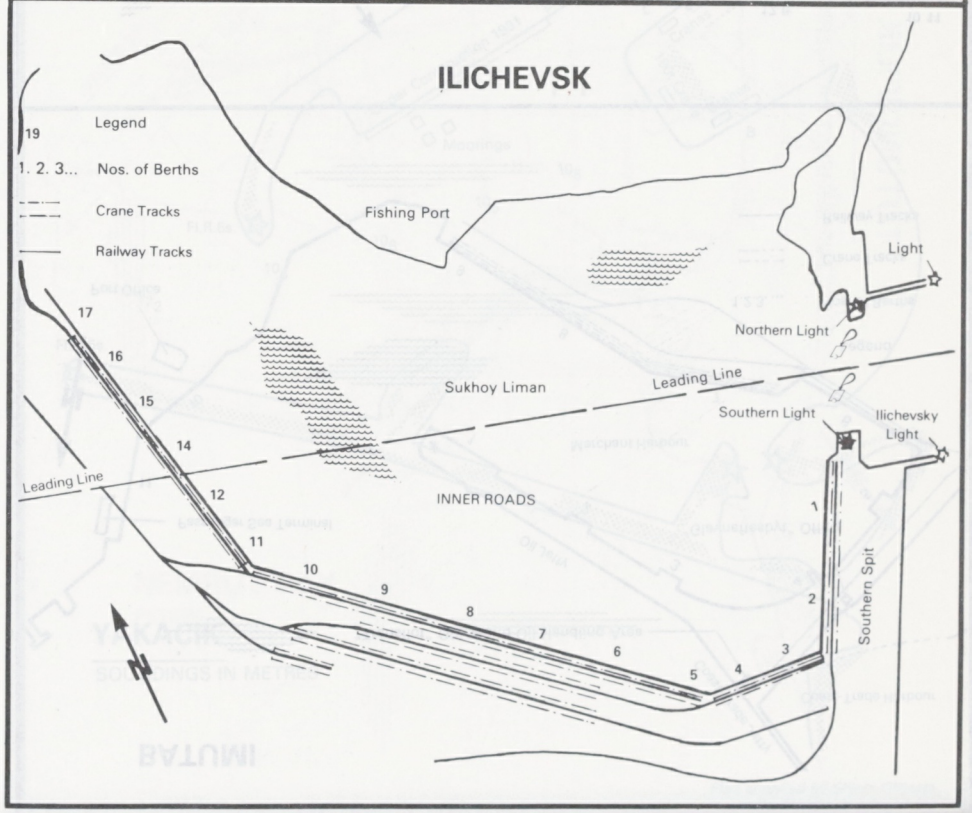
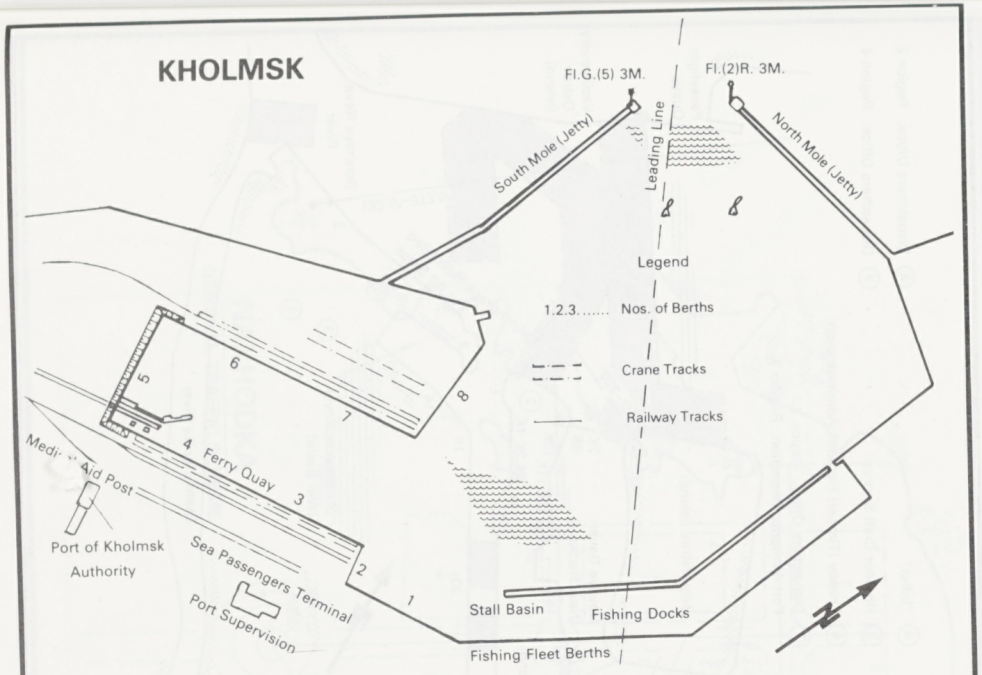

24
23
22
21
20
19
17
16
15
14
12
11
10
9
8
7
6
5
4
3
2
1
Buoys
Fishing Port
Leading Line
SUKHOY
LIMAN
North Spit
Northern Light
Light
Southern Light
INNER ROADS
Ilichevsky Light
South Spit
352
351
N
ILICHEVSK

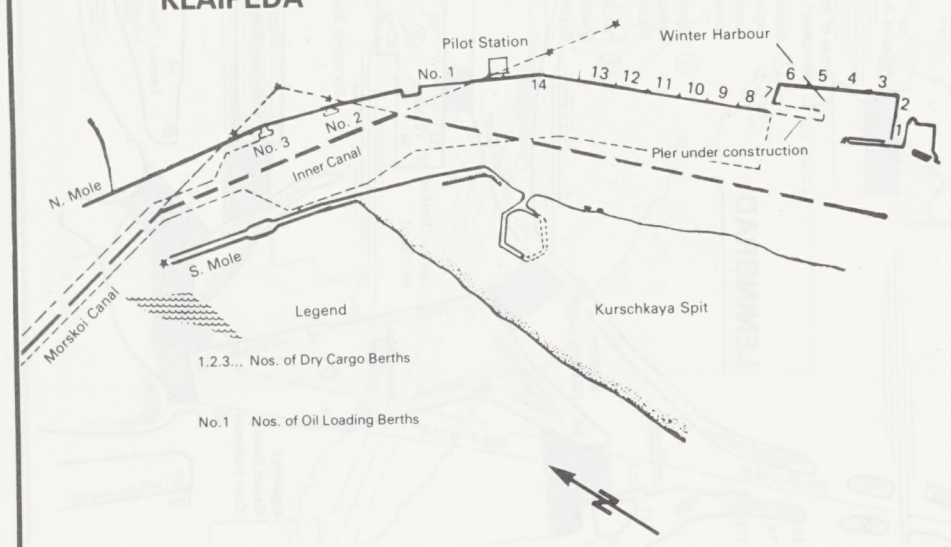

IGARKA
Timber Depot
"Inflot" Agency
International Seaman's Club
River Port
Authority
5
4
3
2
1
Inner Roads
12
11
10
9
8
7
6
5
4
3
2
1
Legend
Igarsky Island
1, 2, 3..... Nos. of Berth


ILICHEVSK
19
Legend
1. 2. 3... Nos. of Berths
Crane Tracks
Railway Tracks
Fishing Port
Light
Northern Light
17
16
15
14
12
11
10
9
8
7
6
5
4
3
2
1
Sukhoy Liman
Leading Line
Southern Light
Ilichevsky
Light
Leading Line
INNER ROADS
Southern Spit
N

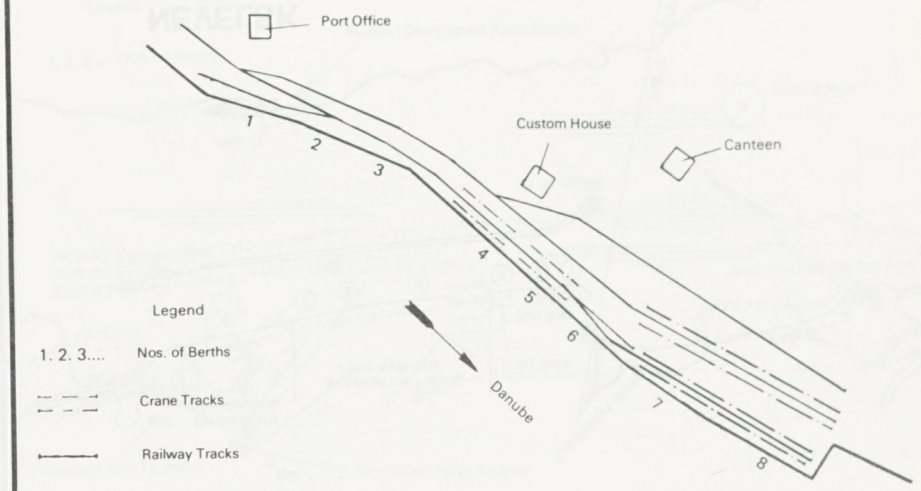
KHOLMSK



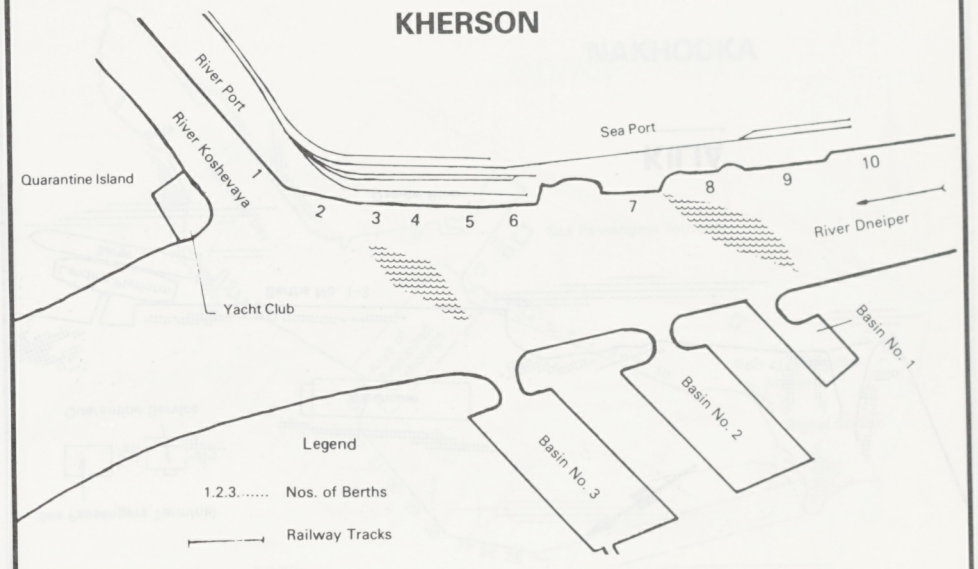
KLAIPEDA



IZMAIL



KHERSON



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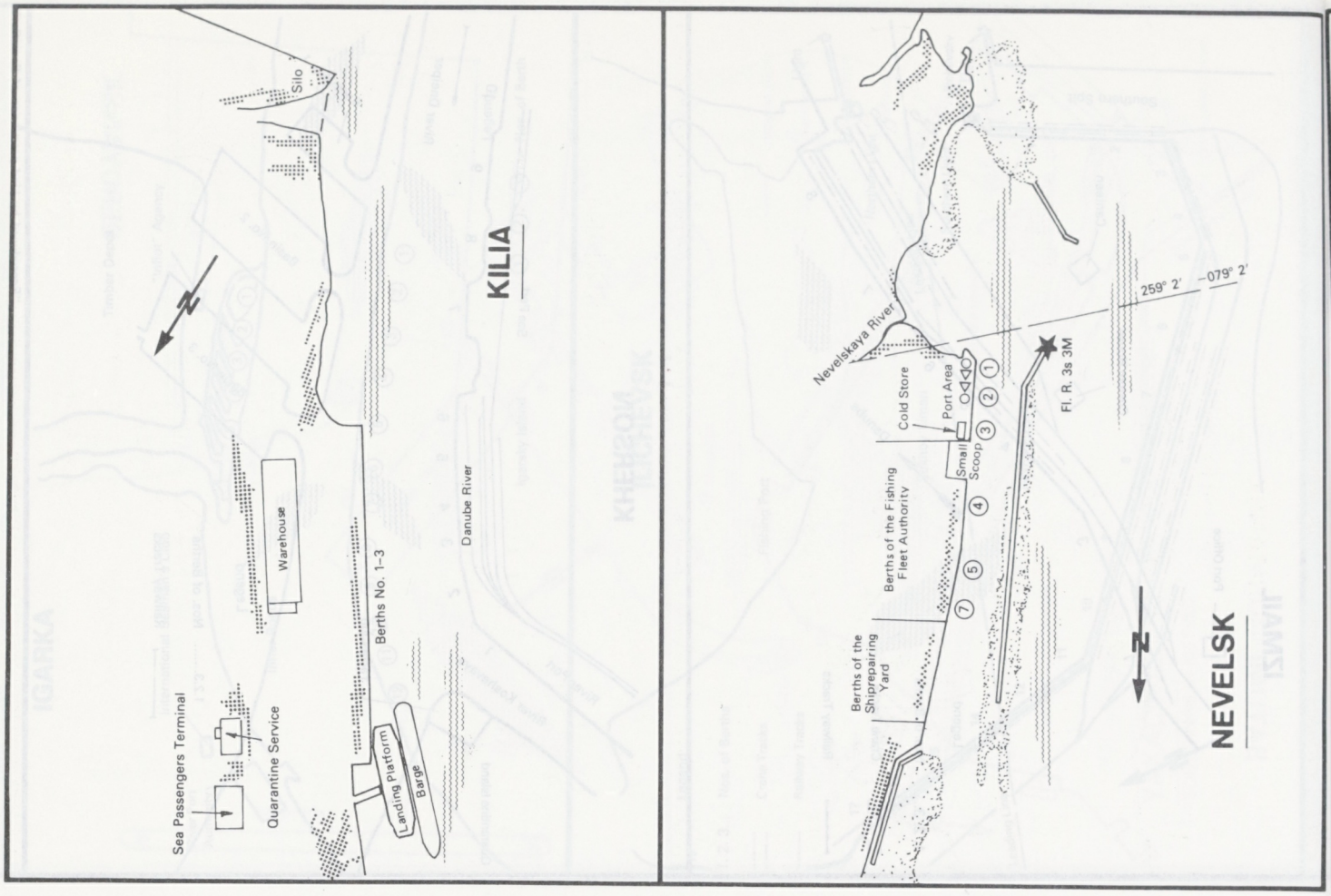
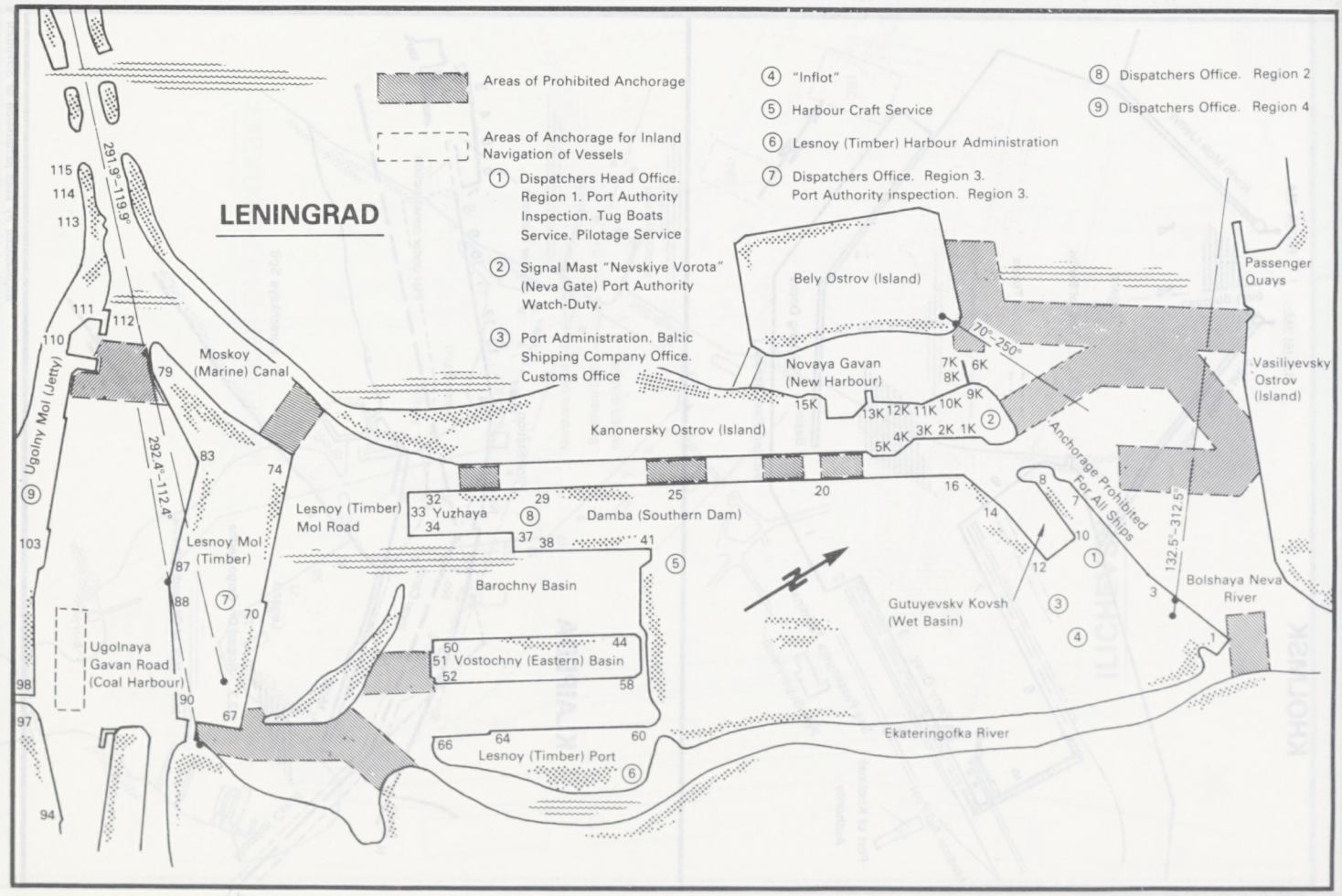
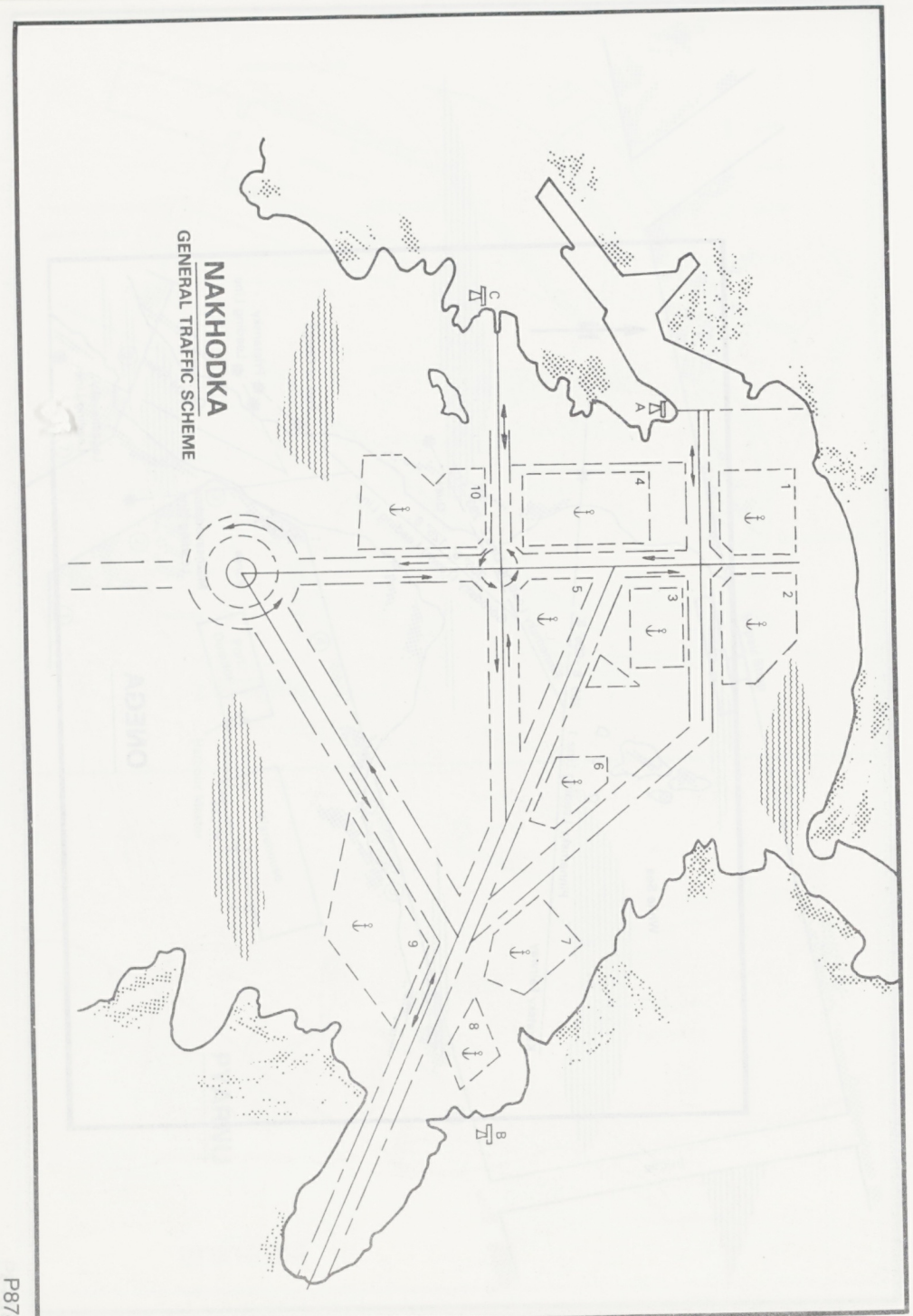
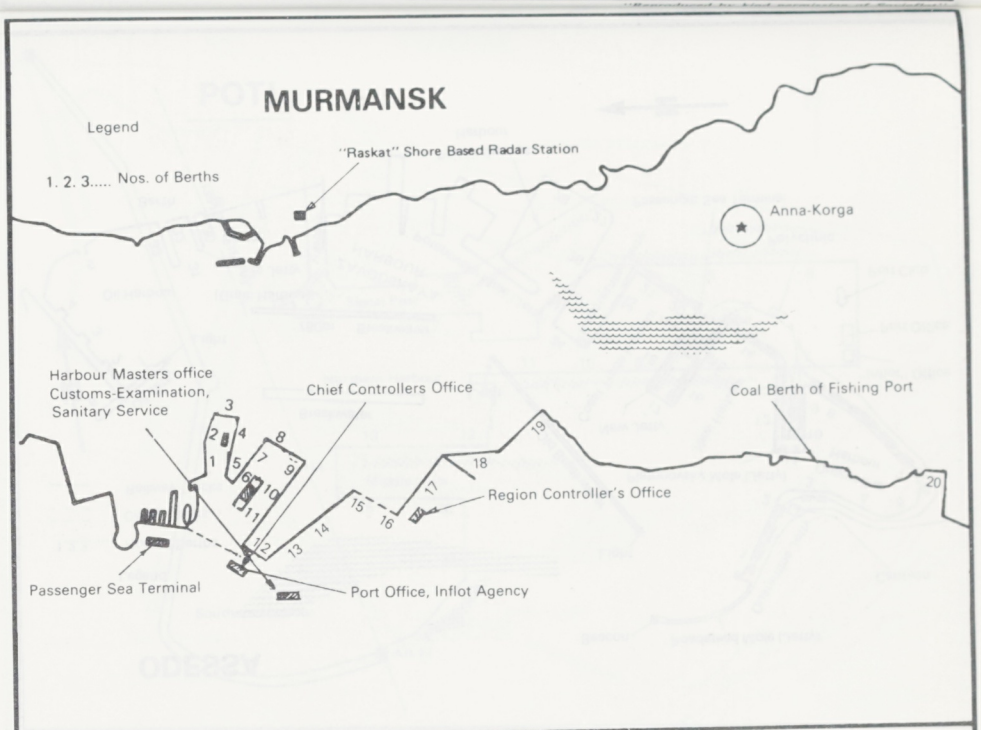
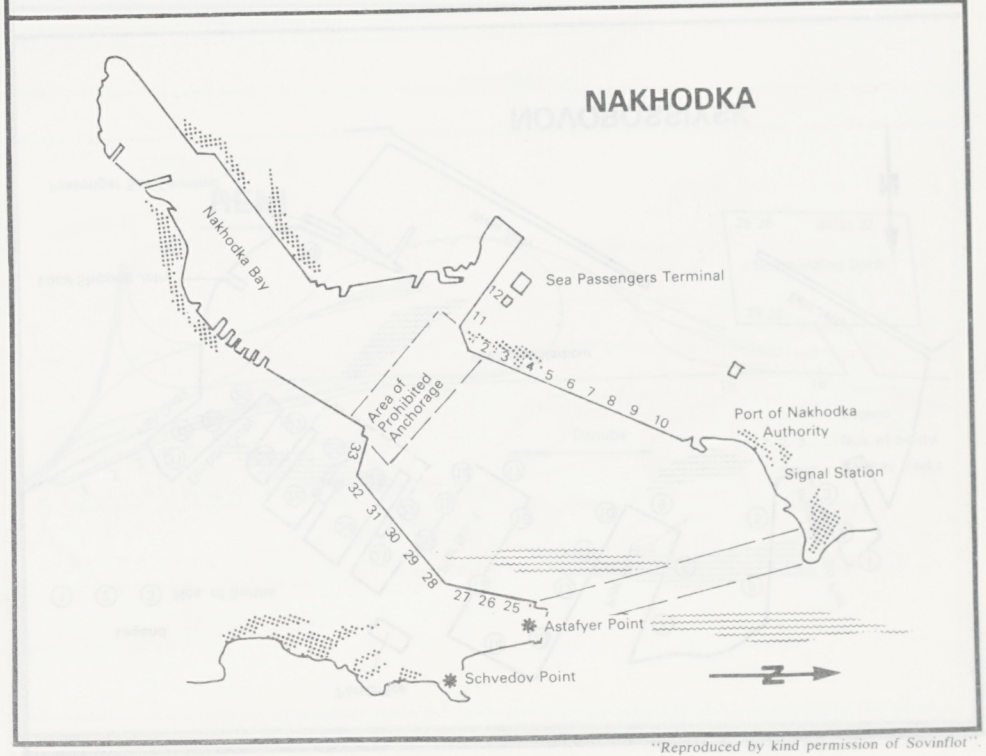

KILIA
Silo
Warehouse
Berths No. 1–3
Danube River
Sea Passengers Terminal
Quarantine Service
Landing Platform
Barge
NEVELSK
Nevelskaya River
259° 2'
079° 2'
Fl. R. 3s 3M
Cold Store
Port Area
Small Scoop
Berths of the Fishing Fleet Authority
Berths of the Shiprepairing Yard


LENINGRAD
Areas of Prohibited Anchorage
Areas of Anchorage for Inland Navigation of Vessels
(1) Dispatchers Head Office. Region 1. Port Authority Inspection. Tug Boats Service. Pilotage Service
(2) Signal Mast "Nevskiye Vorota" (Neva Gate) Port Authority Watch-Duty.
(3) Port Administration. Baltic Shipping Company Office. Customs Office
(4) "Inflot"
(5) Harbour Craft Service
(6) Lesnoy (Timber) Harbour Administration
(7) Dispatchers Office. Region 3. Port Authority inspection. Region 3.
(8) Dispatchers Office. Region 2
(9) Dispatchers Office. Region 4
291.9°–119.9°
292.4°–112.4°
Moskoy (Marine) Canal
Ugolny Mol (Jetty)
Lesnoy (Timber) Mol Road
Lesnoy Mol (Timber)
Ugolnaya Gavan Road (Coal Harbour)
Bely Ostrov (Island)
Passenger Quays
Novaya Gavan (New Harbour)
Kanonersky Ostrov (Island)
Vasiliyevsky Ostrov (Island)
70°–250°
Anchorage Prohibited For All Ships
132.5°–312.5°
Damba (Southern Dam)
Barochny Basin
Vostochny (Eastern) Basin
Gutuyevskv Kovsh (Wet Basin)
Bolshaya Neva River
Ekateringofka River
Lesnoy (Timber) Port







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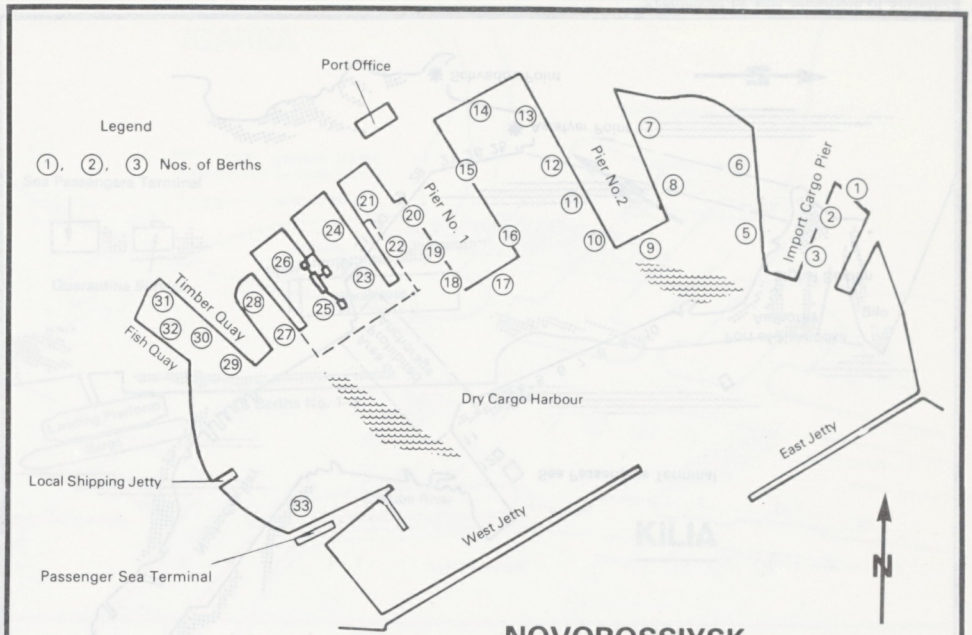
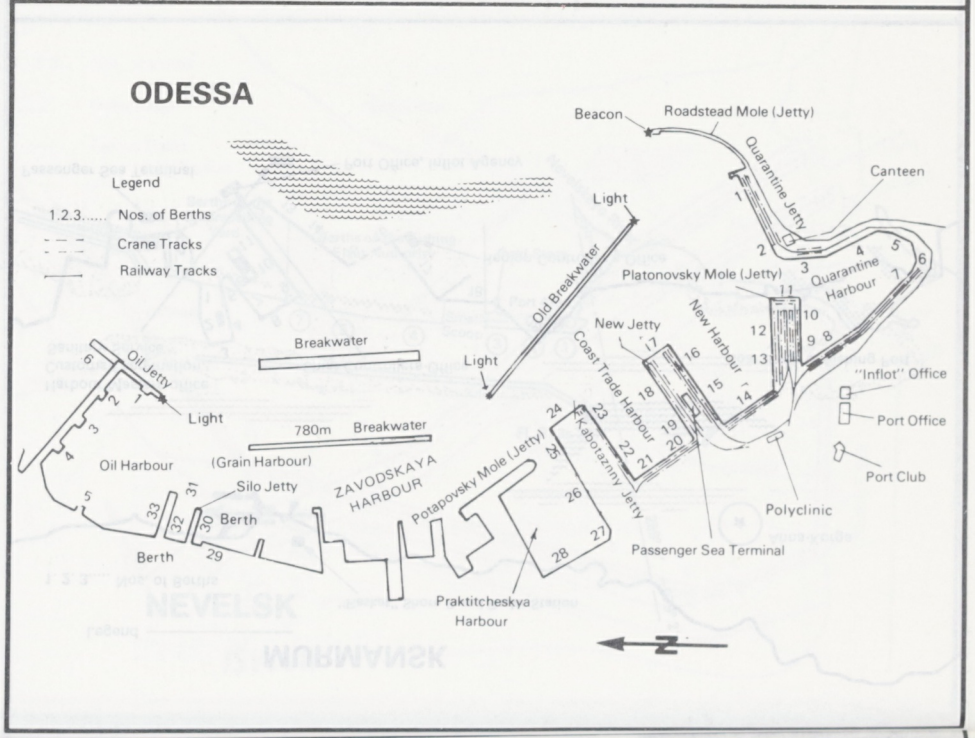
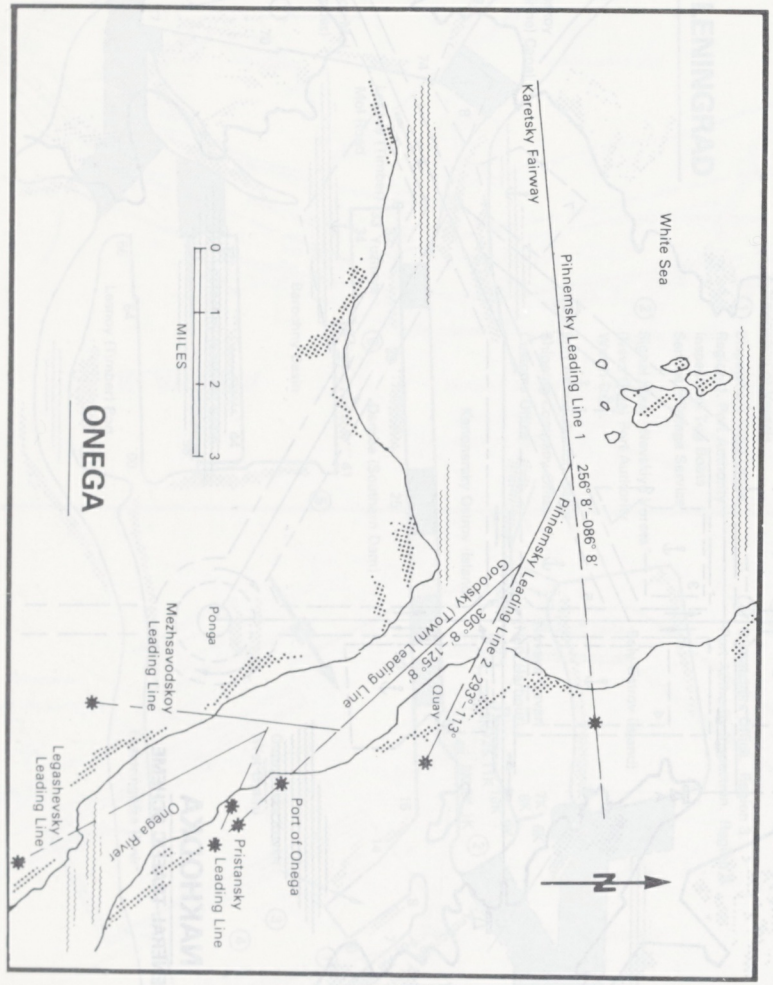
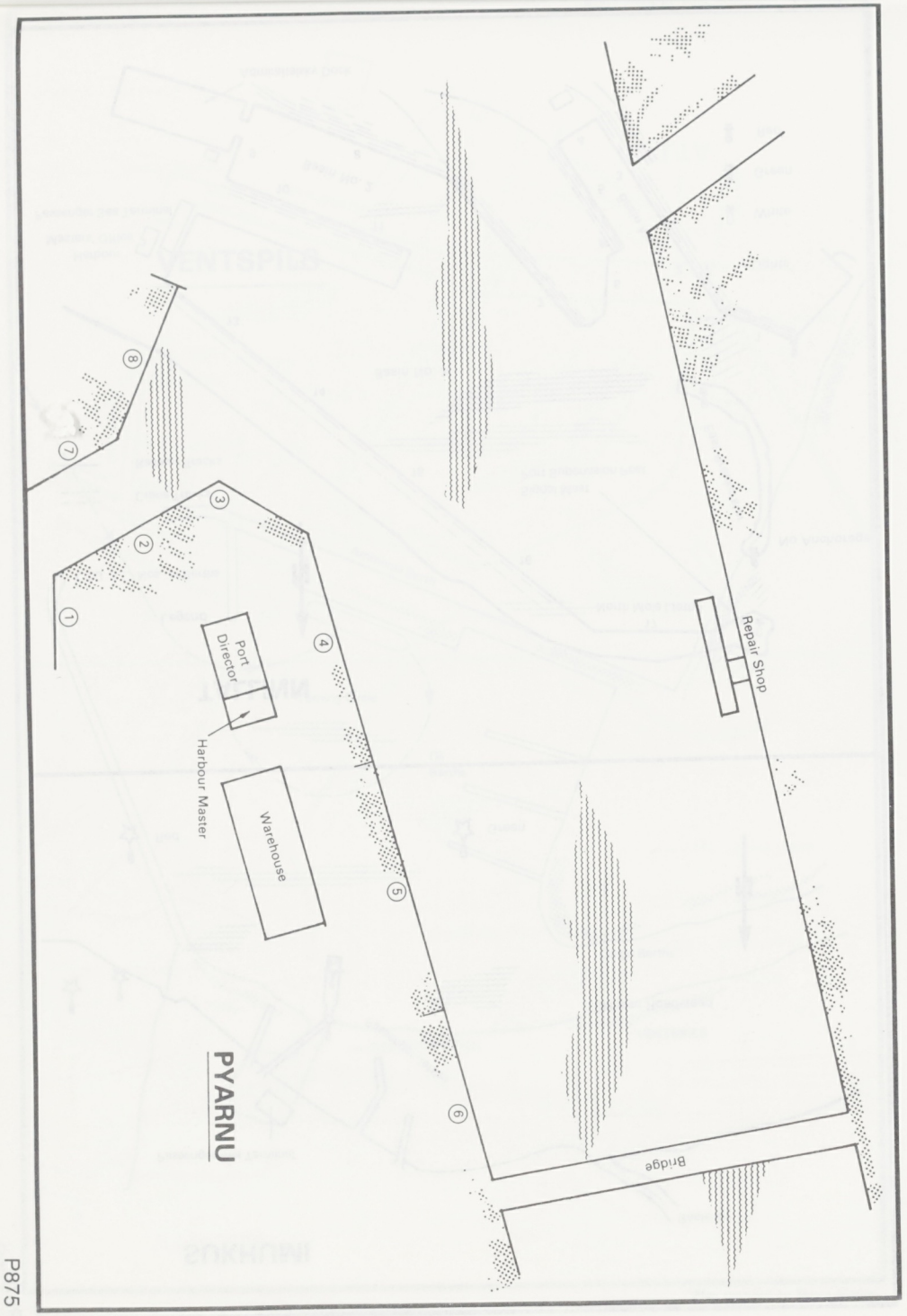
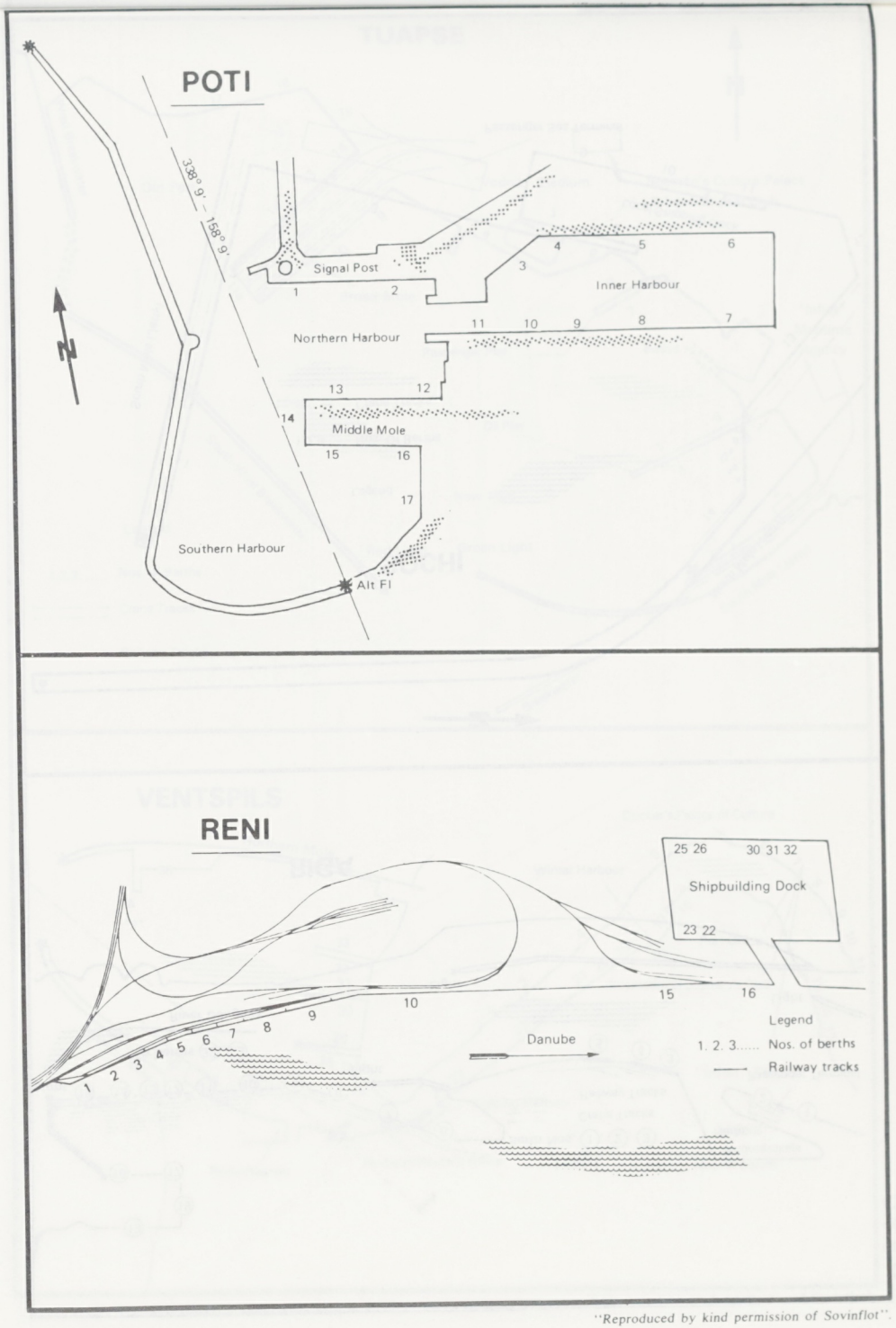


NOVOROSSIYSK









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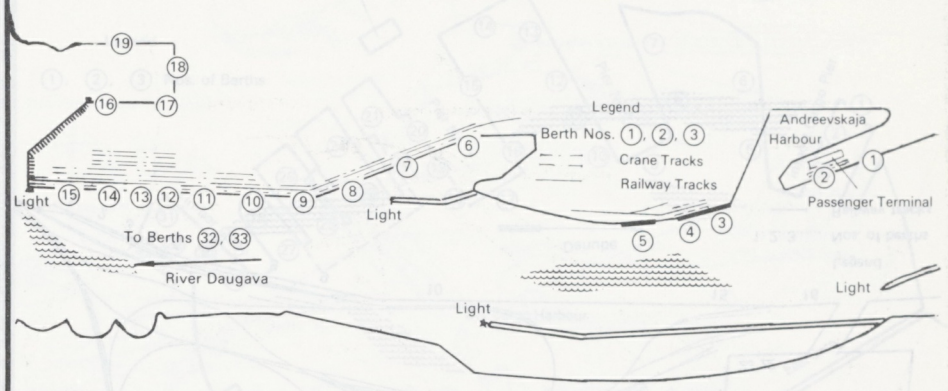
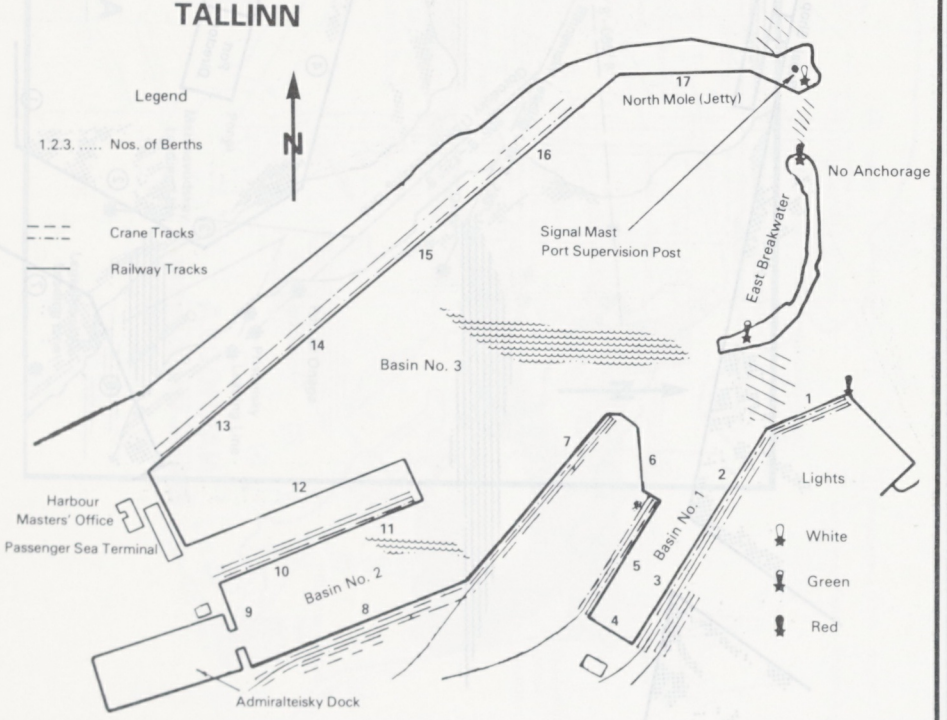
SUKHUMI

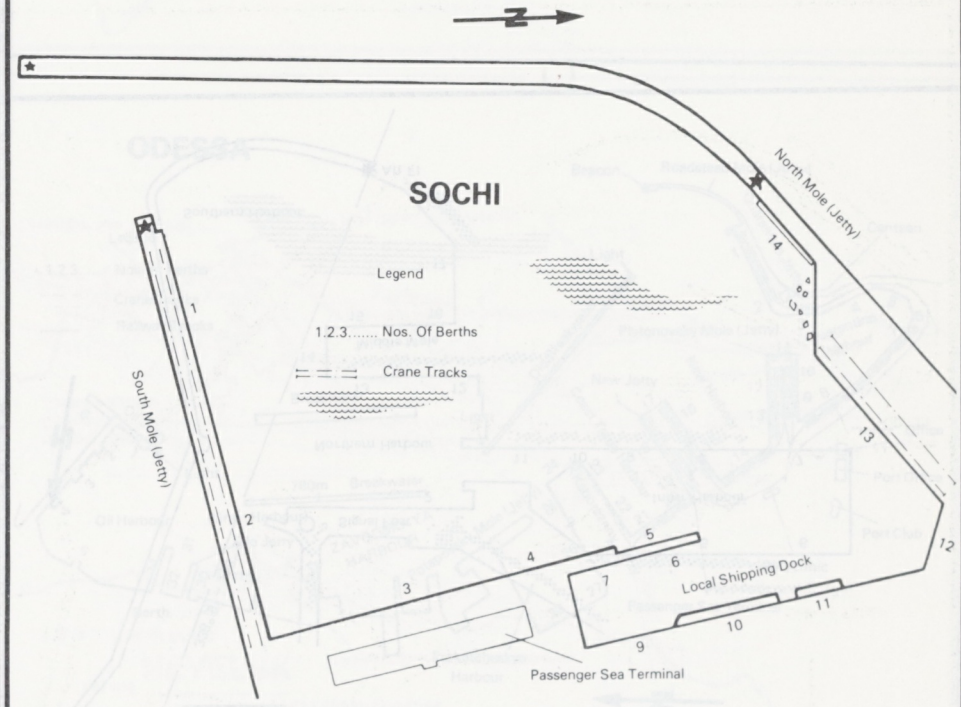
RIGA



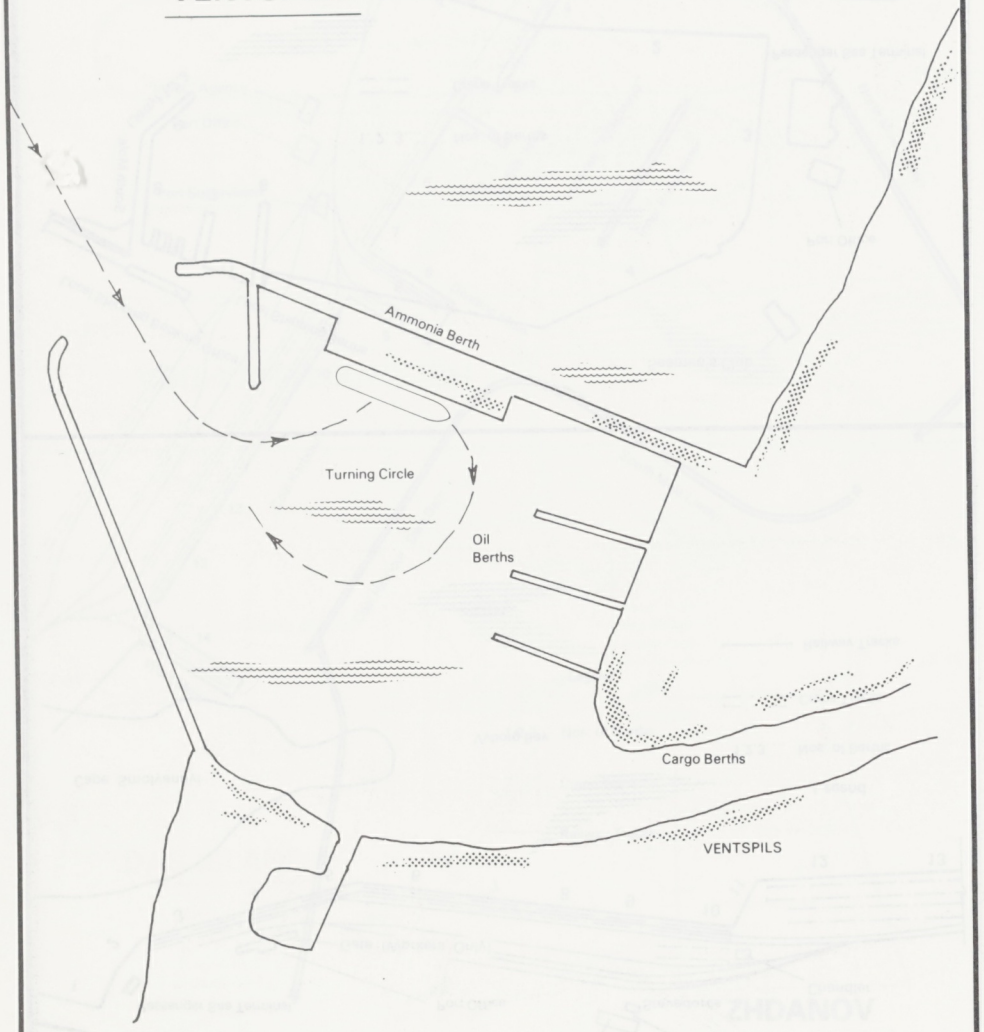
TALLINN



SOCHI

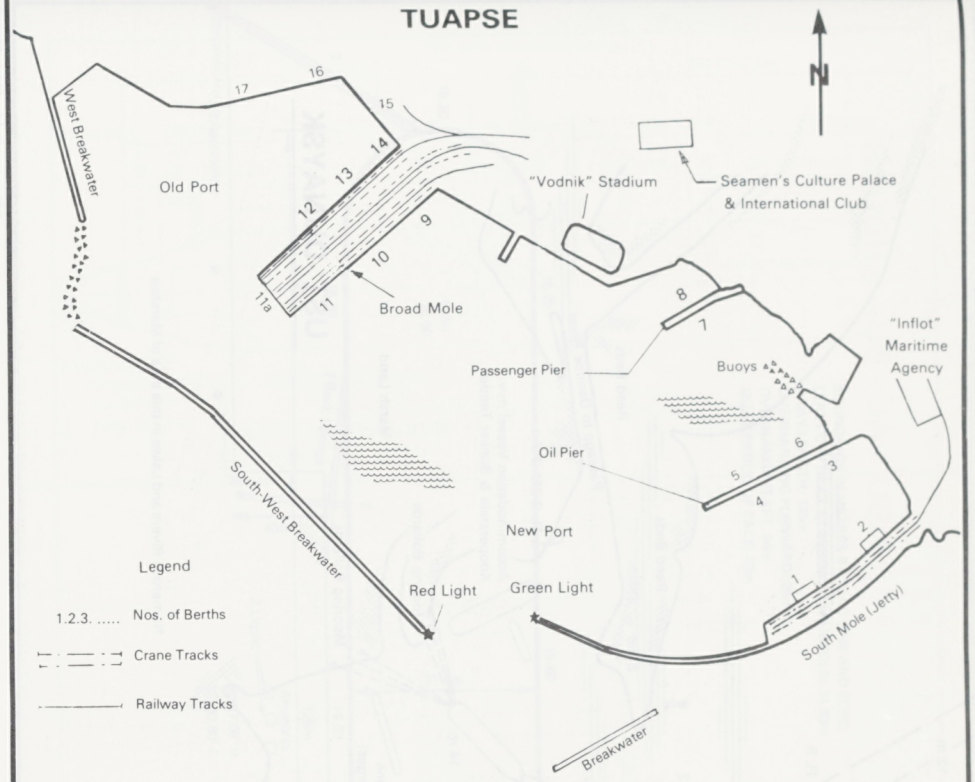


VENTSPILS

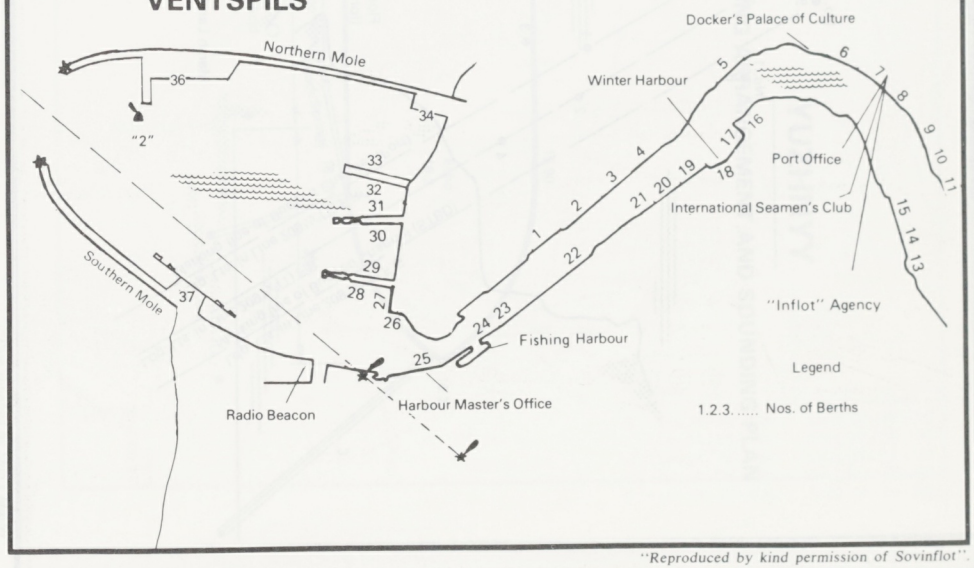


"Plan supplied by Ship's Master"

TUAPSE



VENTSPILS



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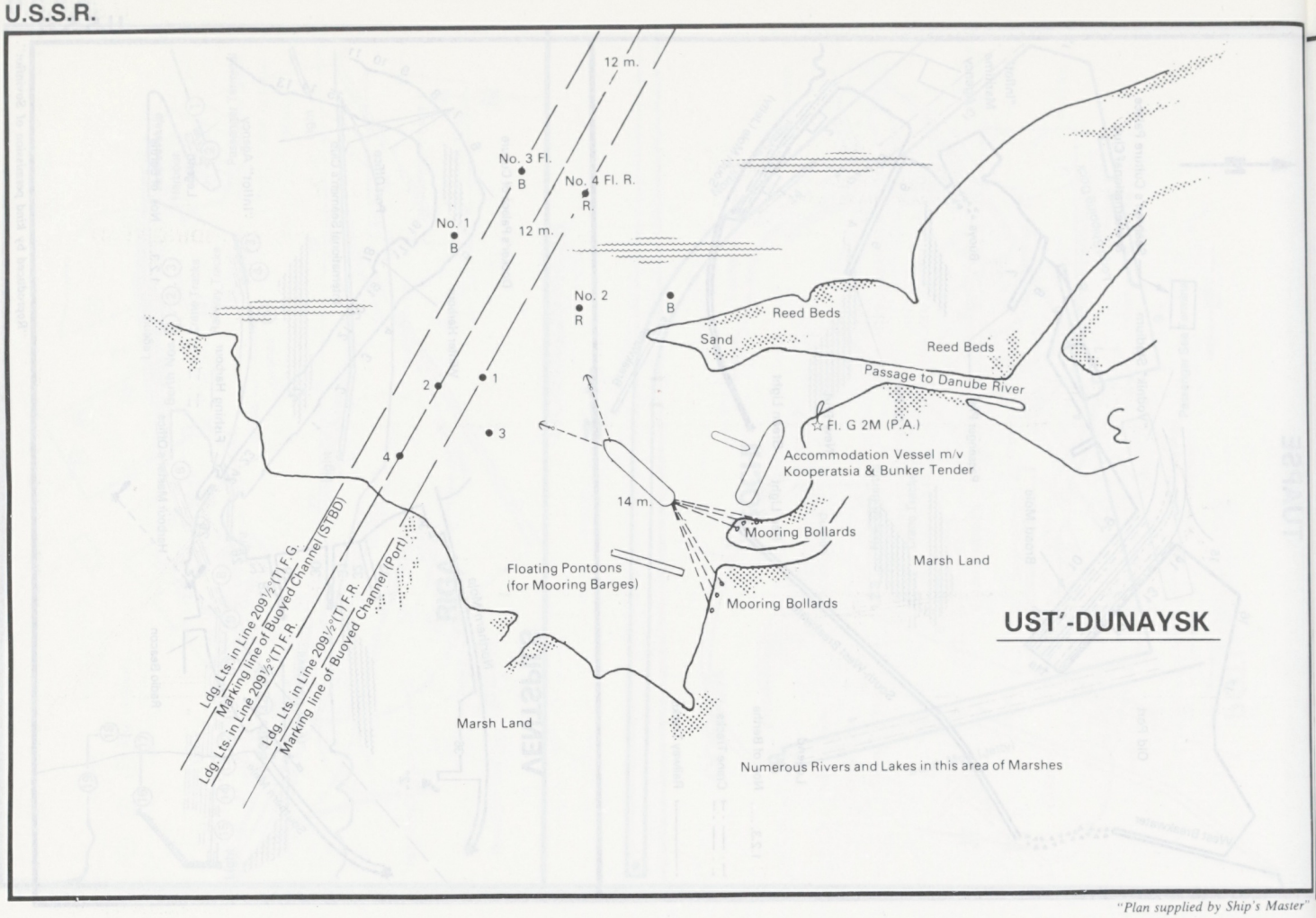
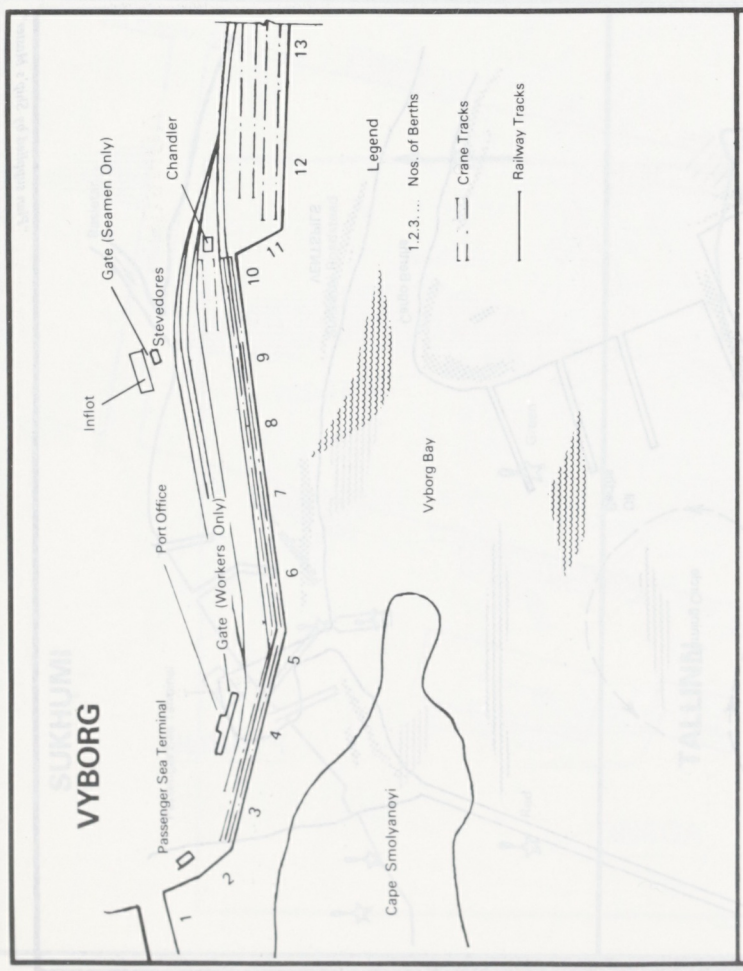
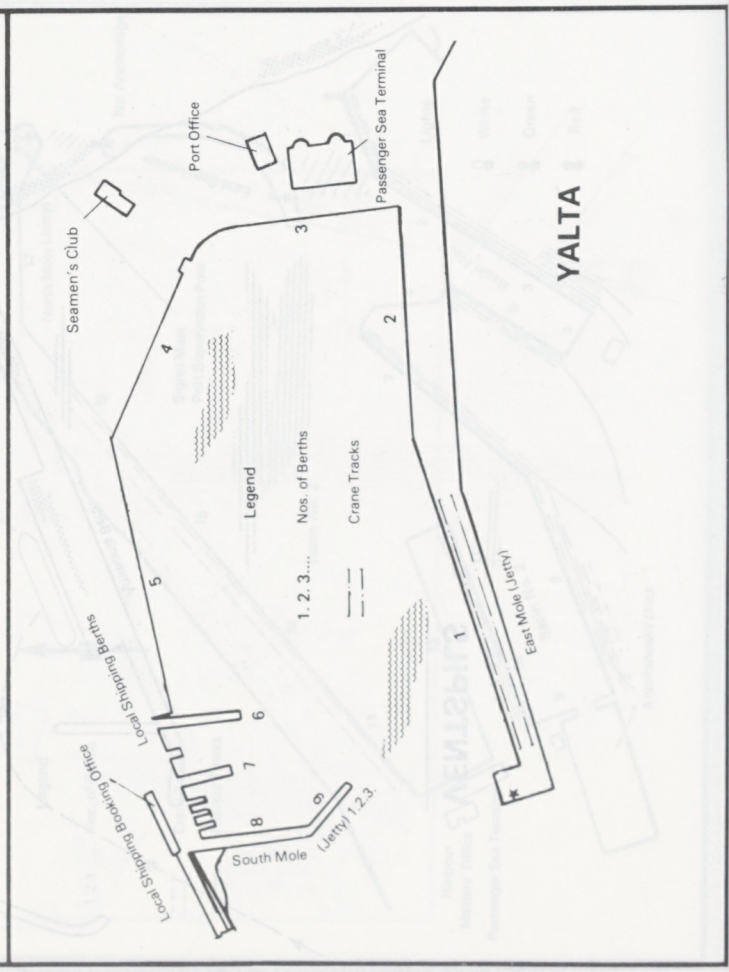
U.S.S.R.



"Plan supplied by Ship's Master"

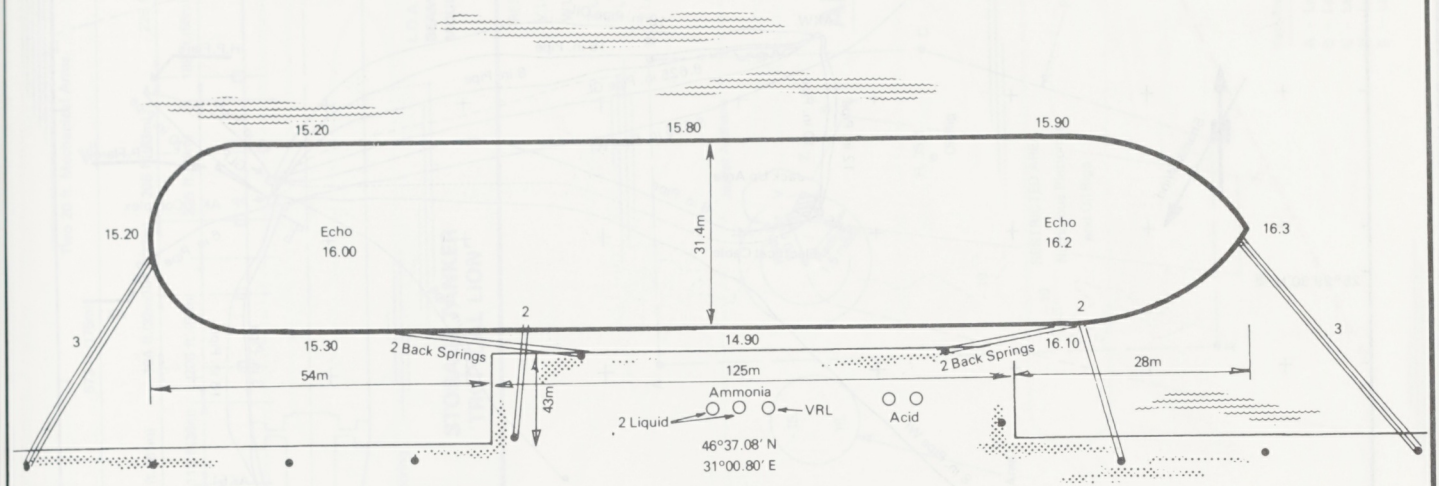




SOUNDINGS IN METRES BY LEAD LINE AND ECHO
LEAST DEPTH AT STARBOARD MANIFOLD: 14.90m
QUAY LENGTH: 125m
OVERHANGING FORWARD: 28m
OVERHANGING AFT: 54m
QUAY PROUD OF FACE: 43m

YUZHNYY

MOORING ARRANGEMENT AND SOUNDING PLAN



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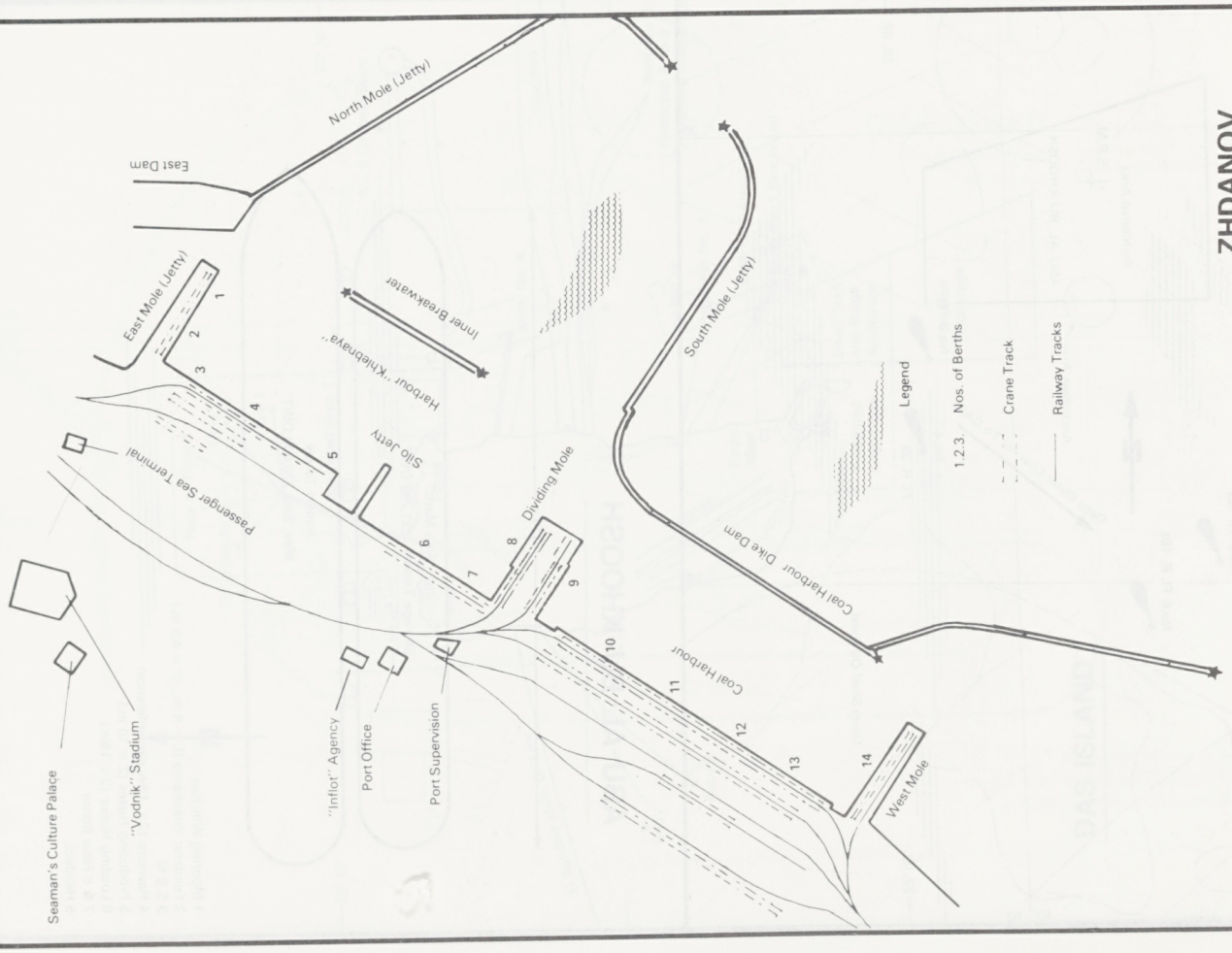
ZHDANOV



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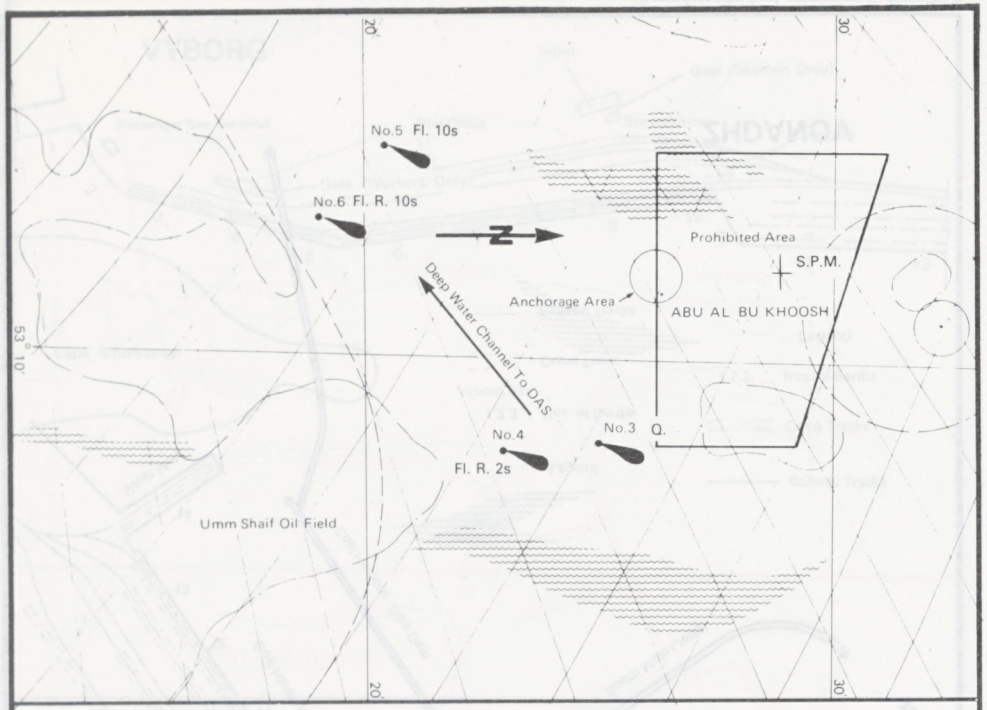
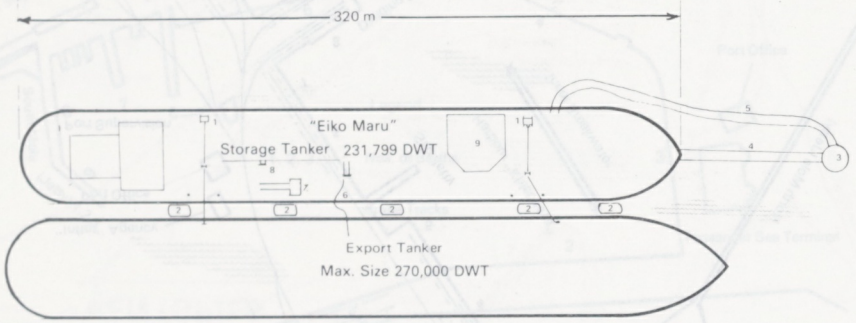
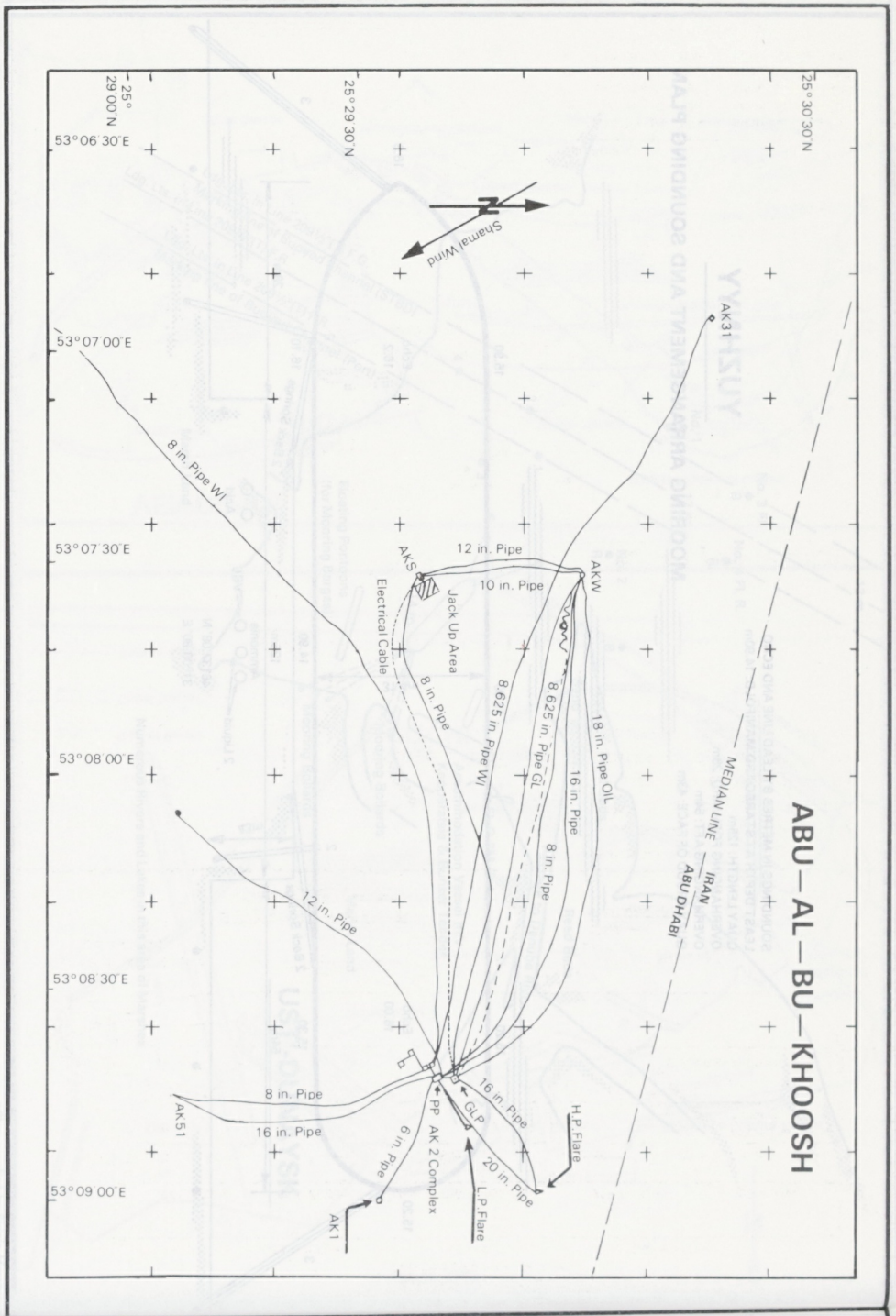
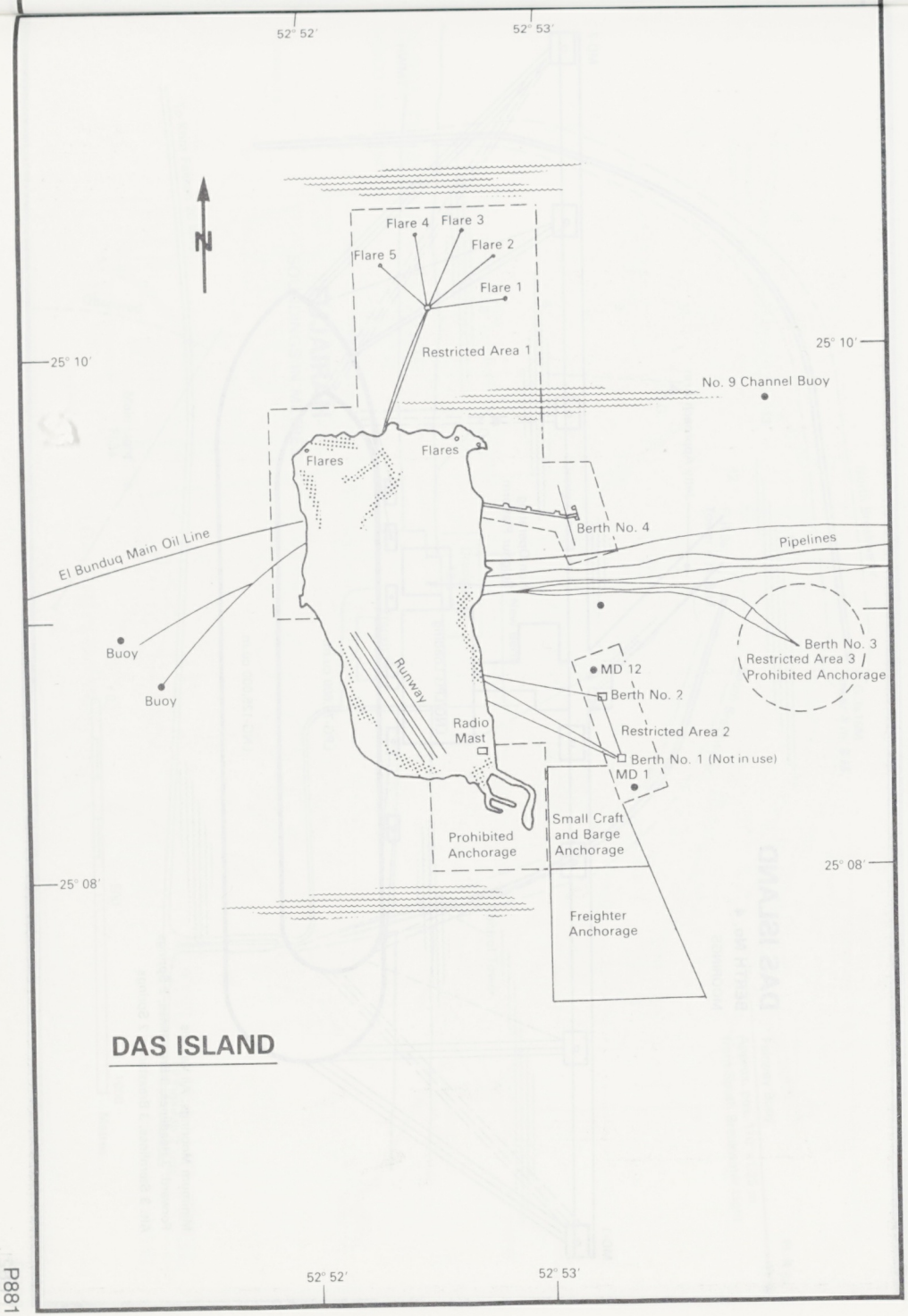


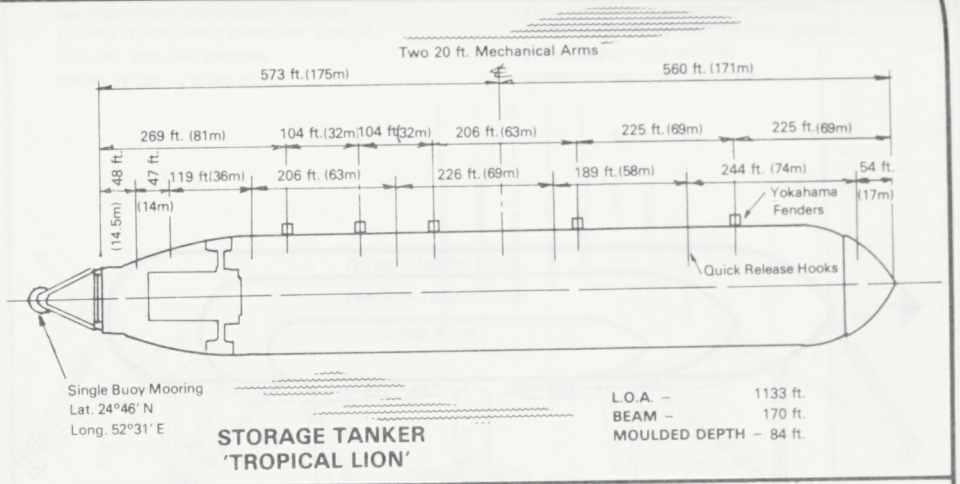
ABU-AL-BU-KHOOSH



1 Mooring Winches
2 Fenders: Yokohama (L = 9 m., ∅ = 4.5 m.)
3 S.B.M
4 Hawsers (2 × 18in. circumference)
5 Producing Hoses (2 × 10 in.)
6 Loading Hoses (2 × 16in.)
7 & 8 Flow Boom
9 Helideck



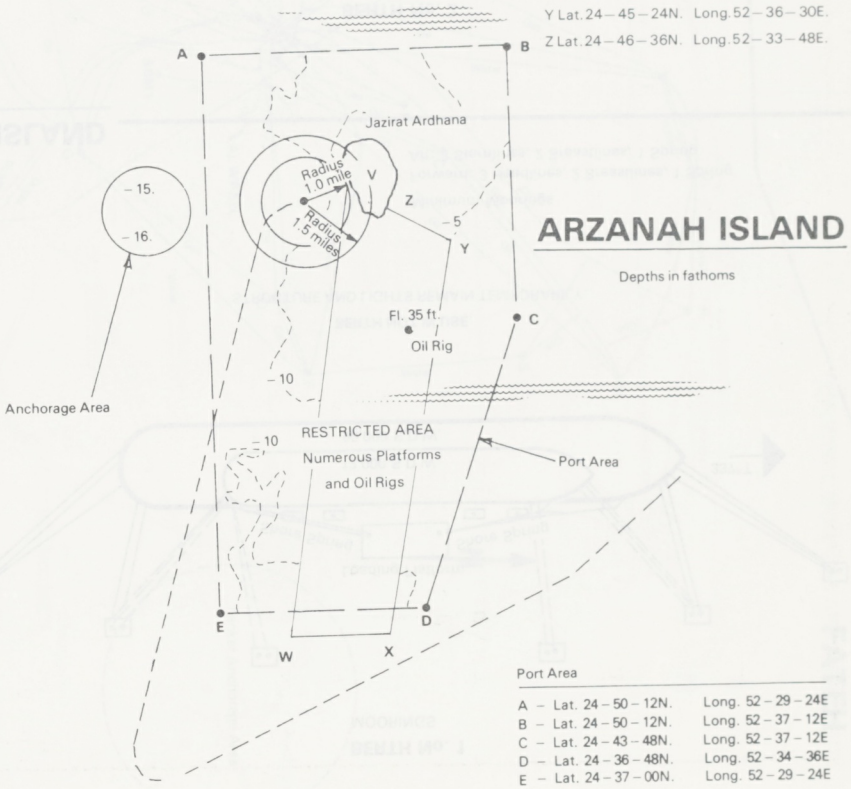




STORAGE TANKER 'TROPICAL LION'

L.O.A. – 1133 ft.
BEAM – 170 ft.
MOULDED DEPTH – 84 ft.

RESTRICTED AREA
V Lat. 24 – 46 – 18N. Long. 52 – 33 – 00E.
W Lat. 24 – 35 – 54N. Long. 52 – 31 – 30E.
X Lat. 24 – 35 – 54N. Long. 52 – 34 – 00E.
Y Lat. 24 – 45 – 24N. Long. 52 – 36 – 30E.
Z Lat. 24 – 46 – 36N. Long. 52 – 33 – 48E.



ARZANAH ISLAND

Depths in fathoms

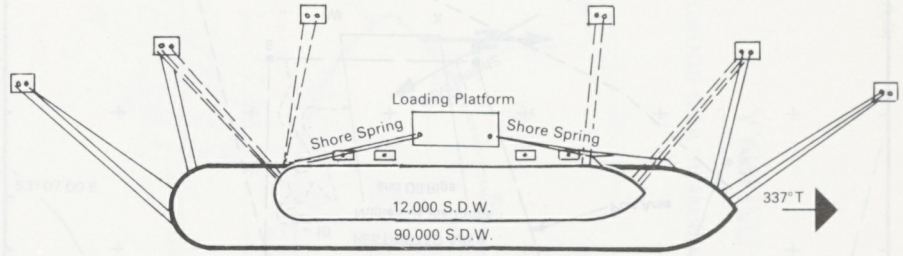
Port Area

A – Lat. 24 – 50 – 12N. Long. 52 – 29 – 24E
B – Lat. 24 – 50 – 12N. Long. 52 – 37 – 12E
C – Lat. 24 – 43 – 48N. Long. 52 – 37 – 12E
D – Lat. 24 – 36 – 48N. Long. 52 – 34 – 36E
E – Lat. 24 – 37 – 00N. Long. 52 – 29 – 24E

"Plan supplied by Ship's Master"

DAS ISLAND

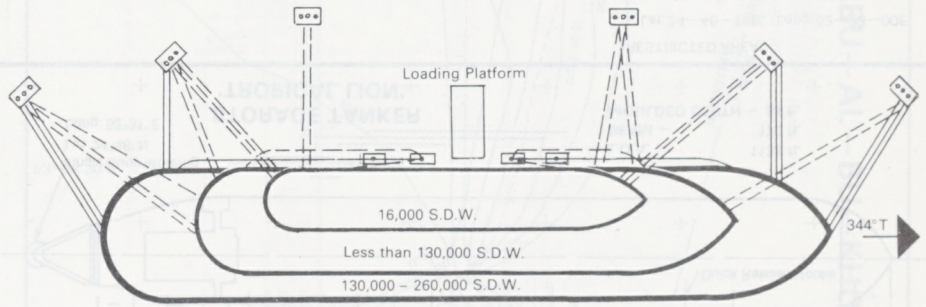
BERTH No. 1
MOORINGS



BERTH NOT IN USE.
STRUCTURE AND LIGHTS REMAIN TEMPORARILY.

Minimum Moorings
Forward: 3 Headlines, 2 Breastlines, 1 Spring
Aft: 3 Sternlines, 2 Breastlines, 1 Spring

BERTH No. 2
MOORINGS

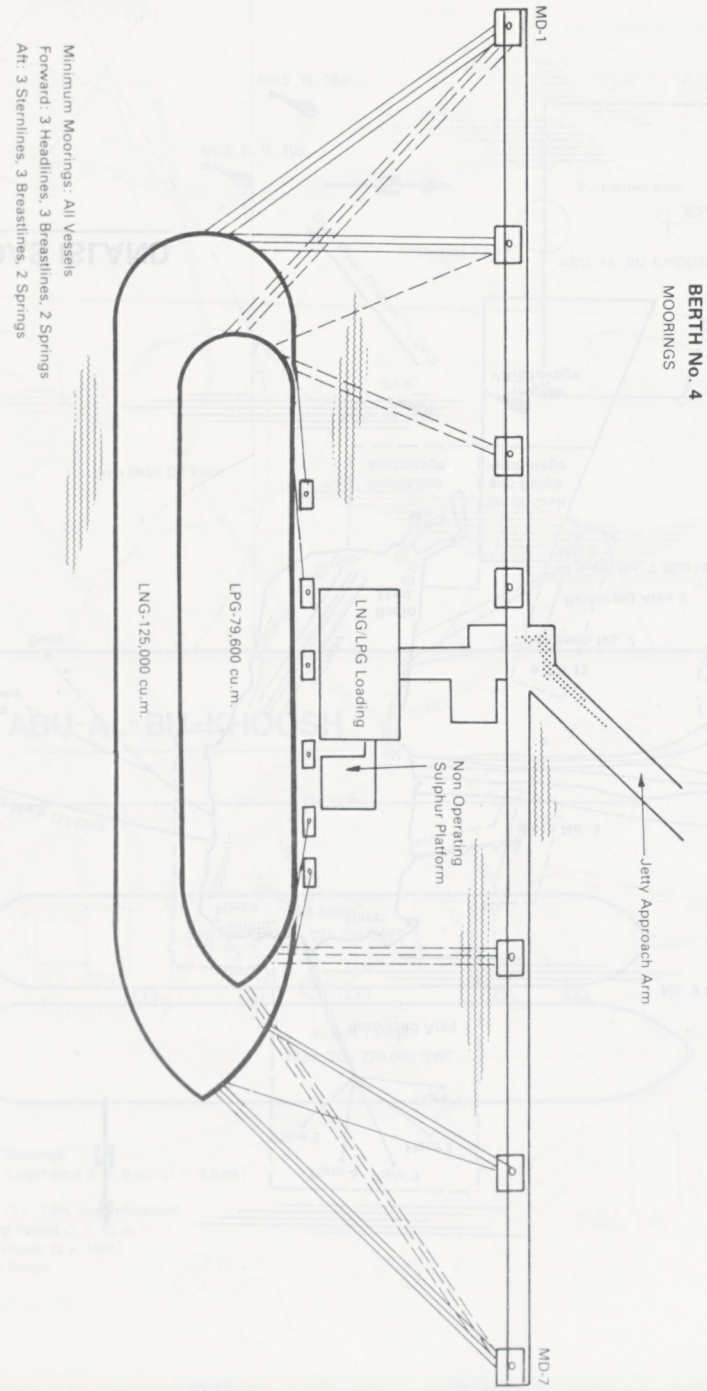


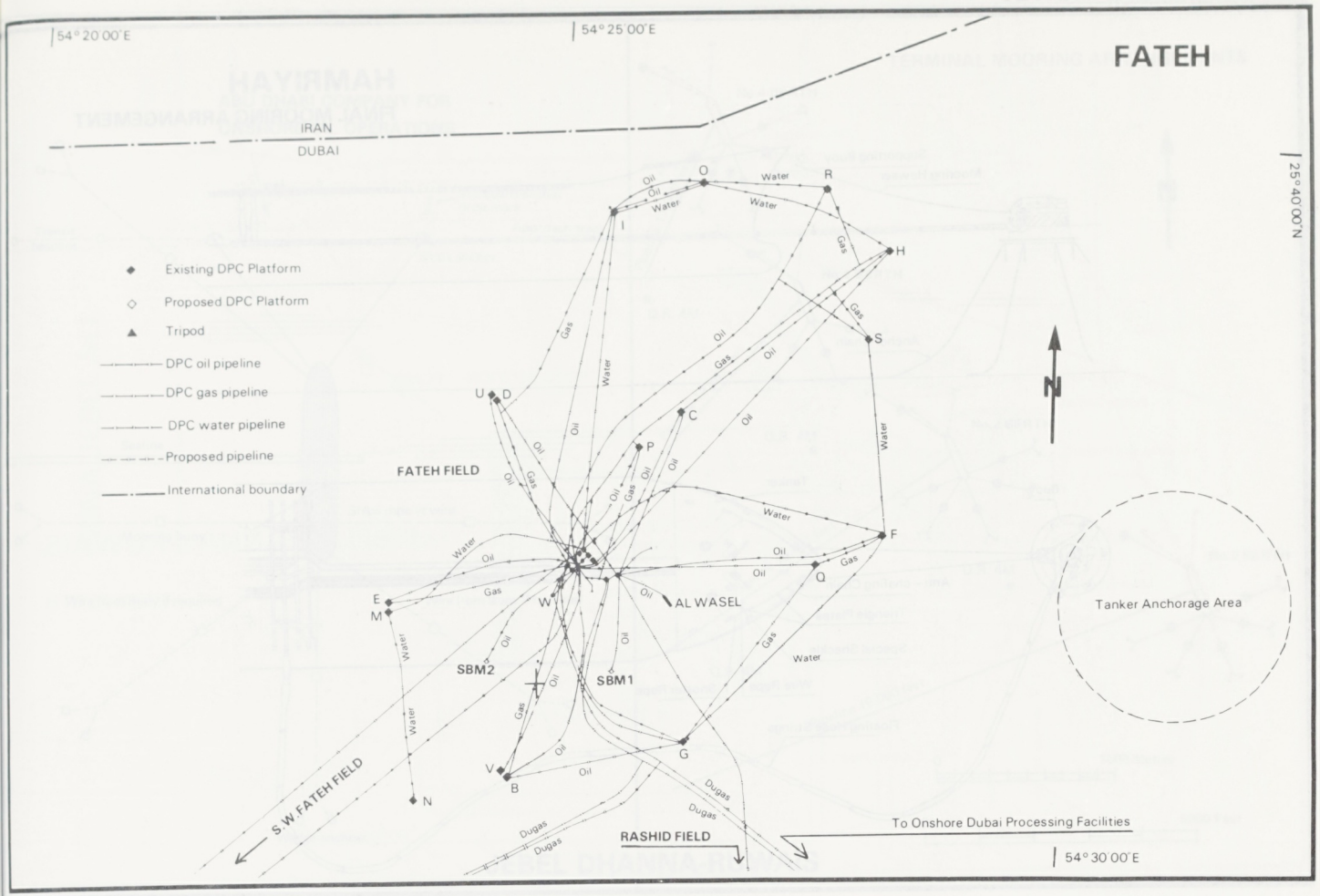
Vessels 16,000 – 130,000 S.D.W.
Minimum Moorings Required
Forward: 3 Headlines, 3 Breastlines, 1 Spring
Aft: 3 Sternlines, 2 Breastlines, 1 Spring

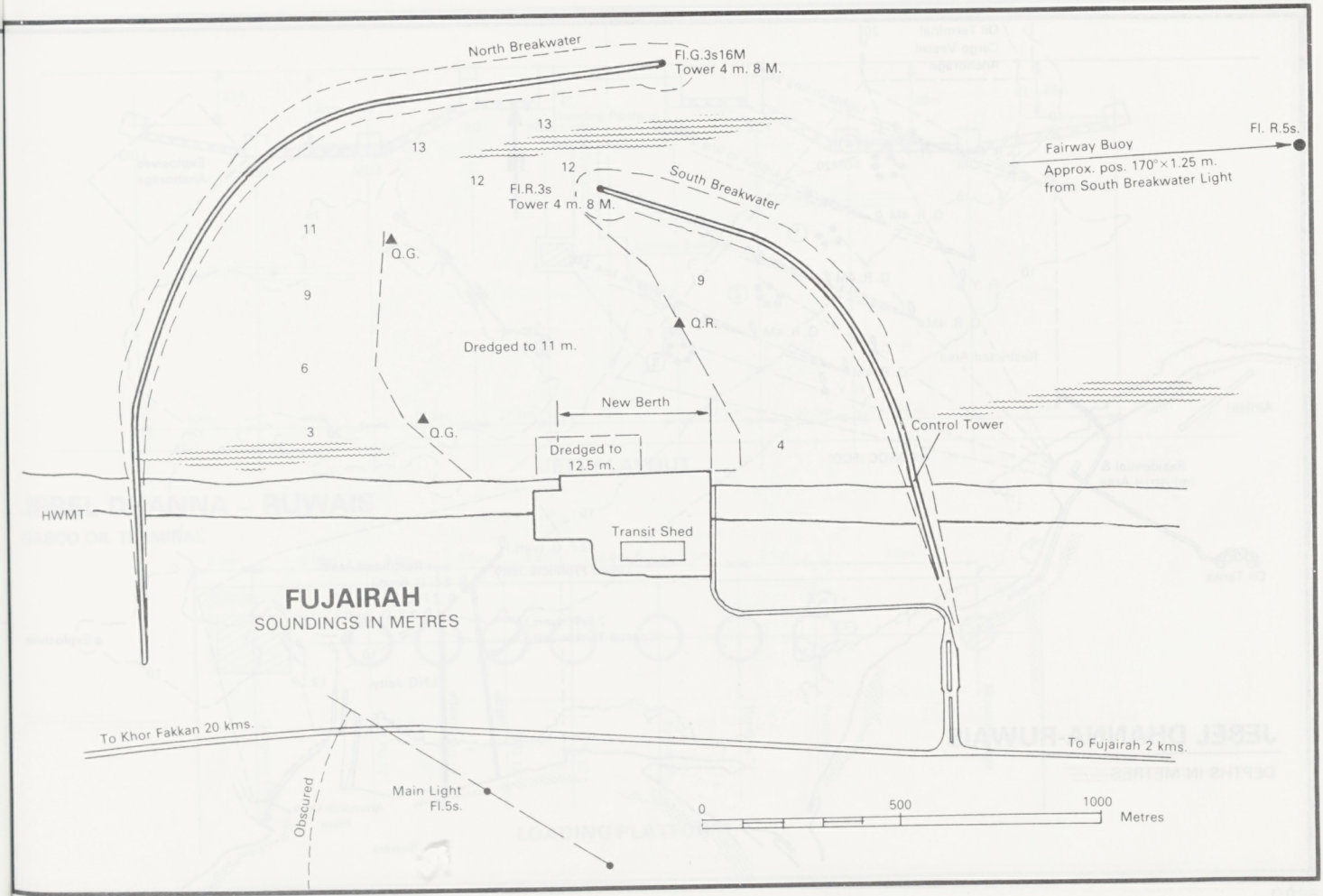
Vessels 130,000 – 260,000 S.D.W.
Minimum Moorings Required
Forward: 3 Headlines, 3 Breastlines, 1 Spring
Aft: 3 Sternlines, 2 Breastlines, 2 Springs

DAS ISLAND

BERTH No. 4
MOORINGS

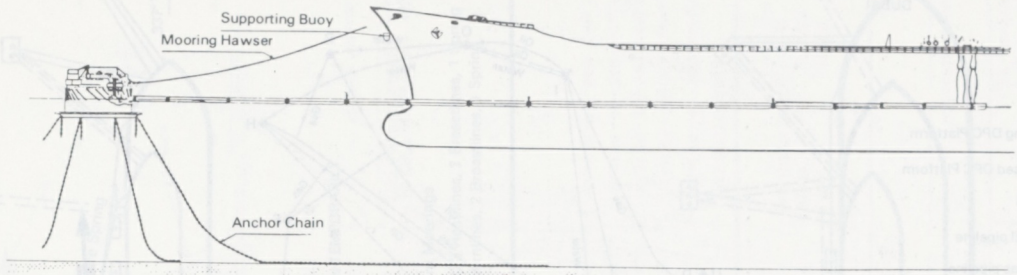


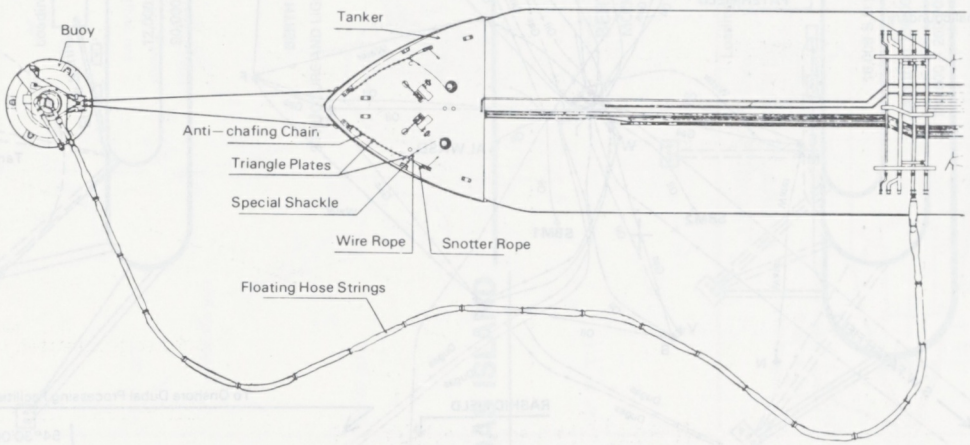

FATEH
54° 20·00'E
54° 25·00'E
25° 40·00'N
54° 30·00'E
IRAN
DUBAI
Existing DPC Platform
Proposed DPC Platform
Tripod
DPC oil pipeline
DPC gas pipeline
DPC water pipeline
Proposed pipeline
International boundary
FATEH FIELD
AL WASEL
SBM1
SBM2
S.W.FATEH FIELD
RASHID FIELD
Tanker Anchorage Area
To Onshore Dubai Processing Facilities
N
O
R
H
I
S
U
D
C
P
F
Q
W
E
M
V
B
N
G
Oil
Gas
Water
Dugas


FUJAIRAH
SOUNDINGS IN METRES
North Breakwater
Fl.G.3s16M
Tower 4 m. 8 M.
South Breakwater
Fl.R.3s
Tower 4 m. 8 M.
Fairway Buoy
Approx. pos. 170°×1.25 m.
from South Breakwater Light
Fl. R.5s.
Q.G.
Q.R.
Dredged to 11 m.
New Berth
Dredged to
12.5 m.
Control Tower
Transit Shed
HWMT
To Khor Fakkan 20 kms.
To Fujairah 2 kms.
Main Light
Fl.5s.
Obscured
0
500
1000
Metres

HAMRIYAH

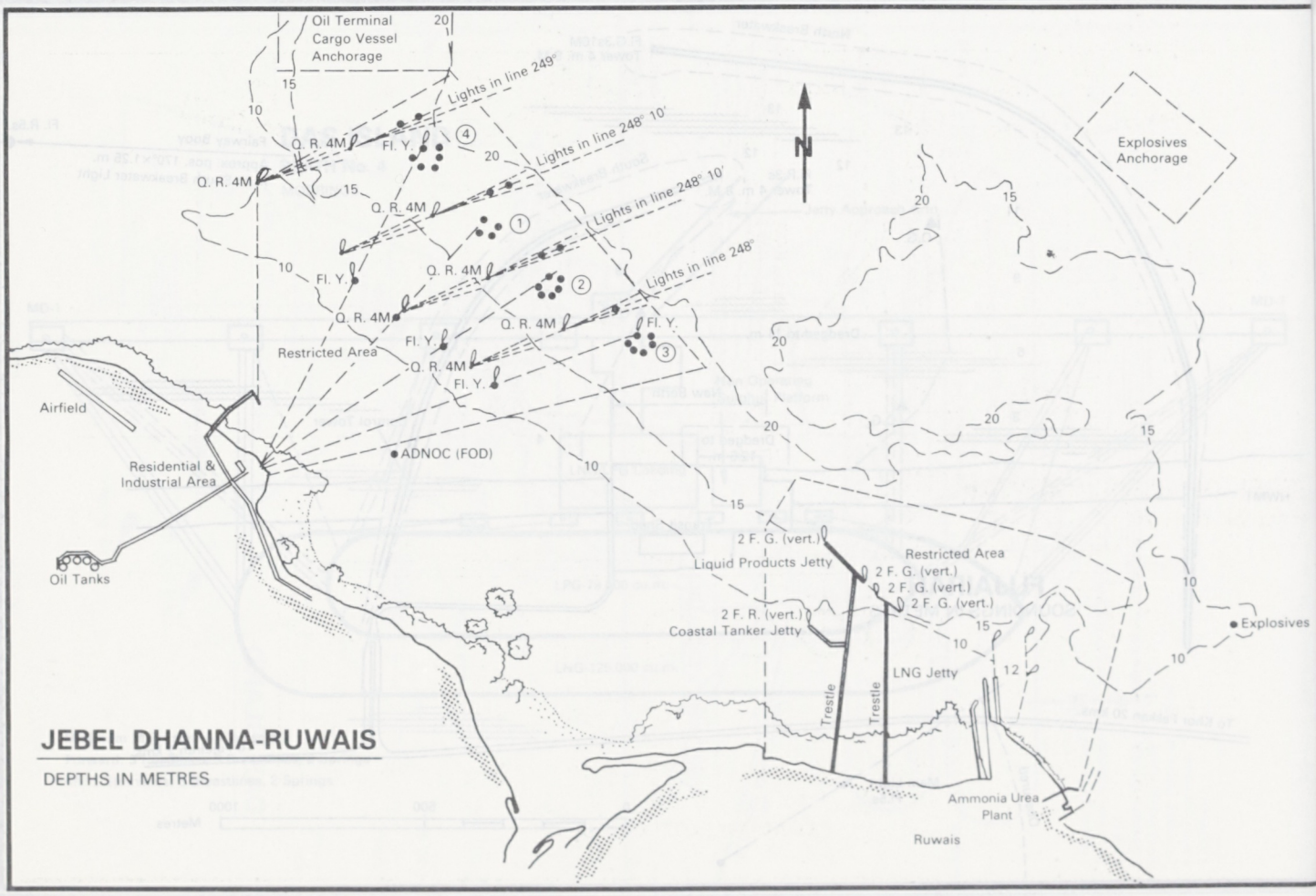
FINAL MOORING ARRANGEMENT

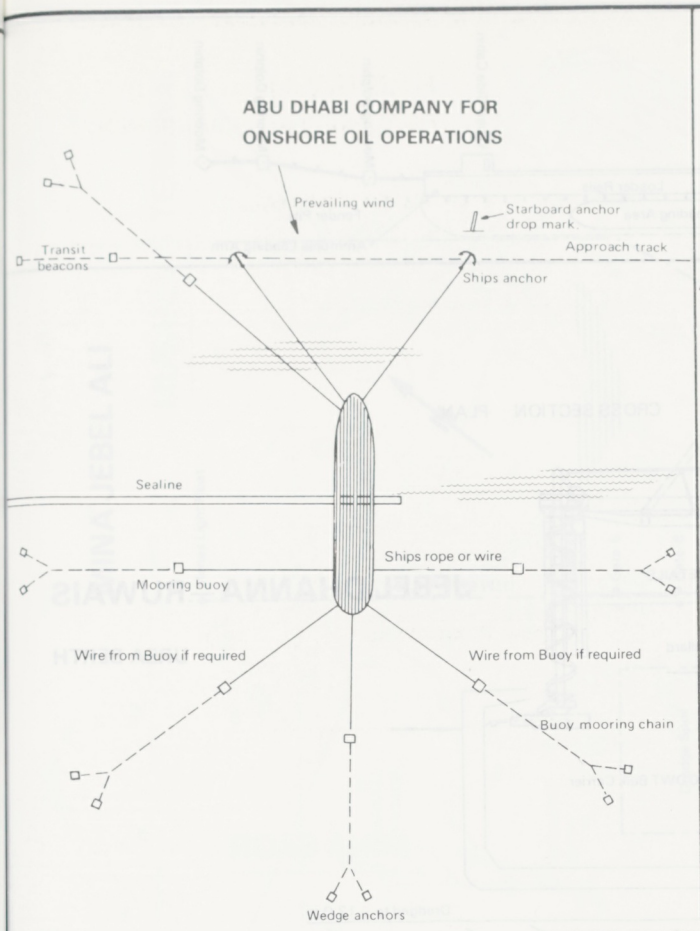


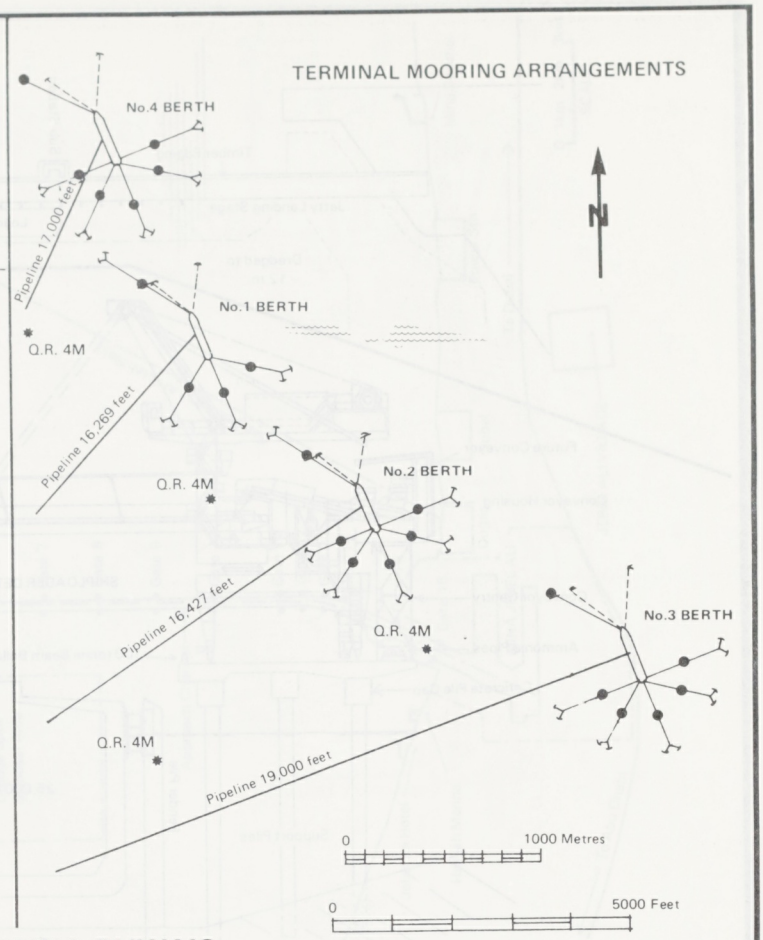


JEBEL DHANNA-RUWAIS

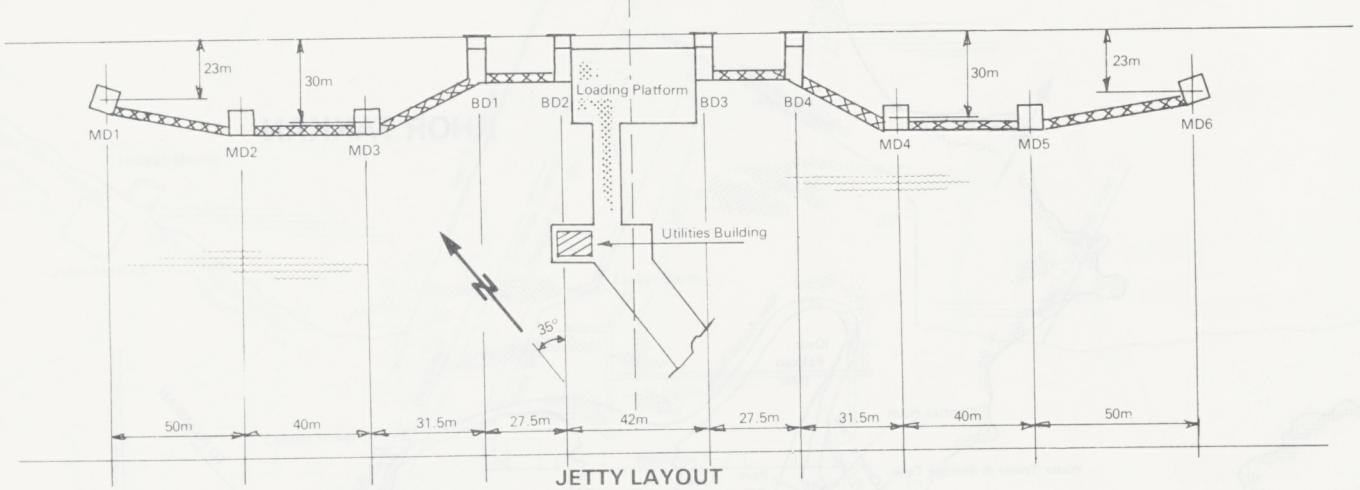
DEPTHS IN METRES







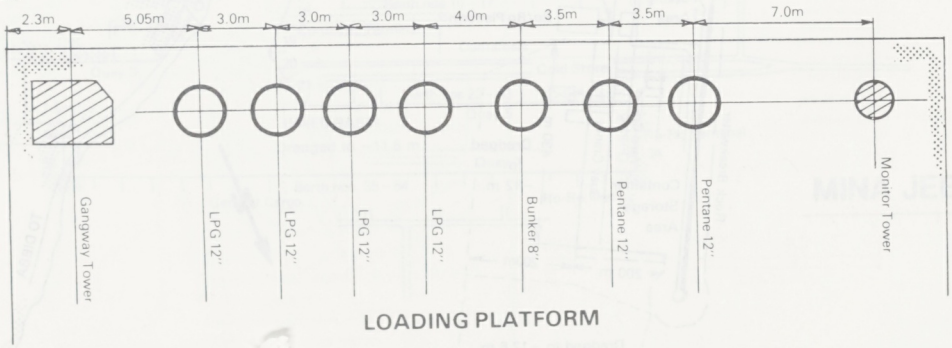
JEBEL DHANNA-RUWAIS



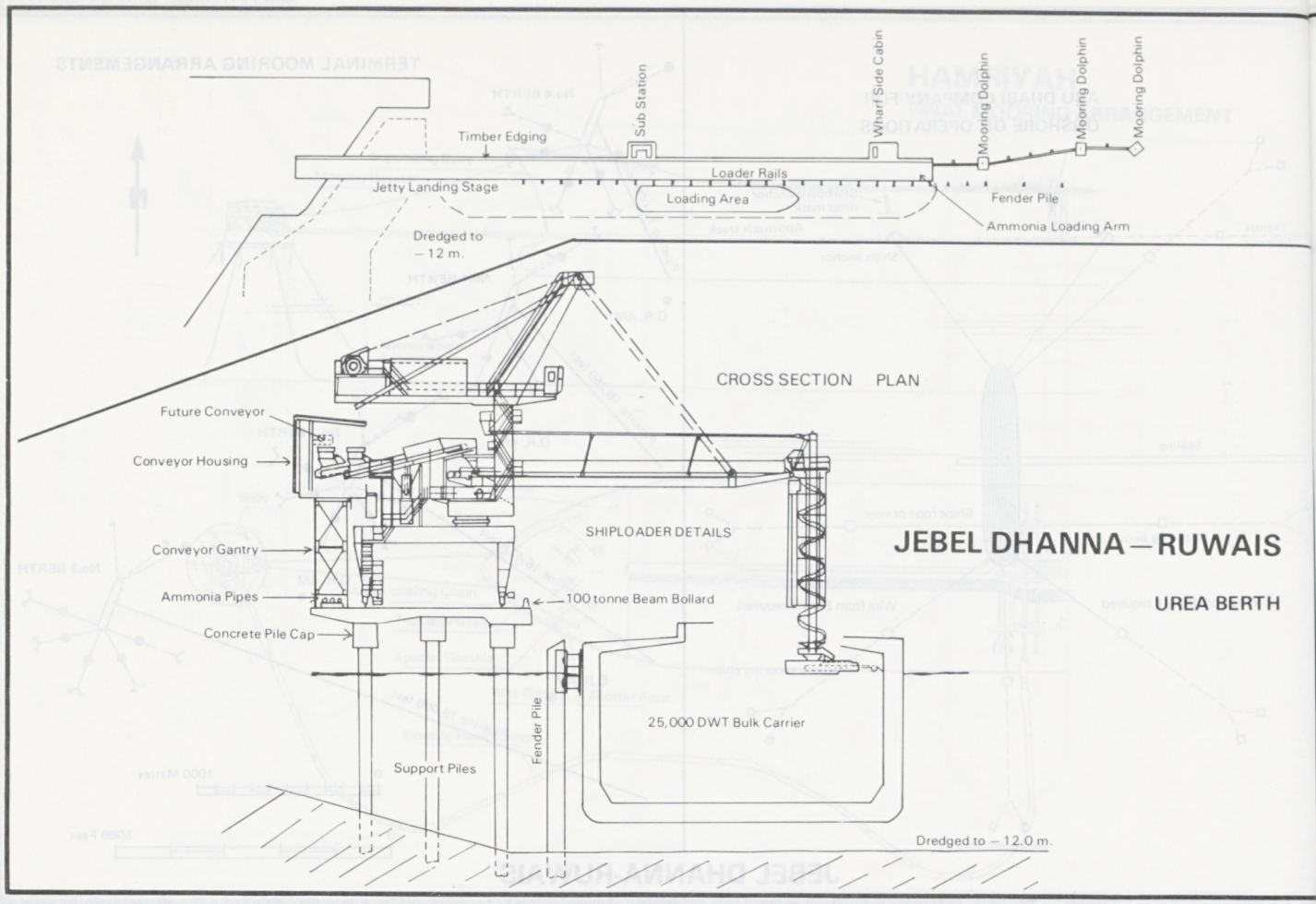
JETTY LAYOUT

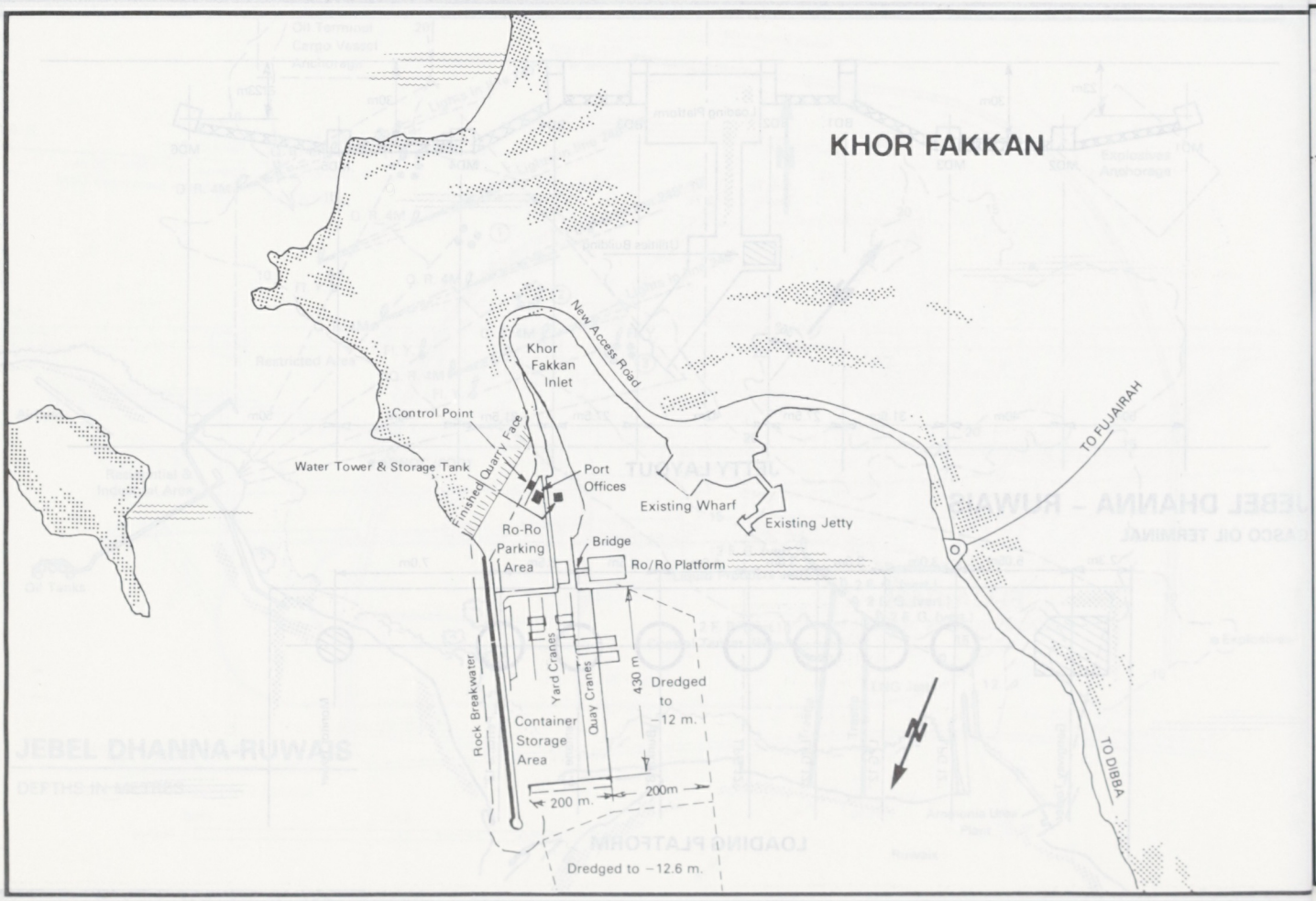
JEBEL DHANNA – RUWAIS

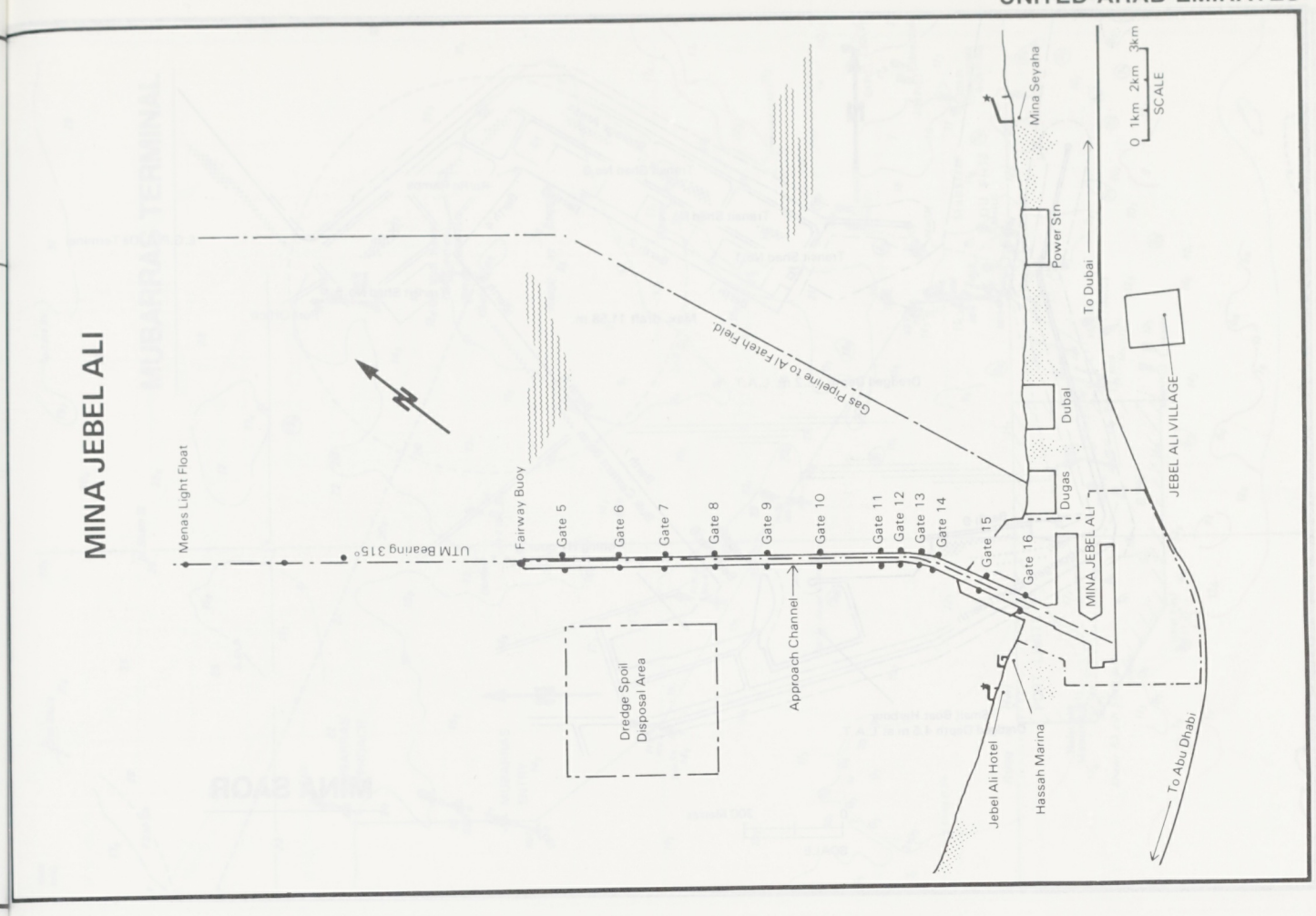
GASCO OIL TERMINAL

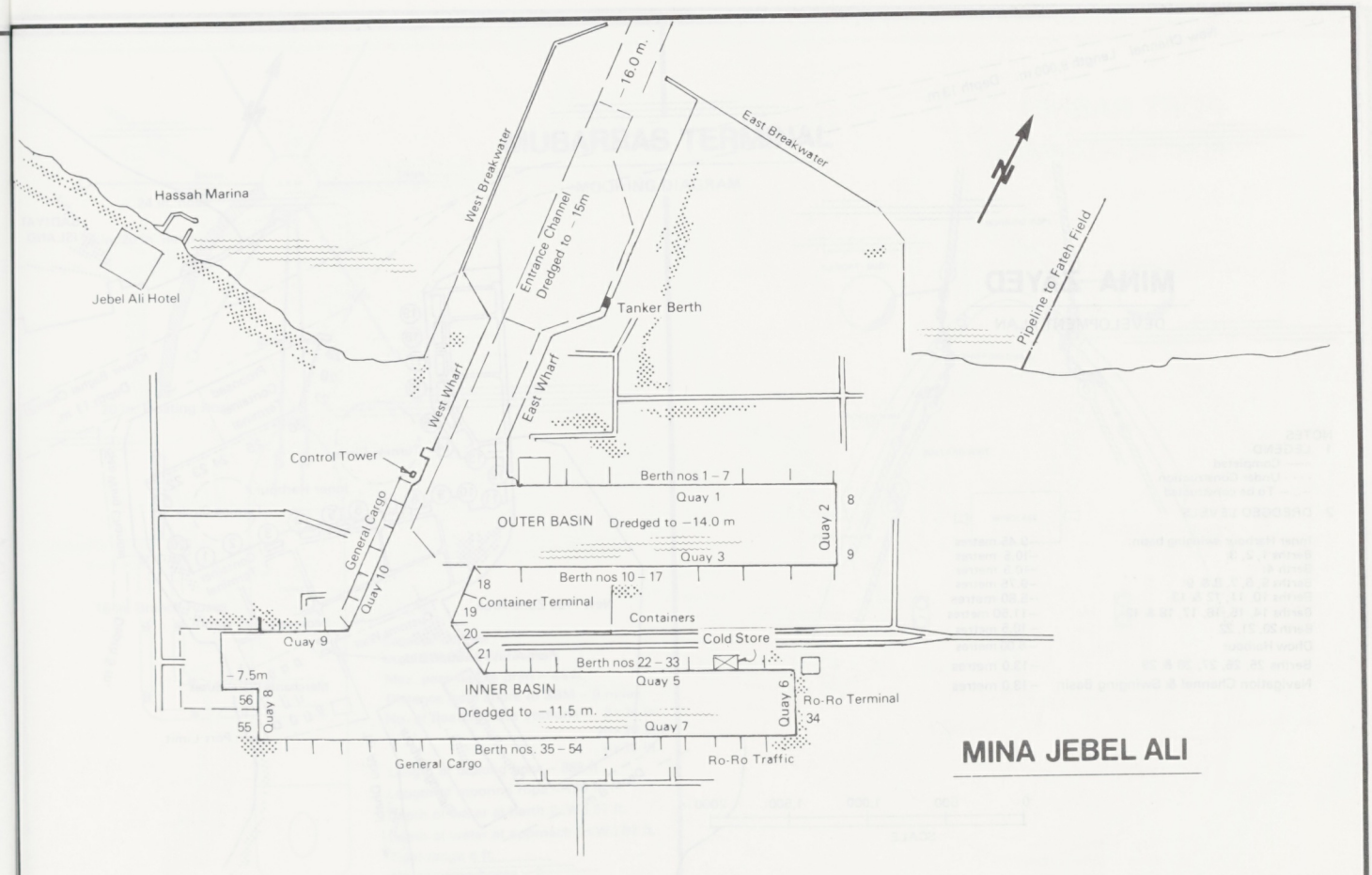


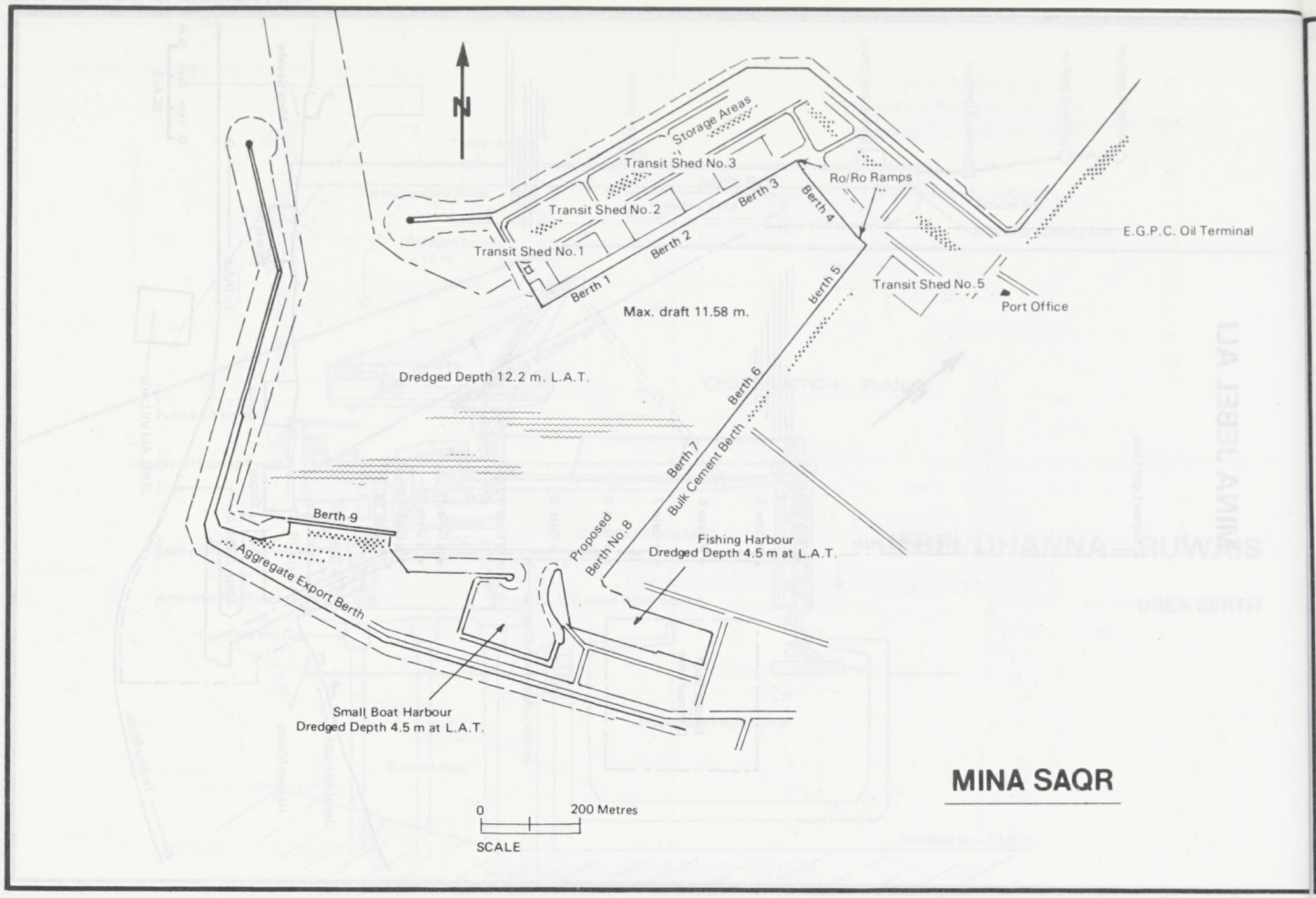
LOADING PLATFORM


Timber Edging
Sub Station
Wharf Side Cabin
Mooring Dolphin
Mooring Dolphin
Mooring Dolphin
Loader Rails
Jetty Landing Stage
Loading Area
Fender Pile
Ammonia Loading Arm
Dredged to −12 m.
CROSS SECTION PLAN
Future Conveyor
Conveyor Housing
Conveyor Gantry
Ammonia Pipes
Concrete Pile Cap
SHIPLOADER DETAILS
100 tonne Beam Bollard
Fender Pile
25,000 DWT Bulk Carrier
Support Piles
Dredged to −12.0 m.
JEBEL DHANNA—RUWAIS
UREA BERTH

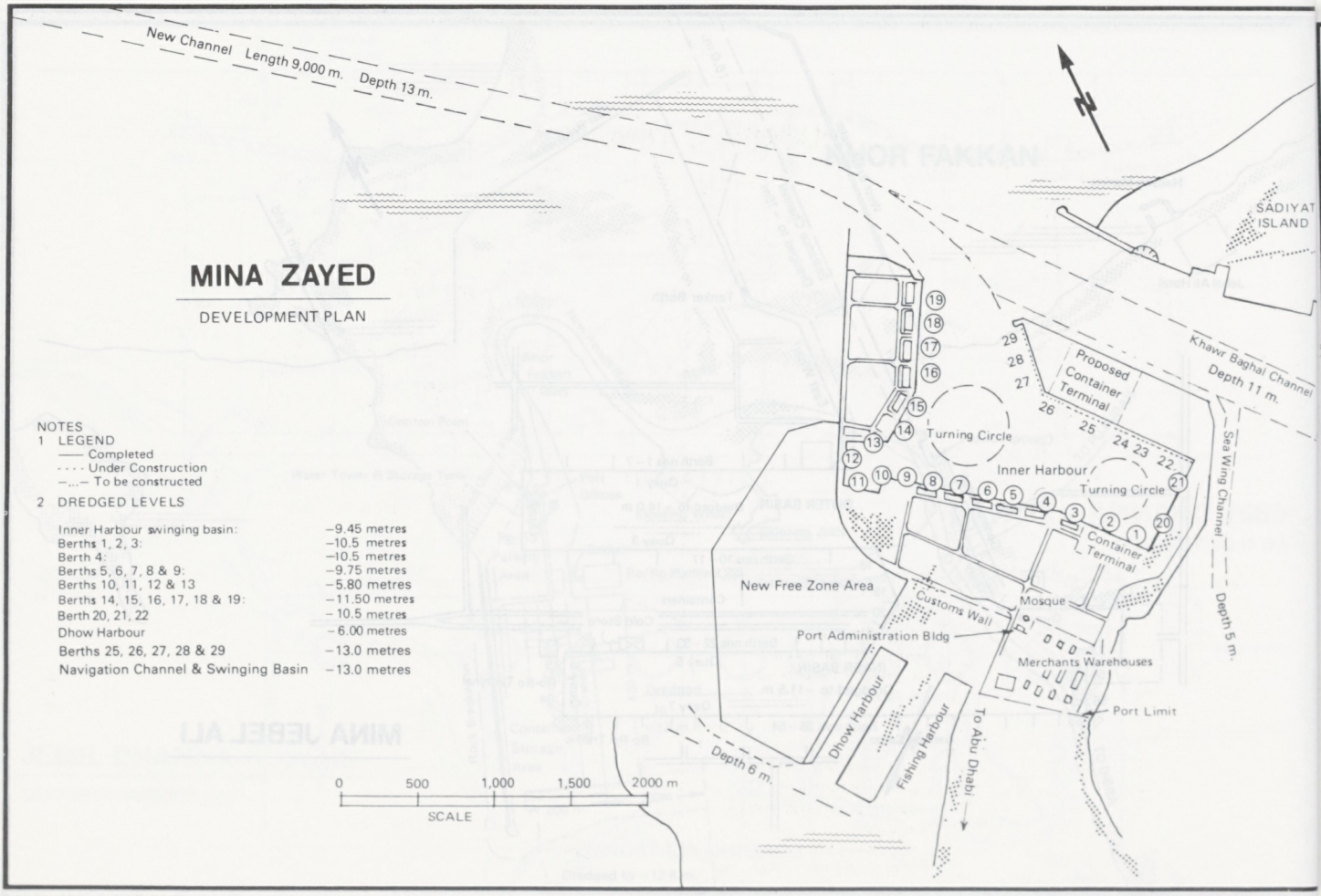

KHOR FAKKAN
New Access Road
Khor Fakkan Inlet
Control Point
Water Tower & Storage Tank
Finished Quarry Face
Port Offices
Existing Wharf
Existing Jetty
TO FUJAIRAH
Ro-Ro Parking Area
Bridge
Ro/Ro Platform
Rock Breakwater
Yard Cranes
Quay Cranes
430 m
Dredged to −12 m.
Container Storage Area
200 m.
200m
Dredged to −12.6 m.
TO DIBBA


MINA JEBEL ALI
Menas Light Float
UTM Bearing 315°
Fairway Buoy
Gate 5
Gate 6
Gate 7
Gate 8
Gate 9
Gate 10
Gate 11
Gate 12
Gate 13
Gate 14
Gate 15
Gate 16
Gas Pipeline to Al Fateh Field
Dredge Spoil Disposal Area
Approach Channel
MINA JEBEL ALI
Dugas
Dubai
Power Stn
Mina Seyaha
To Dubai
JEBEL ALI VILLAGE
Jebel Ali Hotel
Hassah Marina
To Abu Dhabi
0 1km 2km 3km
SCALE


Hassah Marina
Jebel Ali Hotel
West Breakwater
– 16.0 m.
East Breakwater
Entrance Channel Dredged to – 15m
Tanker Berth
Pipeline to Fateh Field
West Wharf
East Wharf
Control Tower
General Cargo
Quay 10
Berth nos 1 – 7
Quay 1
OUTER BASIN
Dredged to – 14.0 m
Quay 2
Quay 3
8
9
Berth nos 10 – 17
18
19
Container Terminal
Containers
20
Cold Store
21
Berth nos 22 – 33
Quay 5
Quay 9
– 7.5m
56
55
Quay 8
INNER BASIN
Dredged to – 11.5 m.
Quay 7
Quay 6
Ro-Ro Terminal
34
Berth nos. 35 – 54
General Cargo
Ro-Ro Traffic
MINA JEBEL ALI



MINA SAQR



MINA ZAYED

DEVELOPMENT PLAN

NOTES

1 LEGEND

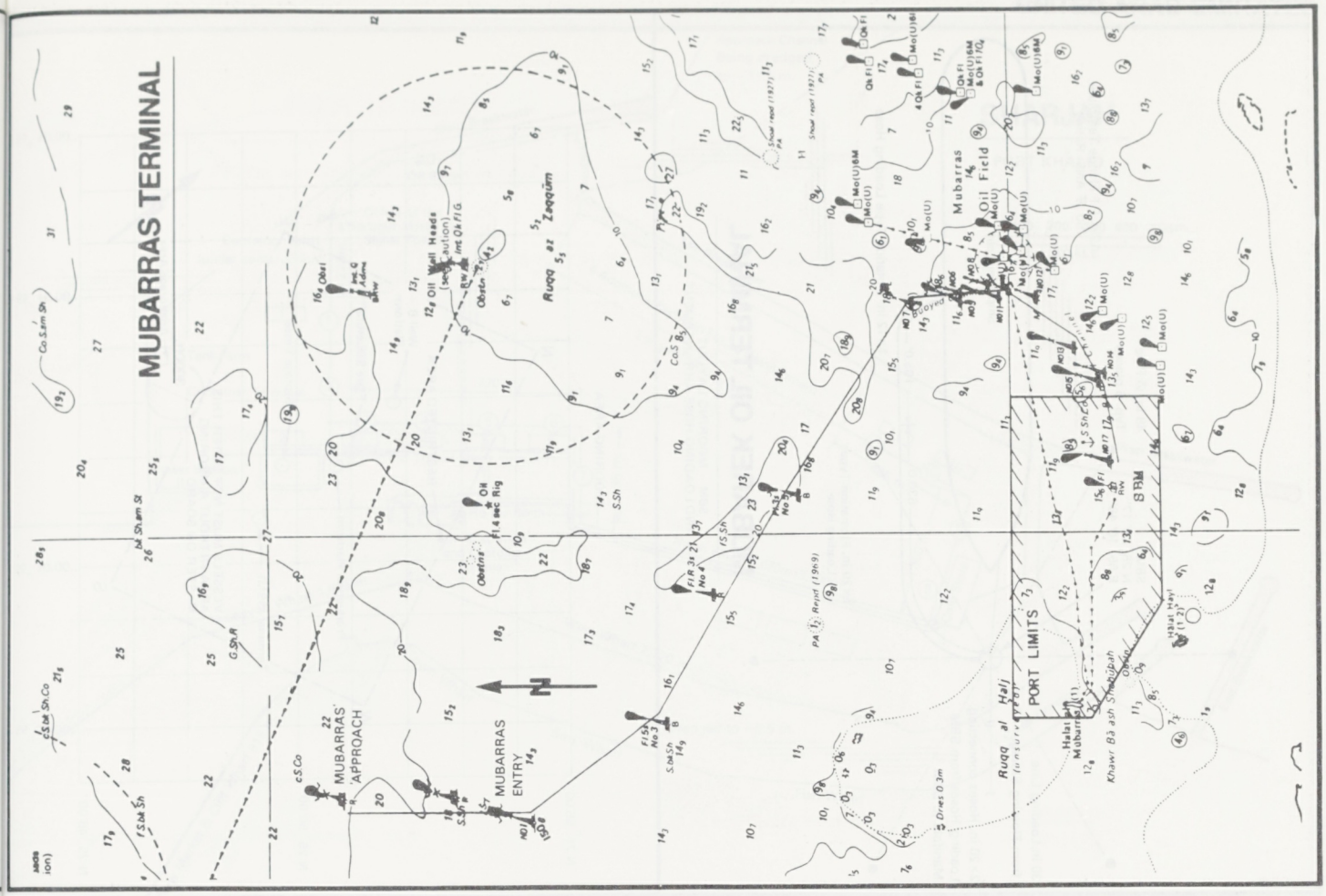
—— Completed

- - - - Under Construction

—...— To be constructed

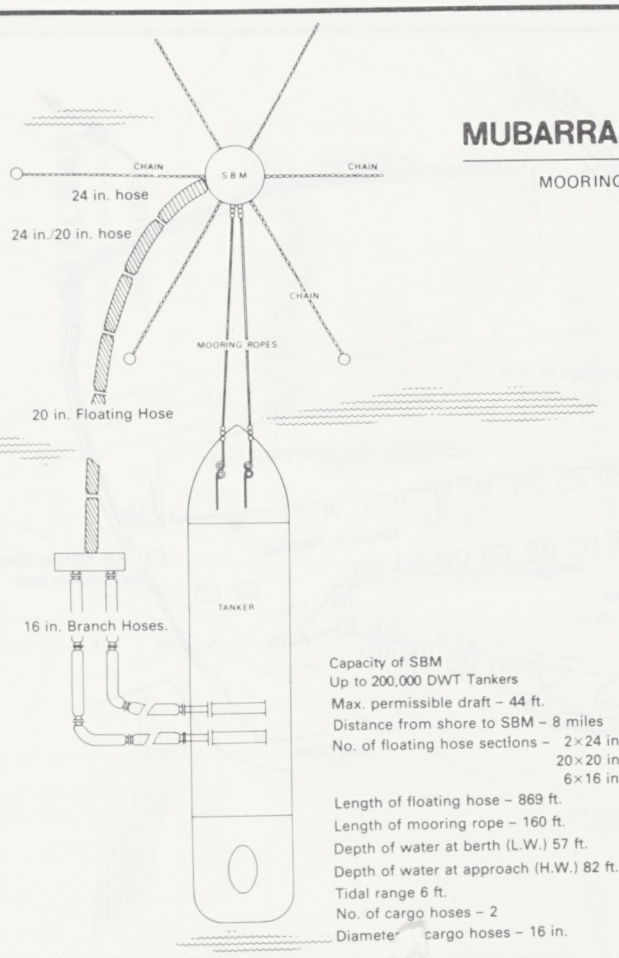
2 DREDGED LEVELS

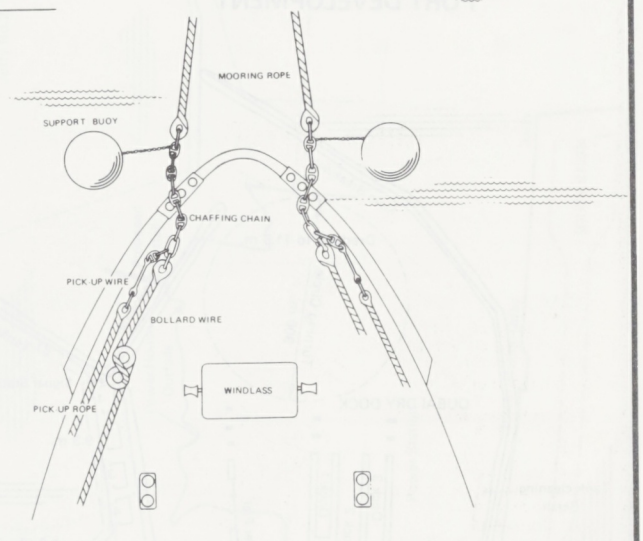
Inner Harbour swinging basin:	−9.45 metres
Berths 1, 2, 3:	−10.5 metres
Berth 4:	−10.5 metres
Berths 5, 6, 7, 8 & 9:	−9.75 metres
Berths 10, 11, 12 & 13	−5.80 metres
Berths 14, 15, 16, 17, 18 & 19:	−11.50 metres
Berth 20, 21, 22	−10.5 metres
Dhow Harbour	−6.00 metres
Berths 25, 26, 27, 28 & 29	−13.0 metres
Navigation Channel & Swinging Basin	−13.0 metres



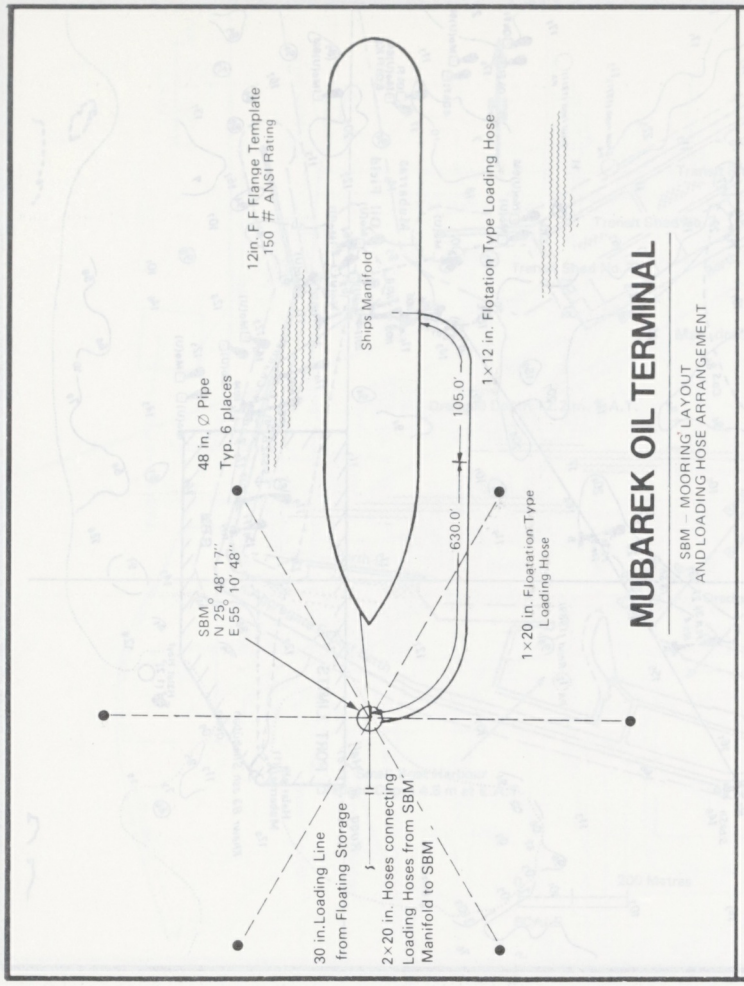
MUBARRAS TERMINAL

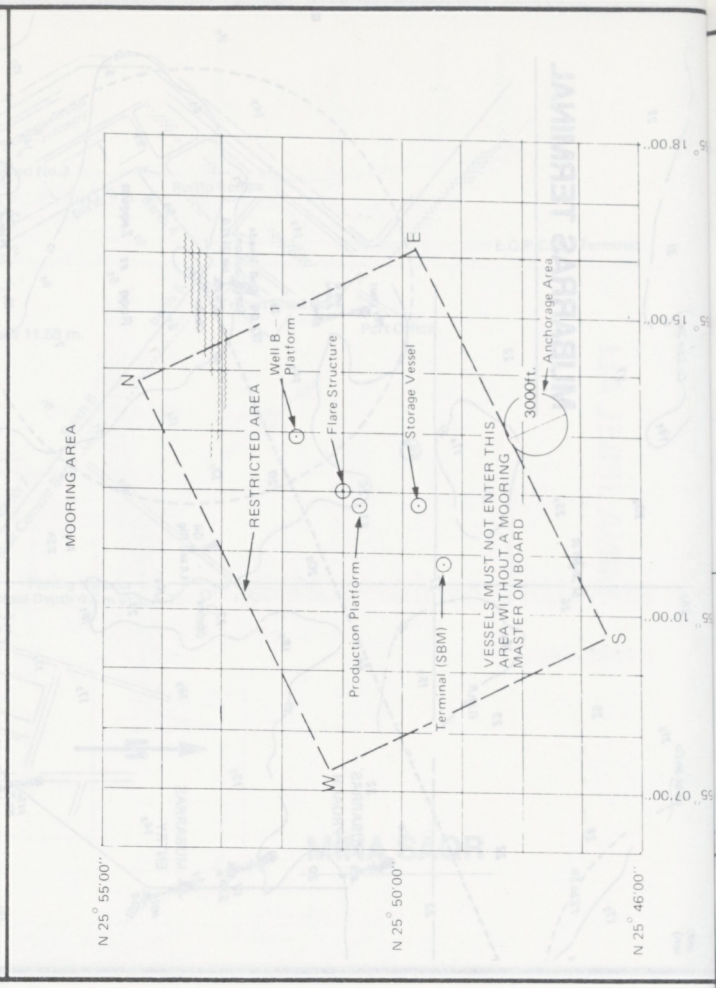
MOORING DIAGRAM

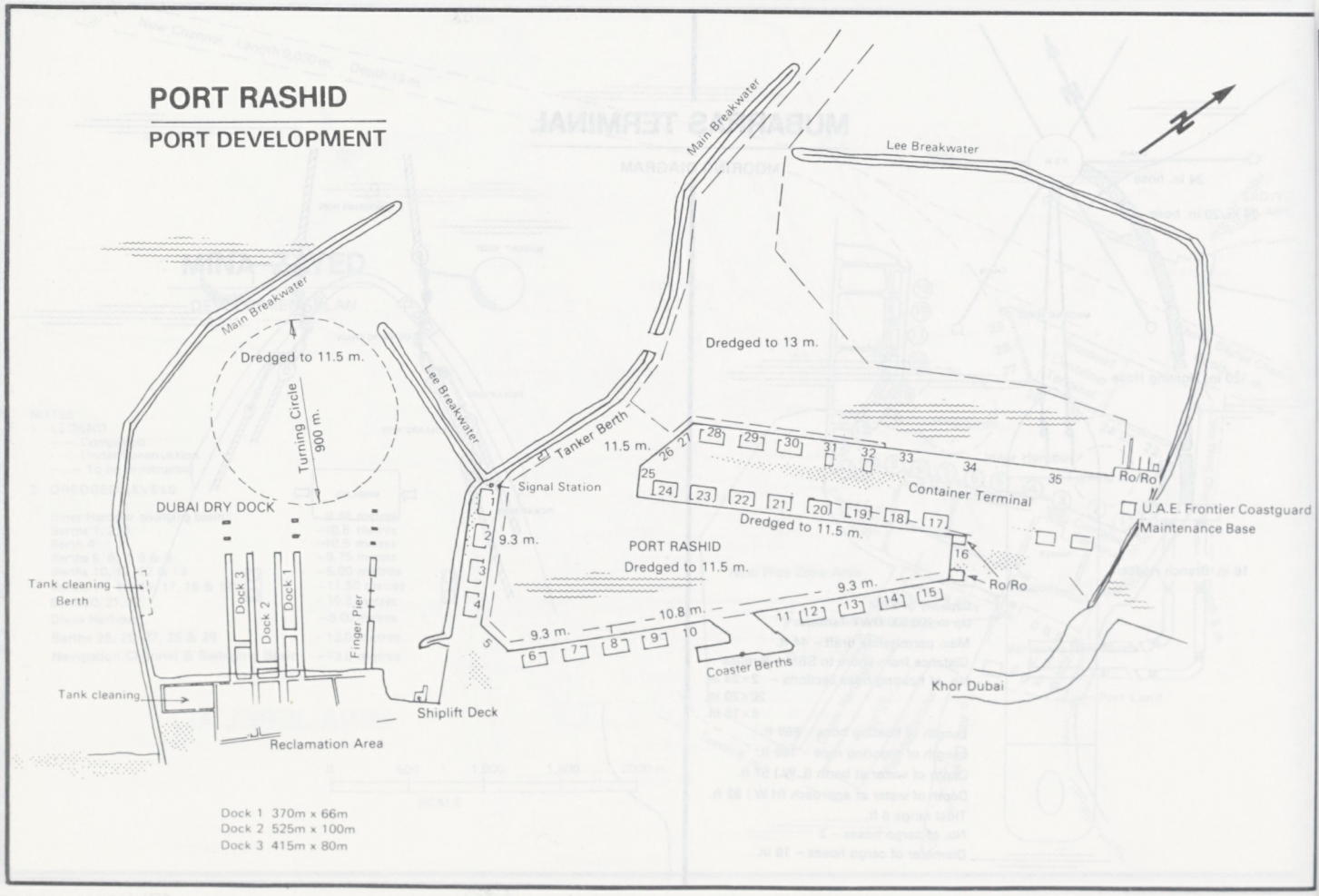


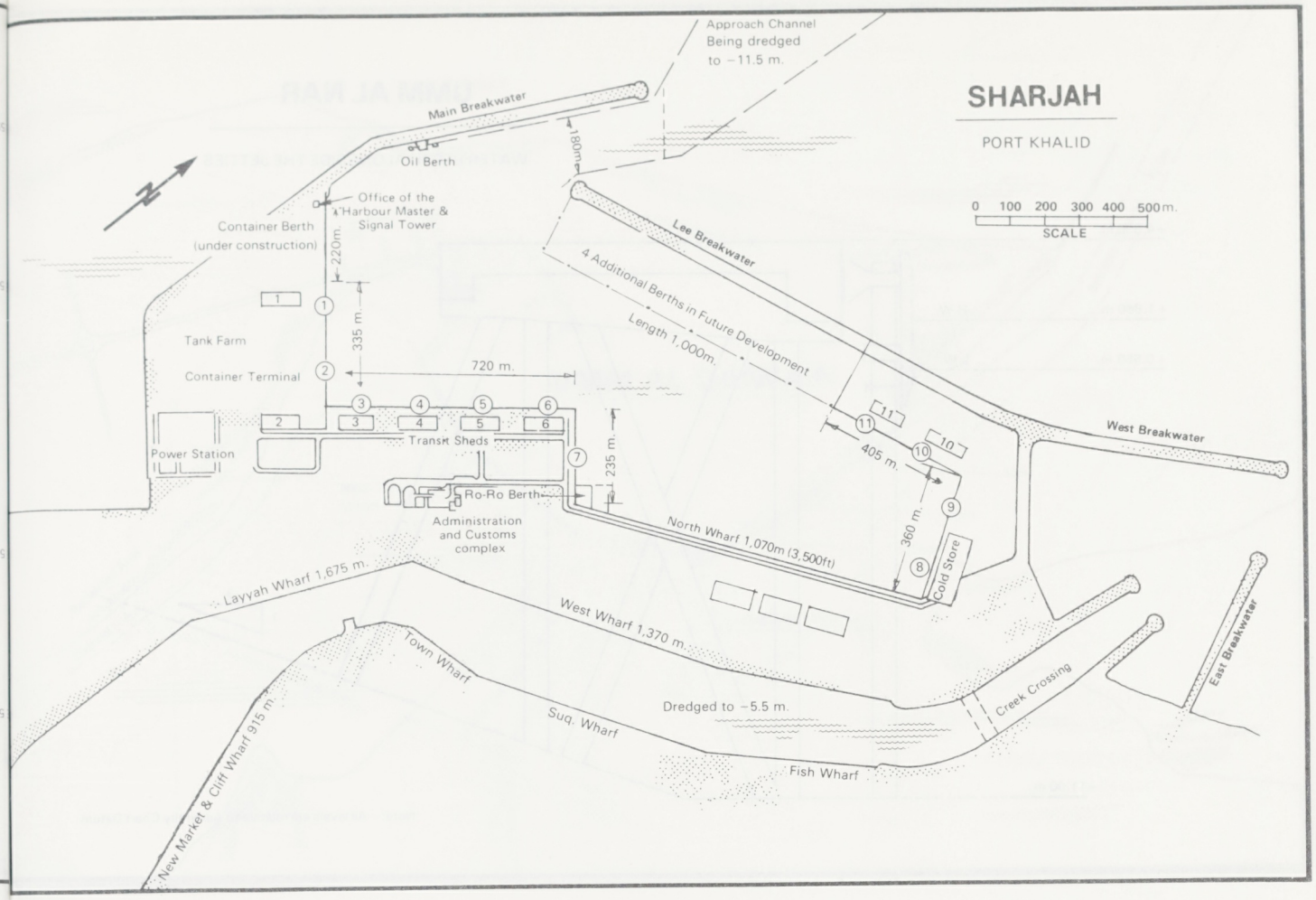


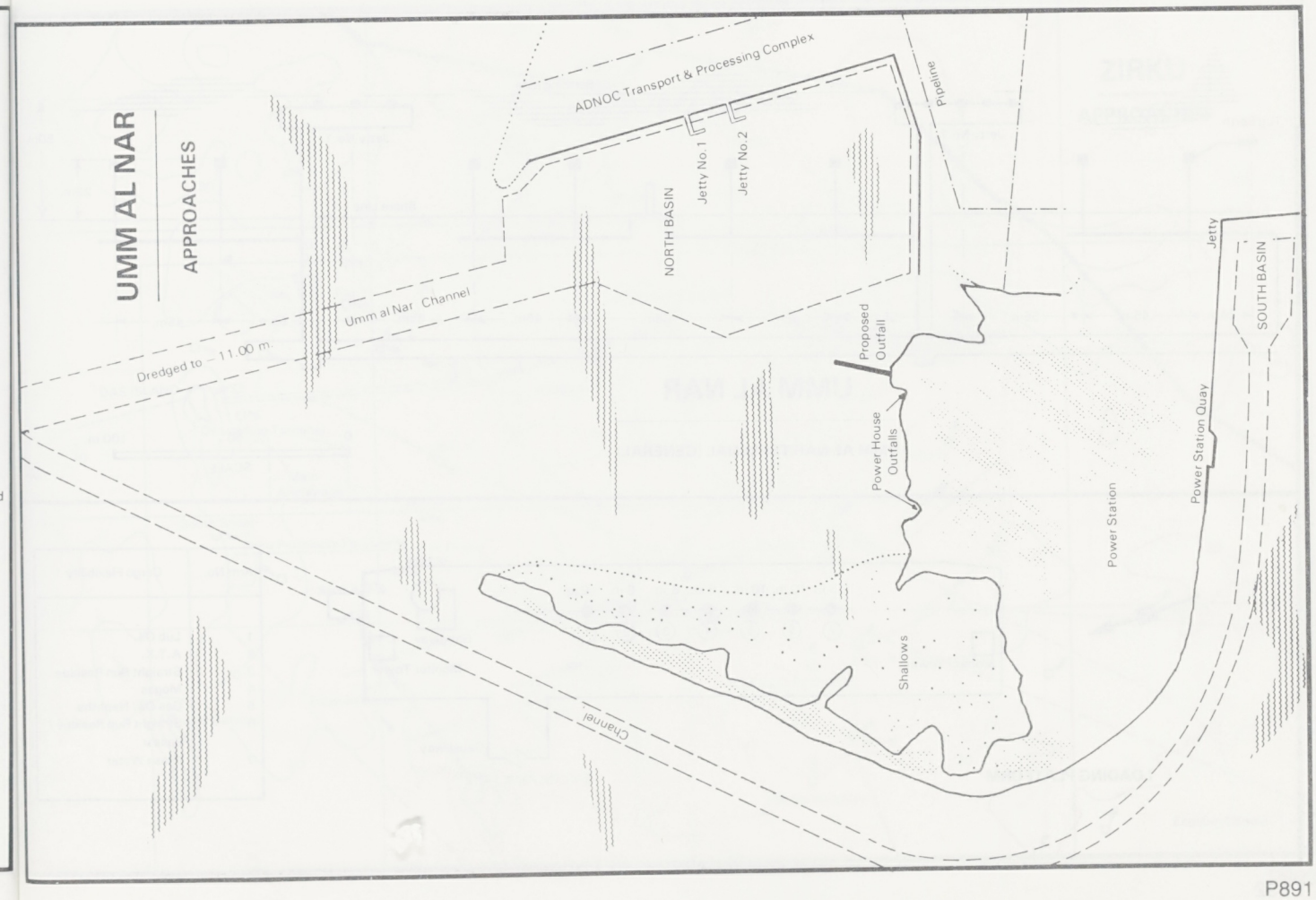
Capacity of SBM
Up to 200,000 DWT Tankers
Max. permissible draft – 44 ft.
Distance from shore to SBM – 8 miles
No. of floating hose sections – 2×24 in.
20×20 in.
6×16 in.
Length of floating hose – 869 ft.
Length of mooring rope – 160 ft.
Depth of water at berth (L.W.) 57 ft.
Depth of water at approach (H.W.) 82 ft.
Tidal range 6 ft.
No. of cargo hoses – 2
Diameter of cargo hoses – 16 in.


MUBAREK OIL TERMINAL
SBM – MOORING LAYOUT
AND LOADING HOSE ARRANGEMENT
12in. F F Flange Template
150 # ANSI Rating
Ships Manifold
1×12 in. Flotation Type Loading Hose
48 in. Ø Pipe
Typ. 6 places
105.0'
630.0'
SBM
N 25° 48' 17"
E 55° 10' 48"
1×20 in. Floatation Type
Loading Hose
30 in. Loading Line
from Floating Storage
2×20 in. Hoses connecting
Loading Hoses from SBM
Manifold to SBM


MOORING AREA
RESTRICTED AREA
Well B – 1
Platform
Flare Structure
Storage Vessel
Anchorage Area
3000ft.
Production Platform
Terminal (SBM)
VESSELS MUST NOT ENTER THIS
AREA WITHOUT A MOORING
MASTER ON BOARD
N
E
S
W
55° 18.00'
55° 15.00'
55° 10.00'
55° 07.00'
N 25° 55'00"
N 25° 50'00"
N 25° 46'00"

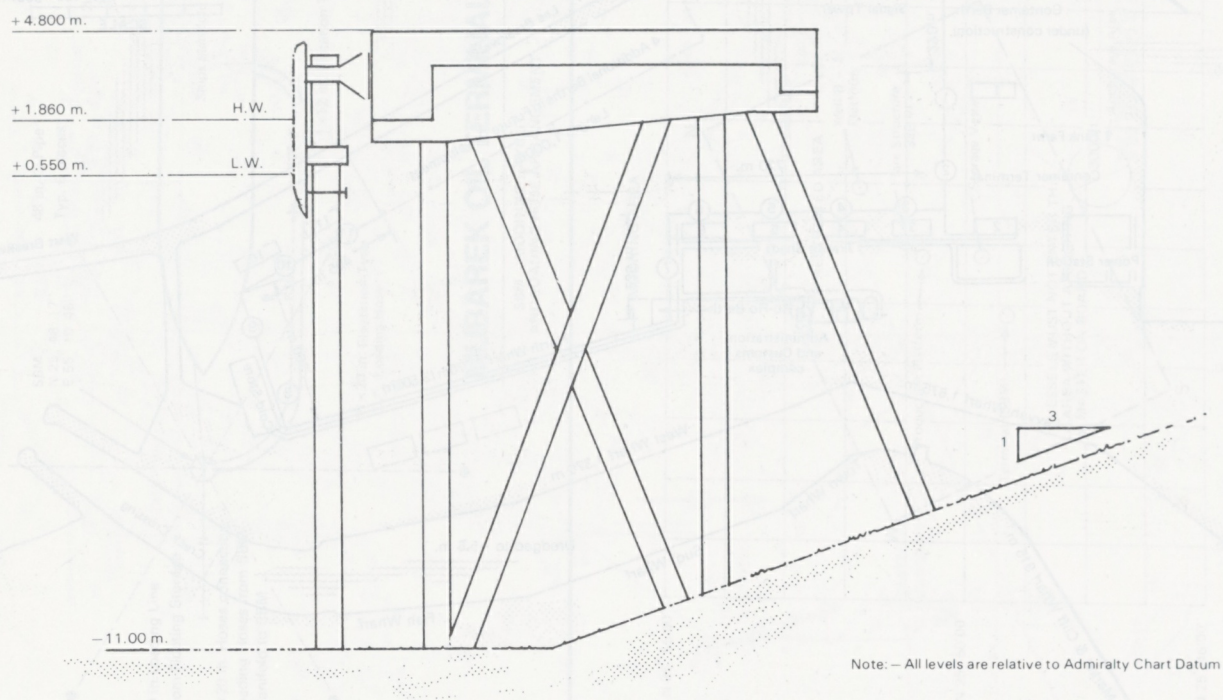

PORT RASHID
PORT DEVELOPMENT
Main Breakwater
Lee Breakwater
Dredged to 13 m.
Dredged to 11.5 m.
Turning Circle
900 m.
Tanker Berth
11.5 m.
Signal Station
DUBAI DRY DOCK
Dock 3
Dock 2
Dock 1
Finger Pier
Tank cleaning Berth
Tank cleaning
Reclamation Area
Shiplift Deck
9.3 m.
PORT RASHID
Dredged to 11.5 m.
10.8 m.
Container Terminal
Ro/Ro
Coaster Berths
U.A.E. Frontier Coastguard
Maintenance Base
Khor Dubai
Dock 1 370m x 66m
Dock 2 525m x 100m
Dock 3 415m x 80m


SHARJAH
PORT KHALID
SCALE
0 100 200 300 400 500m.
Approach Channel
Being dredged
to −11.5 m.
Main Breakwater
Oil Berth
180m.
Office of the
Harbour Master &
Signal Tower
Container Berth
(under construction)
220m.
Lee Breakwater
4 Additional Berths in Future Development
Length 1,000m.
Tank Farm
Container Terminal
335 m.
720 m.
Transit Sheds
Power Station
Ro-Ro Berth
235 m.
Administration
and Customs
complex
405 m.
360 m.
Cold Store
West Breakwater
North Wharf 1,070m (3,500ft)
Layyah Wharf 1,675 m.
West Wharf 1,370 m.
Town Wharf
Suq. Wharf
Dredged to −5.5 m.
Creek Crossing
East Breakwater
Fish Wharf
New Market & Cliff Wharf 915 m.

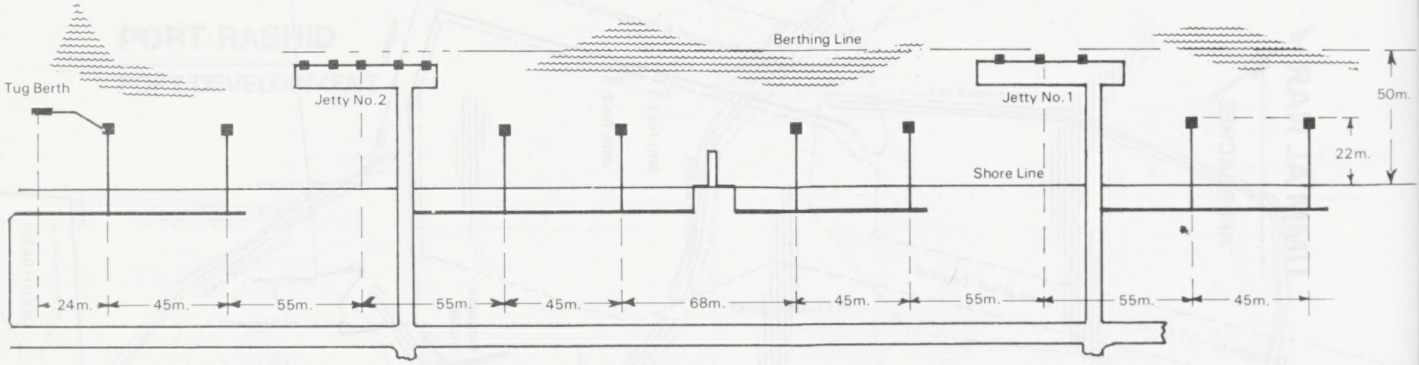

UMM AL NAR
APPROACHES
ADNOC Transport & Processing Complex
Pipeline
Jetty No.1
Jetty No.2
NORTH BASIN
Umm al Nar Channel
Dredged to −11.00 m.
Proposed
Outfall
Power House
Outfalls
Jetty
SOUTH BASIN
Power Station Quay
Power Station
Shallows
Channel

UMM AL NAR

WATER DEPTH ALONGSIDE THE JETTIES



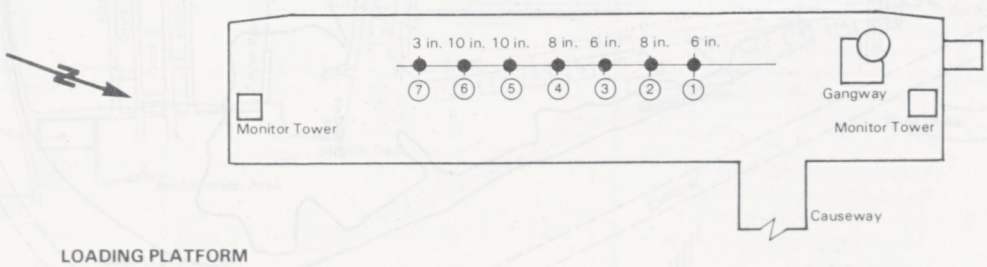
Note: – All levels are relative to Admiralty Chart Datum



UMM AL NAR

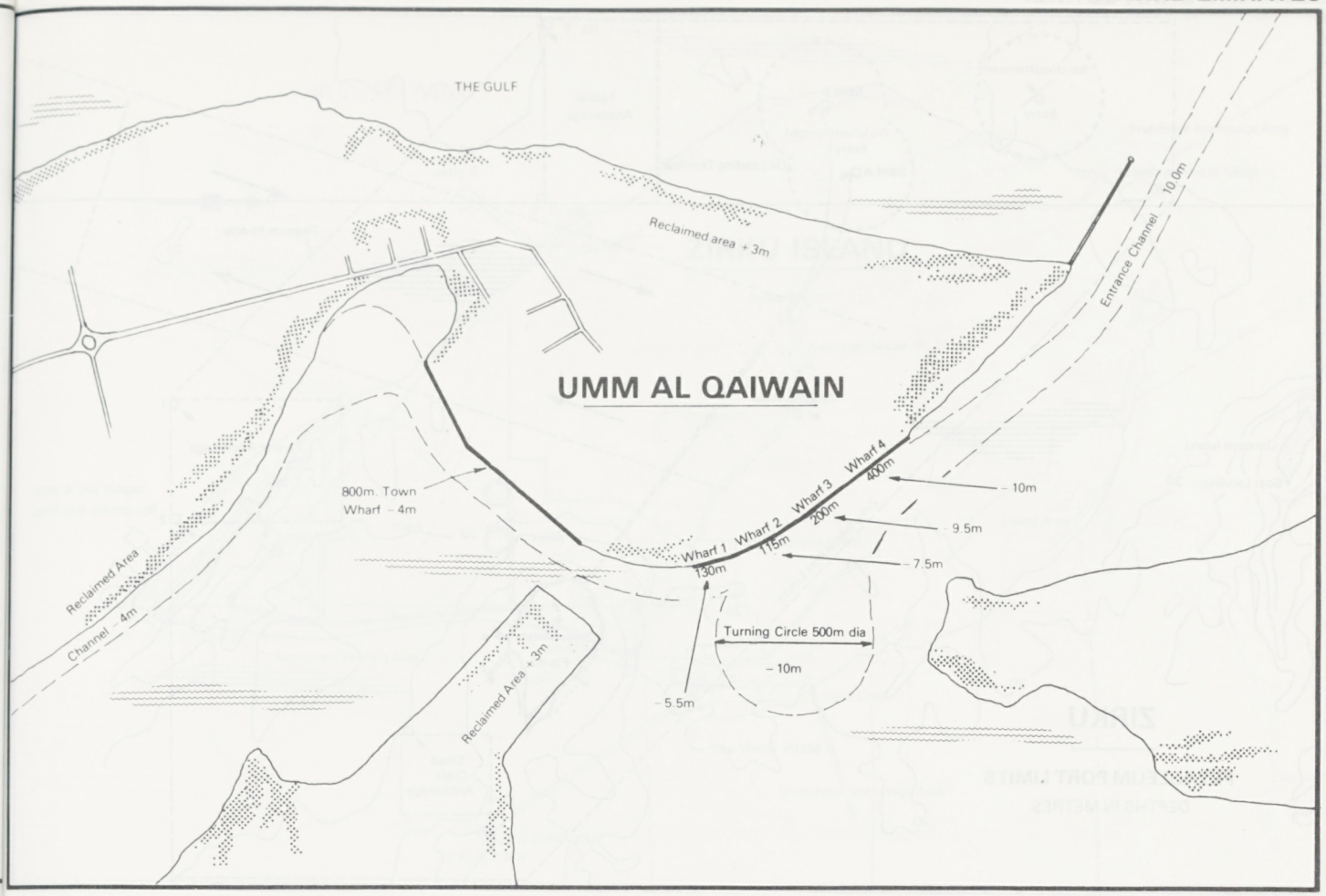
UMM AL NAR TERMINAL (GENERAL)

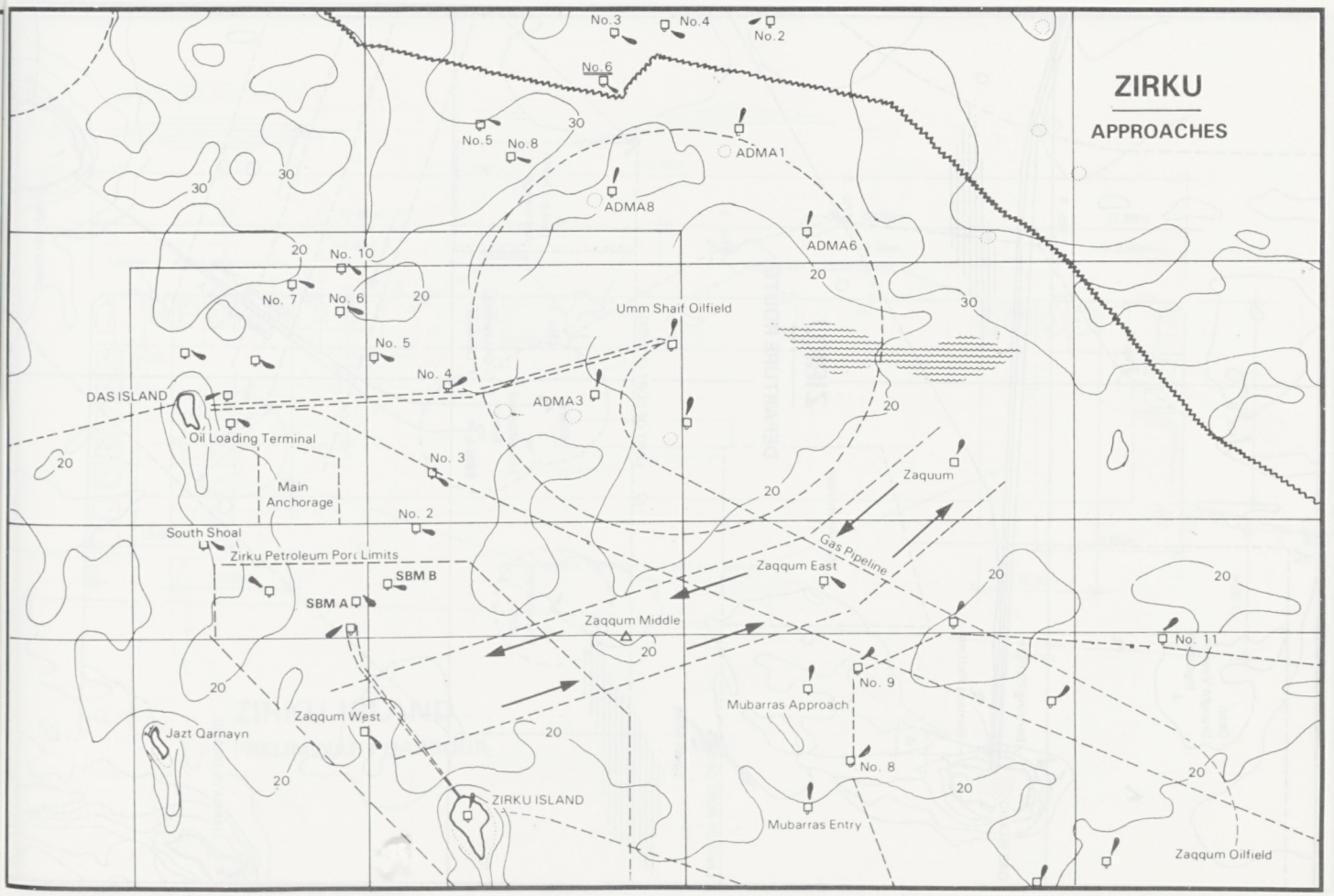
0 50 100 m.
SCALE

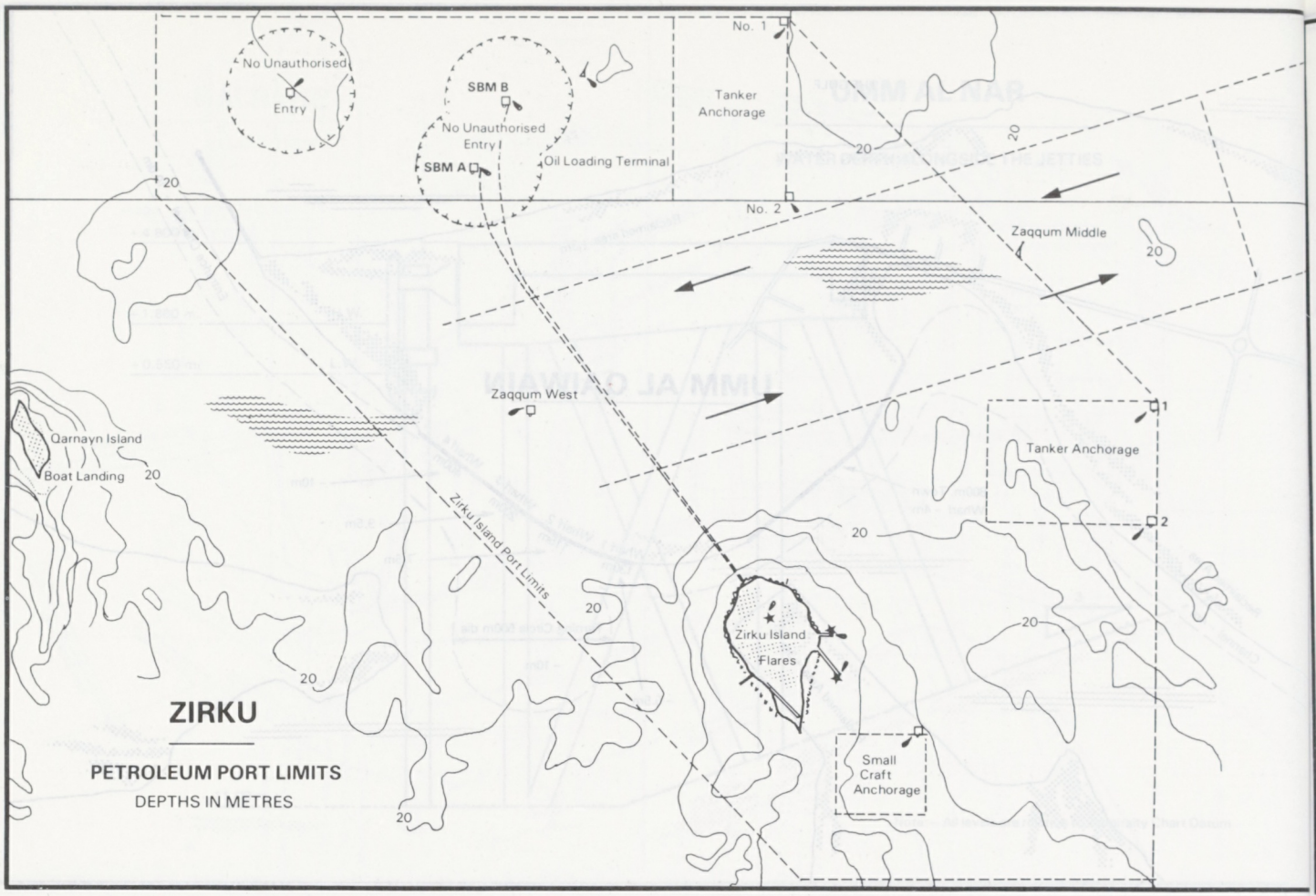


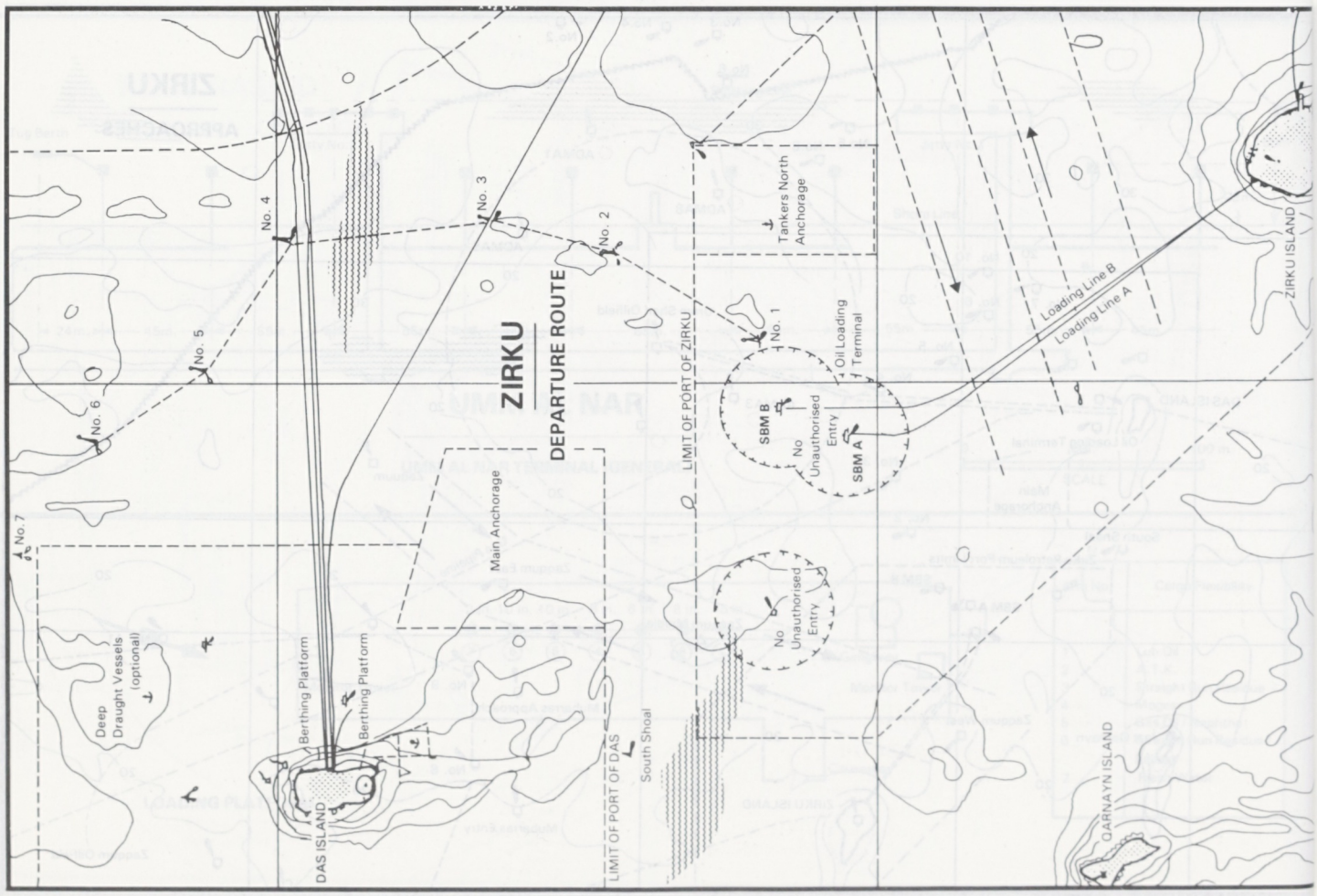
LOADING PLATFORM

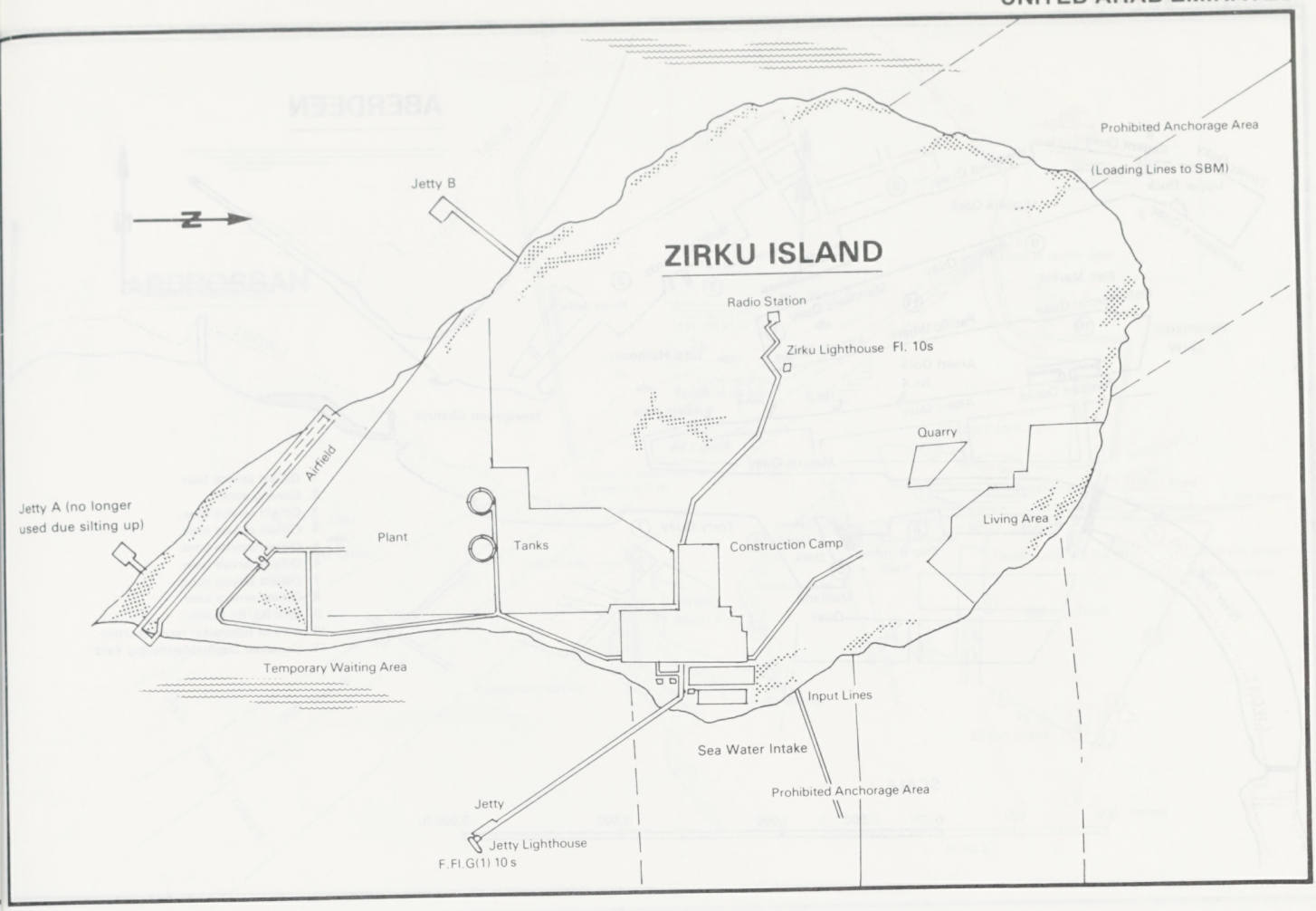
Arm No.	Cargo Flexibility
1	Lub Oil
2	A.T.K.
3	Straight Run Residue
4	Mogas
5	Gas Oil / Naphtha
6	Straight Run Residue / Ballast
7	Fresh Water

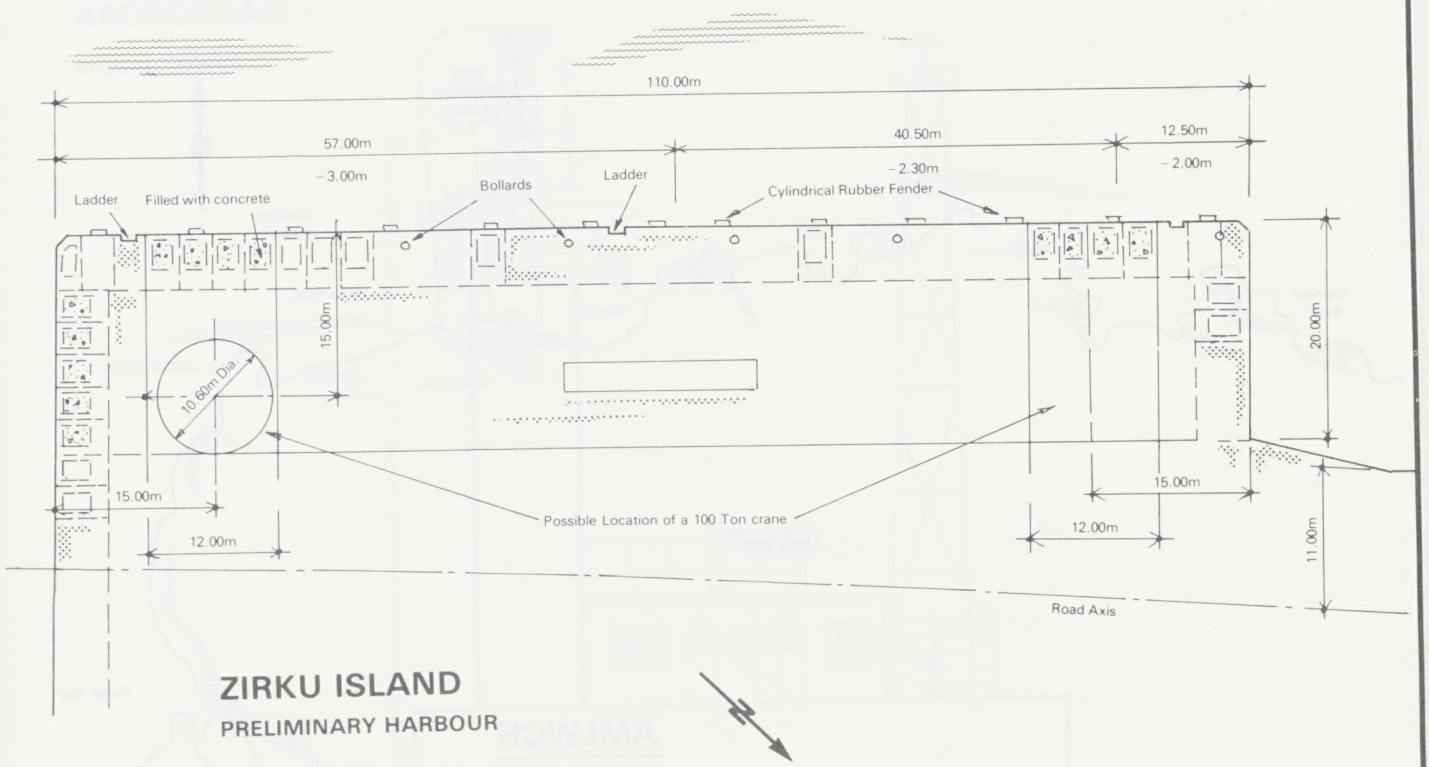

THE GULF
Reclaimed area +3m
Entrance Channel – 10.0m
UMM AL QAIWAIN
800m. Town Wharf – 4m
Wharf 1 130m
Wharf 2 115m
Wharf 3 200m
Wharf 4 400m
– 10m
– 9.5m
– 7.5m
Turning Circle 500m dia
– 10m
– 5.5m
Reclaimed Area
Channel – 4m
Reclaimed Area +3m


ZIRKU
APPROACHES
No. 3
No. 4
No. 2
No. 6
No. 5
No. 8
ADMA1
ADMA8
ADMA6
No. 10
No. 7
No. 6
Umm Shaif Oilfield
No. 5
No. 4
DAS ISLAND
ADMA3
Oil Loading Terminal
No. 3
Main Anchorage
Zaquum
No. 2
South Shoal
Zirku Petroleum Port Limits
Gas Pipeline
Zaqqum East
SBM B
SBM A
Zaqqum Middle
No. 11
No. 9
Mubarras Approach
Zaqqum West
Jazt Qarnayn
No. 8
ZIRKU ISLAND
Mubarras Entry
Zaqqum Oilfield


No Unauthorised Entry
SBM B
No Unauthorised Entry
SBM A
Oil Loading Terminal
No. 1
Tanker Anchorage
No. 2
Zaqqum Middle
Zaqqum West
Qarnayn Island
Boat Landing
Zirku Island Port Limits
Tanker Anchorage
Zirku Island Flares
Small Craft Anchorage
20
ZIRKU
PETROLEUM PORT LIMITS
DEPTHS IN METRES

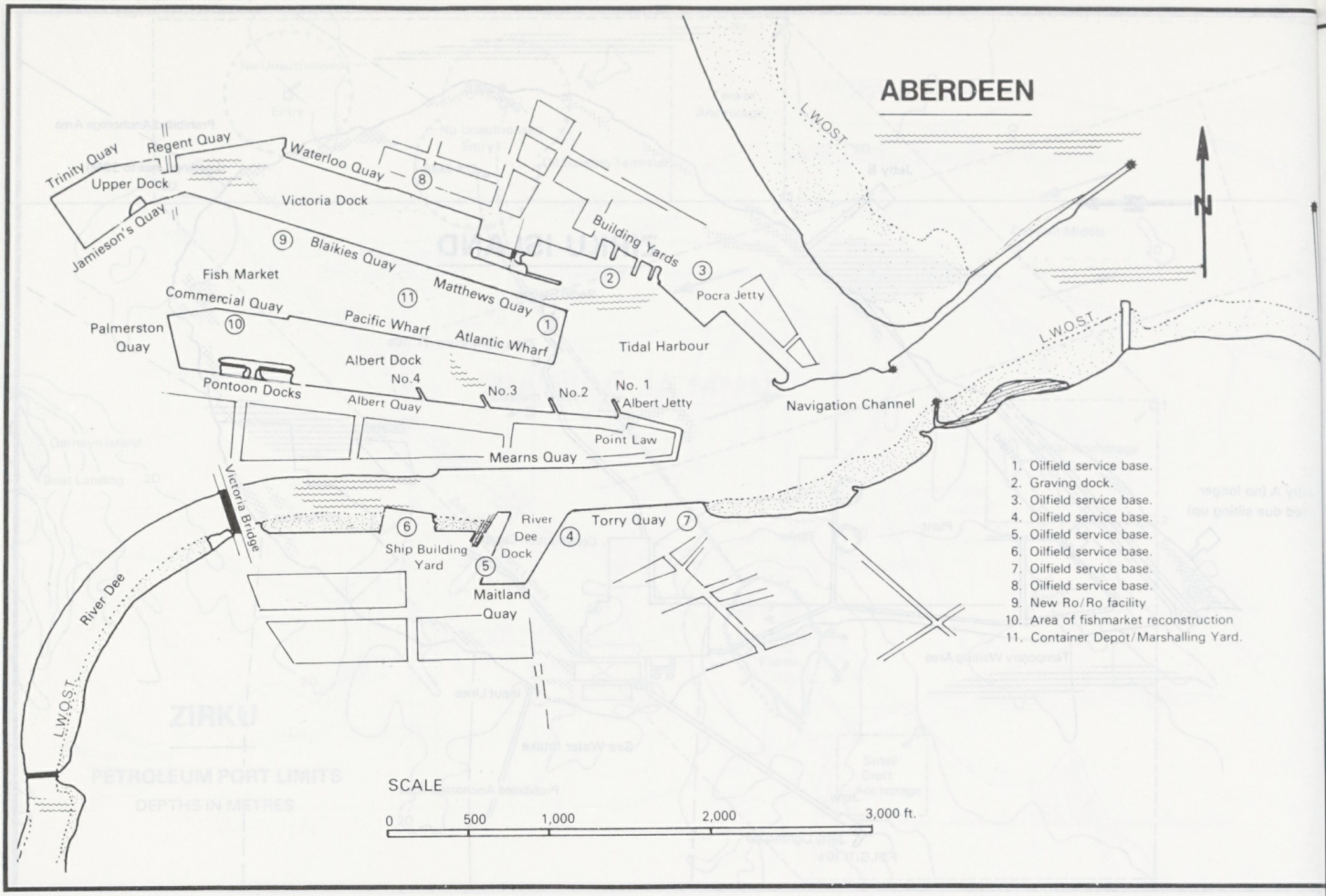

ZIRKU
DEPARTURE ROUTE
No. 1
No. 2
No. 3
No. 4
No. 5
No. 6
No. 7
Tankers North Anchorage
Oil Loading Terminal
SBM B
No Unauthorised Entry
SBM A
LIMIT OF PORT OF ZIRKU
Loading Line B
Loading Line A
ZIRKU ISLAND
Main Anchorage
Deep Draught Vessels (optional)
Berthing Platform
Berthing Platform
DAS ISLAND
LIMIT OF PORT OF DAS
South Shoal
No Unauthorised Entry
QARNAYN ISLAND

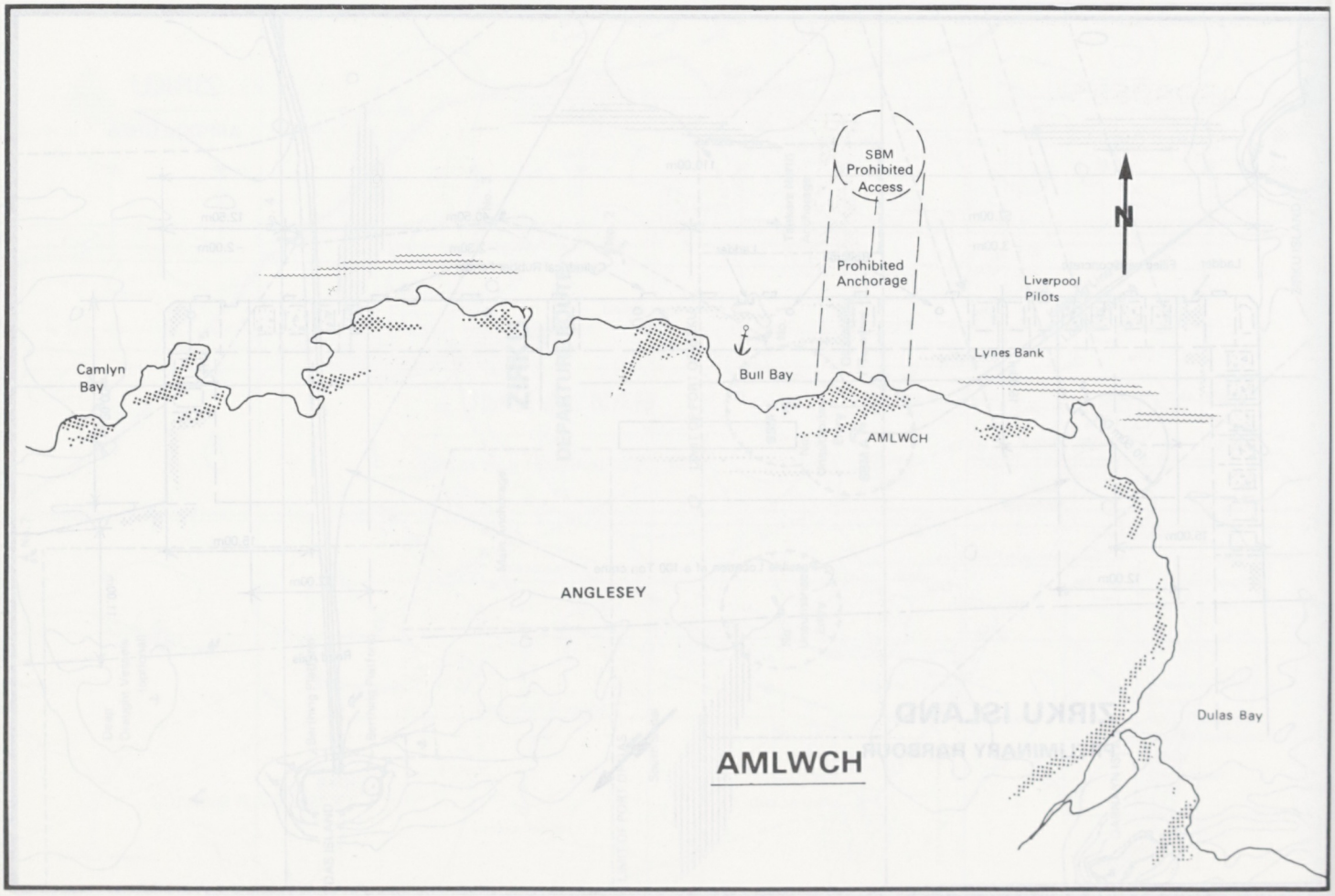




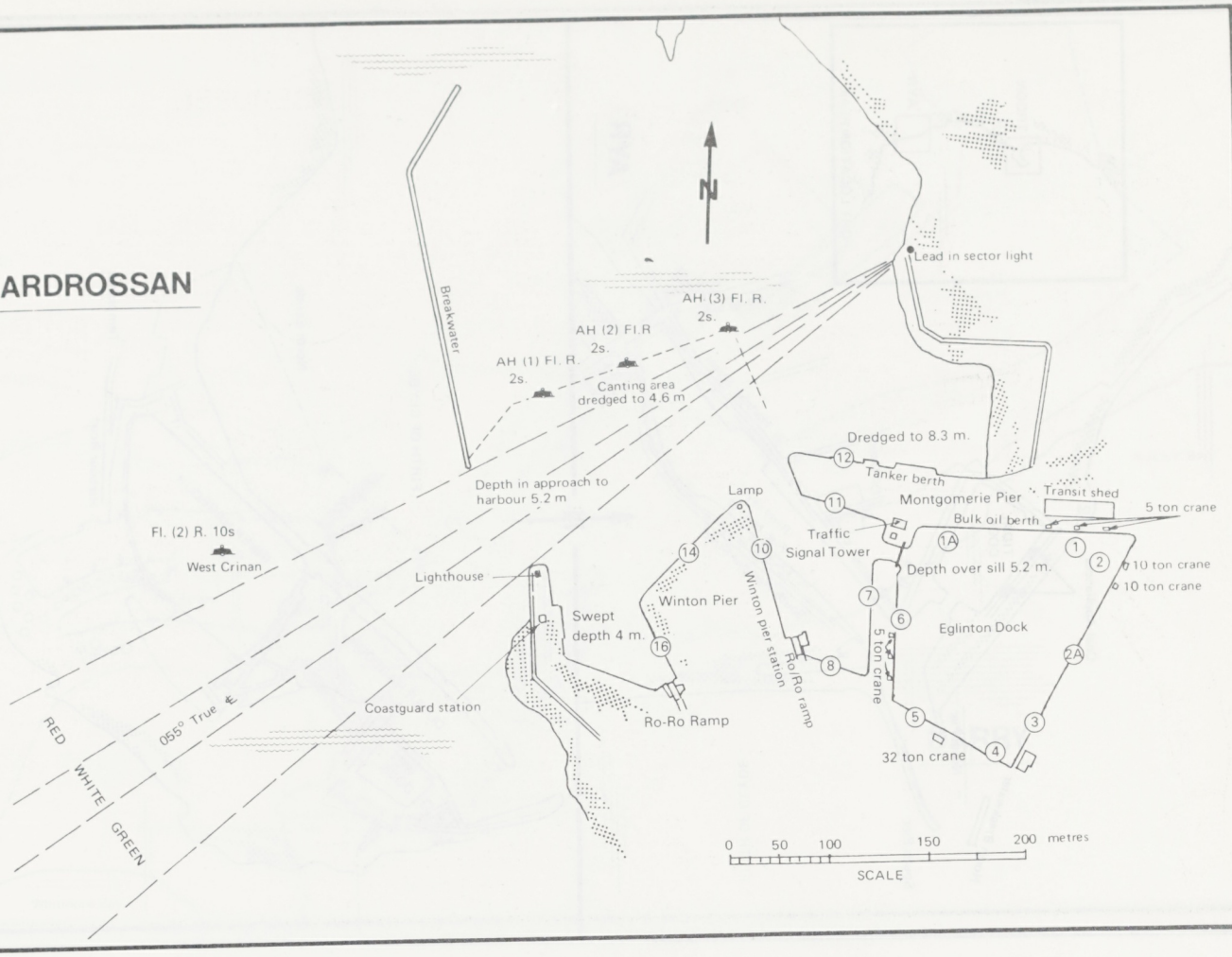
ZIRKU ISLAND

PRELIMINARY HARBOUR


ABERDEEN
L.W.O.S.T.
N
Trinity Quay
Regent Quay
Upper Dock
Waterloo Quay
8
Victoria Dock
Jamieson's Quay
9
Blaikies Quay
Building Yards
3
2
Fish Market
Matthews Quay
11
1
Pocra Jetty
Commercial Quay
Pacific Wharf
Atlantic Wharf
Palmerston Quay
10
Tidal Harbour
Albert Dock
No.4
No.3
No.2
No. 1
Albert Jetty
Pontoon Docks
Albert Quay
Navigation Channel
Point Law
Mearns Quay
Victoria Bridge
River Dee
L.W.O.S.T.
6
Ship Building Yard
River Dee Dock
4
Torry Quay
7
5
Maitland Quay
1. Oilfield service base.
2. Graving dock.
3. Oilfield service base.
4. Oilfield service base.
5. Oilfield service base.
6. Oilfield service base.
7. Oilfield service base.
8. Oilfield service base.
9. New Ro/Ro facility
10. Area of fishmarket reconstruction
11. Container Depot/Marshalling Yard.
SCALE
0
500
1,000
2,000
3,000 ft.

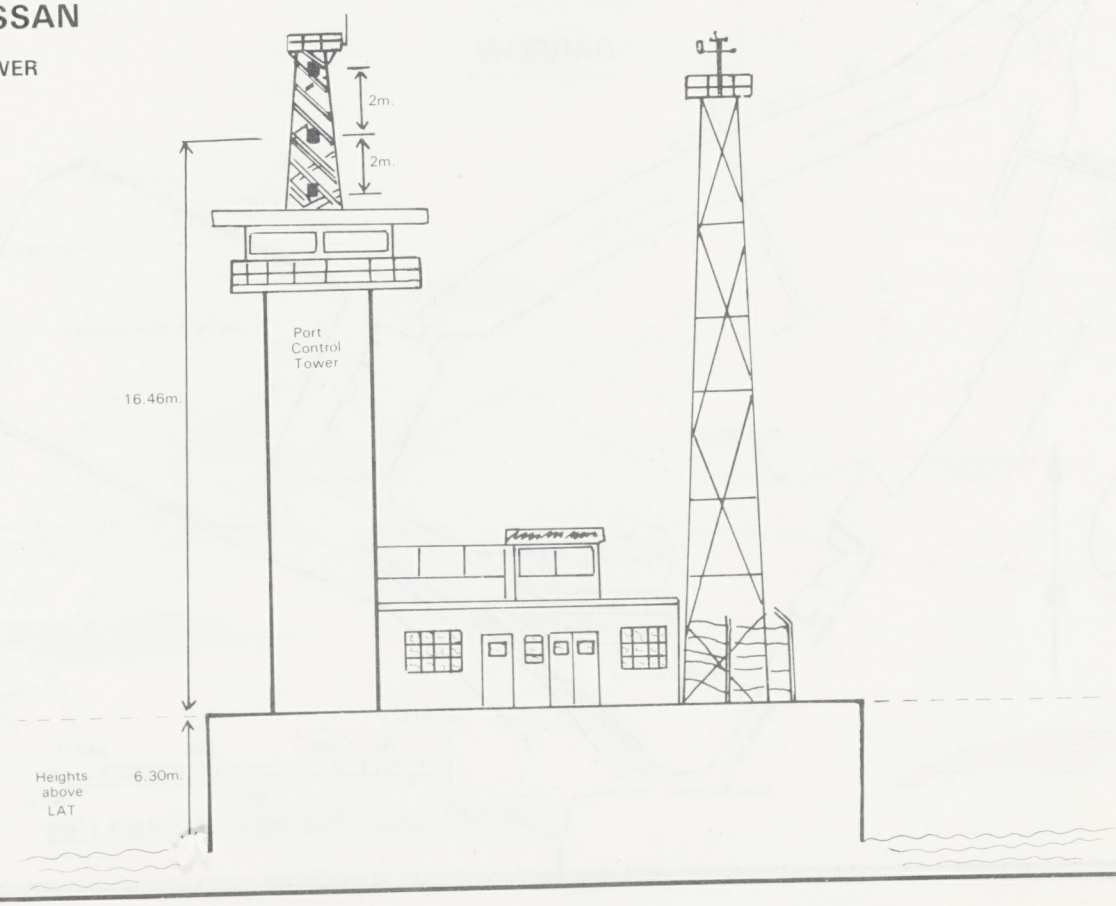

SBM Prohibited Access
Prohibited Anchorage
N
Liverpool Pilots
Lynes Bank
Camlyn Bay
Bull Bay
AMLWCH
ANGLESEY
Dulas Bay
AMLWCH

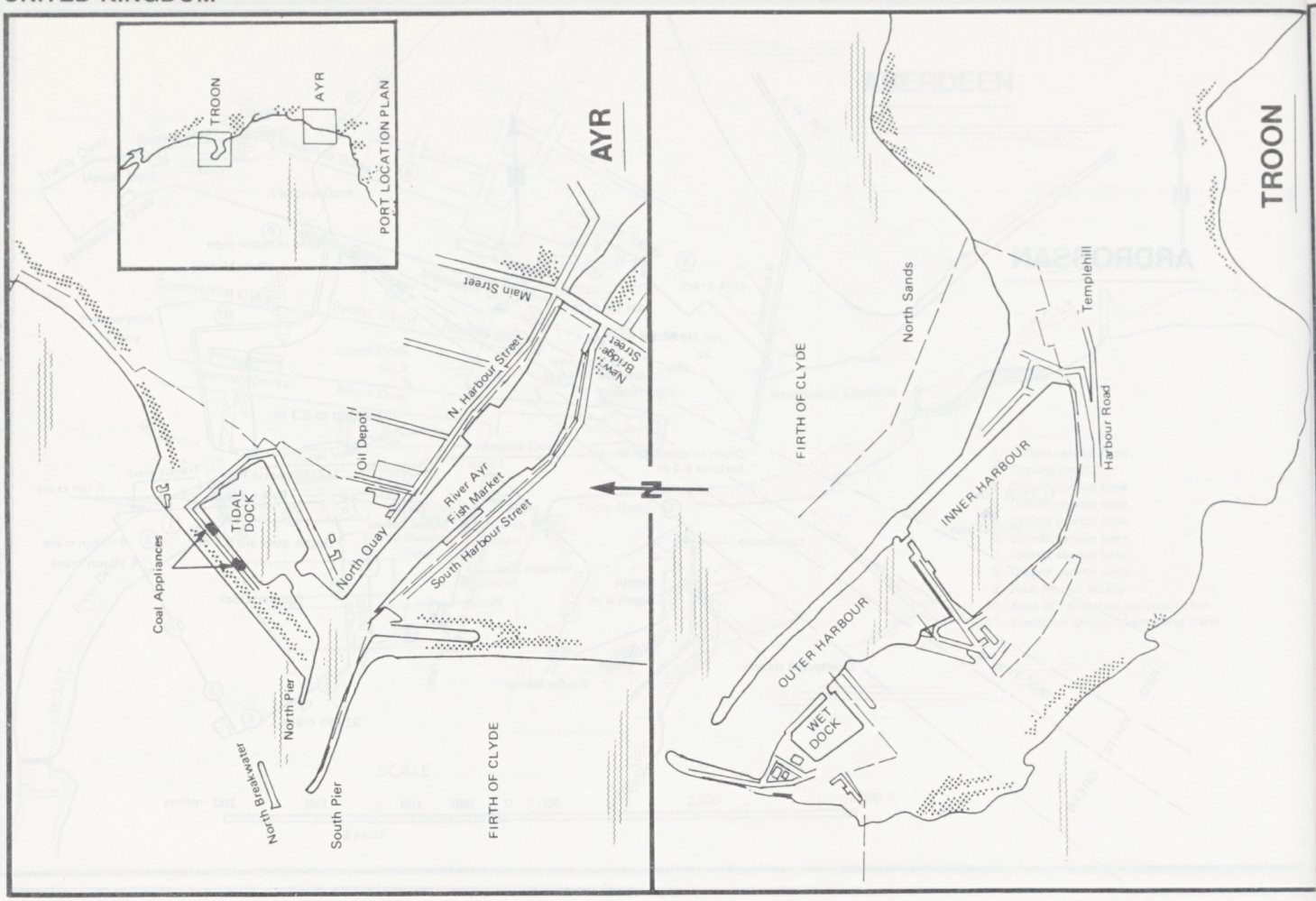
ARDROSSAN

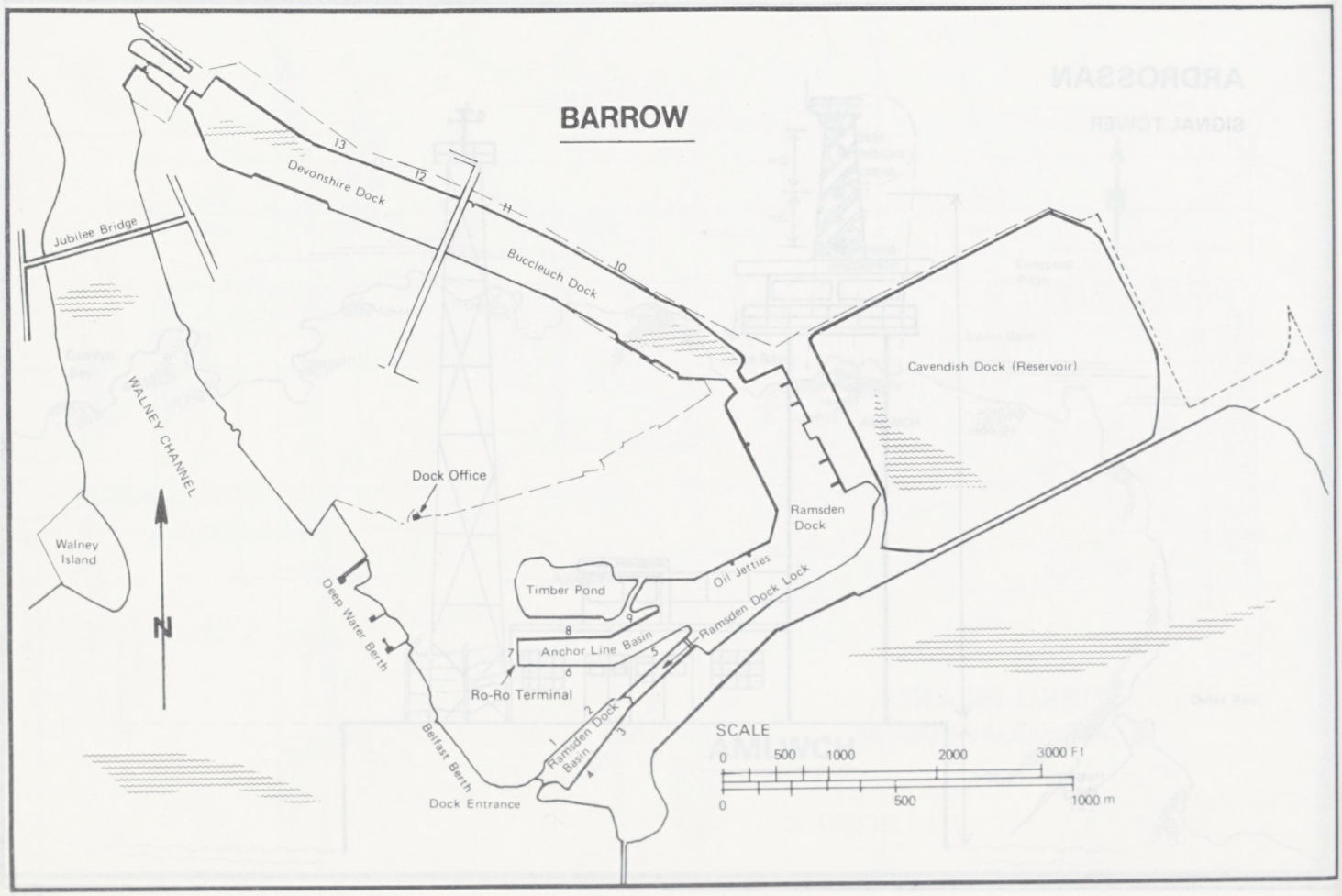


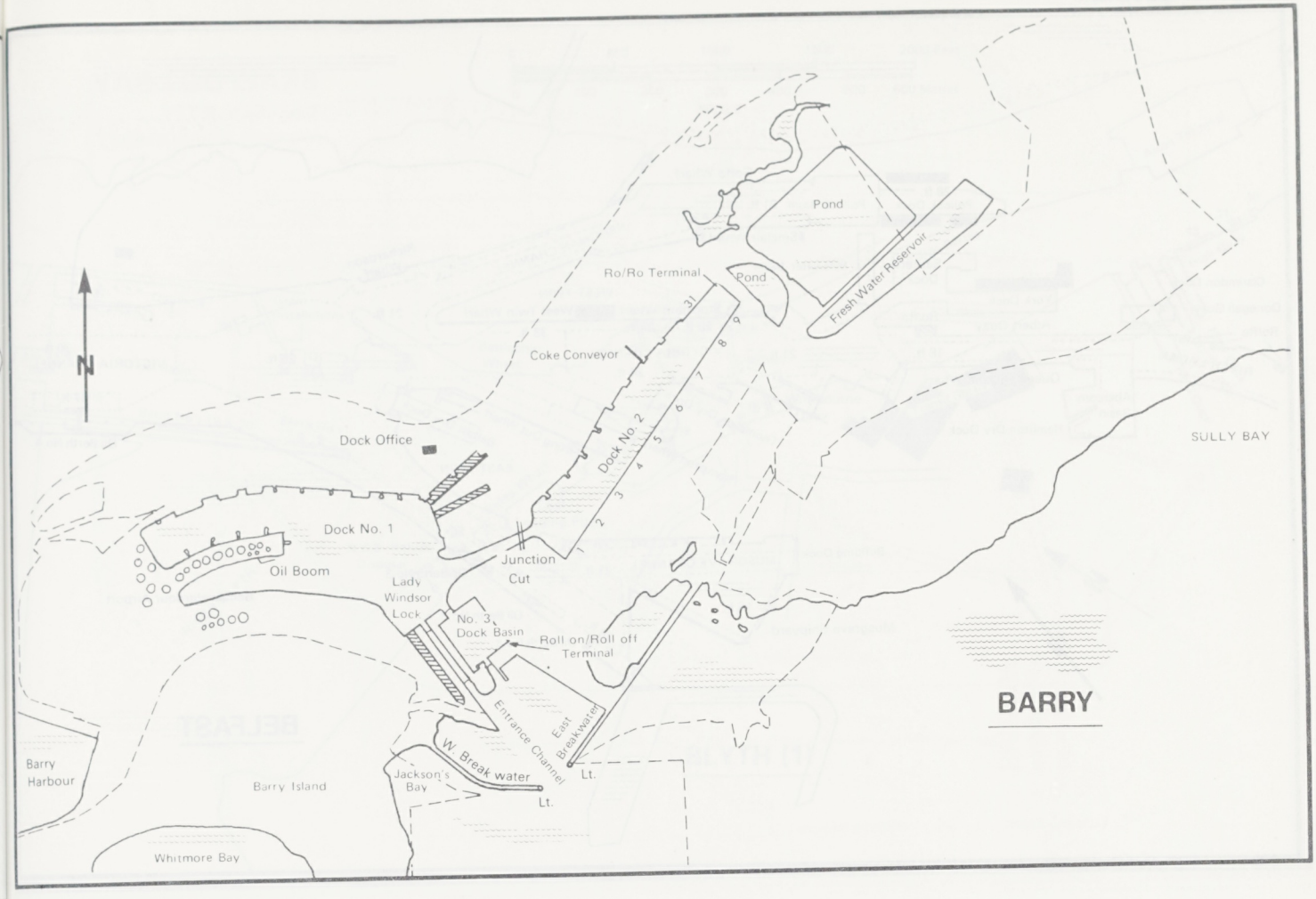
ARDROSSAN

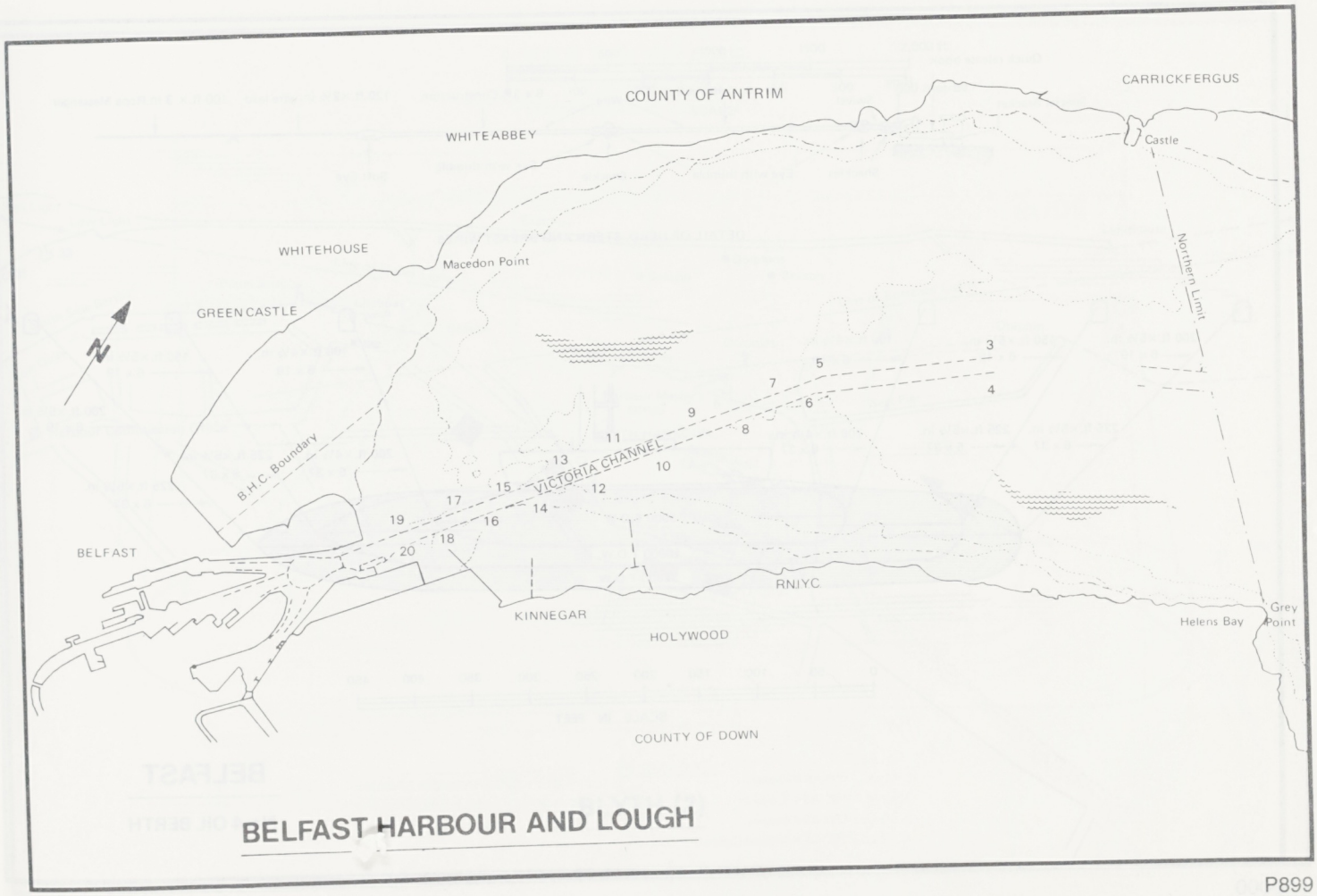
SIGNAL TOWER



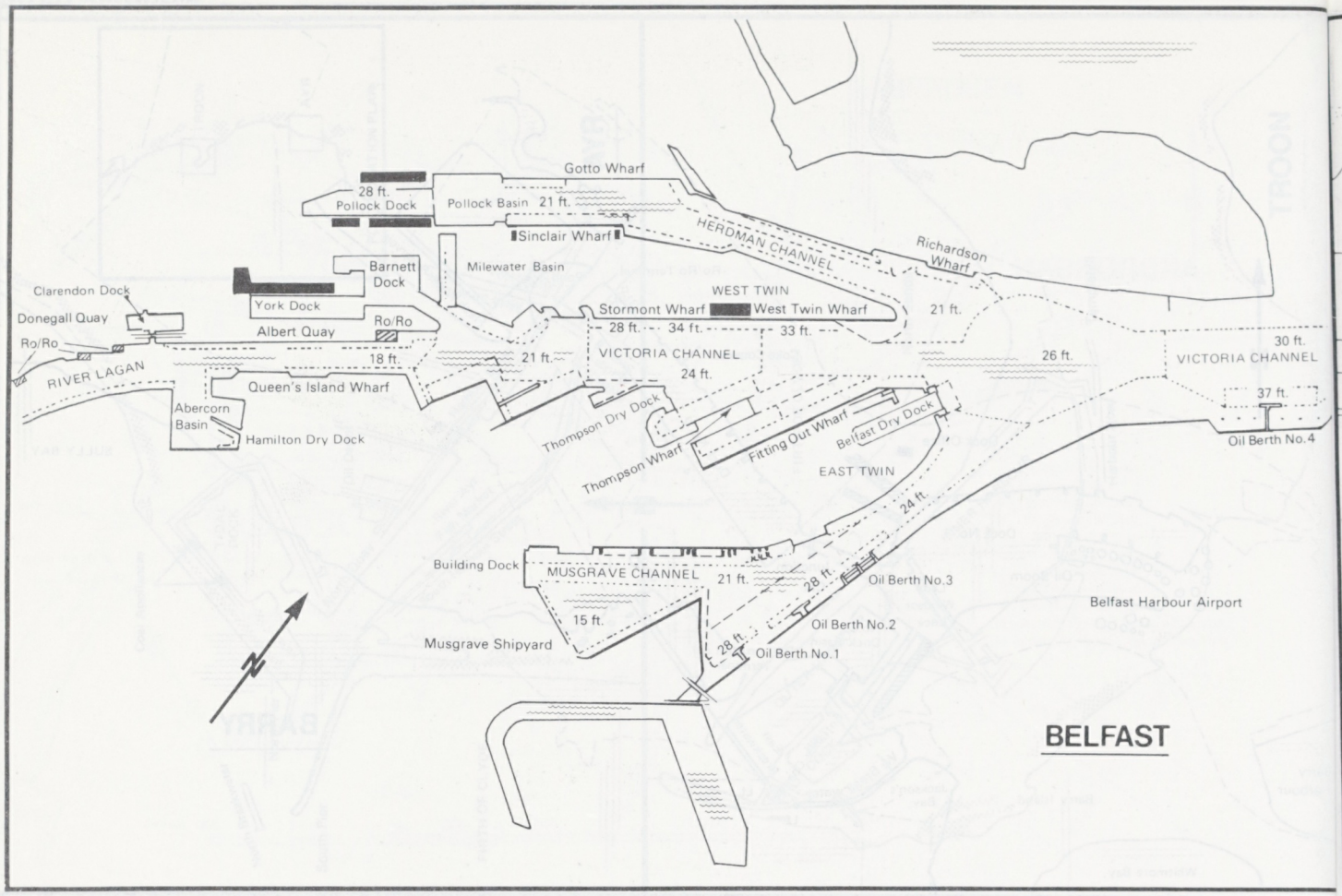

PORT LOCATION PLAN
TROON
AYR
AYR
Main Street
N. Harbour Street
New Bridge Street
Oil Depot
River Ayr
Fish Market
South Harbour Street
TIDAL DOCK
North Quay
Coal Appliances
North Pier
North Breakwater
South Pier
FIRTH OF CLYDE
N
TROON
North Sands
Templehill
Harbour Road
FIRTH OF CLYDE
INNER HARBOUR
OUTER HARBOUR
WET DOCK

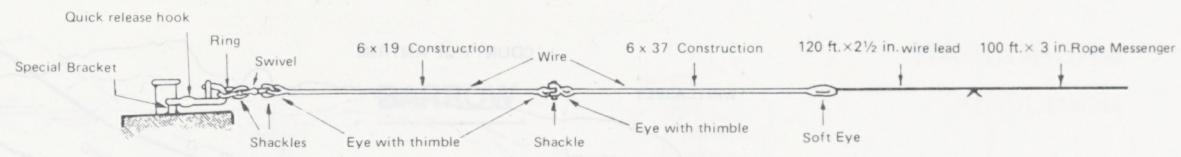

BARROW
Jubilee Bridge
Devonshire Dock
Buccleuch Dock
13
12
11
10
Cavendish Dock (Reservoir)
WALNEY CHANNEL
Walney Island
N
Dock Office
Ramsden Dock
Timber Pond
Oil Jetties
Ramsden Dock Lock
Deep Water Berth
Anchor Line Basin
Ro-Ro Terminal
Belfast Berth
Ramsden Dock Basin
Dock Entrance
SCALE
0 500 1000 2000 3000 Ft
0 500 1000 m



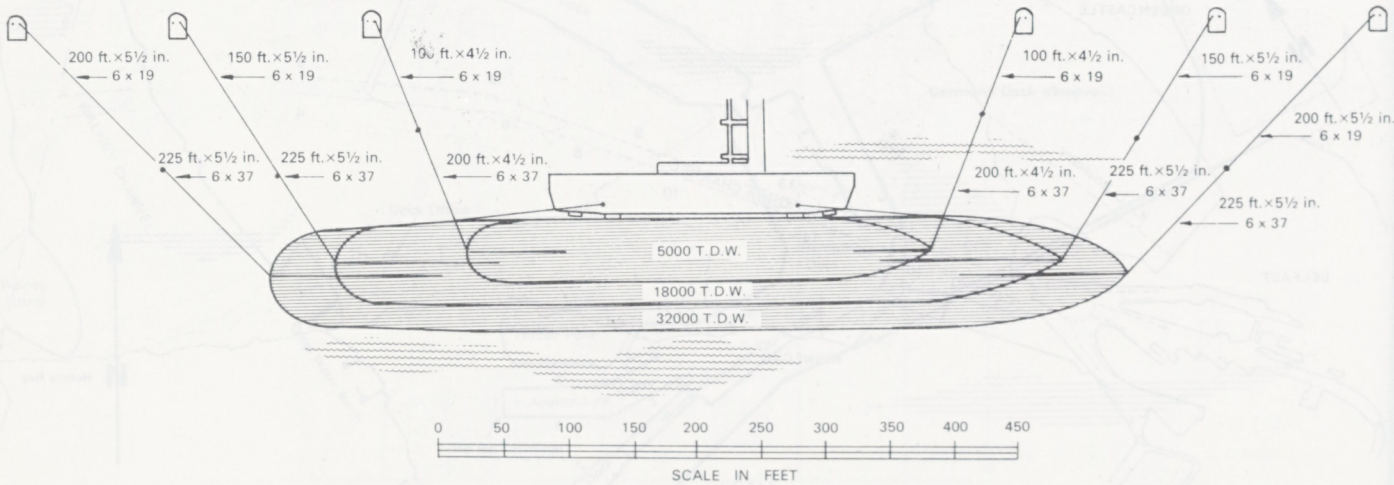


BELFAST HARBOUR AND LOUGH



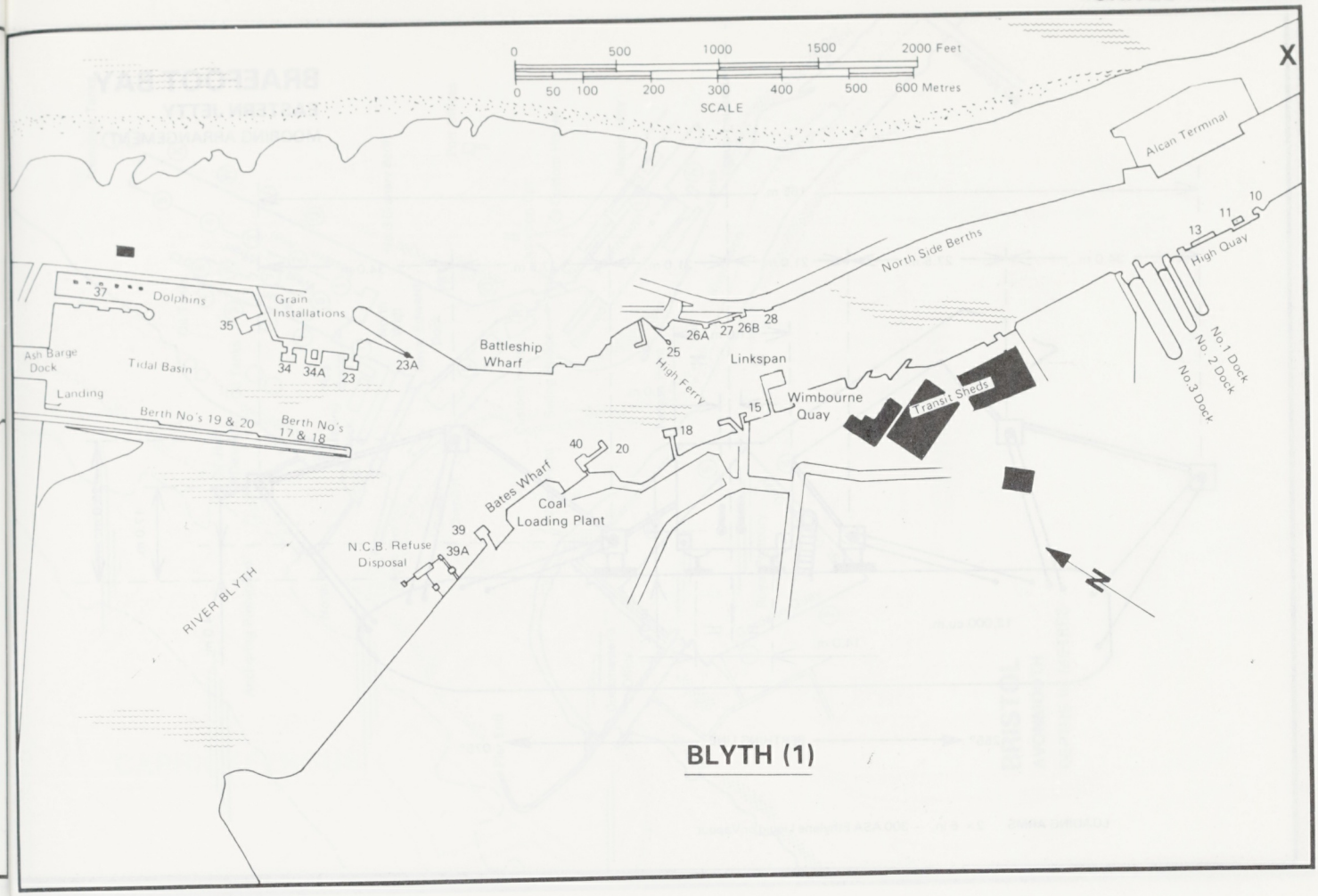


DETAIL OF HEAD, STERN AND BREAST WIRES

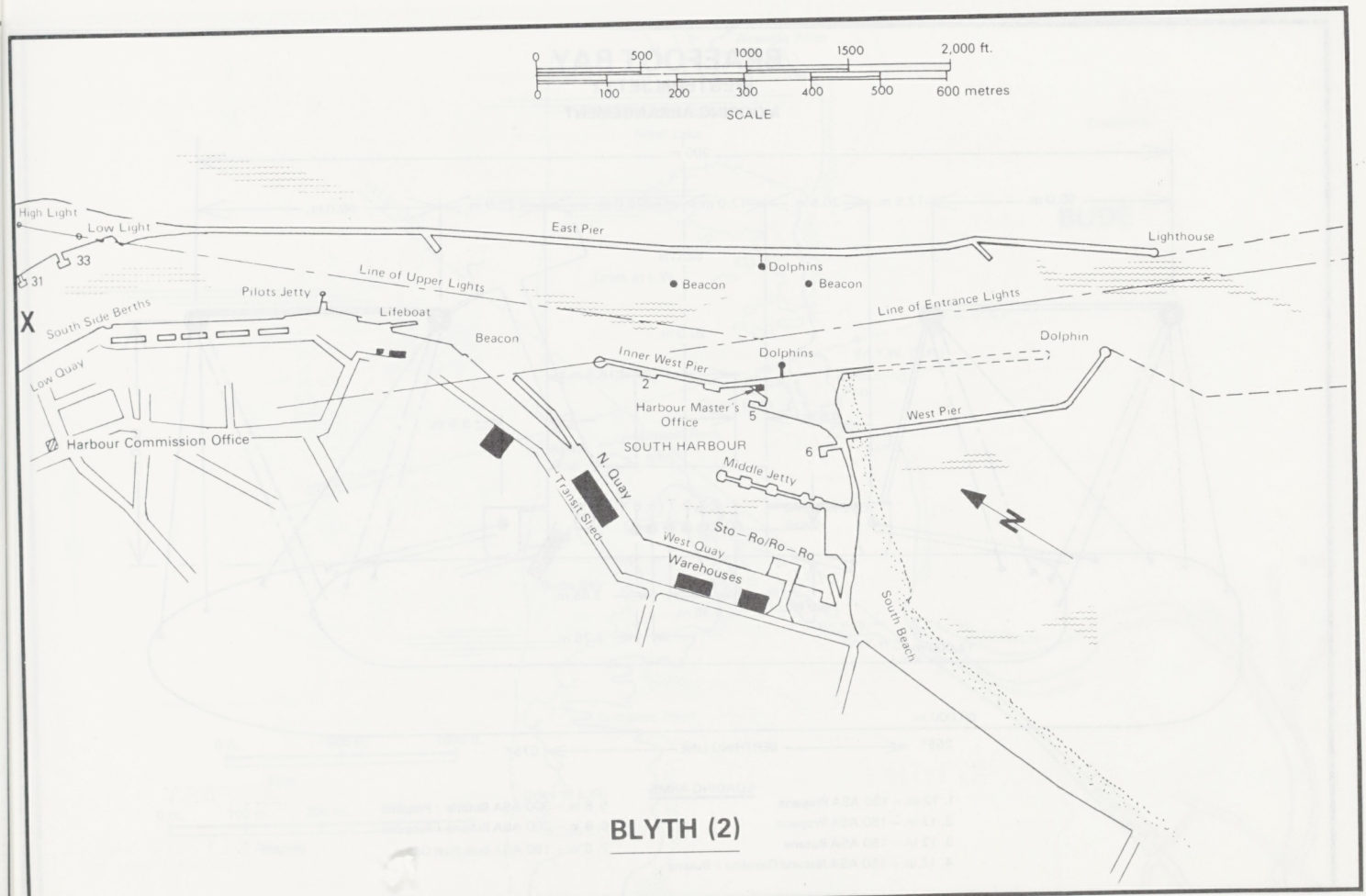


BELFAST

No.4 OIL BERTH

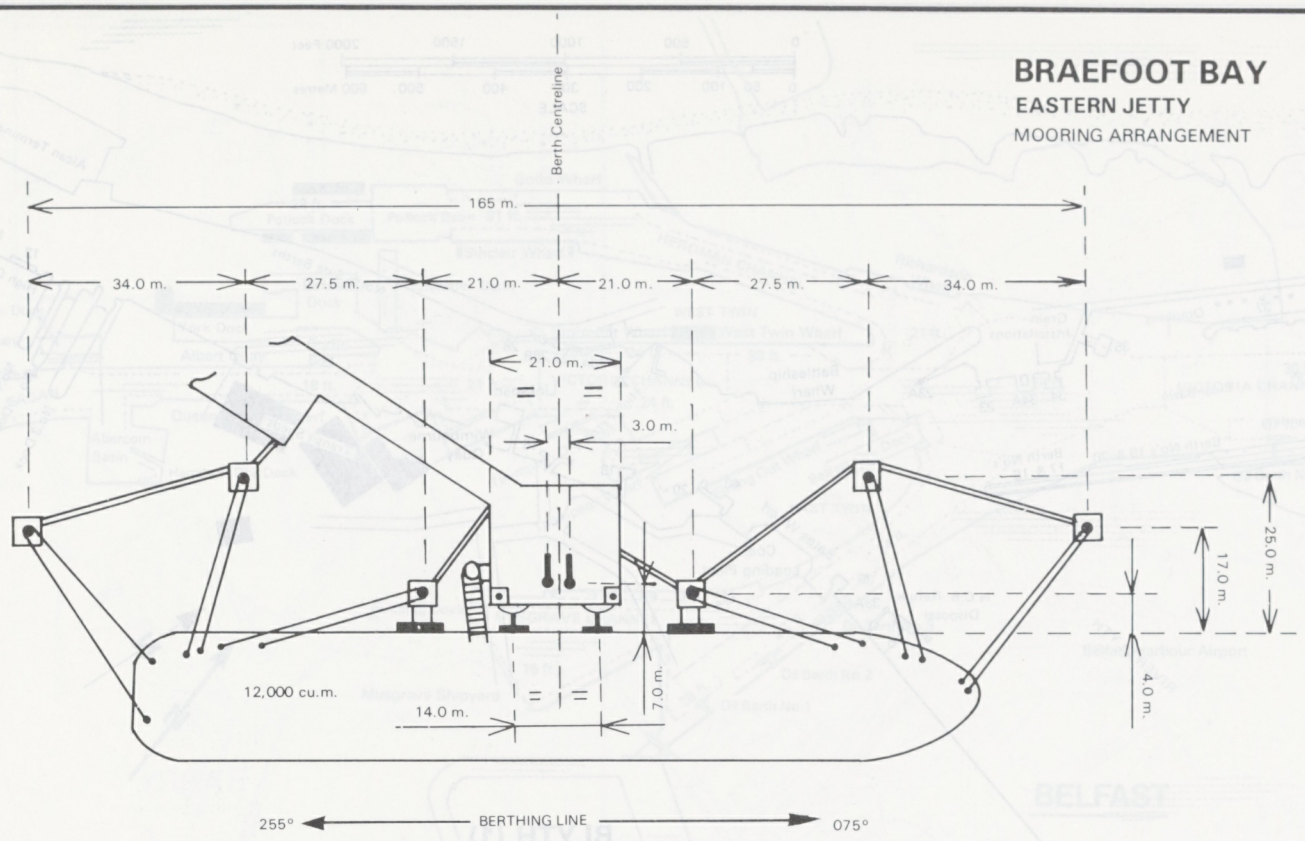


BLYTH (1)



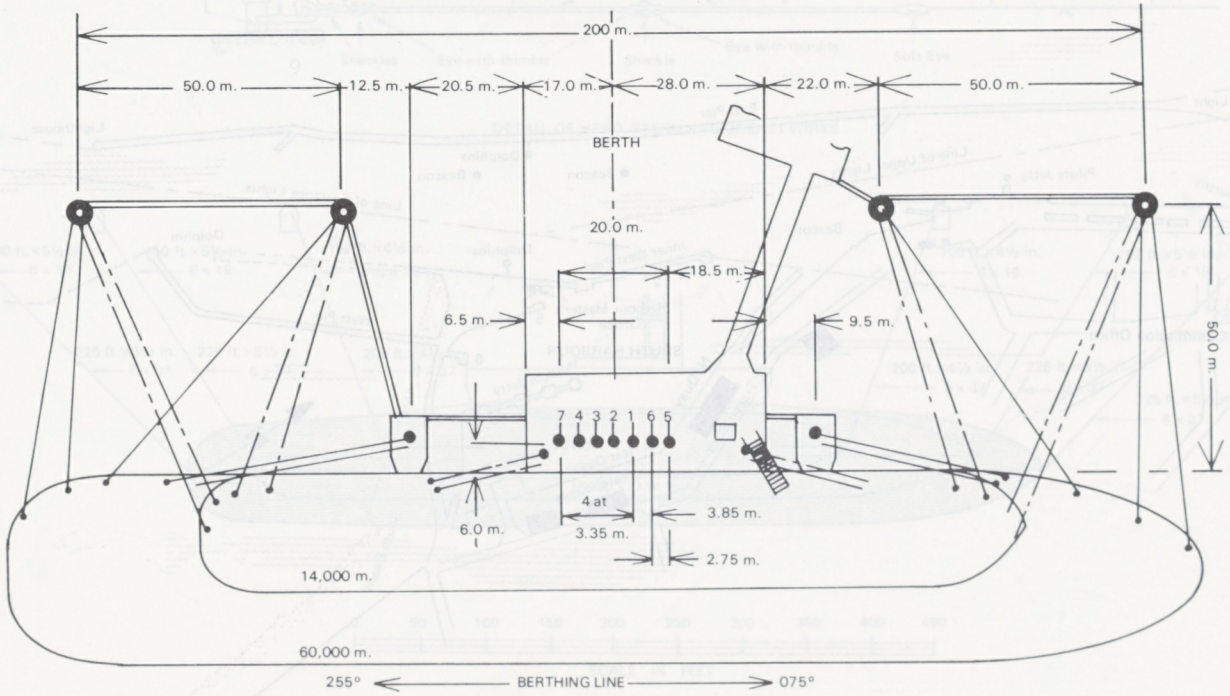
BLYTH (2)

BRAEFOOT BAY
EASTERN JETTY
MOORING ARRANGEMENT



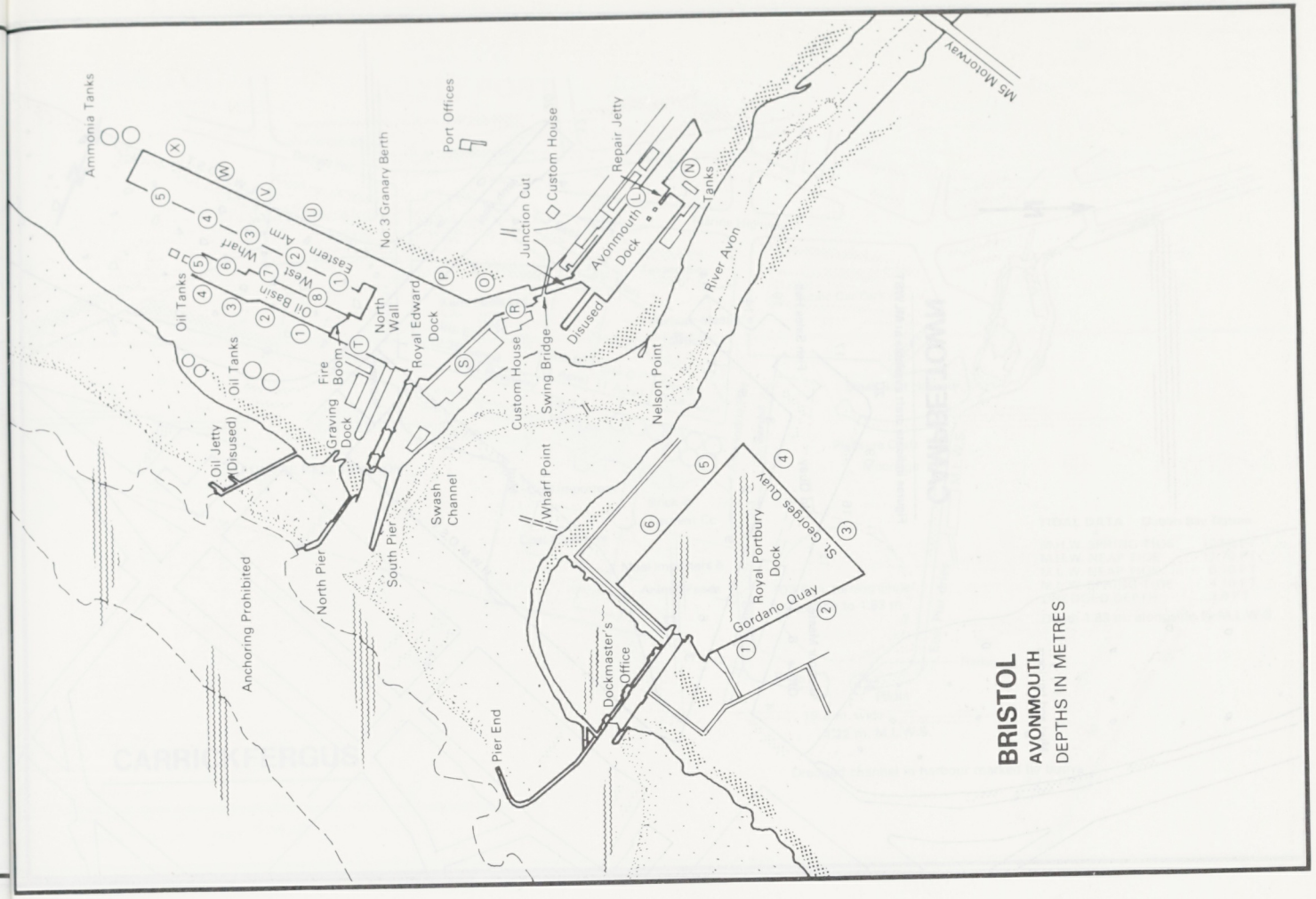
LOADING ARMS 2 × 6 in. — 300 ASA Ethylene Liquid or Vapour

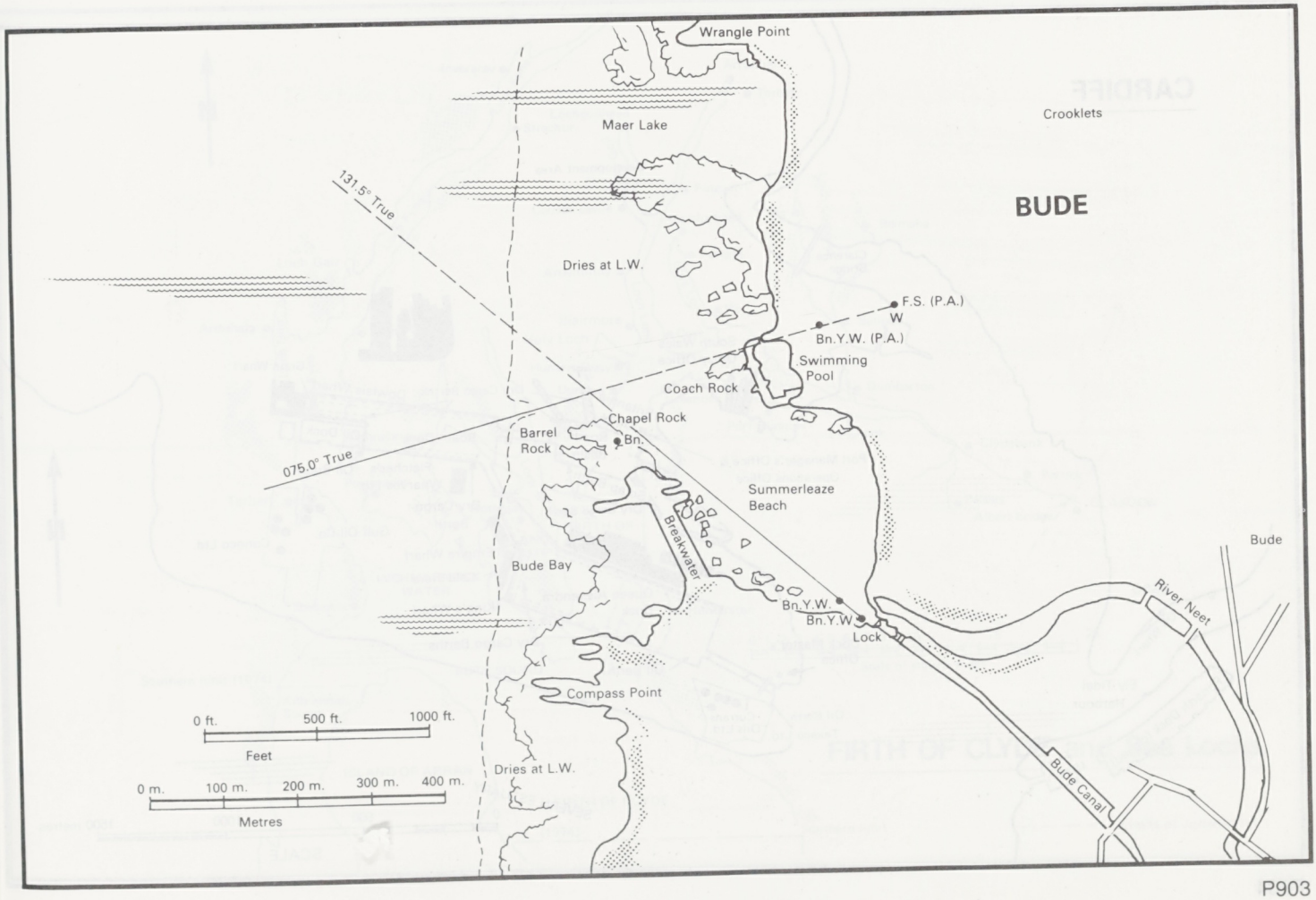
BRAEFOOT BAY
WESTERN JETTY
MOORING ARRANGEMENT



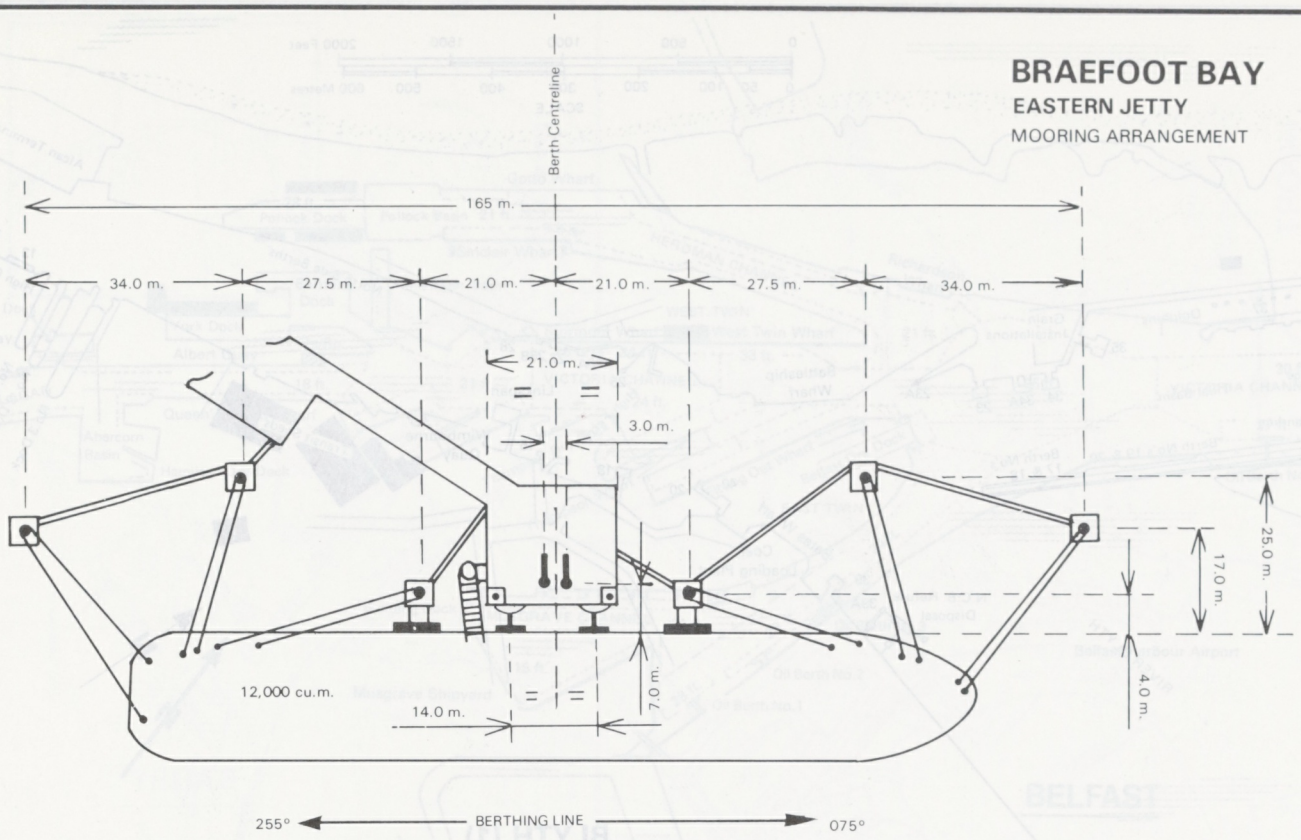
LOADING ARMS

1. 12 in. — 150 ASA Propane
2. 12 in. — 150 ASA Propane
3. 12 in. — 150 ASA Butane
4. 12 in. — 150 ASA Natural Gasoline / Butane
5. 8 in. — 300 ASA Butane / Propane
6. 8 in. — 300 ASA Butane / Propane
7. 8 in. — 150 ASA Bulk Fuel Oil


Ammonia Tanks
Port Offices
No. 3 Granary Berth
Junction Cut
Custom House
Repair Jetty
Tanks
M5 Motorway
Eastern Arm
West Wharf
Oil Basin
Oil Tanks
North Wall
Royal Edward Dock
Avonmouth Dock
Disused
River Avon
Fire Boom
Graving Dock
Oil Tanks
Oil Jetty (Disused)
Custom House
Swing Bridge
Nelson Point
Swash Channel
Wharf Point
St. Georges Quay
Royal Portbury Dock
Gordano Quay
Dockmaster's Office
Anchoring Prohibited
North Pier
South Pier
Pier End
BRISTOL
AVONMOUTH
DEPTHS IN METRES

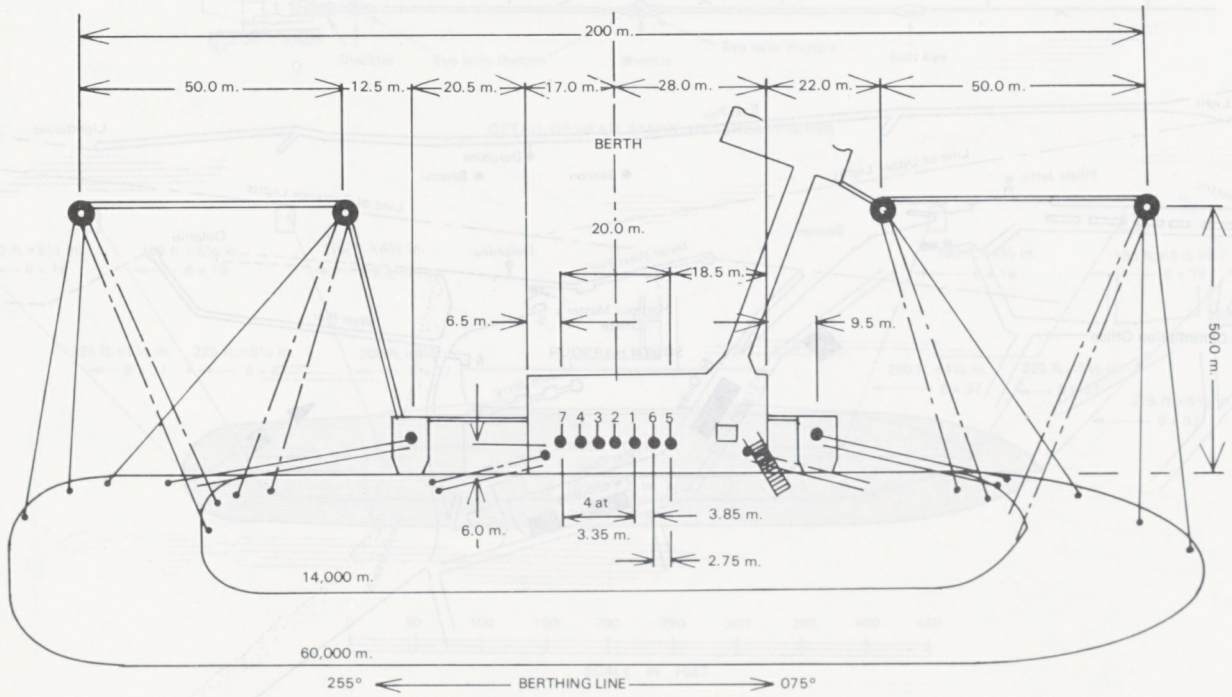

Wrangle Point
Maer Lake
Crooklets
BUDE
131.5° True
Dries at L.W.
F.S. (P.A.)
W
Bn.Y.W. (P.A.)
Swimming Pool
Coach Rock
Chapel Rock
Barrel Rock
Bn.
075.0° True
Summerleaze Beach
Breakwater
Bude Bay
Bn.Y.W.
Bn.Y.W.
Lock
Bude
River Neet
Compass Point
Bude Canal
Dries at L.W.
0 ft. 500 ft. 1000 ft.
Feet
0 m. 100 m. 200 m. 300 m. 400 m.
Metres

BRAEFOOT BAY
EASTERN JETTY
MOORING ARRANGEMENT



LOADING ARMS 2 × 6 in. — 300 ASA Ethylene Liquid or Vapour

BRAEFOOT BAY
WESTERN JETTY
MOORING ARRANGEMENT



LOADING ARMS

1. 12 in. — 150 ASA Propane
2. 12 in. — 150 ASA Propane
3. 12 in. — 150 ASA Butane
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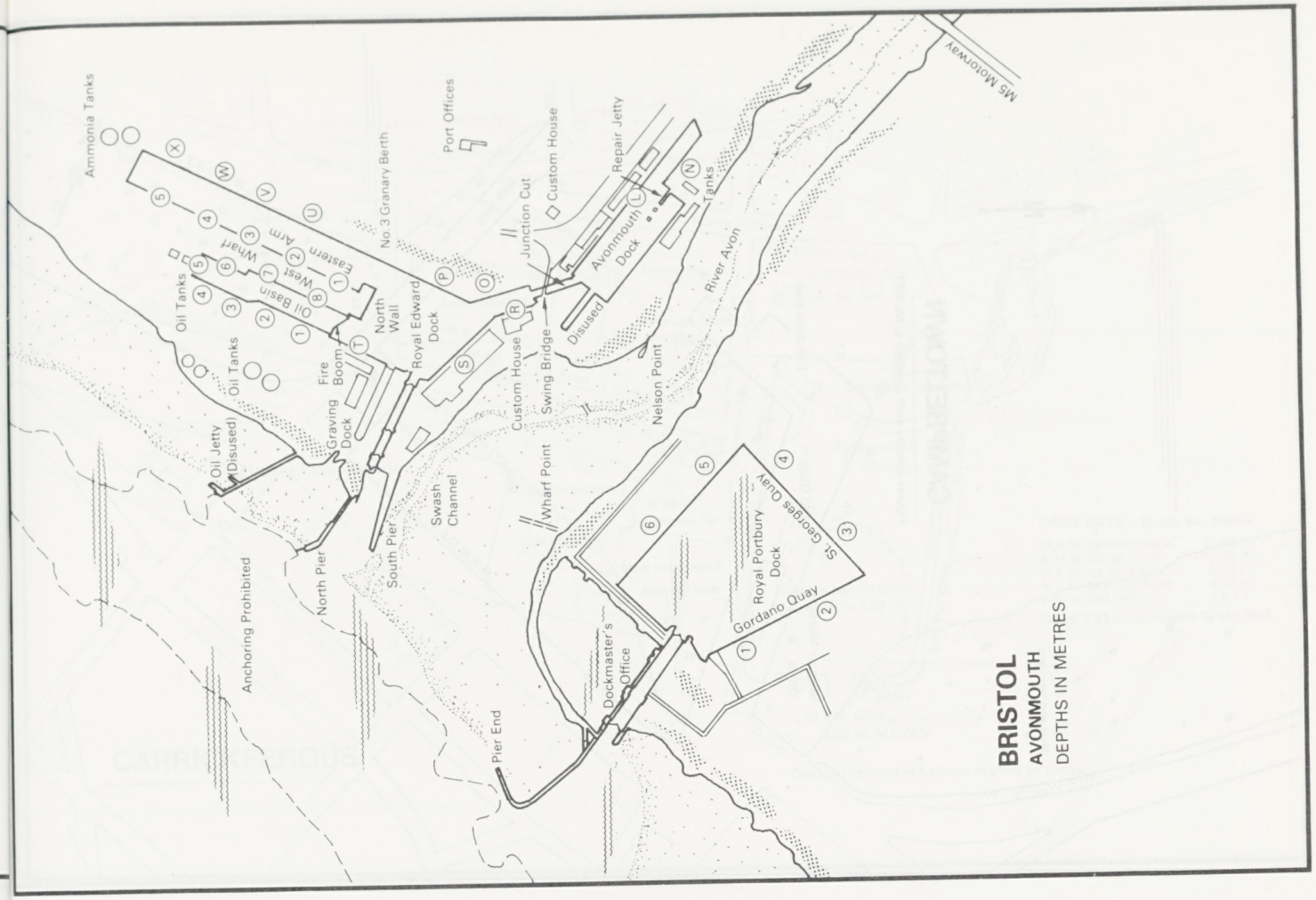
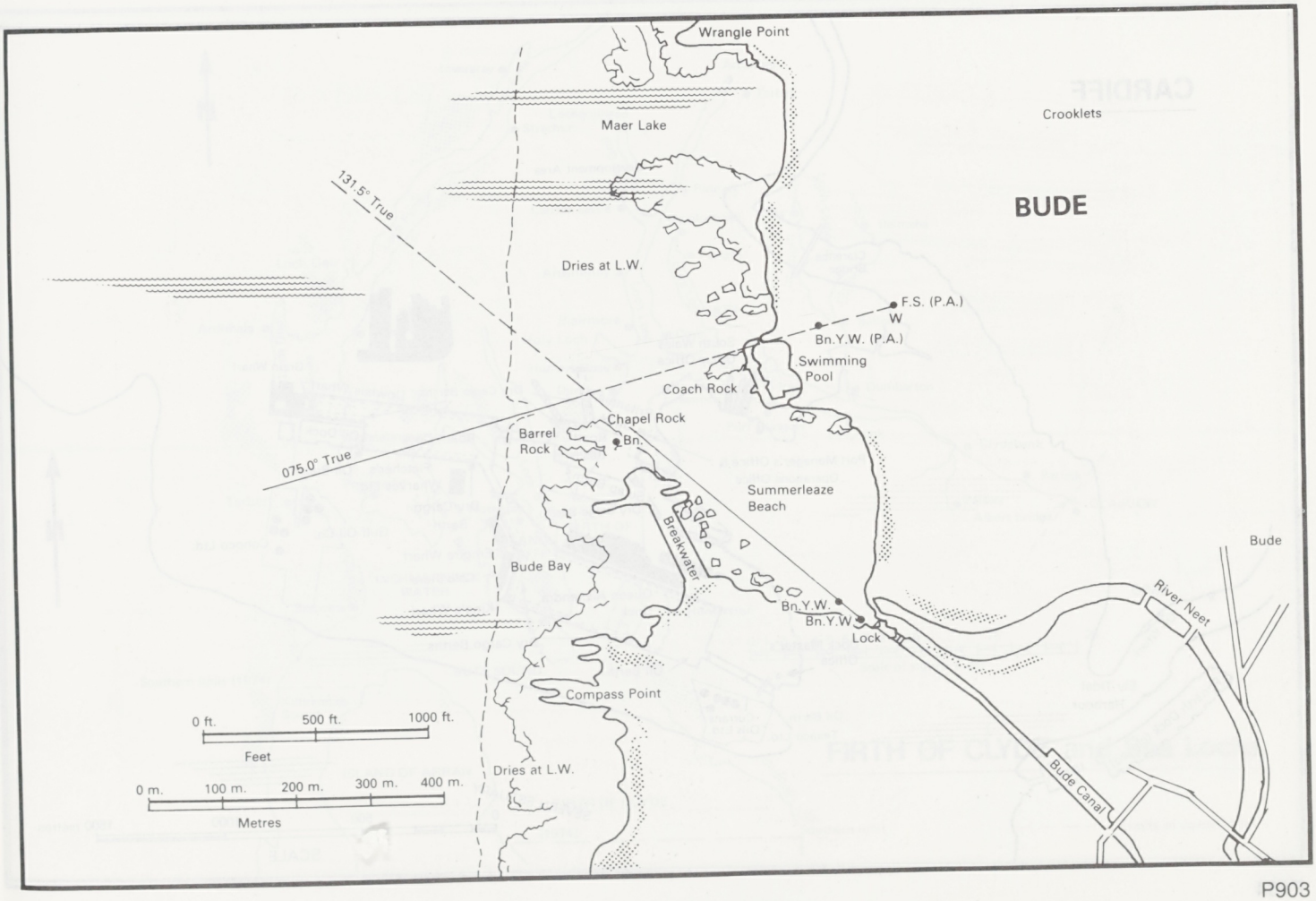
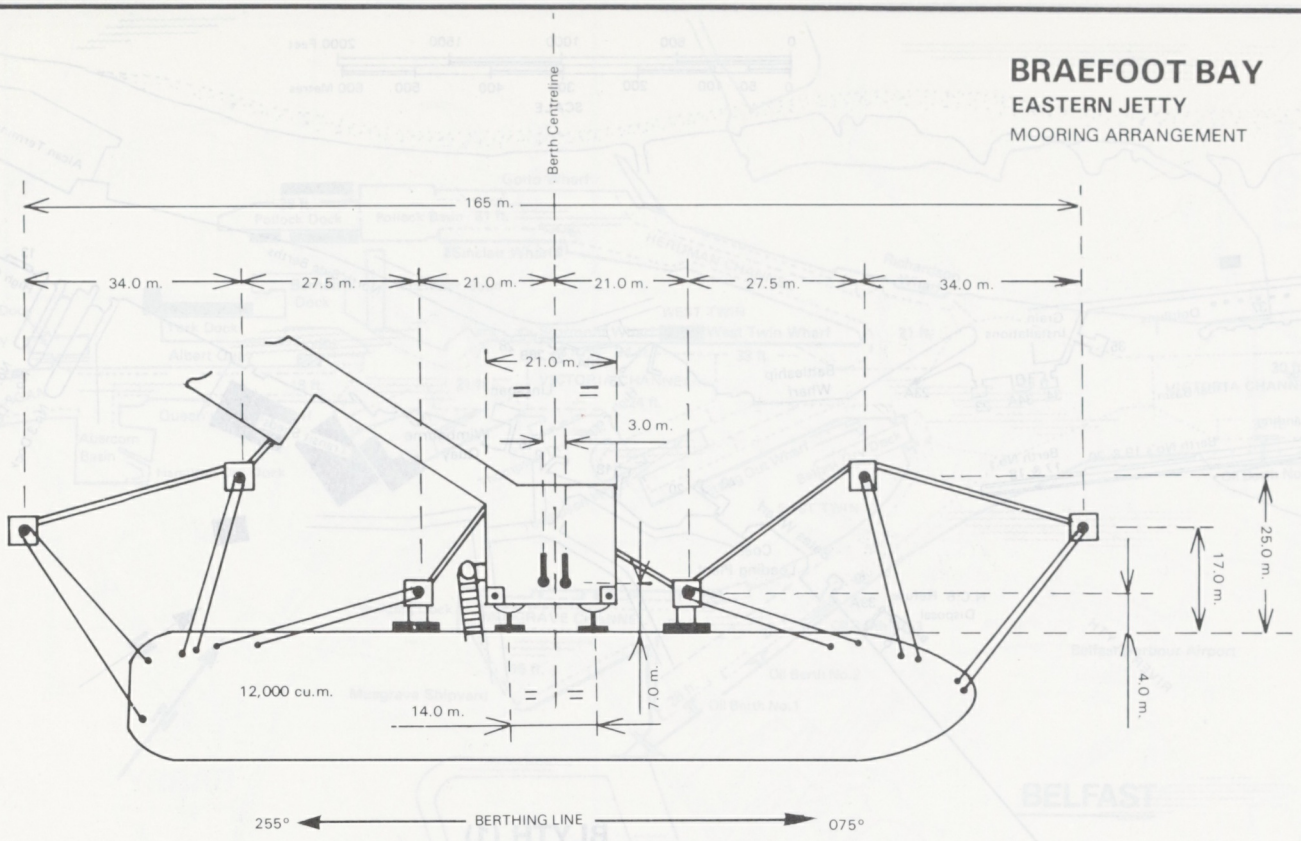
6. 8 in. — 300 ASA Butane / Propane
7. 8 in. — 150 ASA Bulk Fuel Oil


Ammonia Tanks
Port Offices
No. 3 Granary Berth
Junction Cut
Custom House
Repair Jetty
M5 Motorway
Tanks
Avonmouth Dock
River Avon
Disused
Eastern Arm
West Wharf
Oil Basin
Oil Tanks
North Wall
Royal Edward Dock
Fire Boom
Graving Dock
Oil Tanks
Oil Jetty (Disused)
Custom House
Swing Bridge
Nelson Point
Wharf Point
Swash Channel
South Pier
North Pier
Anchoring Prohibited
St. Georges Quay
Royal Portbury Dock
Gordano Quay
Dockmaster's Office
Pier End
BRISTOL
AVONMOUTH
DEPTHS IN METRES

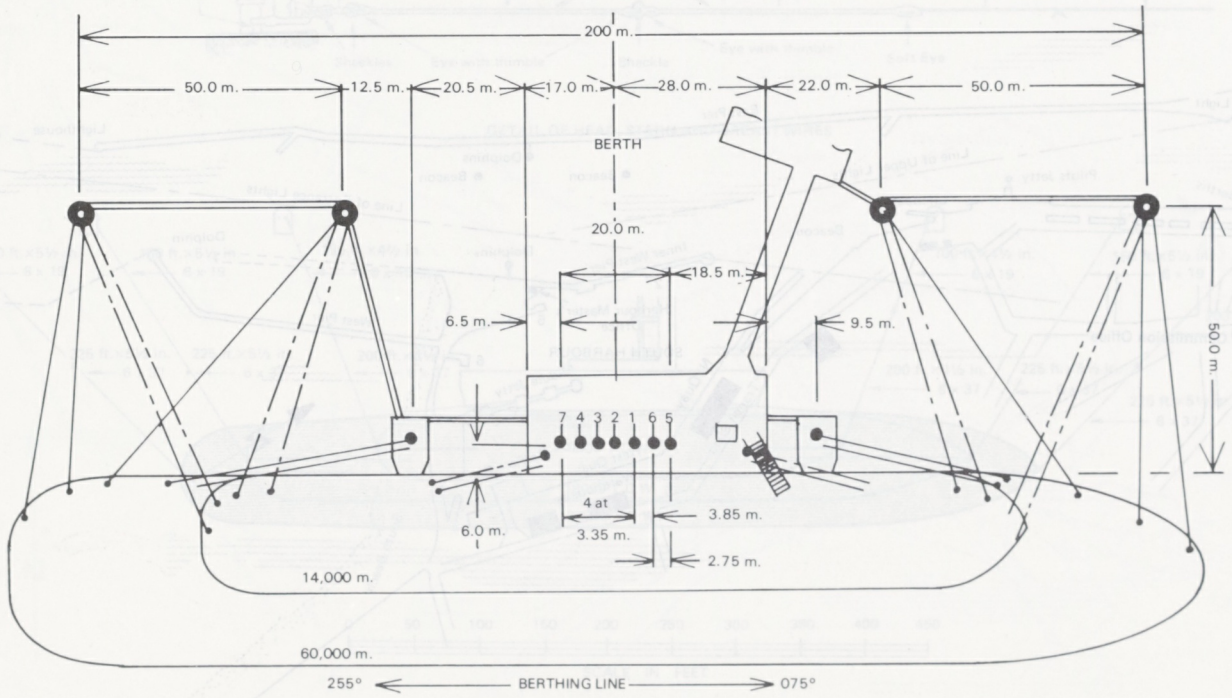

Wrangle Point
Crooklets
Maer Lake
BUDE
131.5° True
Dries at L.W.
F.S. (P.A.)
W
Bn.Y.W. (P.A.)
Swimming Pool
Coach Rock
Chapel Rock
Barrel Rock
Bn.
075.0° True
Summerleaze Beach
Breakwater
Bude Bay
Bn.Y.W.
Bn.Y.W
Lock
Bude
River Neet
Compass Point
Bude Canal
Dries at L.W.
0 ft. 500 ft. 1000 ft.
Feet
0 m. 100 m. 200 m. 300 m. 400 m.
Metres

BRAEFOOT BAY
EASTERN JETTY
MOORING ARRANGEMENT



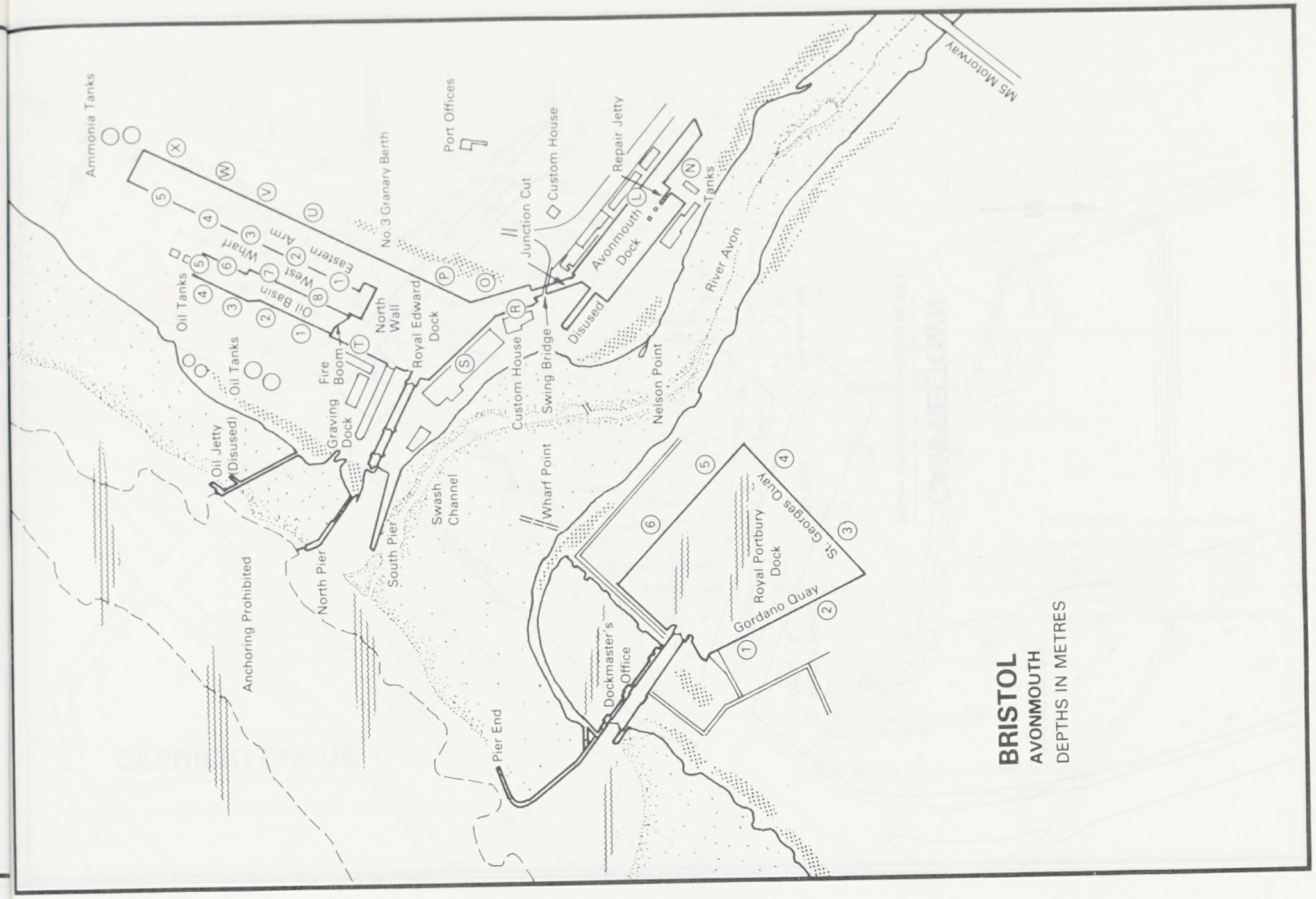
LOADING ARMS 2× 6 in. — 300 ASA Ethylene Liquid or Vapour

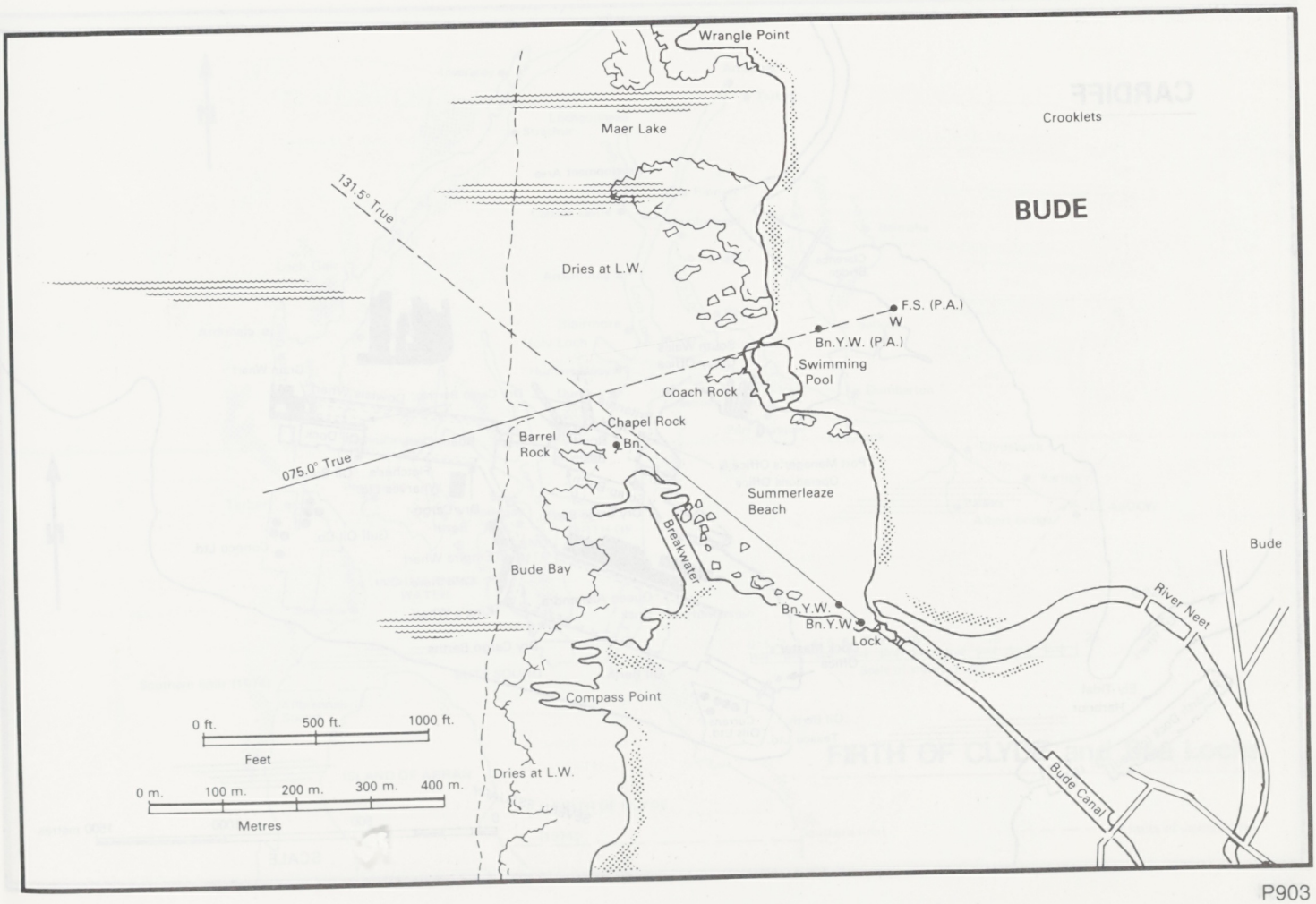
BRAEFOOT BAY
WESTERN JETTY
MOORING ARRANGEMENT



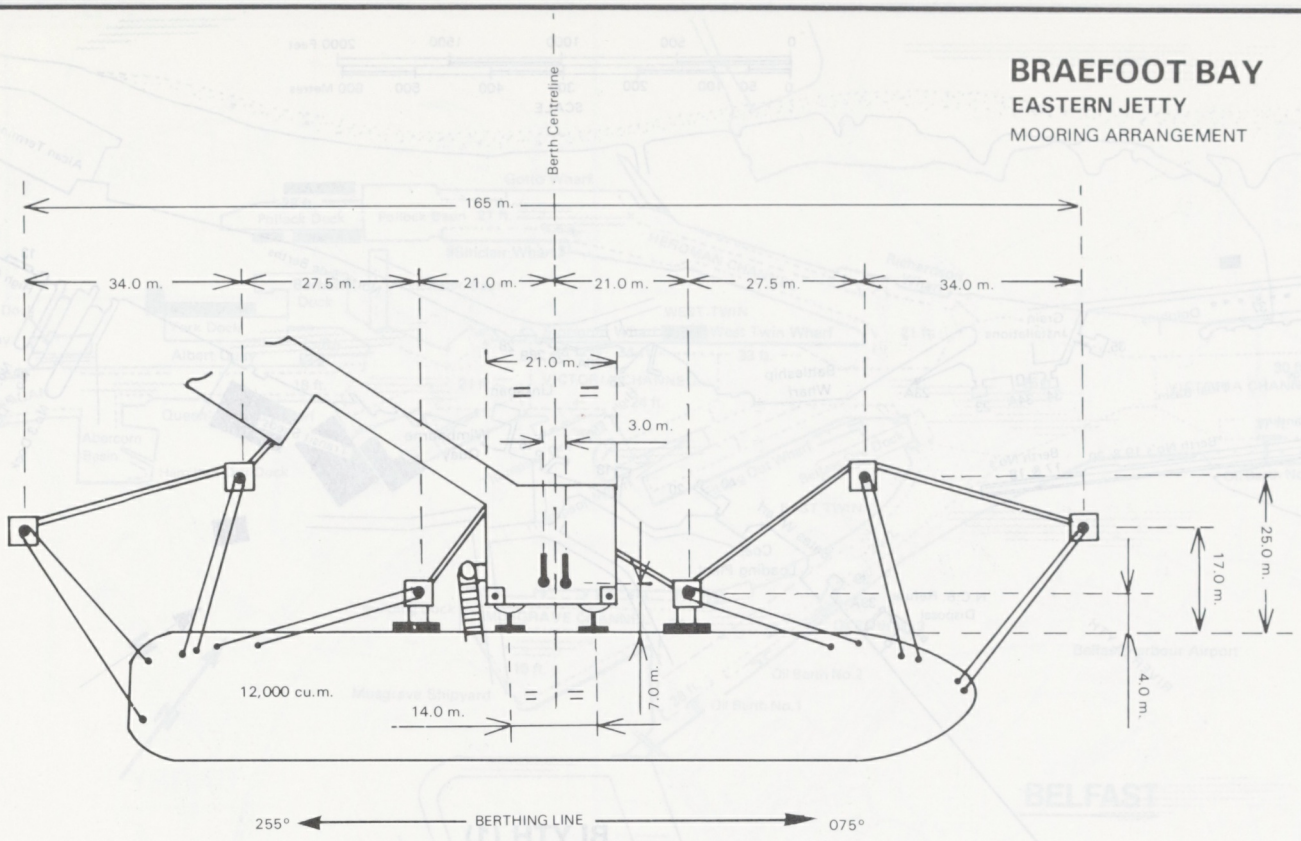
LOADING ARMS

1. 12 in. — 150 ASA Propane
2. 12 in. — 150 ASA Propane
3. 12 in. — 150 ASA Butane
4. 12 in. — 150 ASA Natural Gasoline / Butane
5. 8 in. — 300 ASA Butane / Propane
6. 8 in. — 300 ASA Butane / Propane
7. 8 in. — 150 ASA Bulk Fuel Oil


Ammonia Tanks
Port Offices
No. 3 Granary Berth
Eastern Arm
Wharf
West
Oil Basin
Oil Tanks
Oil Tanks
Oil Jetty (Disused)
Fire Boom
Graving Dock
North Wall
Royal Edward Dock
Junction Cut
Custom House
Repair Jetty
Avonmouth Dock
Tanks
Disused
Swing Bridge
Custom House
River Avon
M5 Motorway
Nelson Point
Wharf Point
Swash Channel
St. Georges Quay
Royal Portbury Dock
Gordano Quay
Dockmaster's Office
Pier End
South Pier
North Pier
Anchoring Prohibited
BRISTOL
AVONMOUTH
DEPTHS IN METRES

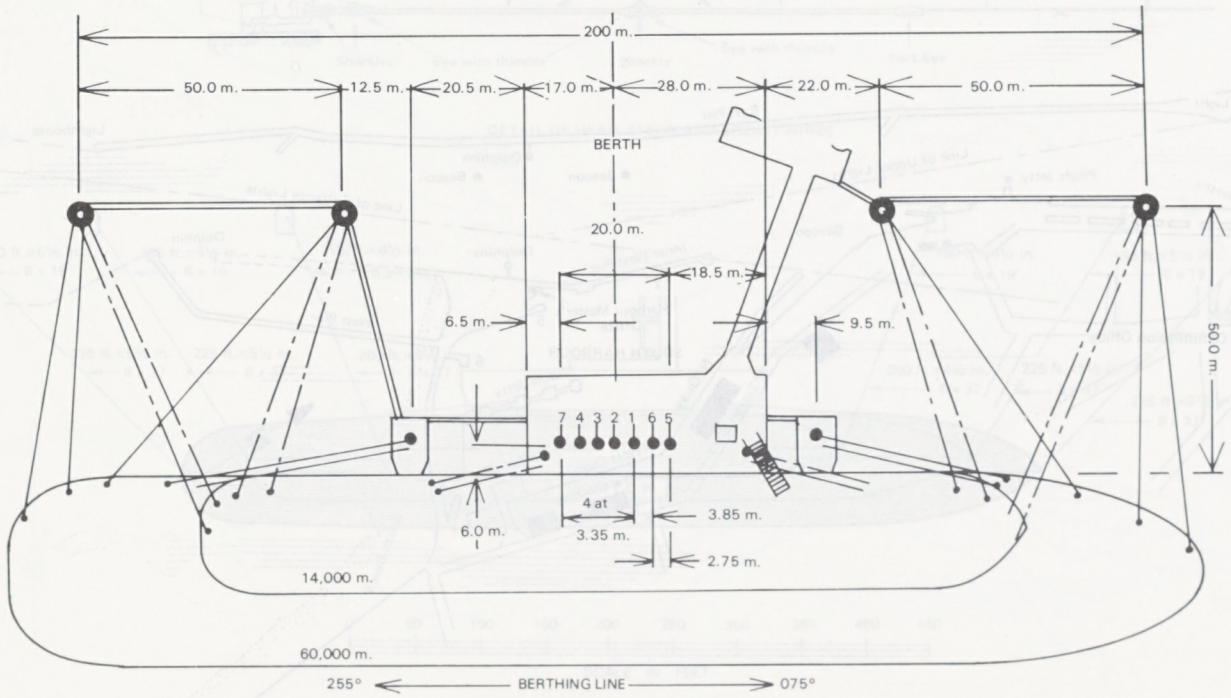

Wrangle Point
Maer Lake
Crooklets
BUDE
131.5° True
Dries at L.W.
F.S. (P.A.)
W
Bn.Y.W. (P.A.)
Swimming Pool
Coach Rock
Chapel Rock
Barrel Rock
Bn.
075.0° True
Summerleaze Beach
Breakwater
Bude Bay
Bn.Y.W.
Bn.Y.W.
Lock
Bude
River Neet
Compass Point
Bude Canal
Dries at L.W.
0 ft. 500 ft. 1000 ft.
Feet
0 m. 100 m. 200 m. 300 m. 400 m.
Metres

BRAEFOOT BAY
EASTERN JETTY
MOORING ARRANGEMENT



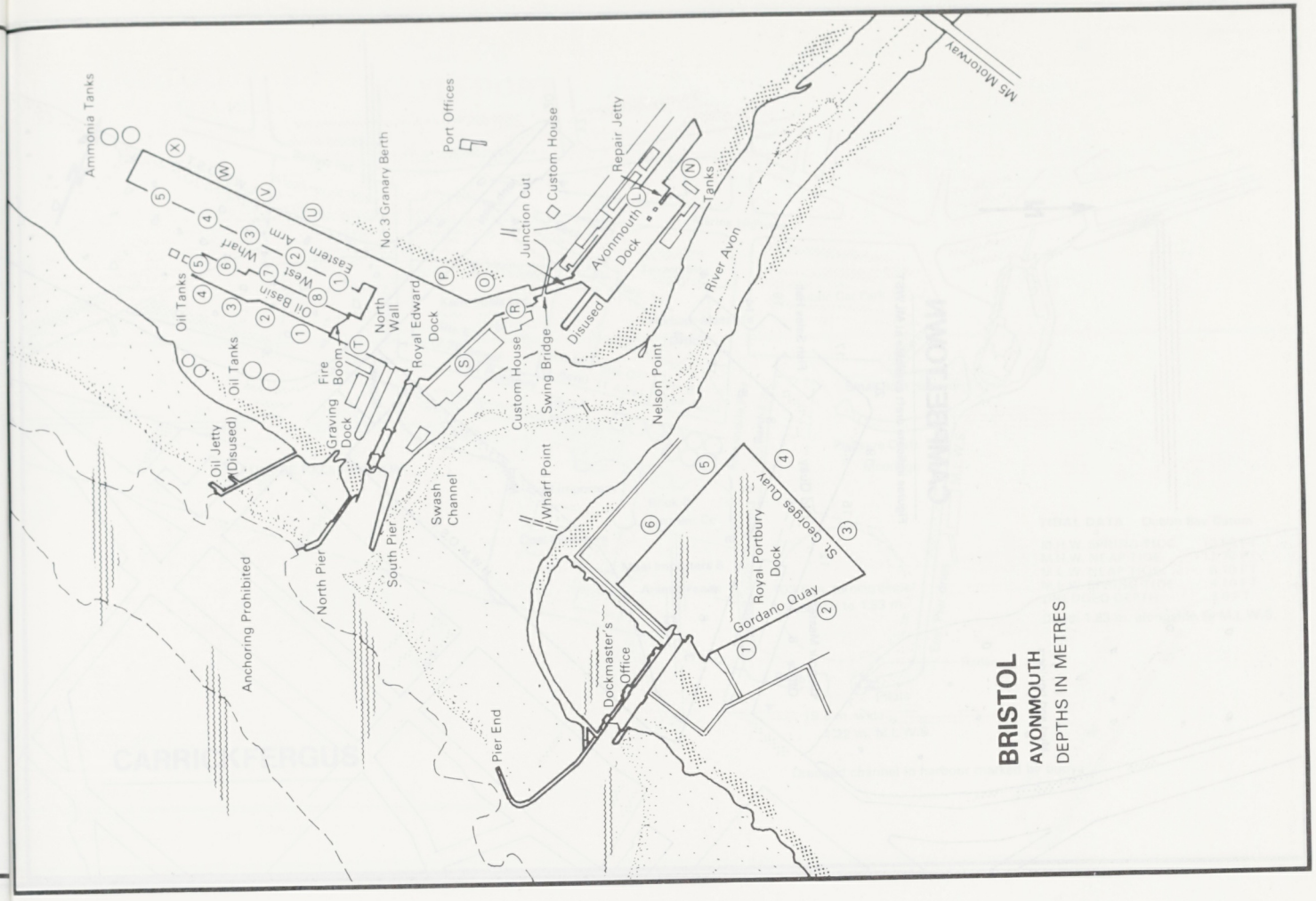
LOADING ARMS 2× 6 in. — 300 ASA Ethylene Liquid or Vapour

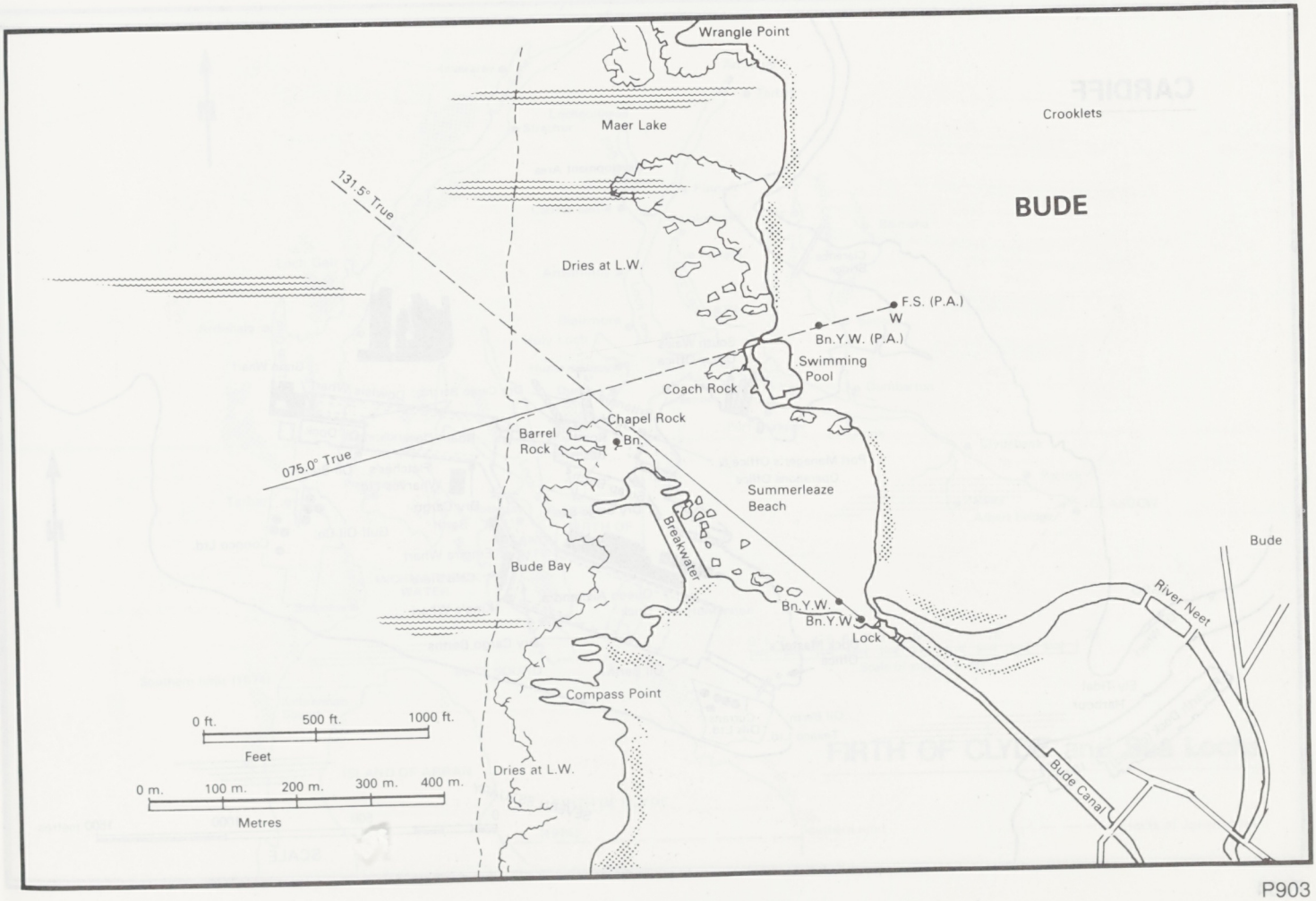
BRAEFOOT BAY
WESTERN JETTY
MOORING ARRANGEMENT

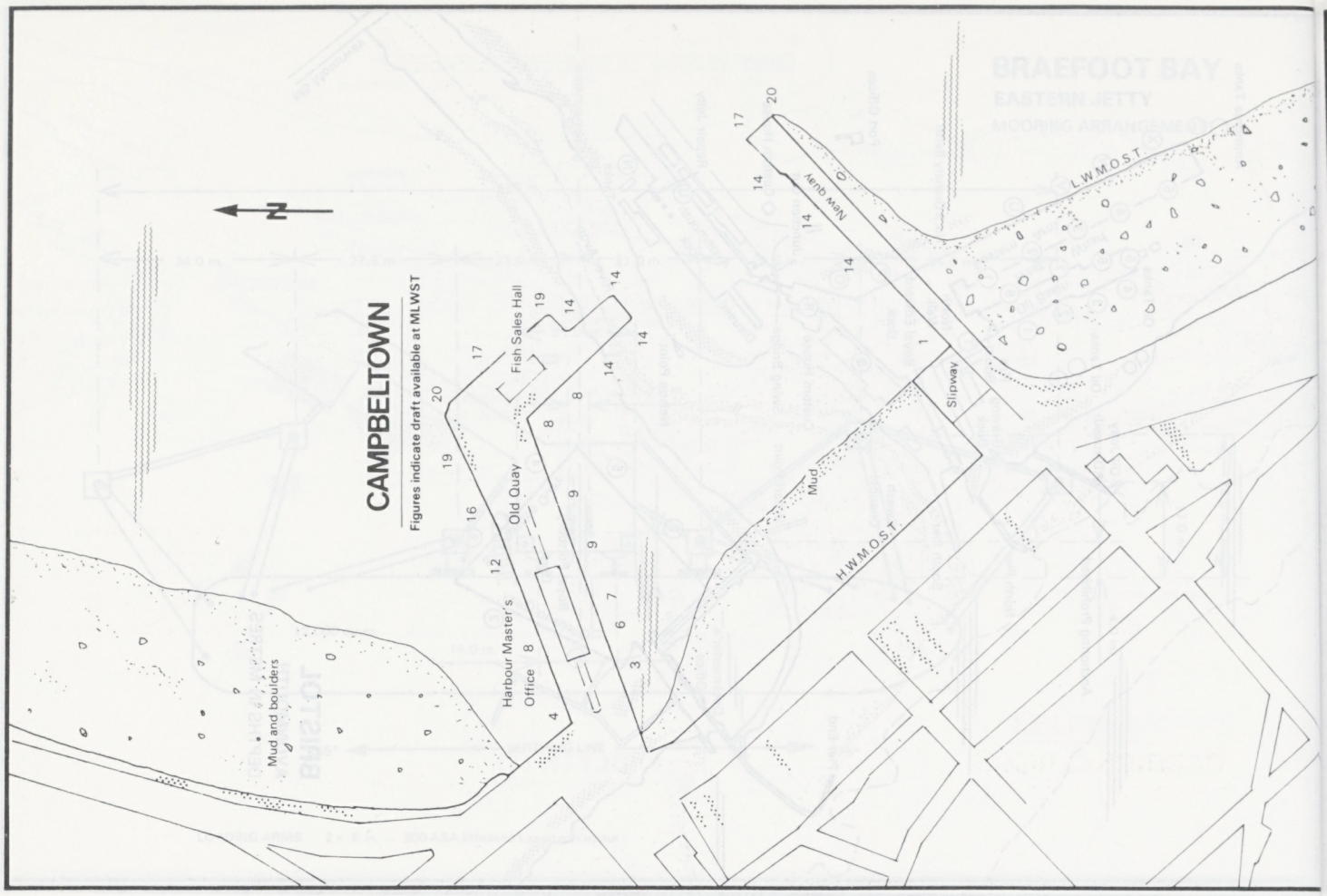


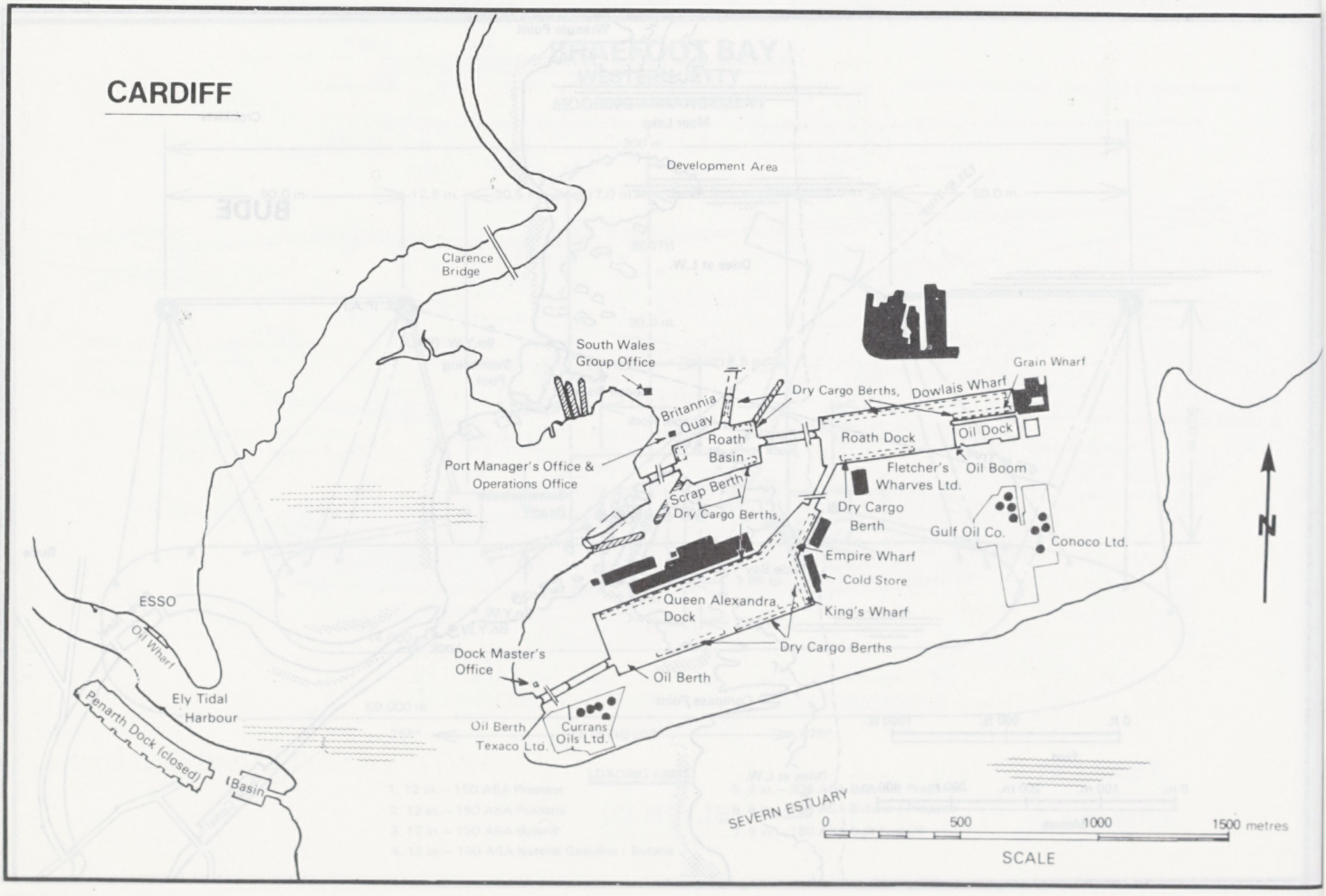
LOADING ARMS

1. 12 in. — 150 ASA Propane
2. 12 in. — 150 ASA Propane
3. 12 in. — 150 ASA Butane
4. 12 in. — 150 ASA Natural Gasoline / Butane
5. 8 in. — 300 ASA Butane / Propane
6. 8 in. — 300 ASA Butane / Propane
7. 8 in. — 150 ASA Bulk Fuel Oil

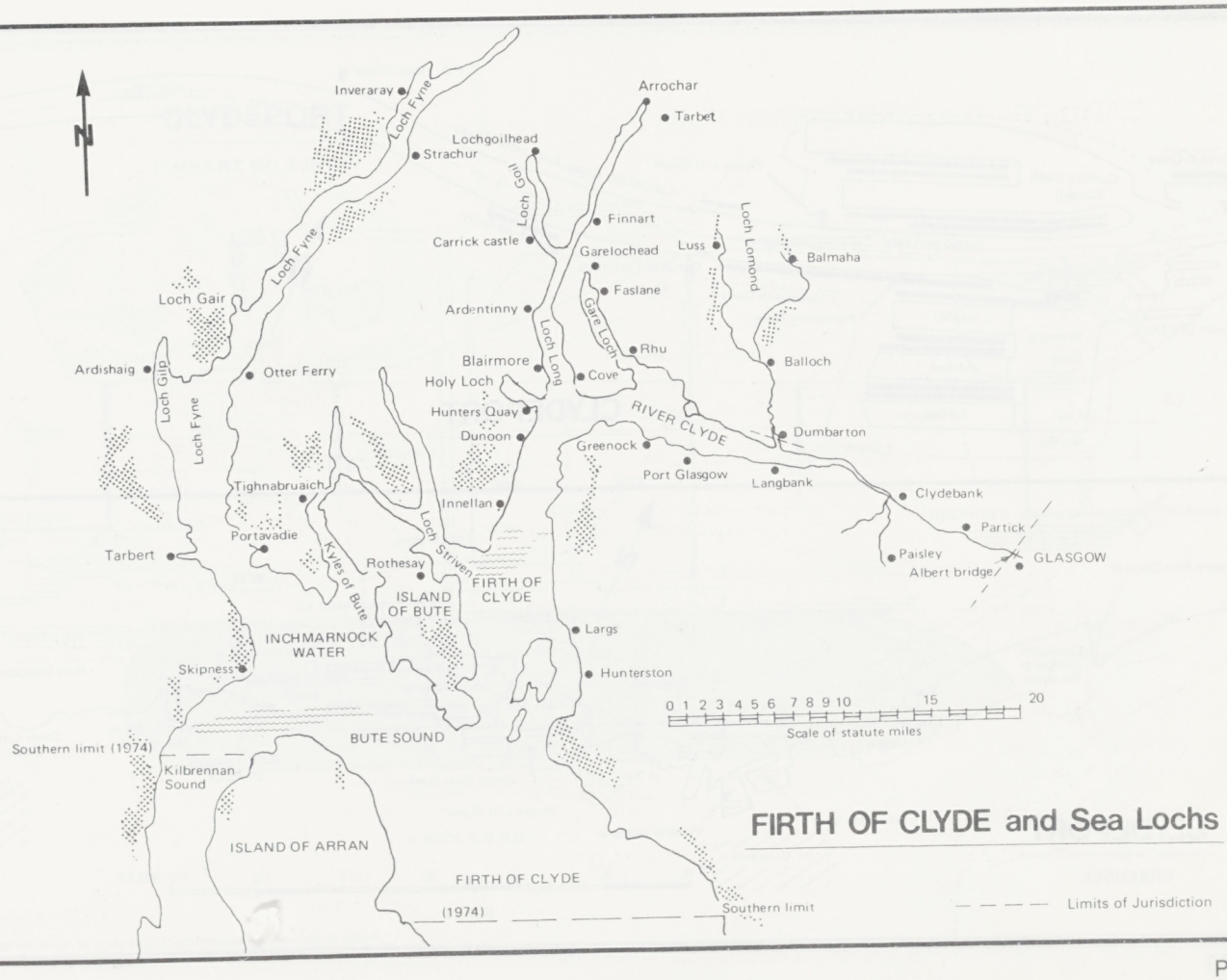

Ammonia Tanks
Port Offices
No. 3 Granary Berth
Eastern Arm
West Wharf
Oil Basin
Oil Tanks
Oil Tanks
Oil Jetty (Disused)
Fire Boom
Graving Dock
North Wall
Royal Edward Dock
Junction Cut
Custom House
Repair Jetty
Avonmouth Dock
Tanks
Disused
Swing Bridge
Custom House
River Avon
M5 Motorway
Nelson Point
Wharf Point
Swash Channel
South Pier
North Pier
Anchoring Prohibited
Pier End
Dockmaster's Office
Gordano Quay
Royal Portbury Dock
St. Georges Quay
BRISTOL
AVONMOUTH
DEPTHS IN METRES

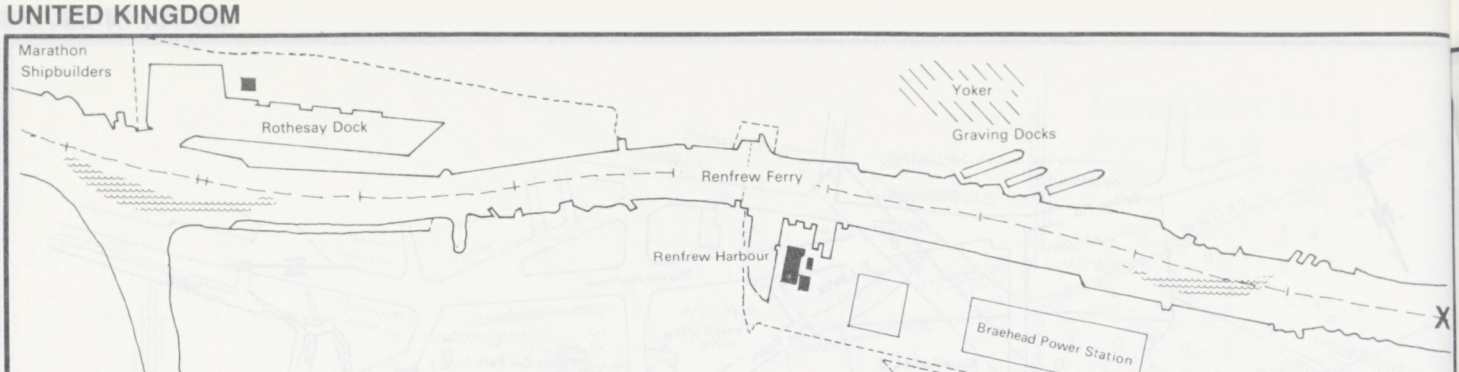

Wrangle Point
Maer Lake
Crooklets
BUDE
131.5° True
Dries at L.W.
F.S. (P.A.)
W
Bn.Y.W. (P.A.)
Swimming Pool
Coach Rock
Chapel Rock
Barrel Rock
Bn.
075.0° True
Summerleaze Beach
Breakwater
Bude Bay
Bn.Y.W.
Bn.Y.W.
Lock
Bude
River Neet
Compass Point
Dries at L.W.
Bude Canal
0 ft. 500 ft. 1000 ft.
Feet
0 m. 100 m. 200 m. 300 m. 400 m.
Metres

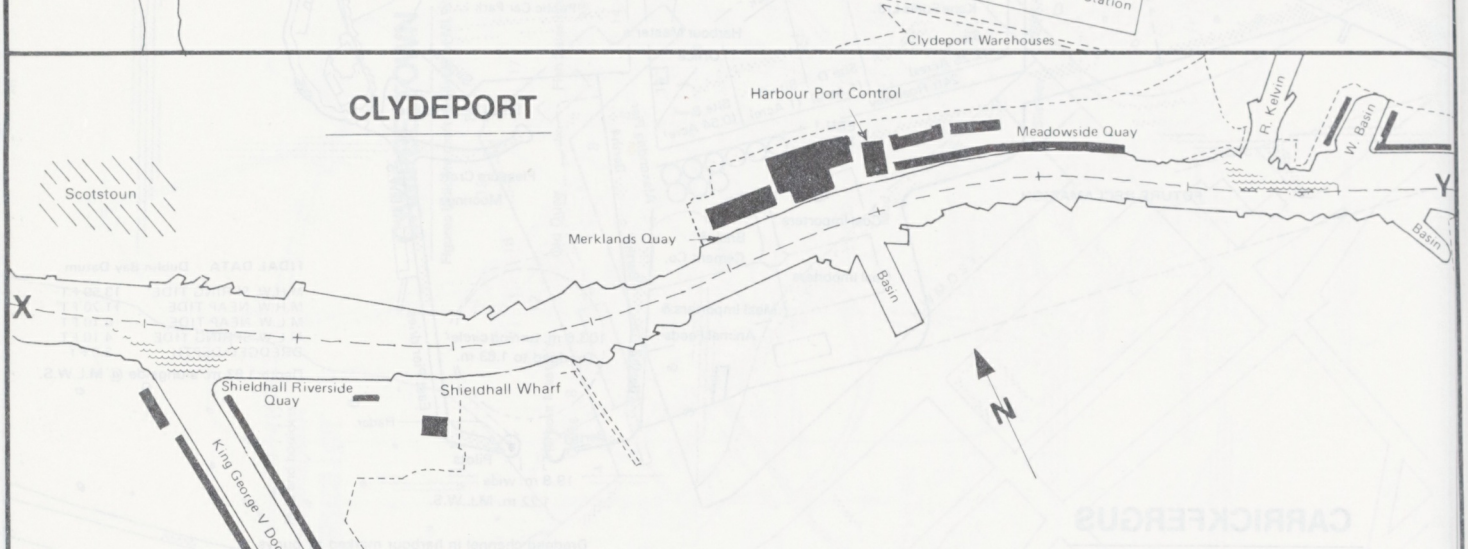

CAMPBELTOWN
Figures indicate draft available at MLWST
N
New quay
Fish Sales Hall
Old Quay
Harbour Master's Office
Mud and boulders
Mud
Slipway
L.W.M.O.S.T.
H.W.M.O.S.T.

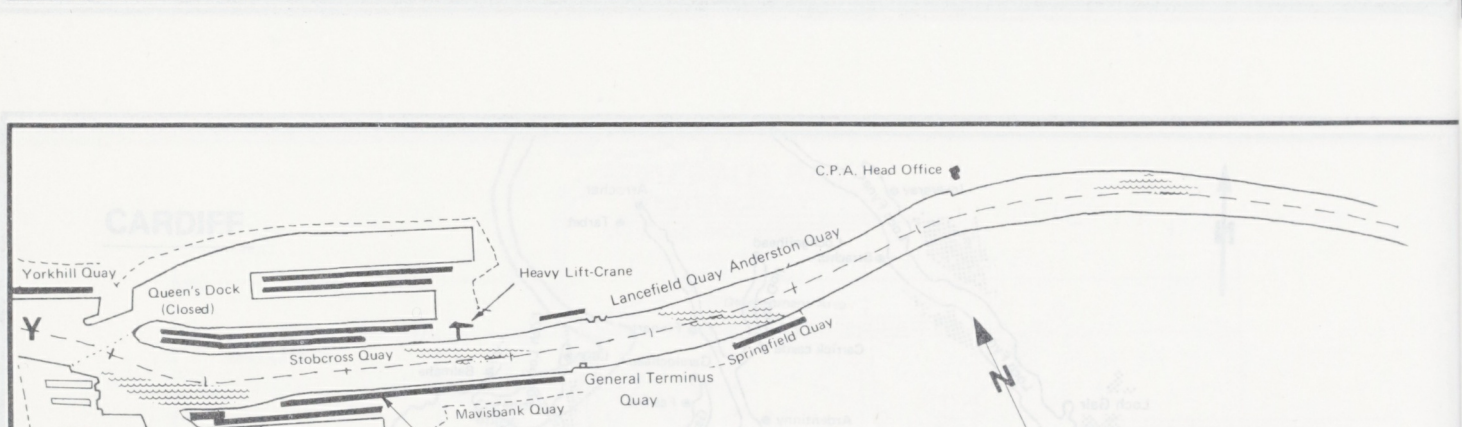

CARDIFF
Development Area
Clarence Bridge
South Wales Group Office
Britannia Quay
Roath Basin
Port Manager's Office & Operations Office
Scrap Berth
Dry Cargo Berths
Dry Cargo Berths
Dowlais Wharf
Grain Wharf
Roath Dock
Oil Dock
Fletcher's Wharves Ltd.
Oil Boom
Dry Cargo Berth
Gulf Oil Co.
Conoco Ltd.
Empire Wharf
Cold Store
King's Wharf
Queen Alexandra Dock
Dry Cargo Berths
Dock Master's Office
Oil Berth
Oil Berth Texaco Ltd.
Currans Oils Ltd.
ESSO Oil Wharf
Ely Tidal Harbour
Penarth Dock (closed)
Basin
SEVERN ESTUARY
N
0 500 1000 1500 metres
SCALE

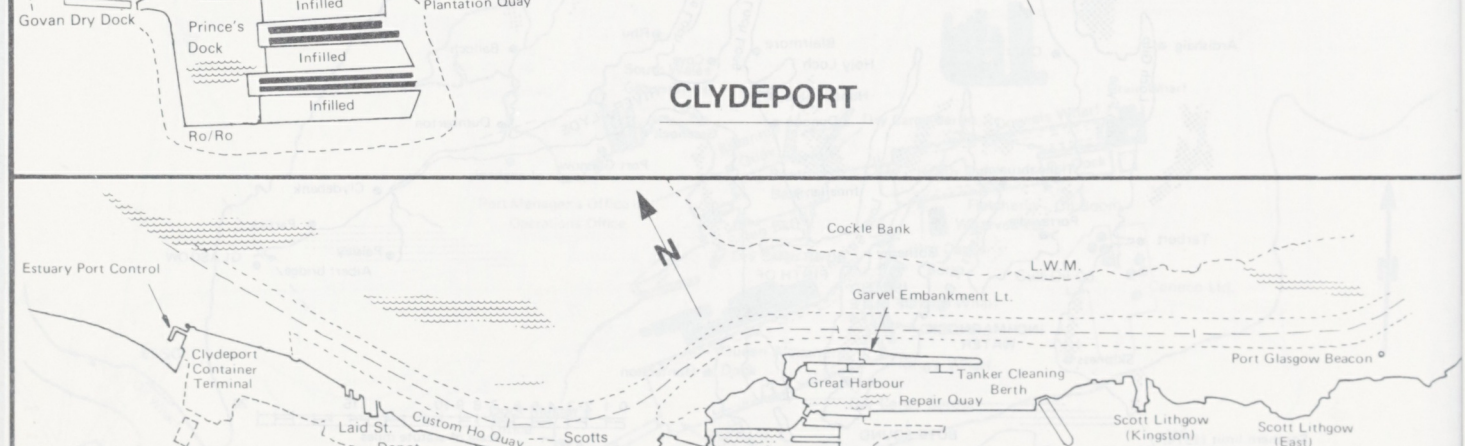
N
Belfast Rd.
Marine Highway
T.J.Beck
Pipe Track
Texaco Site
Public Car Park
Kane Fuels Ltd.
Site E (2.25 Acres)
Site D (1 Acre)
Site C (1 Acre)
Site B (0.54 Acre)
Harbour Master's Office
Slipway
24ft Roadway
EBN.1 S/Stn
Small Boat Harbour
Alexandria Pier
Berth4
Pleasure Craft Moorings
M.L.W.S.
FUTURE RECLAMATION
Coal Importers
Brick & Cement Co.
Coal Importers
Berth3
Meal Importers & Animal Feeds
103.6 m. turning circle
Dredged to 1.83 m.
East Pier dries
Berth2
Radar
Berth1
Pilots
19.8 m. wide
1.22 m. M.L.W.S.
TIDAL DATA Dublin Bay Datum
M.H.W. SPRING TIDE 13.50 FT
M.H.W. NEAP TIDE 11.70 FT
M.L.W. NEAP TIDE 6.10 FT
M.L.W. SPRING TIDE 4.10 FT
DREDGED DEPTH 3.0 FT
Depth 1.83 m. alongside @ M.L.W.S.
CARRICKFERGUS
Dredged channel in harbour marked by buoys


N
Inveraray
Loch Fyne
Arrochar
Tarbet
Lochgoilhead
Strachur
Loch Goil
Finnart
Carrick castle
Garelochead
Luss
Loch Lomond
Balmaha
Faslane
Gare Loch
Loch Gair
Ardentinny
Loch Long
Rhu
Ardishaig
Loch Gilp
Otter Ferry
Blairmore
Holy Loch
Cove
Balloch
Hunters Quay
RIVER CLYDE
Dumbarton
Dunoon
Greenock
Port Glasgow
Langbank
Tighnabruaich
Innellan
Clydebank
Partick
Portavadie
Loch Striven
Paisley
Albert bridge
GLASGOW
Tarbert
Kyles of Bute
Rothesay
FIRTH OF CLYDE
ISLAND OF BUTE
Largs
INCHMARNOCK WATER
Skipness
Hunterston
0 1 2 3 4 5 6 7 8 9 10 15 20
Scale of statute miles
Southern limit (1974)
BUTE SOUND
Kilbrennan Sound
ISLAND OF ARRAN
FIRTH OF CLYDE
(1974)
Southern limit
Limits of Jurisdiction
FIRTH OF CLYDE and Sea Lochs


Marathon
Shipbuilders
Rothesay Dock
Yoker
Graving Docks
Renfrew Ferry
Renfrew Harbour
Braehead Power Station
Clydeport Warehouses
X

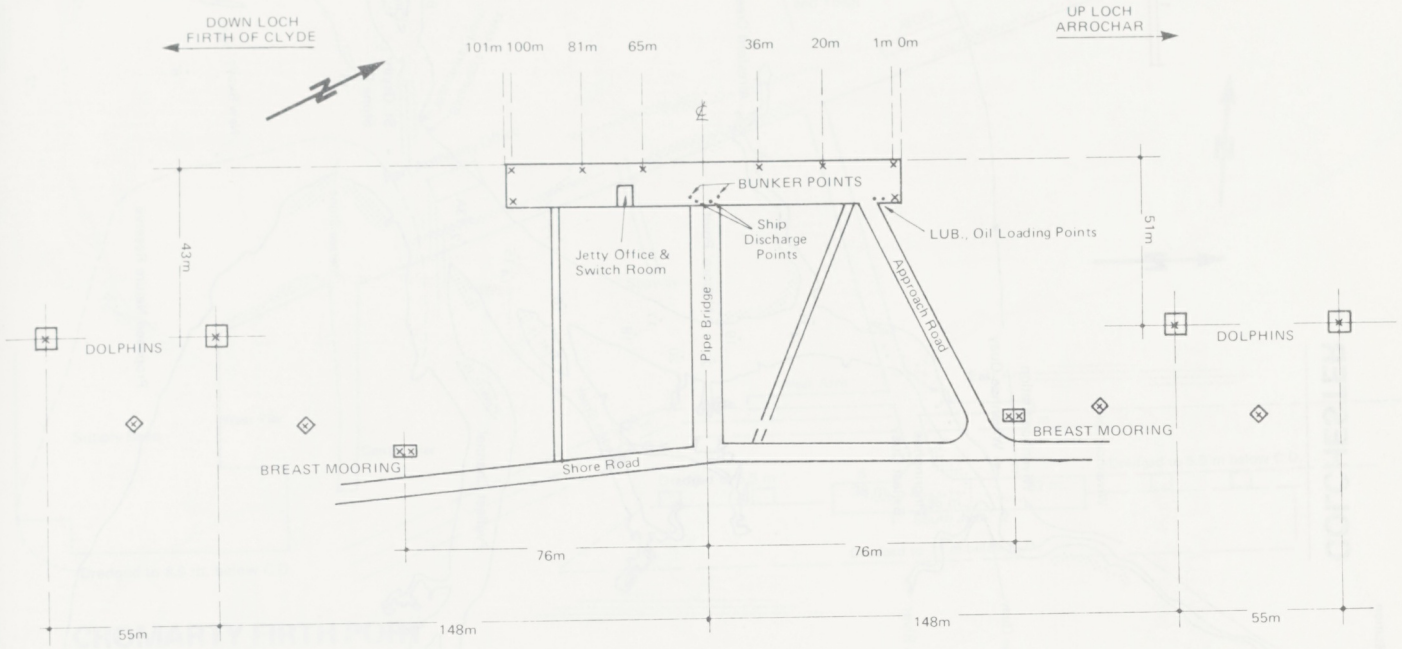

CLYDEPORT
Harbour Port Control
Meadowside Quay
R. Kelvin
W. Basin
Scotstoun
Merklands Quay
Basin
Shieldhall Riverside Quay
Shieldhall Wharf
King George V Dock
N
MILES 0 ¼ ½ ¾ 1
SCALE


C.P.A. Head Office
Yorkhill Quay
Queen's Dock
(Closed)
Heavy Lift-Crane
Lancefield Quay
Anderston Quay
Springfield Quay
Stobcross Quay
General Terminus
Quay
Mavisbank Quay
Plantation Quay
Govan Dry Dock
Prince's
Dock
Infilled
Infilled
Infilled
Ro/Ro
N
CLYDEPORT


Estuary Port Control
Clydeport
Container
Terminal
Laid St.
Depot
Custom Ho Quay
Scotts
Yd. Ltd.
E. India Harbour
Victoria Harbour
Greenock
Cockle Bank
L.W.M.
Garvel Embankment Lt.
Great Harbour
Repair Quay
Tanker Cleaning
Berth
James Watt Dock
Heavy Lift Crane
Scott Lithgow
Drydock
Scott Lithgow
(Kingston)
Scott Lithgow
(East)
Port Glasgow Beacon
Port Glasgow
N
0 ¼ ½ ¾ 1 1¼ 1½ MILES
SCALE
CLYDEPORT
GREENOCK

CLYDEPORT

BP REFINERY (GRANGEMOUTH) LTD
FINNART OCEAN TERMINAL No.2 JETTY

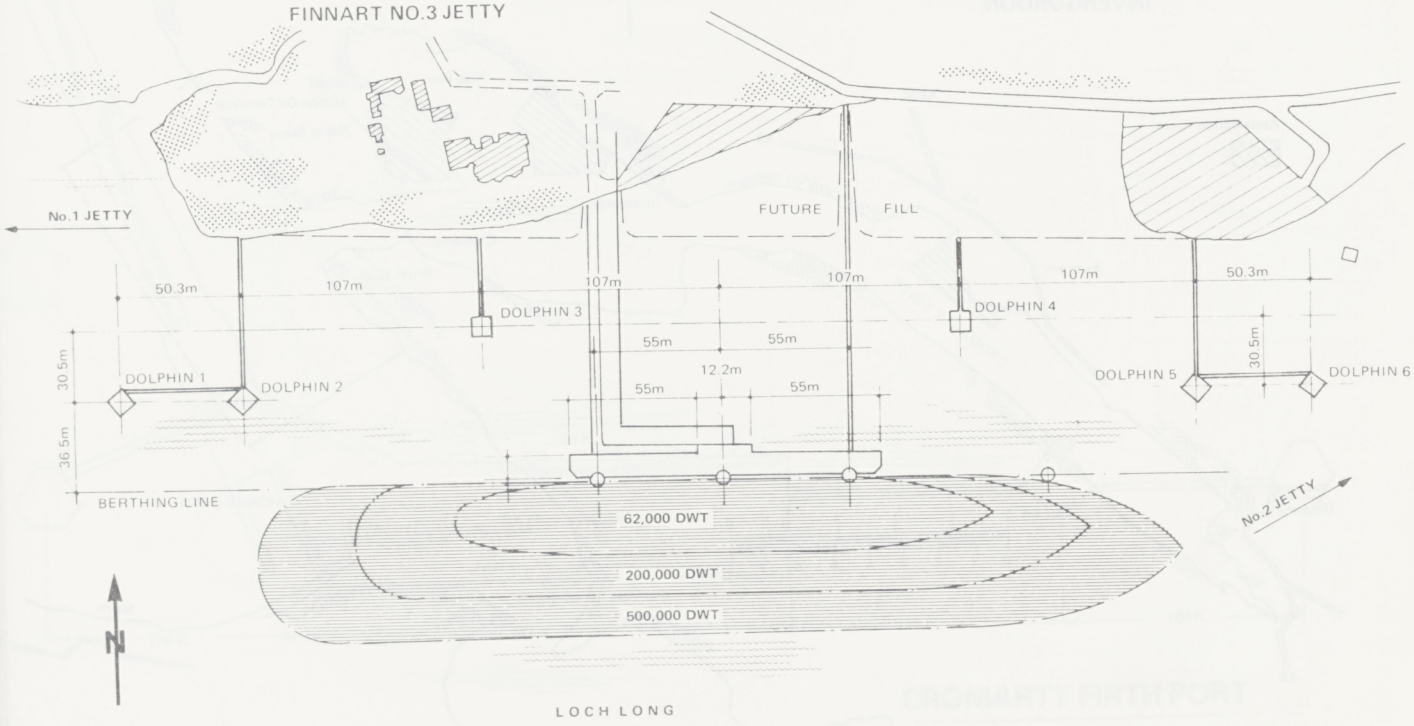


X = BOLLARDS

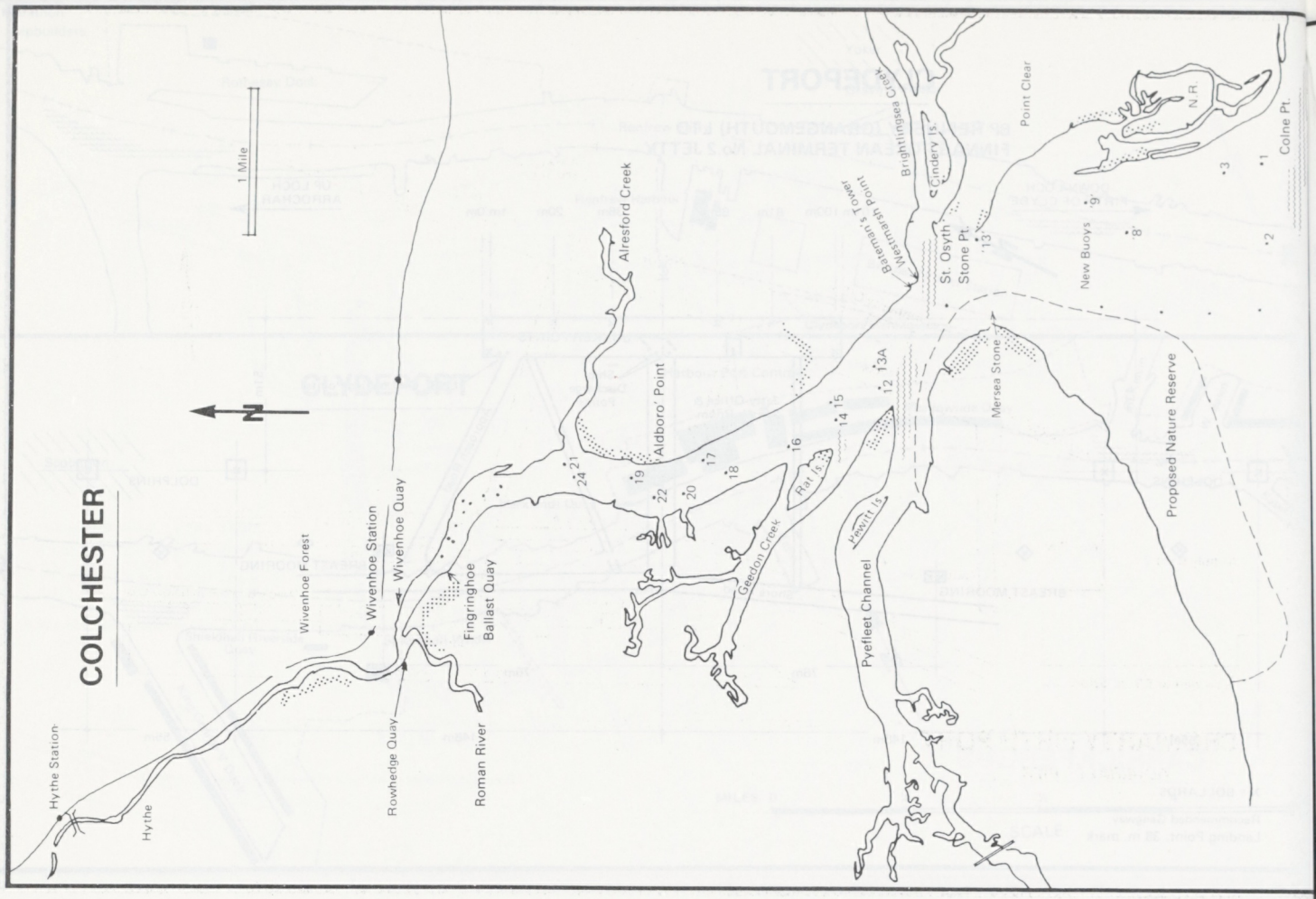
Recommended Gangway
Landing Point: 38 m. mark

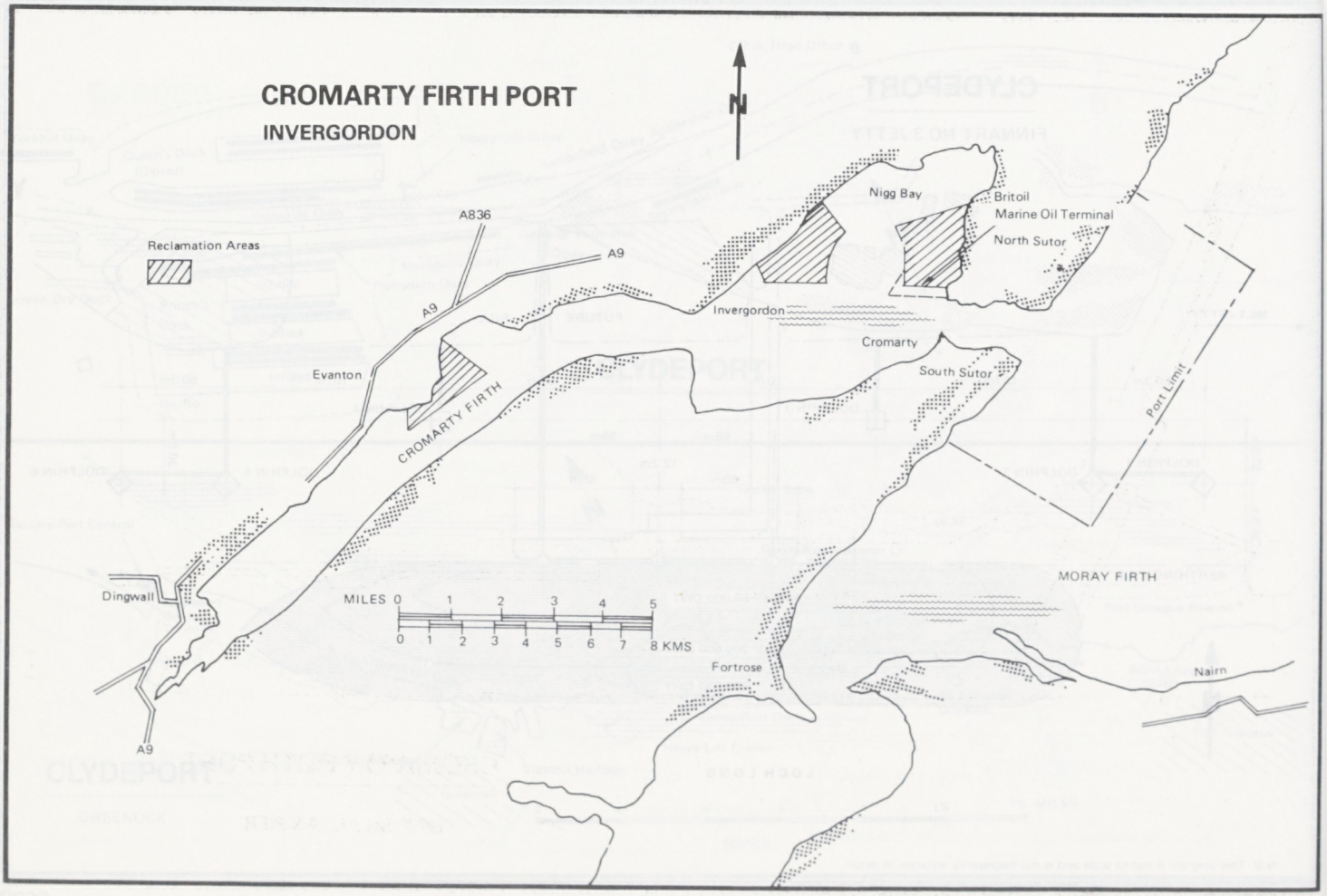
CLYDEPORT

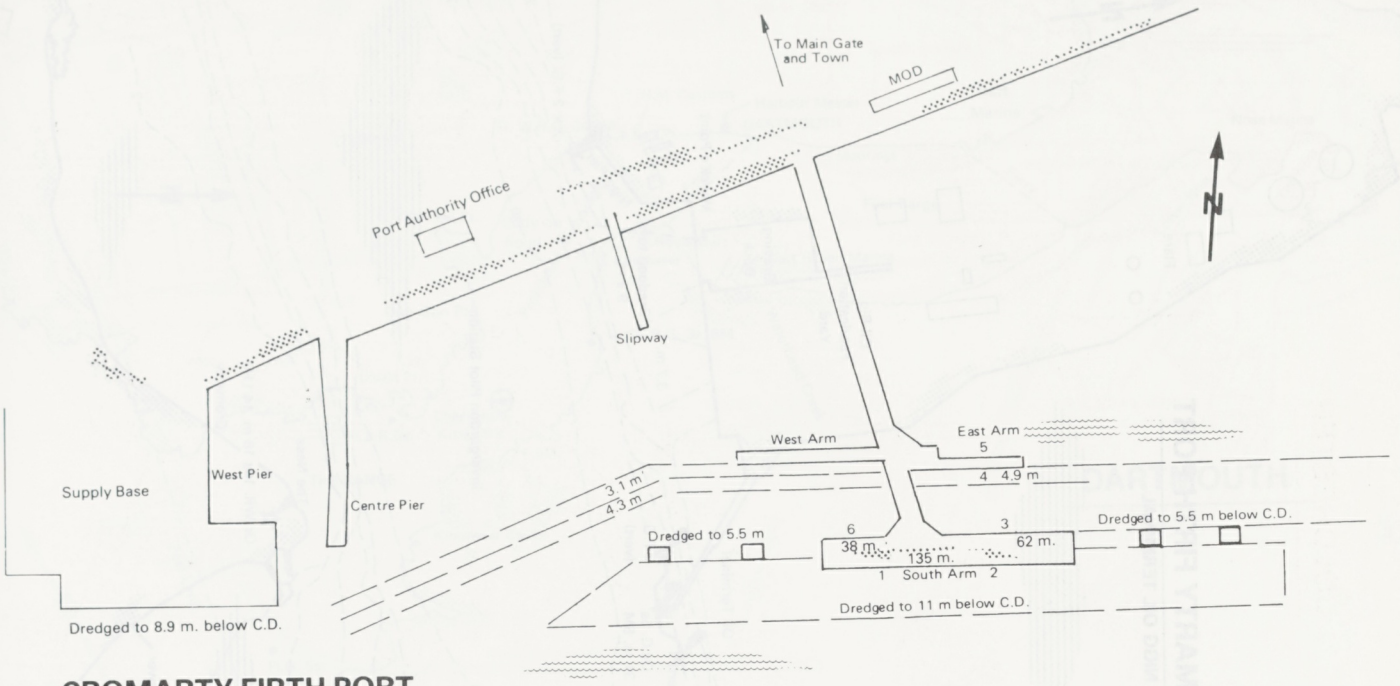
FINNART NO.3 JETTY



N.B. This diagram is not to scale and is not necessarily accurate in detail

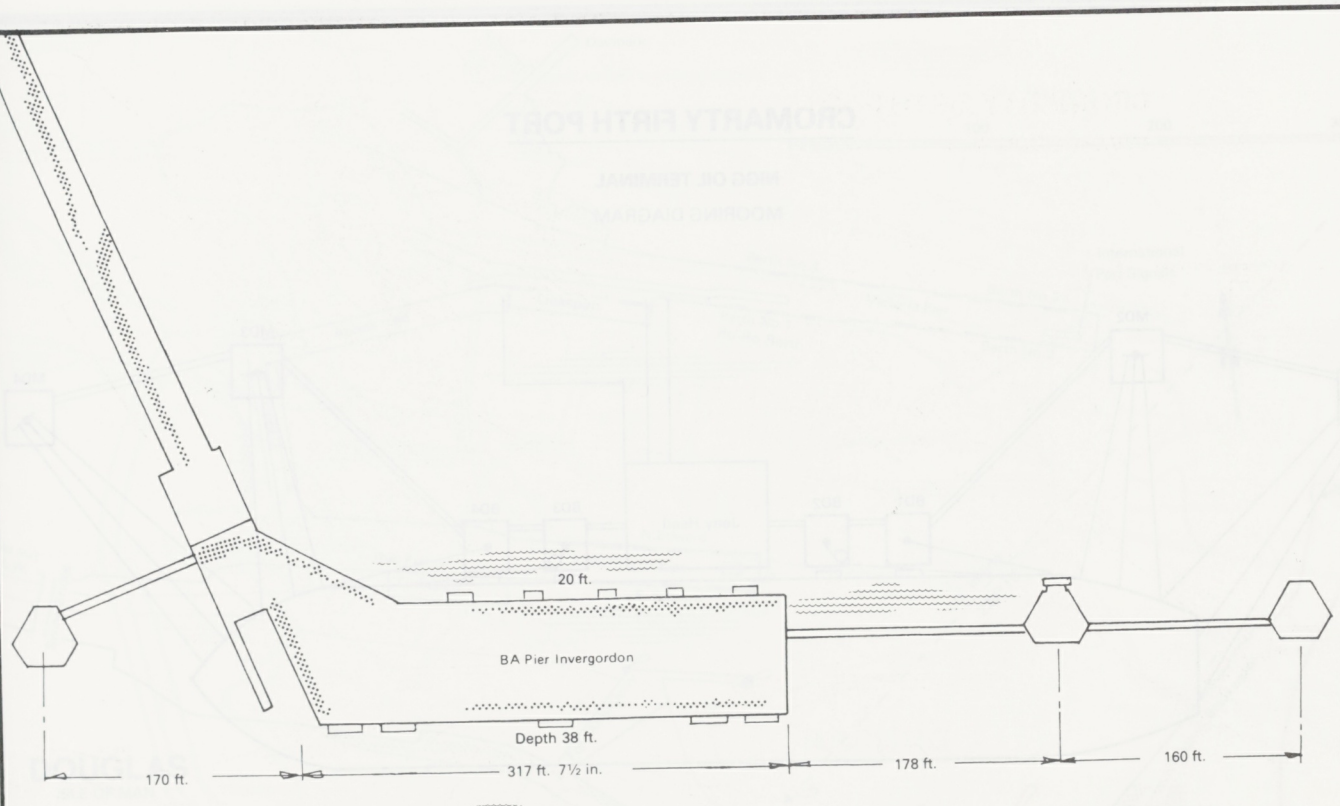

1 Mile
N
COLCHESTER
Wivenhoe Forest
Wivenhoe Station
Wivenhoe Quay
Fingringhoe Ballast Quay
Rowhedge Quay
Roman River
Hythe Station
Hythe
Alresford Creek
Aldboro' Point
Geedon Creek
Rat Is.
Jewell Is.
Pyefleet Channel
Mersea Stone
Proposed Nature Reserve
Brightlingsea Creek
Cinder Is.
St. Osyth Stone Pt.
Point Clear
New Buoys
N R
Colne Pt.
13A
16
17
18
19
20
21
22
24


CROMARTY FIRTH PORT
INVERGORDON
N
Reclamation Areas
A836
A9
A9
A9
Evanton
CROMARTY FIRTH
Dingwall
Invergordon
Nigg Bay
Britoil
Marine Oil Terminal
North Sutor
Cromarty
South Sutor
Port Limit
MORAY FIRTH
Fortrose
Nairn
MILES 0 1 2 3 4 5
0 1 2 3 4 5 6 7 8 KMS



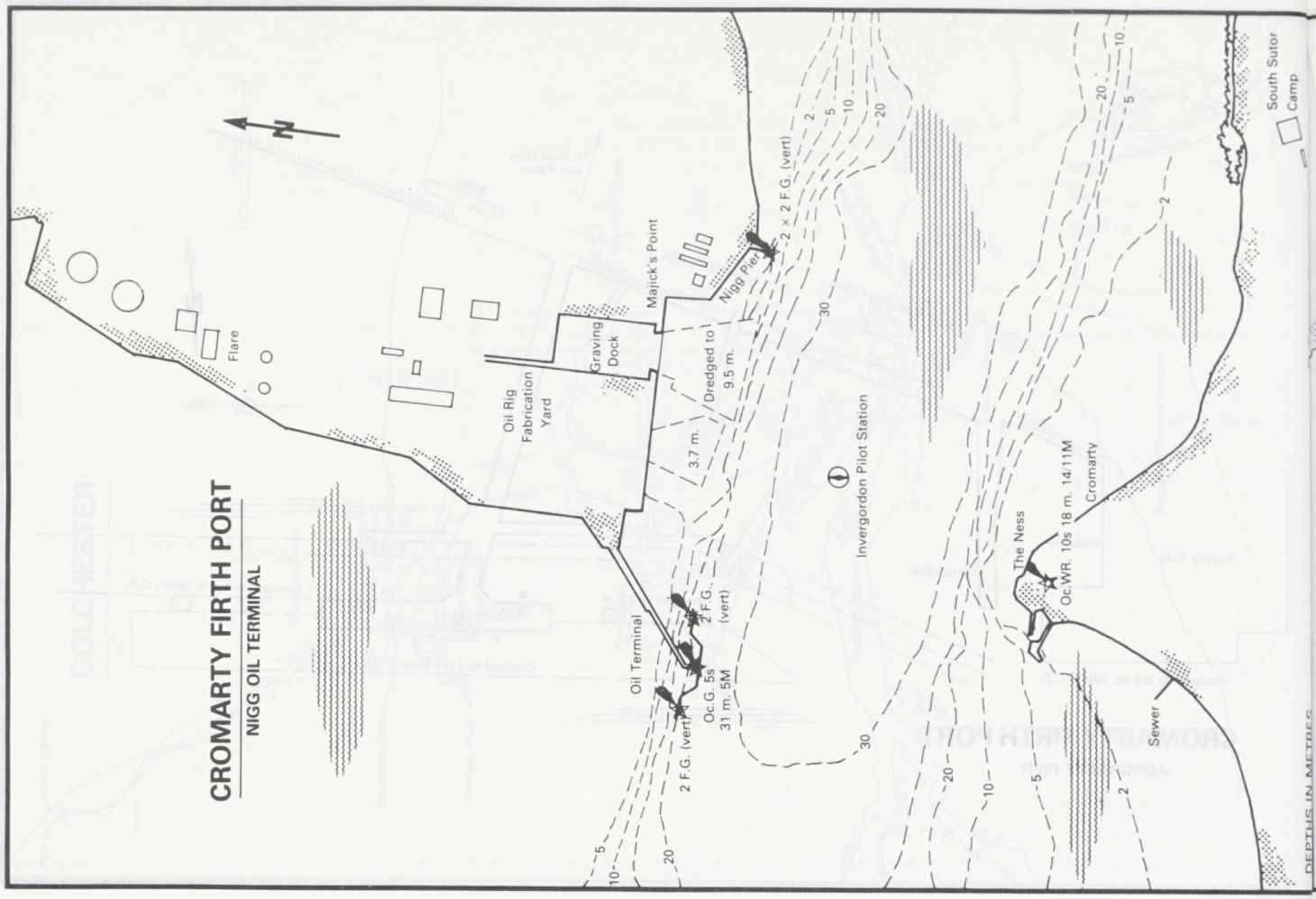
CROMARTY FIRTH PORT

ADMIRALTY PIER



CROMARTY FIRTH PORT

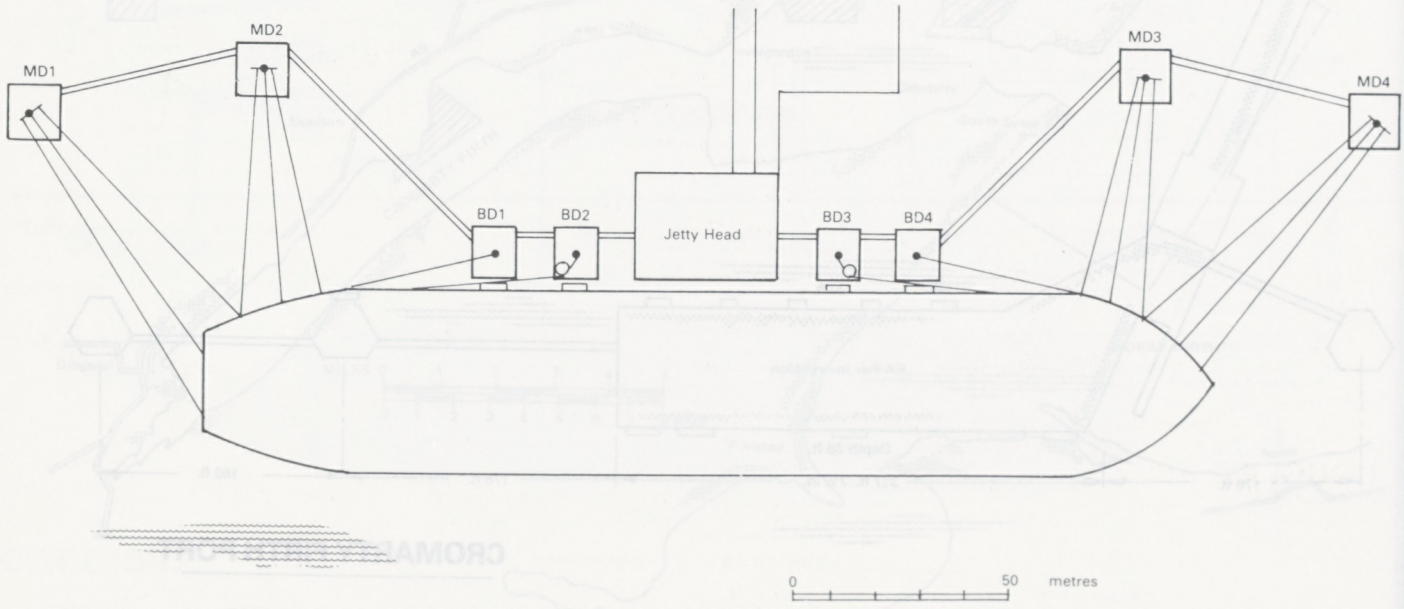
BRITISH ALCAN PIER

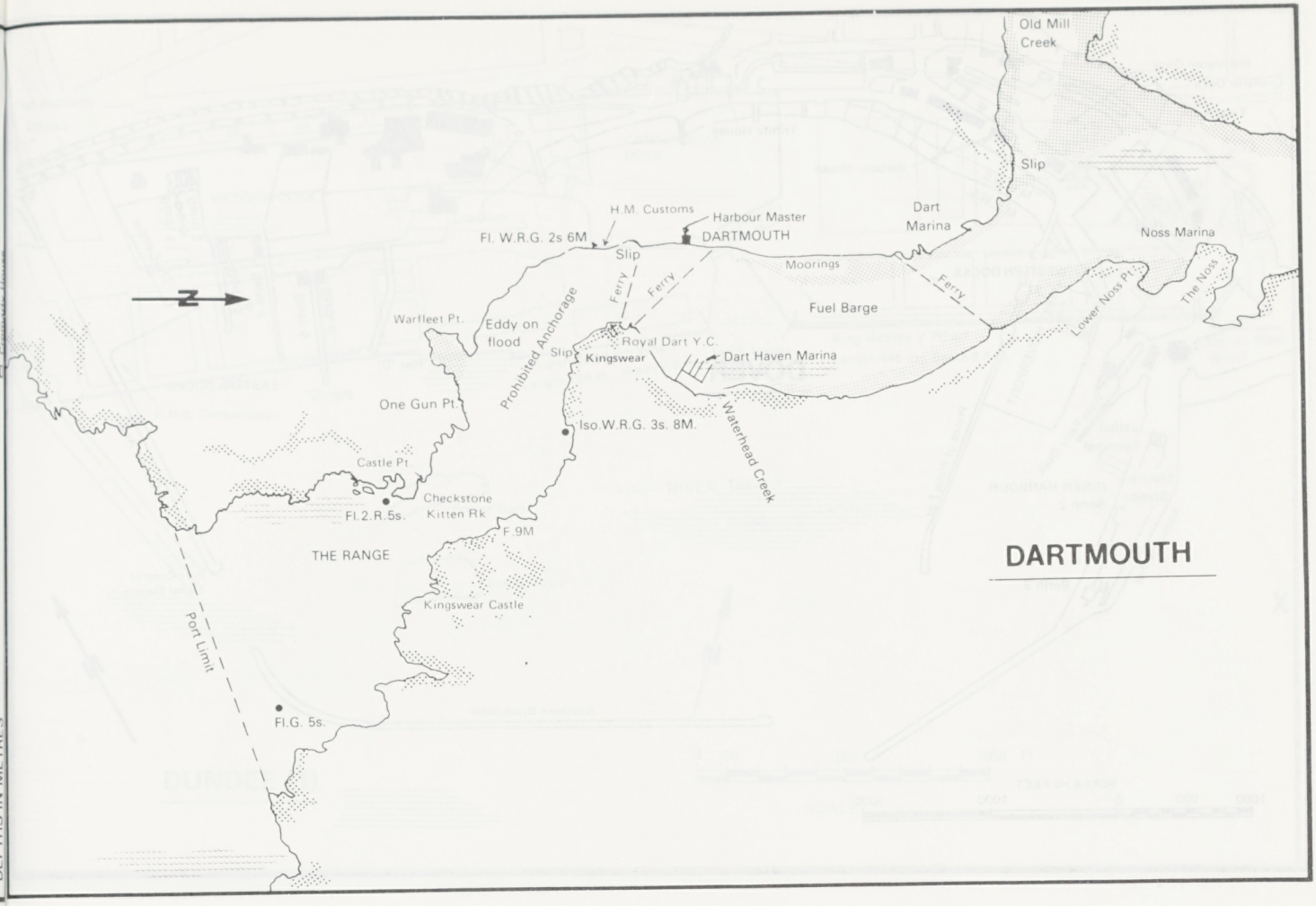


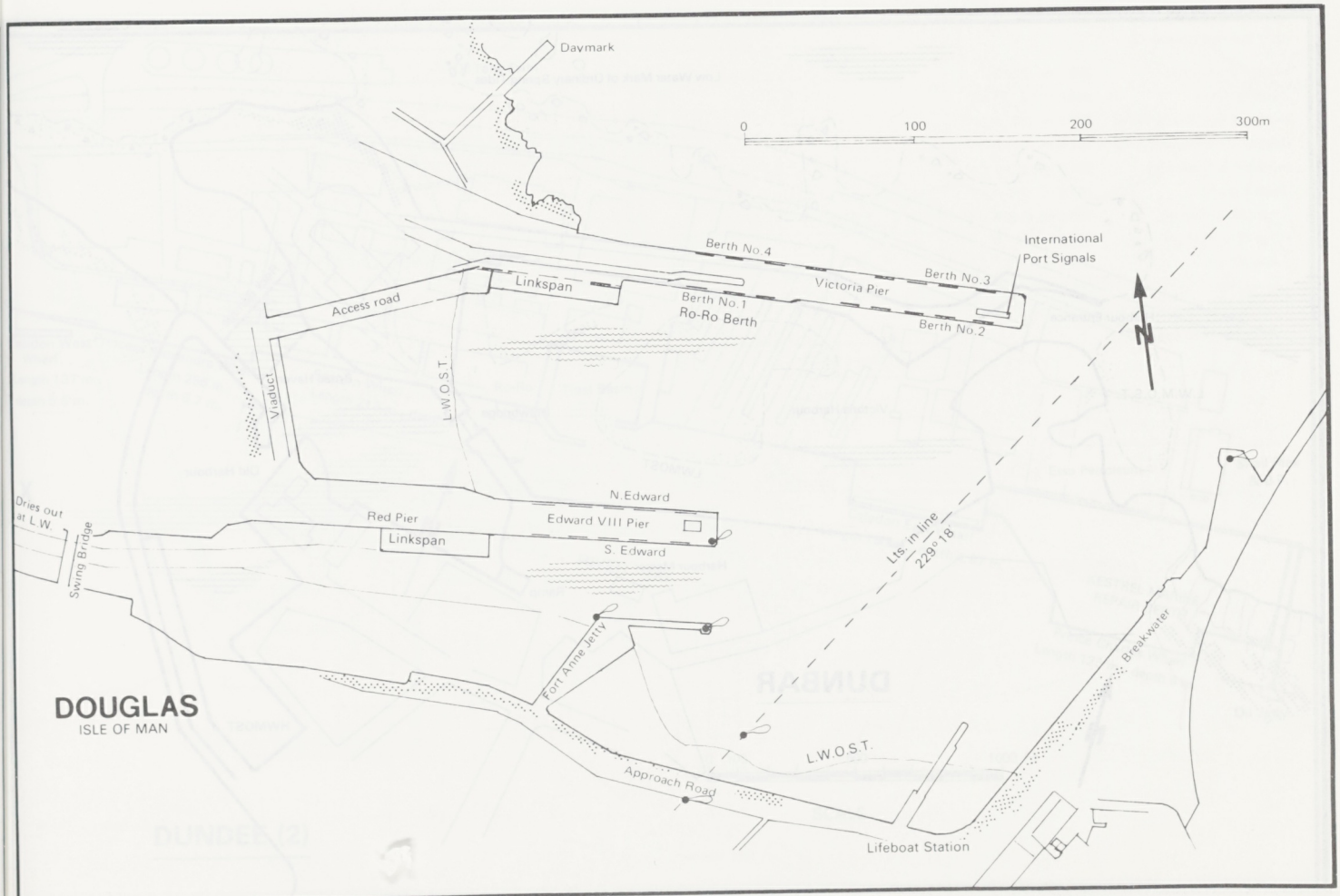
CROMARTY FIRTH PORT

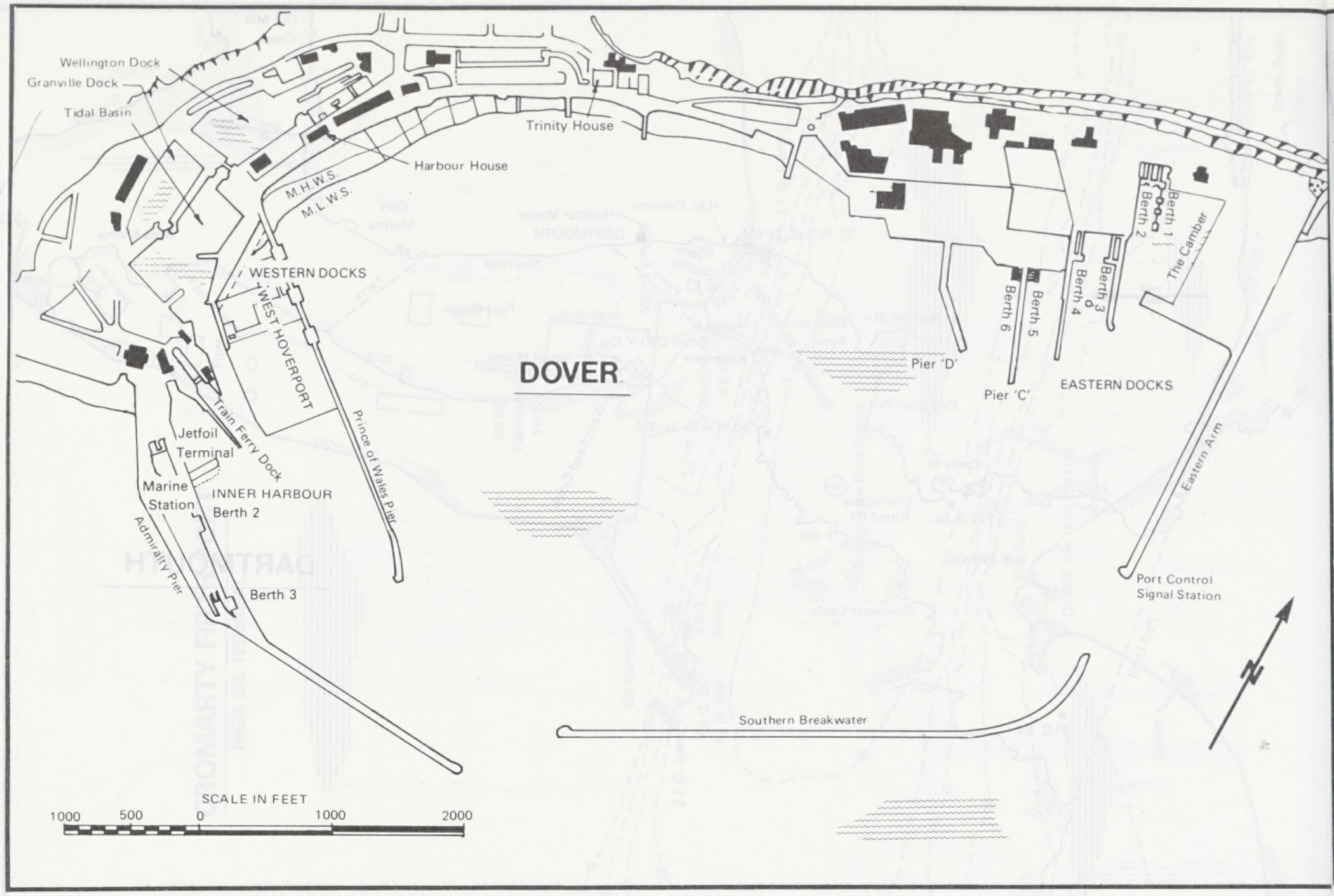
NIGG OIL TERMINAL

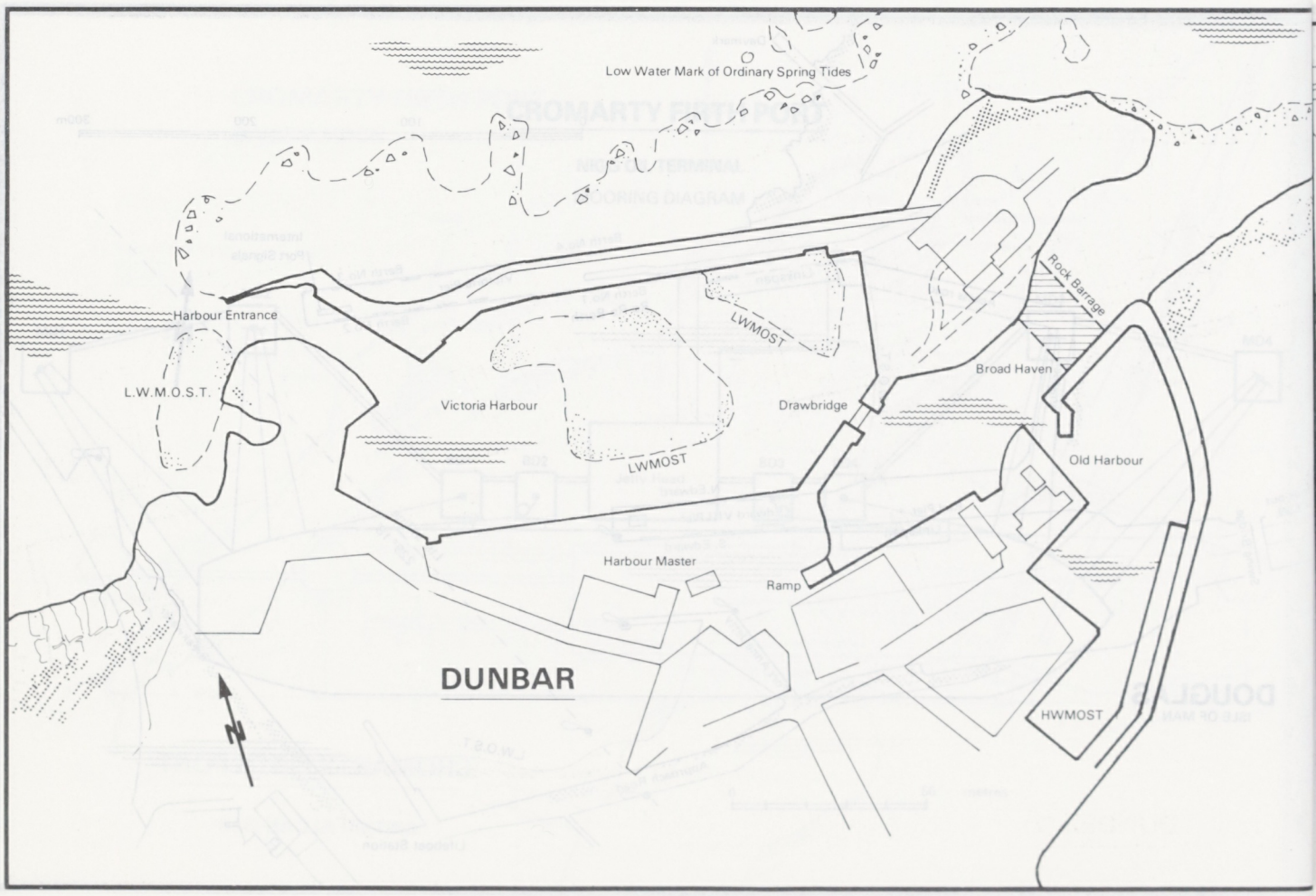
MOORING DIAGRAM

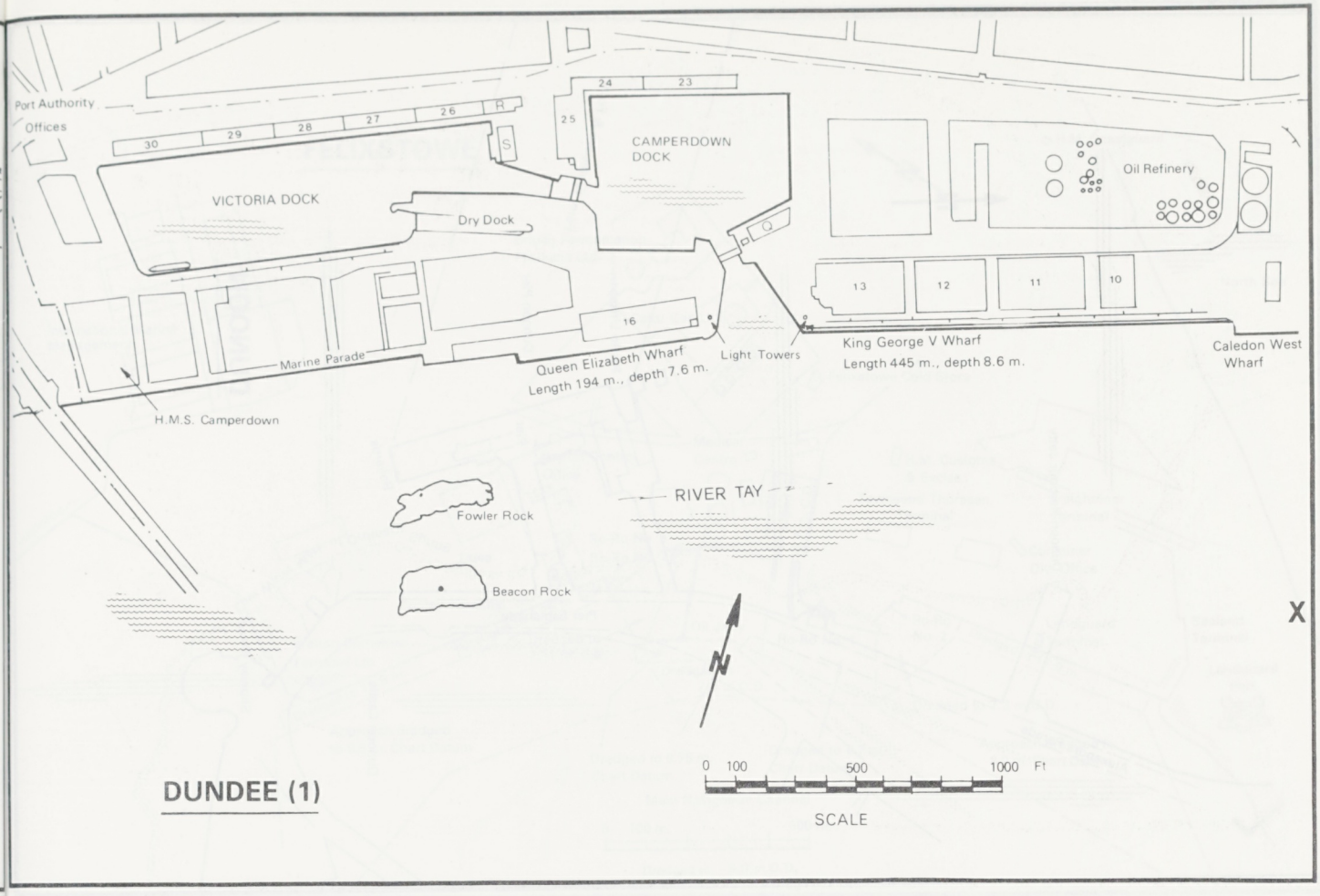



Old Mill Creek
Slip
H.M. Customs
Harbour Master
Fl. W.R.G. 2s 6M
DARTMOUTH
Slip
Dart Marina
Noss Marina
Moorings
Ferry
Ferry
Ferry
Fuel Barge
Lower Noss Pt.
The Noss
Warfleet Pt.
Eddy on flood
Prohibited Anchorage
Slip
Royal Dart Y.C.
Kingswear
Dart Haven Marina
One Gun Pt.
Iso.W.R.G. 3s. 8M.
Waterhead Creek
Castle Pt.
Checkstone
Kitten Rk
Fl.2.R.5s.
F.9M
THE RANGE
Kingswear Castle
Port Limit
Fl.G. 5s.
N
DARTMOUTH

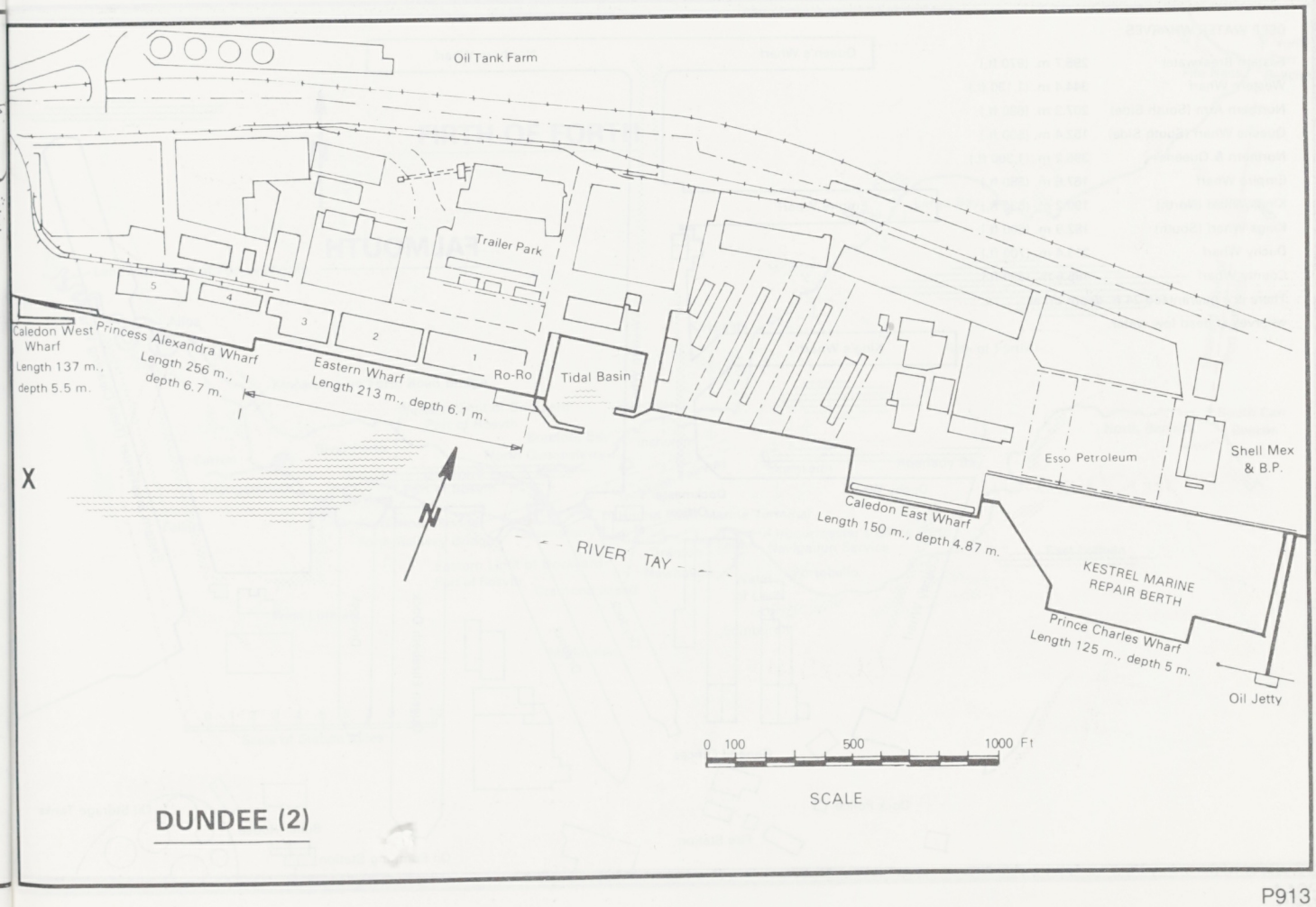

Daymark
0
100
200
300m
Berth No.4
International Port Signals
Victoria Pier
Berth No.3
Linkspan
Access road
Berth No.1
Ro-Ro Berth
Berth No.2
N
Viaduct
L.W.O.S.T.
N.Edward
Red Pier
Edward VIII Pier
Linkspan
S. Edward
Dries out at L.W.
Swing Bridge
Lts. in line 229°18'
Fort Anne Jetty
Break-water
L.W.O.S.T.
Approach Road
Lifeboat Station
DOUGLAS
ISLE OF MAN


Wellington Dock
Granville Dock
Tidal Basin
Trinity House
Harbour House
M.H.W.S.
M.L.W.S.
WESTERN DOCKS
WEST HOVERPORT
DOVER
Pier 'D'
Pier 'C'
EASTERN DOCKS
Berth 1
Berth 2
Berth 3
Berth 4
Berth 5
Berth 6
The Camber
Eastern Arm
Train Ferry Dock
Prince of Wales Pier
Jetfoil Terminal
Marine Station
INNER HARBOUR
Berth 2
Admiralty Pier
Berth 3
Port Control Signal Station
Southern Breakwater
SCALE IN FEET
1000 500 0 1000 2000

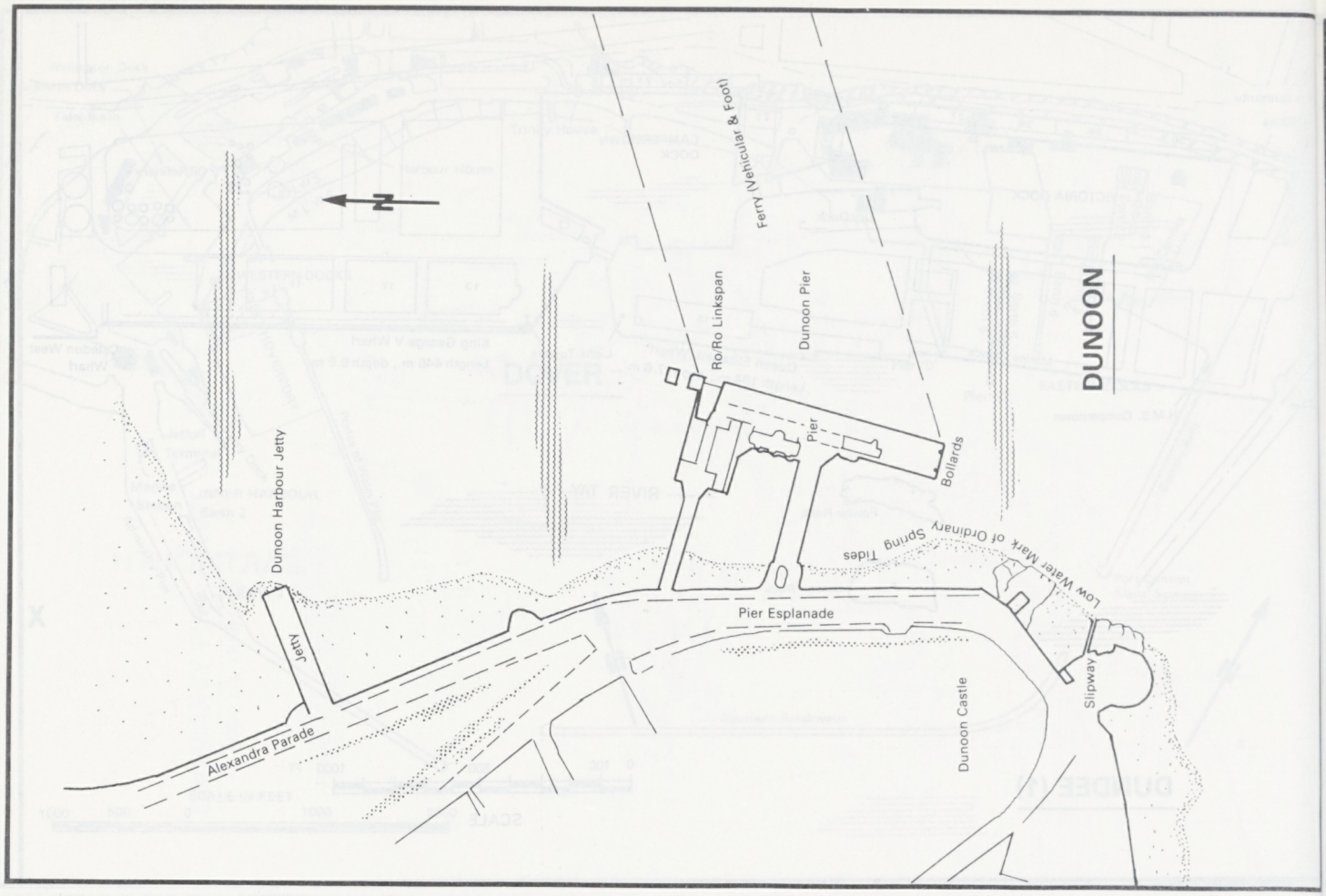

Low Water Mark of Ordinary Spring Tides
Harbour Entrance
L.W.M.O.S.T.
LWMOST
Victoria Harbour
LWMOST
Drawbridge
Rock Barrage
Broad Haven
Old Harbour
Harbour Master
Ramp
DUNBAR
HWMOST



DUNDEE (1)



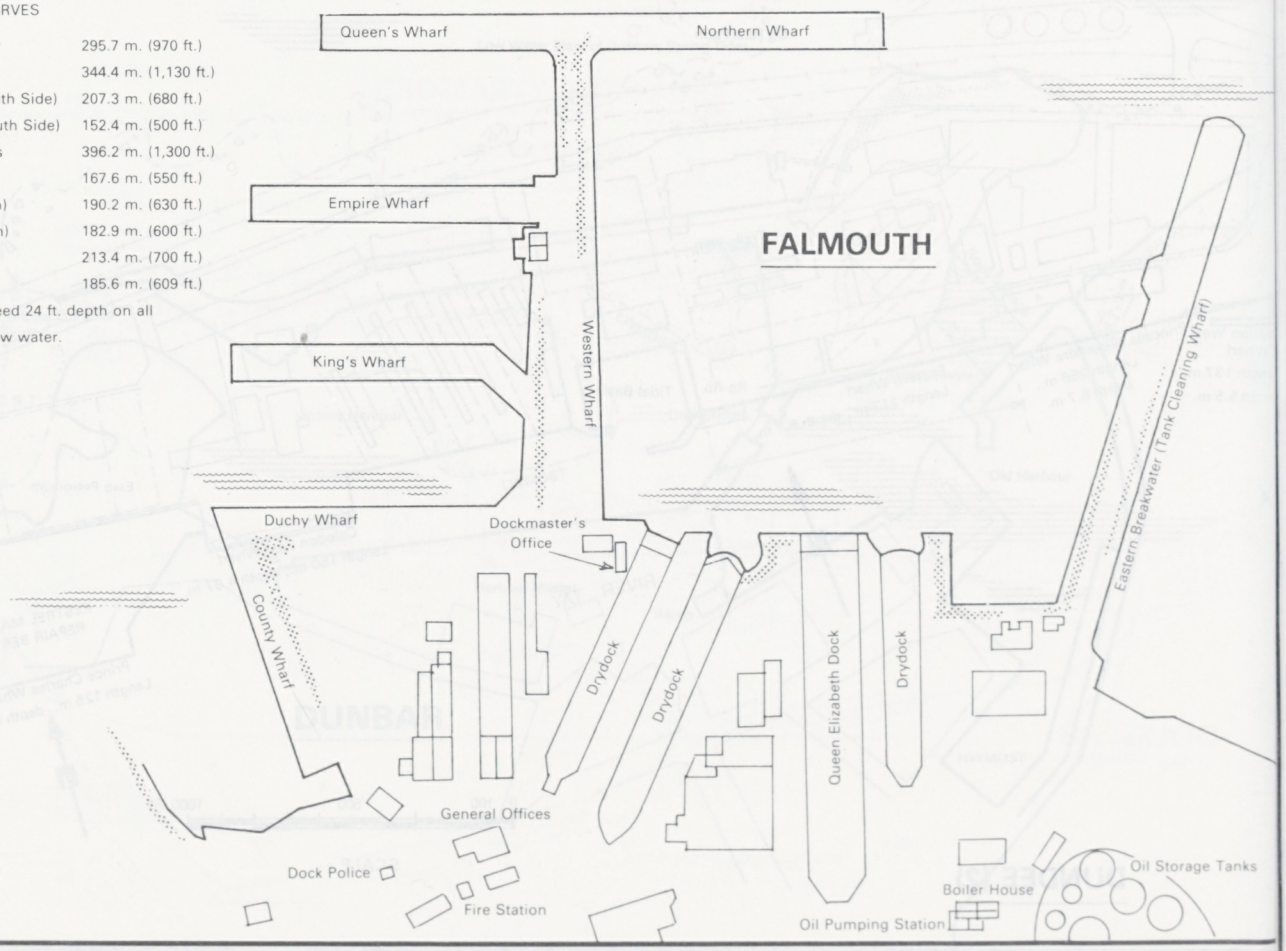
DUNDEE (2)

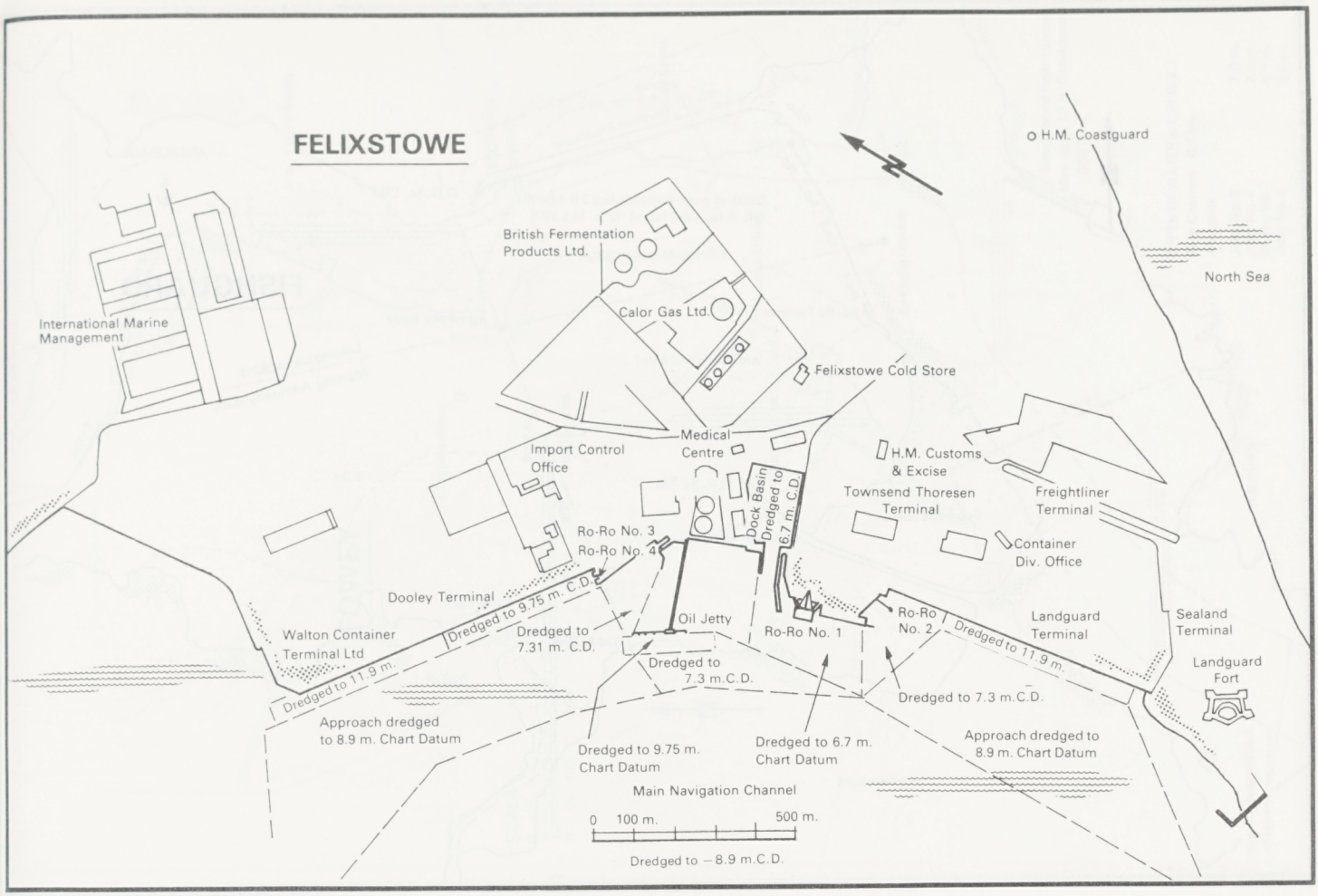


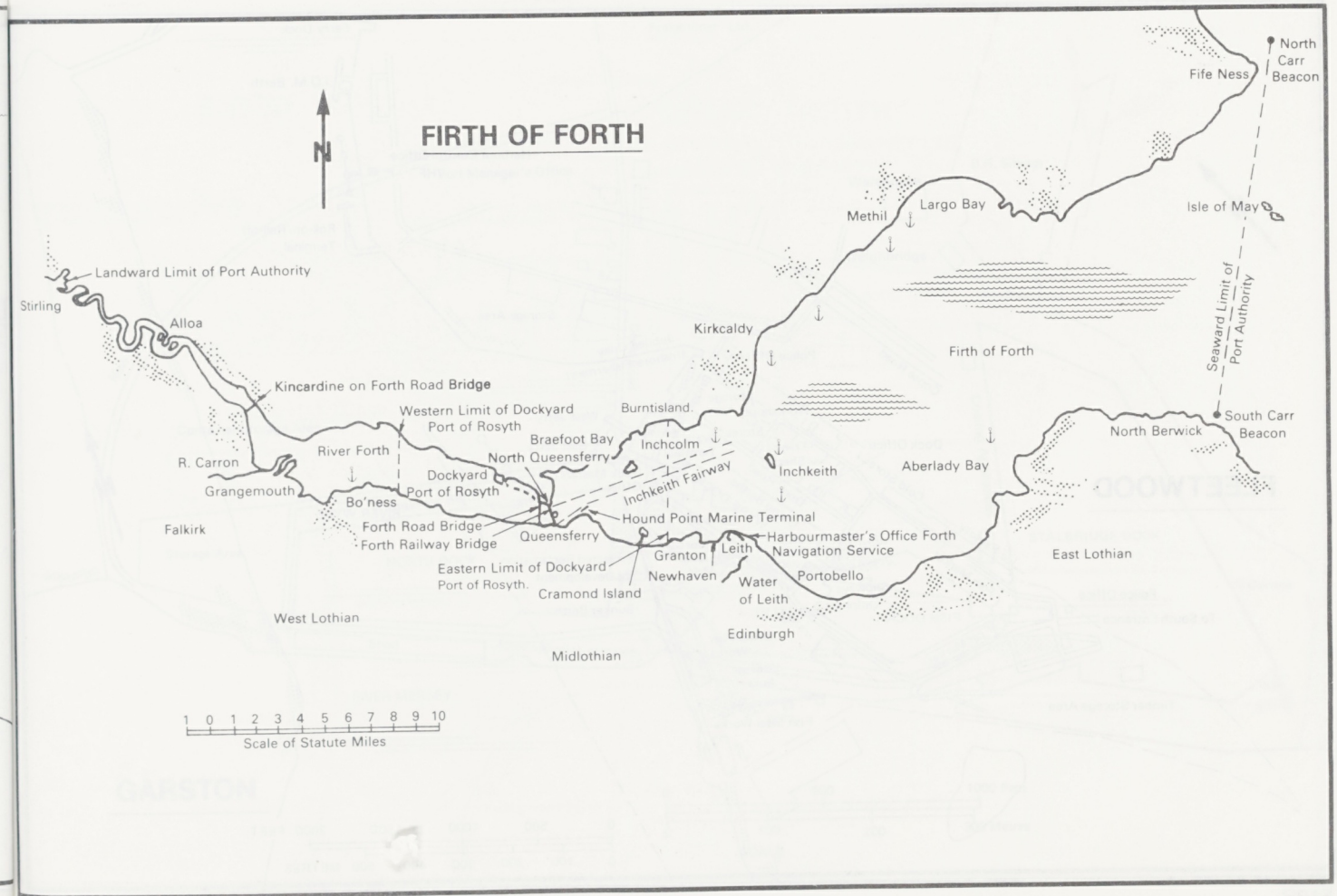
DEEP WATER WHARVES

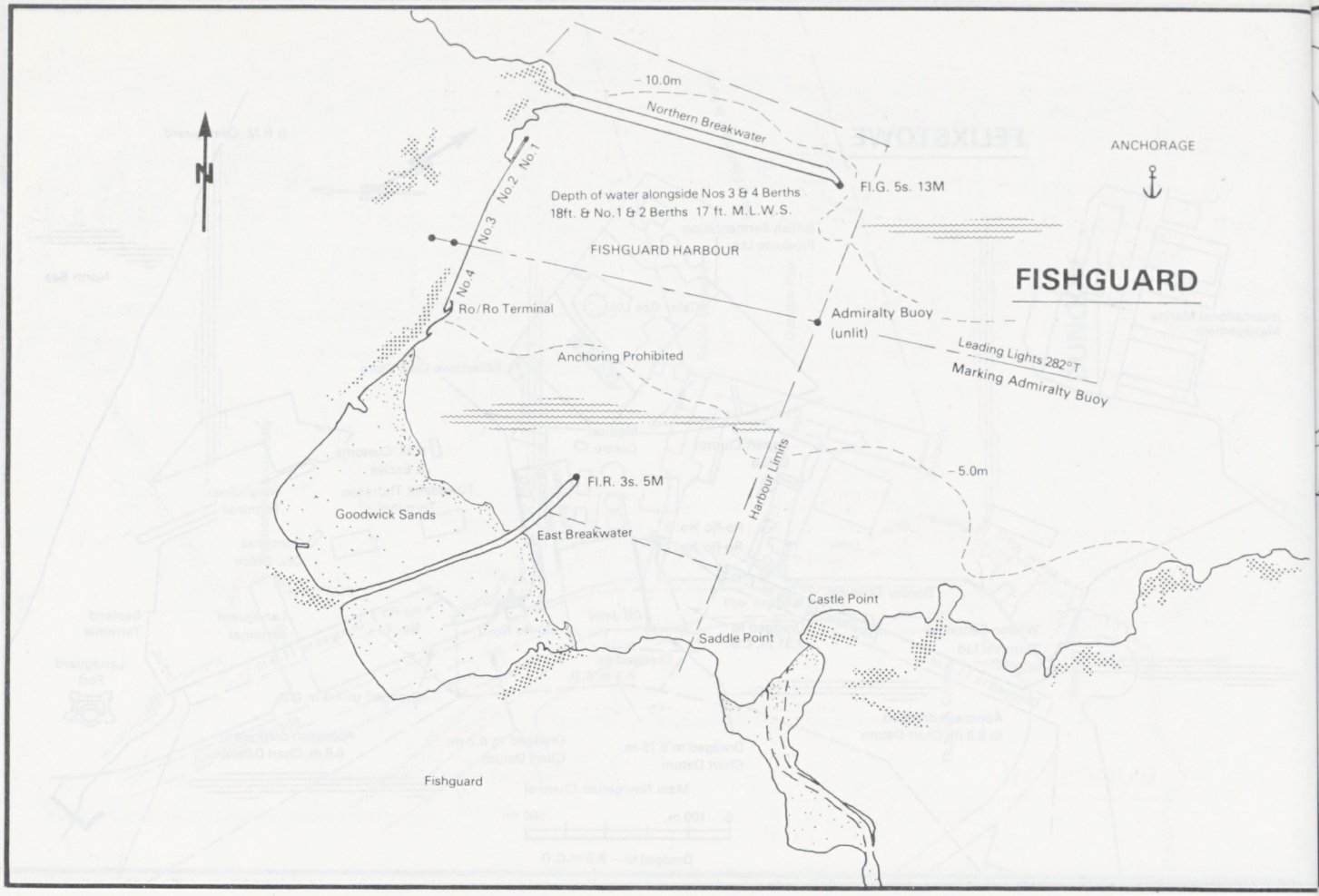
Eastern Breakwater	295.7 m. (970 ft.)
Western Wharf	344.4 m. (1,130 ft.)
Northern Arm (South Side)	207.3 m. (680 ft.)
Queens Wharf (South Side)	152.4 m. (500 ft.)
Northern & Queens	396.2 m. (1,300 ft.)
Empire Wharf	167.6 m. (550 ft.)
Kings Wharf (North)	190.2 m. (630 ft.)
Kings Wharf (South)	182.9 m. (600 ft.)
Duchy Wharf	213.4 m. (700 ft.)
County Wharf	185.6 m. (609 ft.)

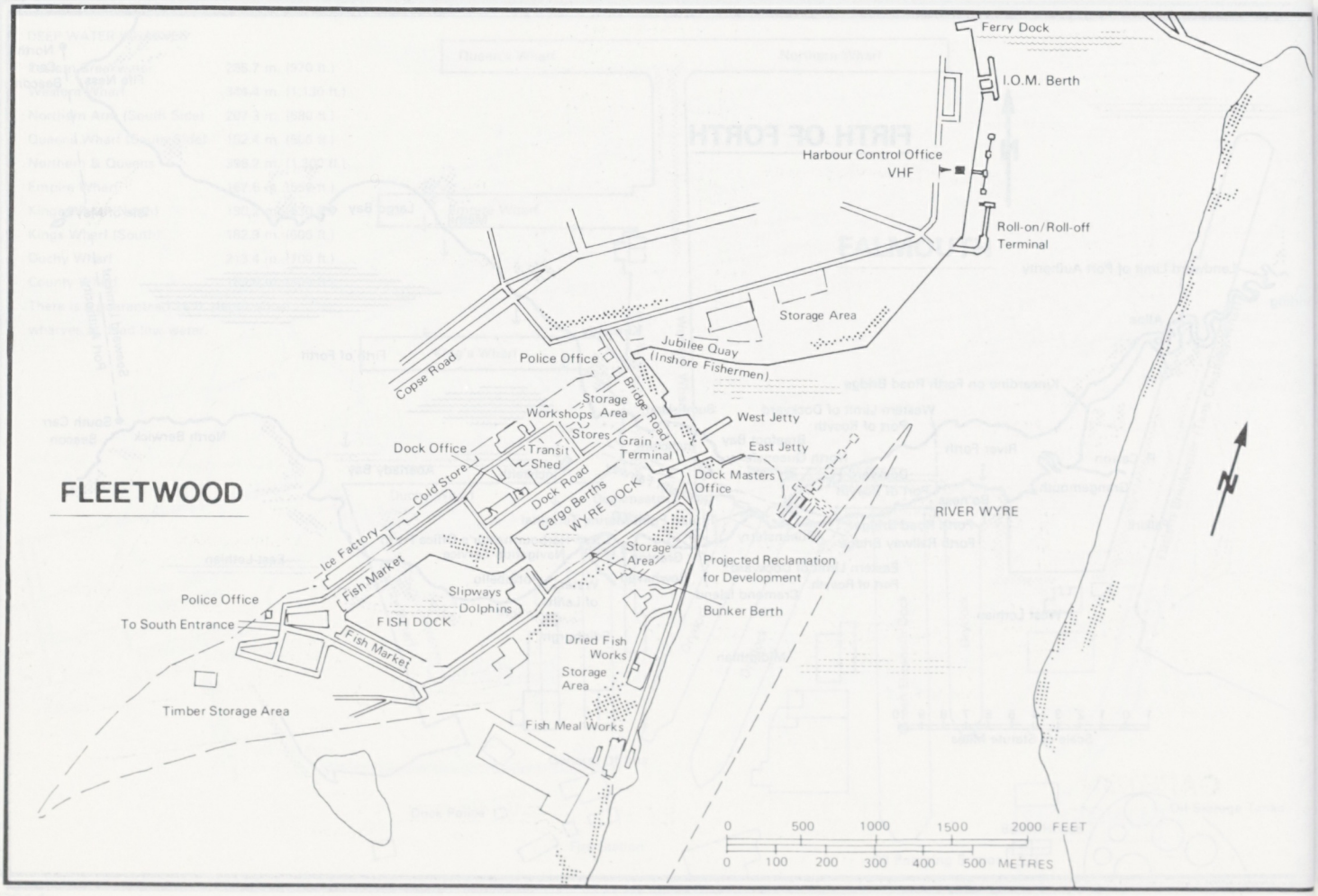
There is a guaranteed 24 ft. depth on all wharves at dead low water.

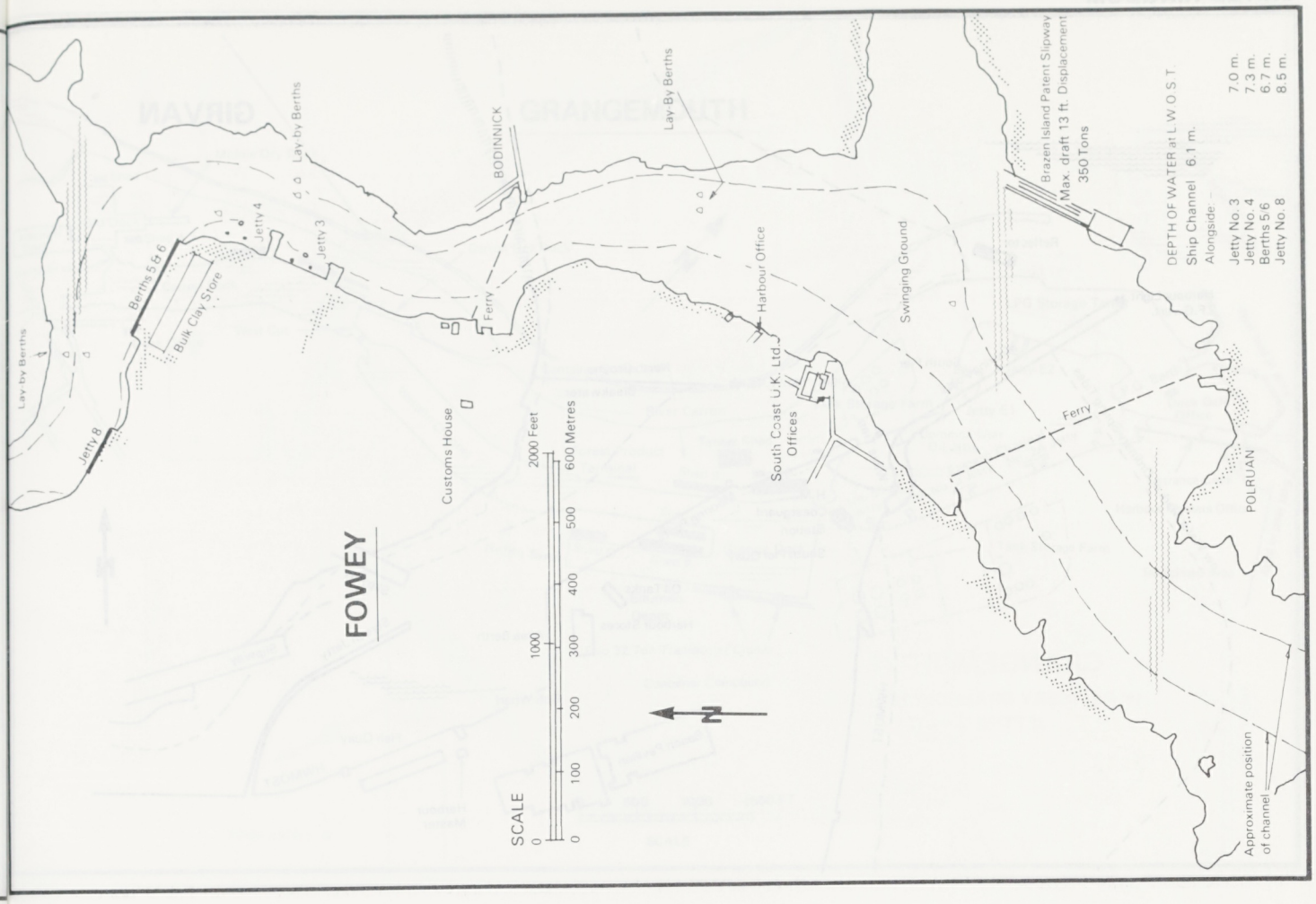


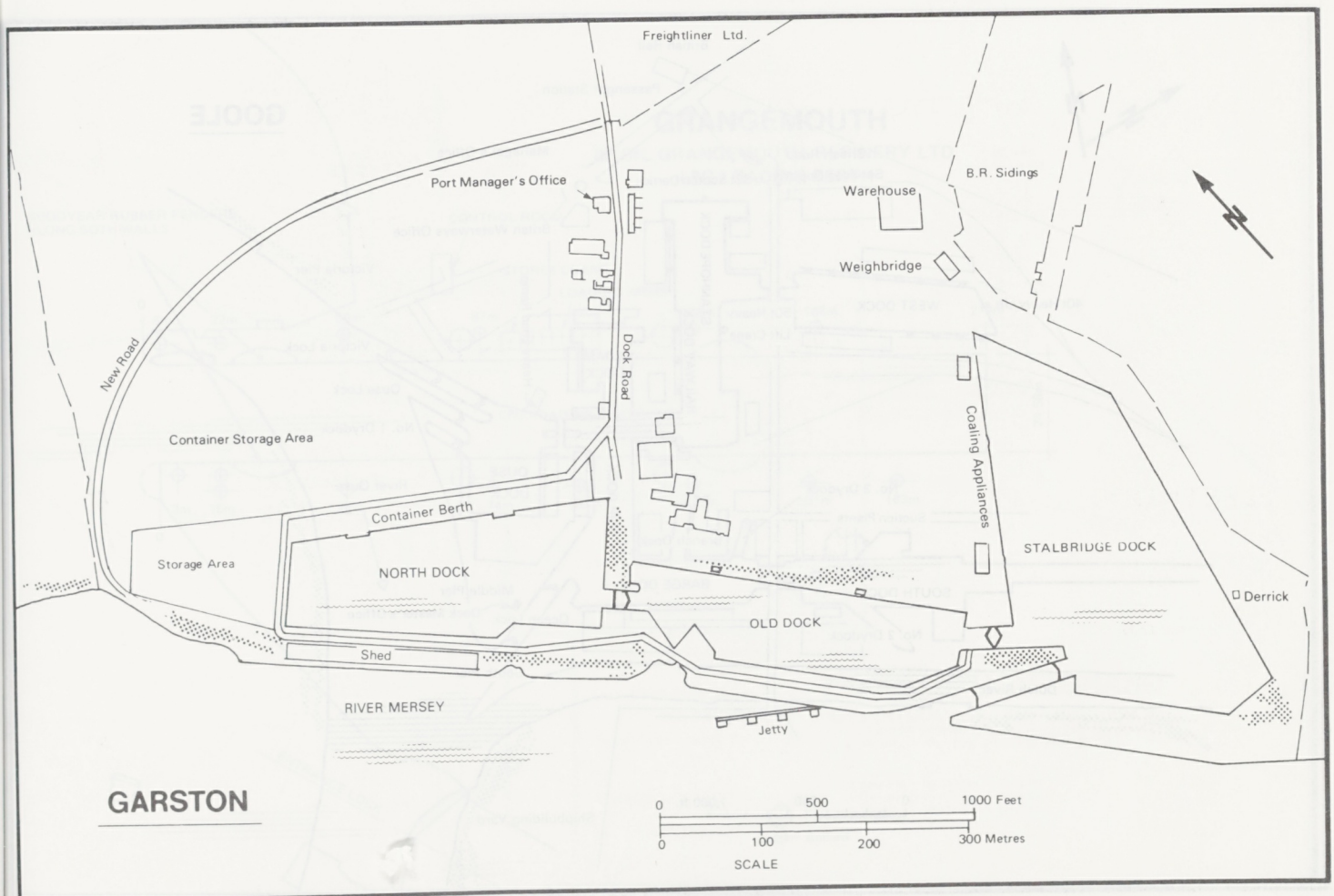

FELIXSTOWE
H.M. Coastguard
North Sea
British Fermentation Products Ltd.
Calor Gas Ltd.
Felixstowe Cold Store
International Marine Management
Medical Centre
Import Control Office
H.M. Customs & Excise
Townsend Thoresen Terminal
Freightliner Terminal
Container Div. Office
Dock Basin Dredged to 6.7 m. C.D.
Ro-Ro No. 3
Ro-Ro No. 4
Dooley Terminal
Dredged to 9.75 m. C.D.
Walton Container Terminal Ltd
Dredged to 11.9 m.
Dredged to 7.31 m. C.D.
Oil Jetty
Ro-Ro No. 1
Ro-Ro No. 2
Dredged to 11.9 m.
Landguard Terminal
Sealand Terminal
Landguard Fort
Dredged to 7.3 m.C.D.
Approach dredged to 8.9 m. Chart Datum
Dredged to 9.75 m. Chart Datum
Dredged to 6.7 m. Chart Datum
Approach dredged to 8.9 m. Chart Datum
Main Navigation Channel
0 100 m. 500 m.
Dredged to −8.9 m.C.D.

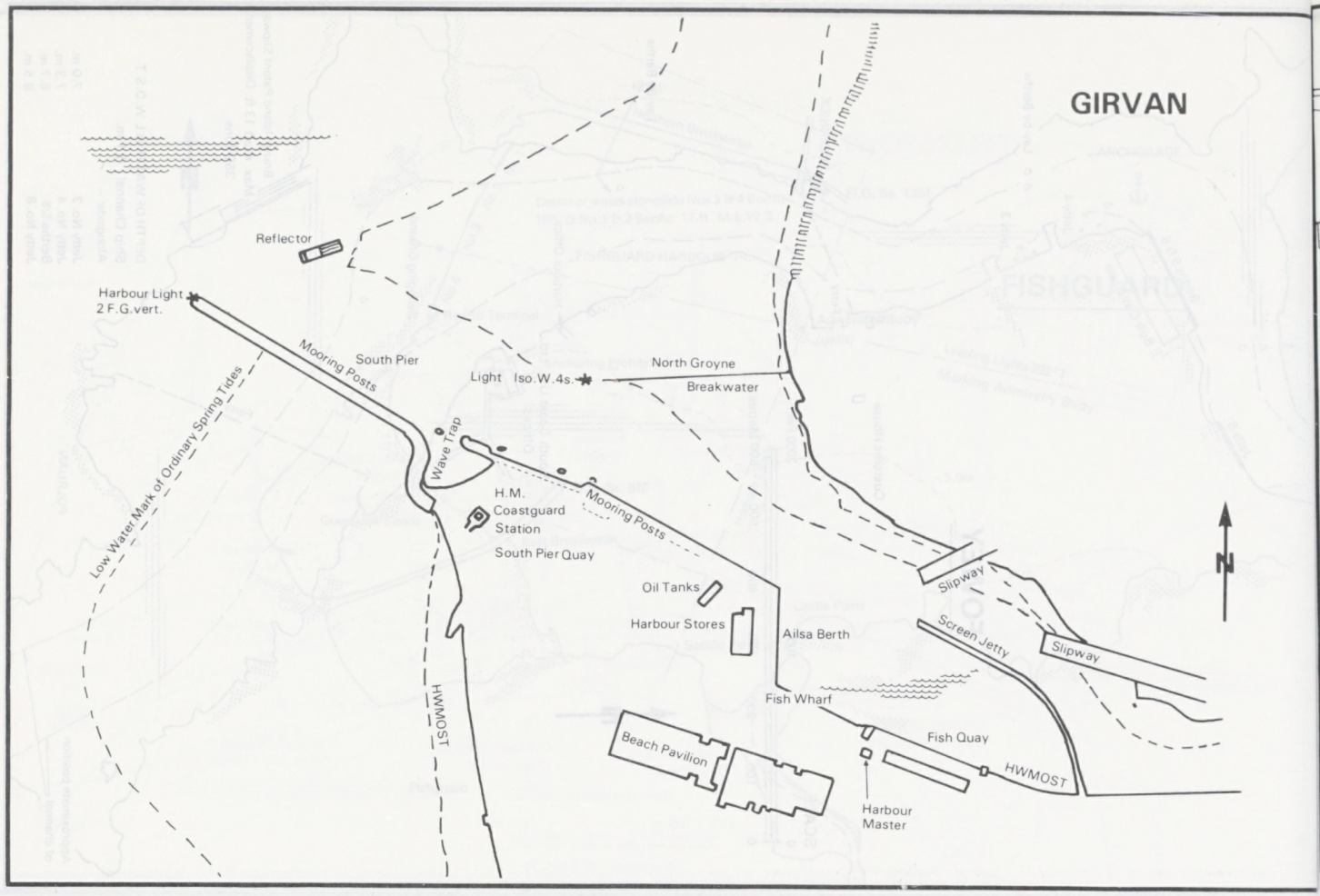

FIRTH OF FORTH
North Carr Beacon
Fife Ness
Methil
Largo Bay
Isle of May
Landward Limit of Port Authority
Stirling
Alloa
Kirkcaldy
Firth of Forth
Seaward Limit of Port Authority
Kincardine on Forth Road Bridge
Western Limit of Dockyard Port of Rosyth
Burntisland
South Carr Beacon
North Berwick
Braefoot Bay
Inchcolm
River Forth
North Queensferry
Inchkeith
Aberlady Bay
R. Carron
Dockyard Port of Rosyth
Inchkeith Fairway
Grangemouth
Bo'ness
Hound Point Marine Terminal
Falkirk
Forth Road Bridge
Forth Railway Bridge
Queensferry
Harbourmaster's Office Forth Navigation Service
Granton
Leith
East Lothian
Eastern Limit of Dockyard Port of Rosyth.
Newhaven
Cramond Island
Water of Leith
Portobello
West Lothian
Edinburgh
Midlothian
1 0 1 2 3 4 5 6 7 8 9 10
Scale of Statute Miles

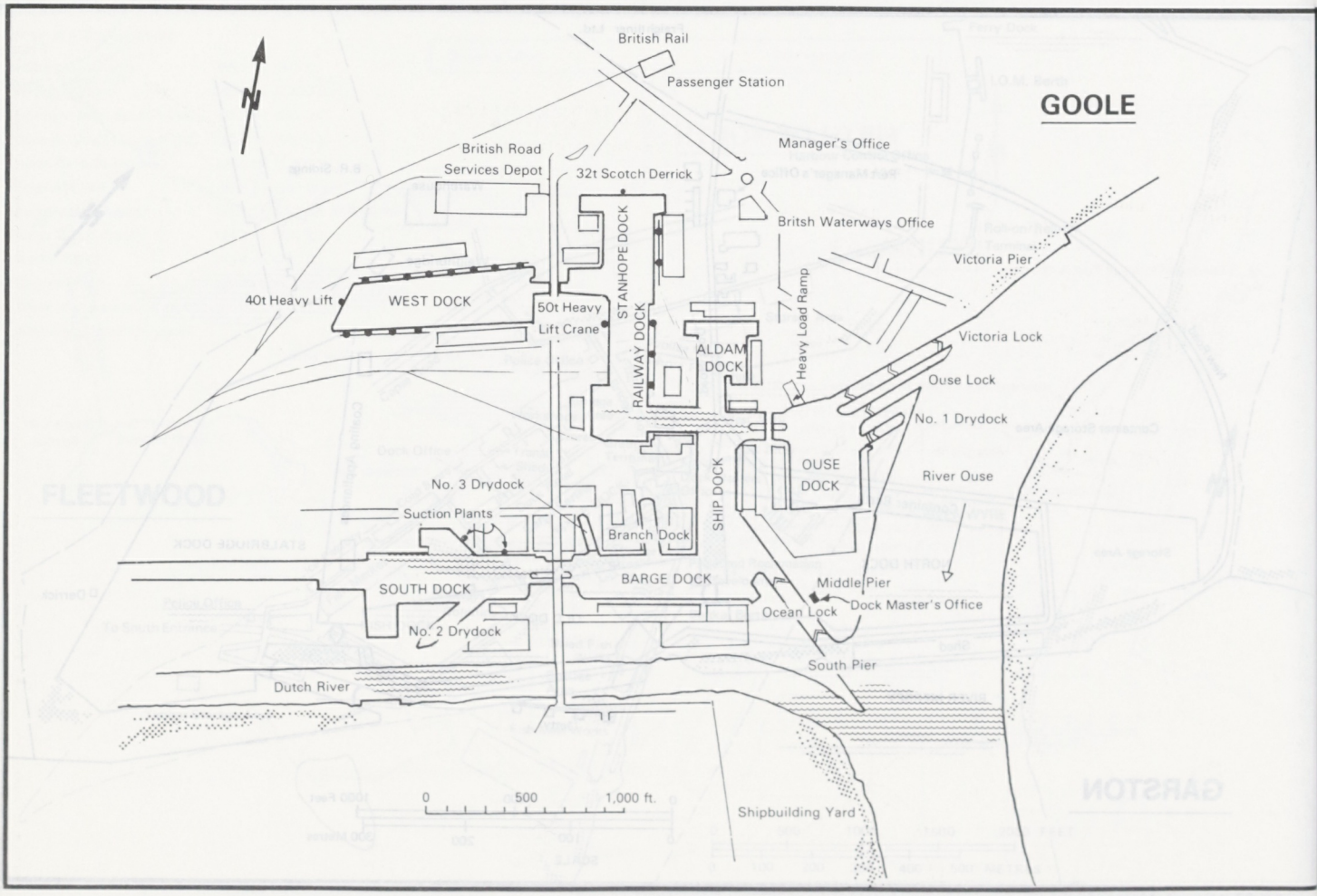

FISHGUARD
N
10.0m
Northern Breakwater
No.1
No.2
No.3
No.4
Depth of water alongside Nos 3 & 4 Berths
18ft. & No.1 & 2 Berths 17 ft. M.L.W.S.
Fl.G. 5s. 13M
ANCHORAGE
FISHGUARD HARBOUR
Ro/Ro Terminal
Admiralty Buoy
(unlit)
Leading Lights 282°T
Marking Admiralty Buoy
Anchoring Prohibited
Harbour Limits
5.0m
Fl.R. 3s. 5M
Goodwick Sands
East Breakwater
Castle Point
Saddle Point
Fishguard

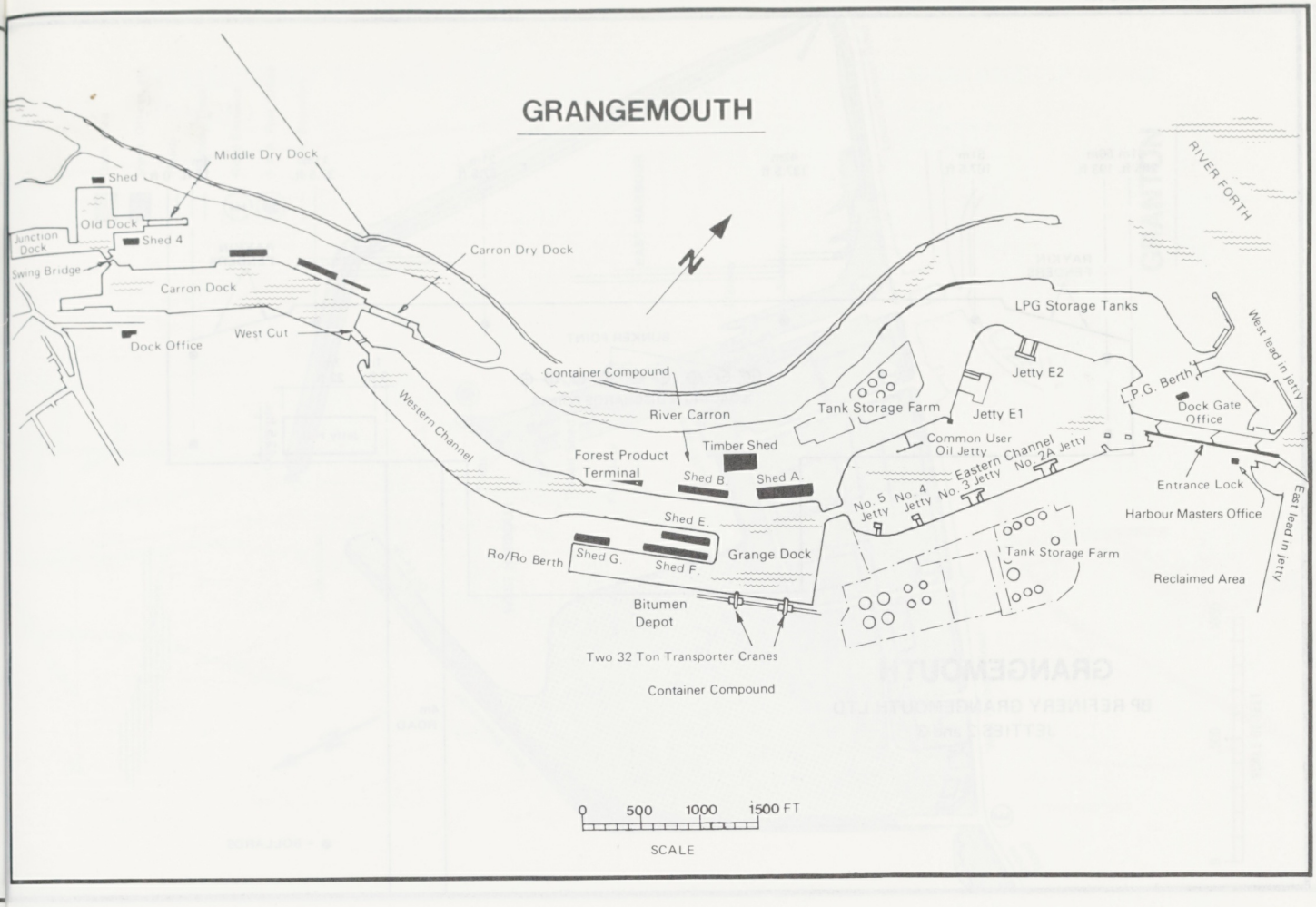

FLEETWOOD
N
Ferry Dock
I.O.M. Berth
Harbour Control Office
VHF
Roll-on/Roll-off
Terminal
Storage Area
Jubilee Quay
(Inshore Fishermen)
Police Office
Copse Road
Bridge Road
Storage
Workshops Area
Stores
Grain
Terminal
West Jetty
East Jetty
Dock Masters
Office
Dock Office
Transit
Shed
Cold Store
Dock Road
Cargo Berths
WYRE DOCK
RIVER WYRE
Ice Factory
Fish Market
Storage
Area
Projected Reclamation
for Development
Police Office
To South Entrance
Slipways
Dolphins
FISH DOCK
Bunker Berth
Fish Market
Dried Fish
Works
Storage
Area
Timber Storage Area
Fish Meal Works
0 500 1000 1500 2000 FEET
0 100 200 300 400 500 METRES

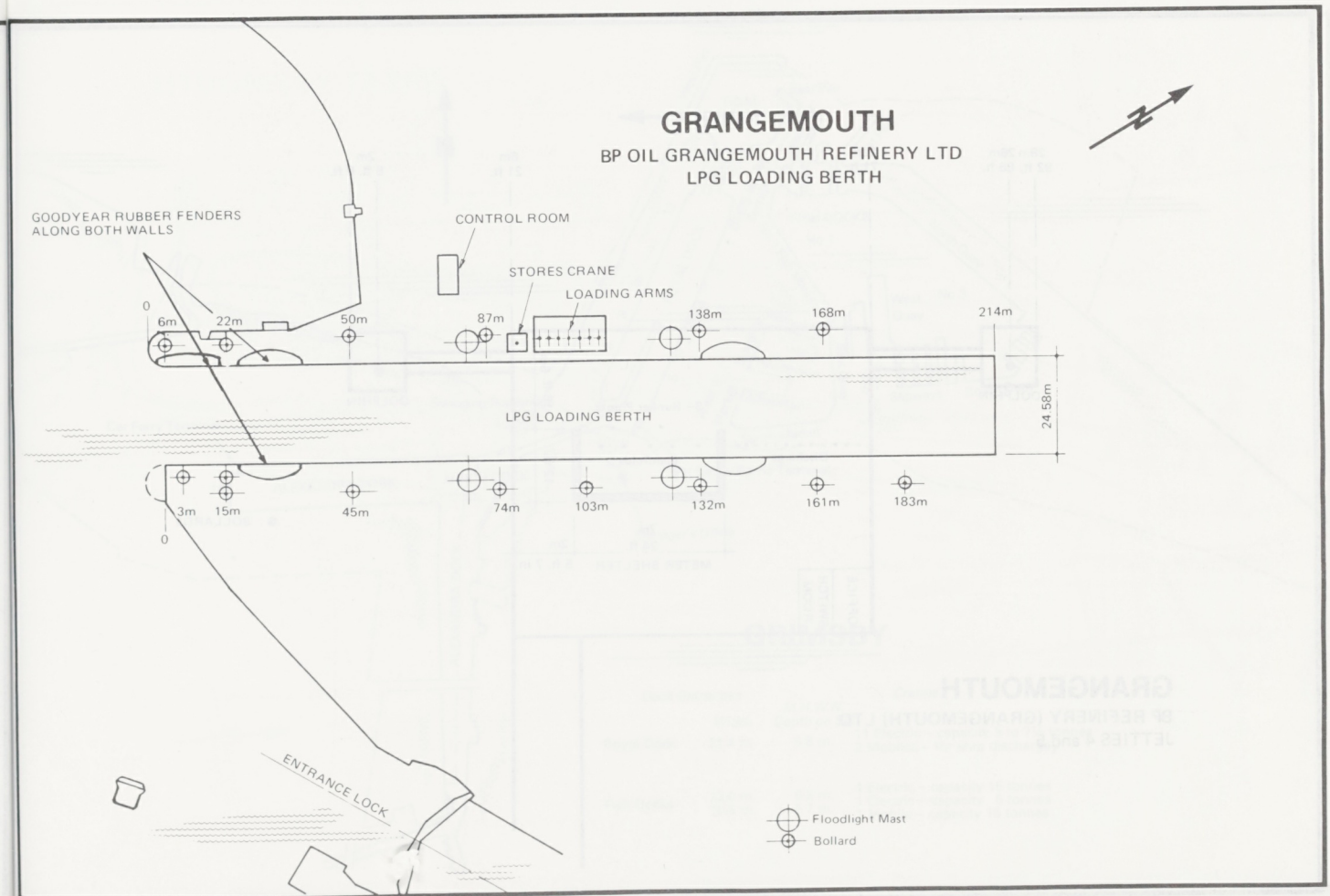

FOWEY
Lay by Berths
Jetty 8
Berths 5 & 6
Bulk Clay Store
Jetty 4
Jetty 3
Lay by Berths
BODINNICK
Ferry
Customs House
Lay By Berths
Harbour Office
South Coast U.K. Ltd. Offices
Swinging Ground
Brazen Island Patent Slipway
Max. draft 13 ft. Displacement
350 Tons
DEPTH OF WATER at L.W.O.S.T.
Ship Channel 6.1 m.
Alongside:-
Jetty No. 3 7.0 m.
Jetty No. 4 7.3 m.
Berths 5.6 6.7 m.
Jetty No. 8 8.5 m.
Ferry
POLRUAN
Approximate position of channel
SCALE
2000 Feet
600 Metres
1000
500
400
300
200
100
0
N

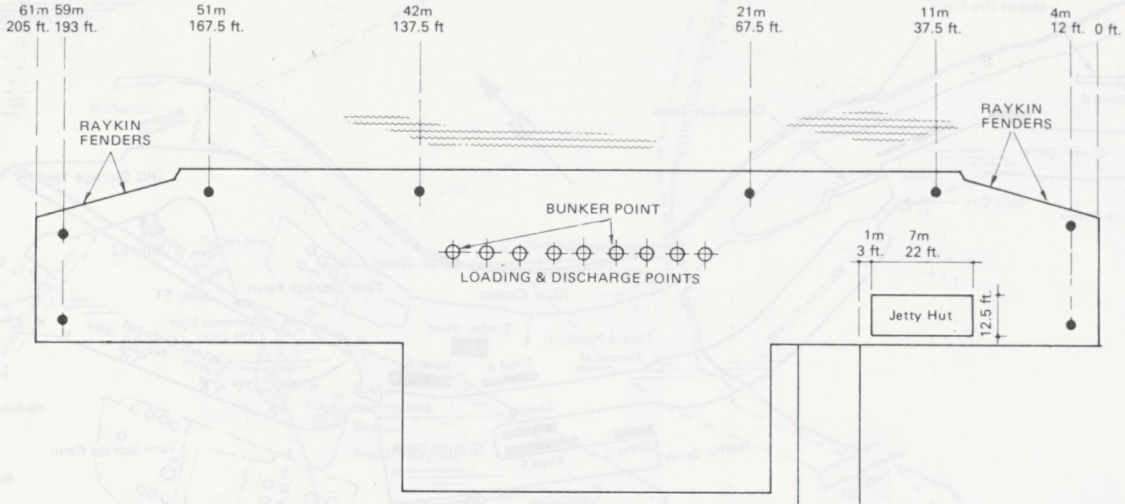

GARSTON
Freightliner Ltd.
Port Manager's Office
Warehouse
B.R. Sidings
Weighbridge
New Road
Dock Road
Container Storage Area
Container Berth
Storage Area
NORTH DOCK
Coaling Appliances
STALBRIDGE DOCK
Derrick
OLD DOCK
Shed
RIVER MERSEY
Jetty
SCALE
0
500
1000 Feet
0
100
200
300 Metres
N


GIRVAN
Reflector
Harbour Light
2 F.G.vert.
South Pier
Mooring Posts
Light Iso.W.4s.
North Groyne
Breakwater
Low Water Mark of Ordinary Spring Tides
Wave Trap
H.M.
Coastguard
Station
South Pier Quay
Mooring Posts
Oil Tanks
Harbour Stores
Ailsa Berth
Slipway
Screen Jetty
Slipway
Fish Wharf
Fish Quay
Beach Pavilion
HWMOST
HWMOST
Harbour
Master
N


GOOLE
N
British Rail
Passenger Station
Manager's Office
British Road
Services Depot
32t Scotch Derrick
Britsh Waterways Office
Victoria Pier
40t Heavy Lift
WEST DOCK
50t Heavy
Lift Crane
STANHOPE DOCK
RAILWAY DOCK
ALDAM
DOCK
Heavy Load Ramp
Victoria Lock
Ouse Lock
No. 1 Drydock
OUSE
DOCK
River Ouse
No. 3 Drydock
Suction Plants
SHIP DOCK
Branch Dock
BARGE DOCK
Middle Pier
Ocean Lock
Dock Master's Office
SOUTH DOCK
No. 2 Drydock
South Pier
Dutch River
0
500
1,000 ft.
Shipbuilding Yard


GRANGEMOUTH
Middle Dry Dock
Shed
Old Dock
Shed 4
Junction Dock
Swing Bridge
Carron Dock
Carron Dry Dock
West Cut
Dock Office
Western Channel
Container Compound
River Carron
Forest Product Terminal
Timber Shed
Shed B.
Shed A.
Shed E.
Ro/Ro Berth
Shed G.
Shed F.
Grange Dock
Bitumen Depot
Two 32 Ton Transporter Cranes
Container Compound
Tank Storage Farm
LPG Storage Tanks
Jetty E2
Jetty E1
Common User Oil Jetty
Eastern Channel
No. 5 Jetty
No. 4 Jetty
No. 3 Jetty
No. 2A Jetty
P.G. Berth
Dock Gate Office
West lead in jetty
Entrance Lock
Harbour Masters Office
East lead in jetty
Tank Storage Farm
Reclaimed Area
RIVER FORTH
0 500 1000 1500 FT
SCALE


GRANGEMOUTH
BP OIL GRANGEMOUTH REFINERY LTD
LPG LOADING BERTH
GOODYEAR RUBBER FENDERS ALONG BOTH WALLS
CONTROL ROOM
STORES CRANE
LOADING ARMS
0
6m
22m
50m
87m
138m
168m
214m
LPG LOADING BERTH
24 58m
3m
15m
45m
74m
103m
132m
161m
183m
0
ENTRANCE LOCK
Floodlight Mast
Bollard

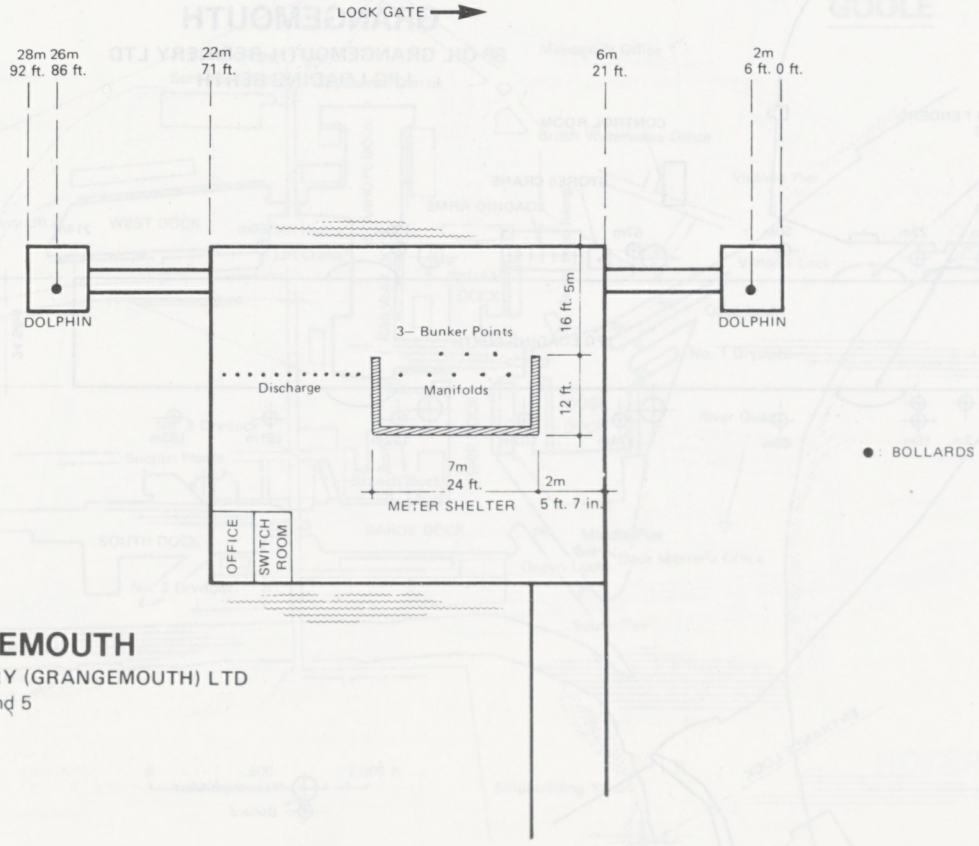


GRANGEMOUTH

BP REFINERY GRANGEMOUTH LTD
JETTIES 2 and 3

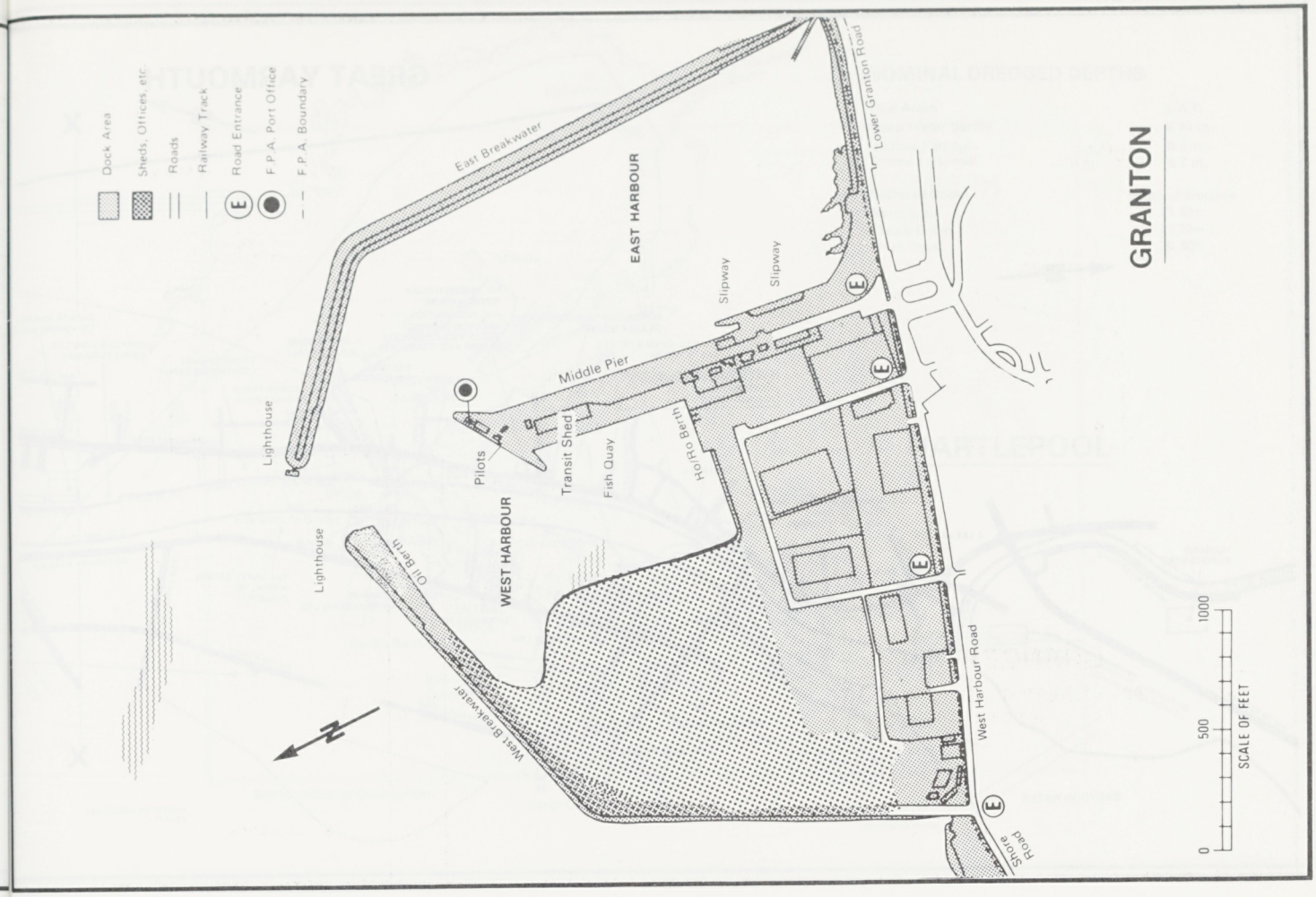
4m
ROAD

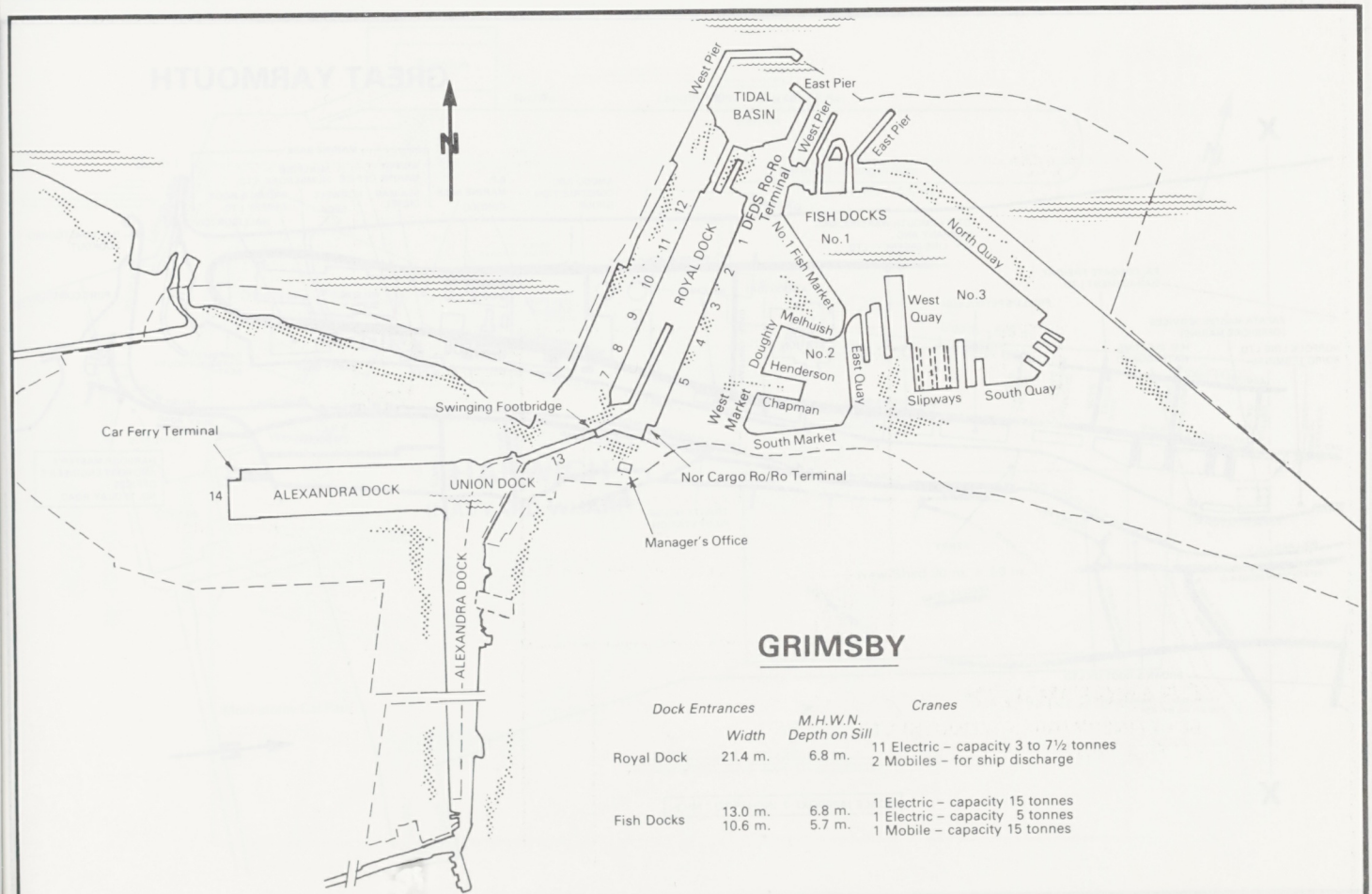
● = BOLLARDS



GRANGEMOUTH

BP REFINERY (GRANGEMOUTH) LTD
JETTIES 4 and 5

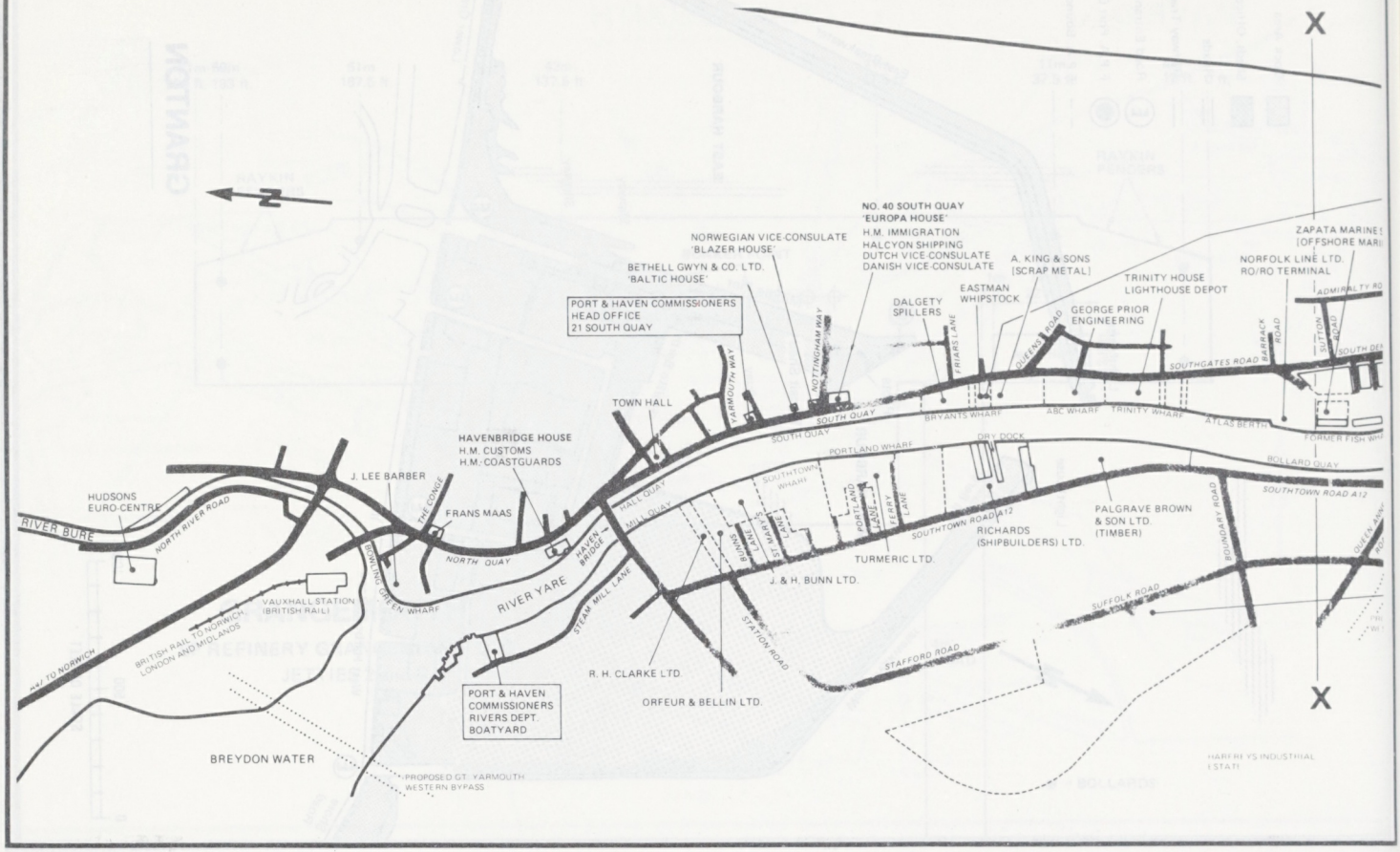




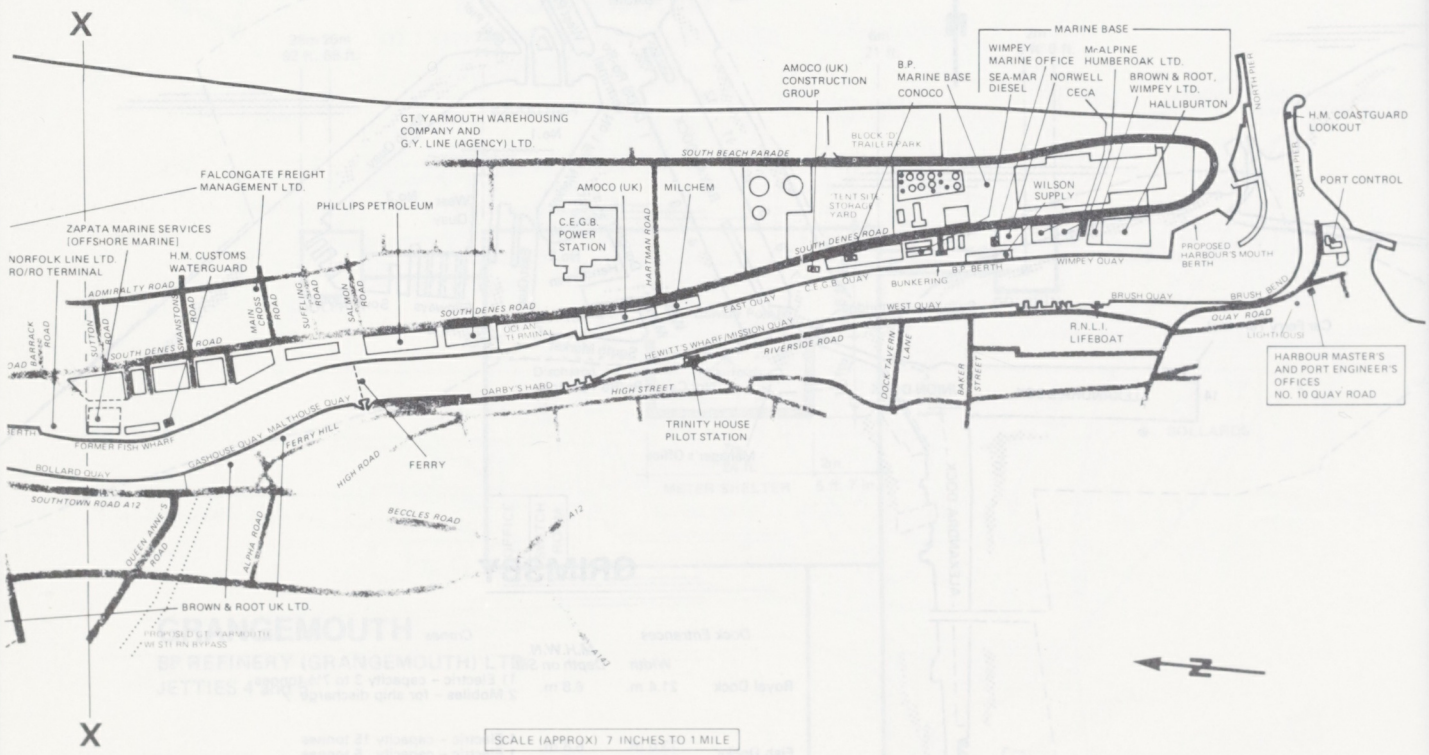
GRIMSBY

Dock Entrances	Width	M.H.W.N. Depth on Sill	Cranes
Royal Dock	21.4 m.	6.8 m.	11 Electric – capacity 3 to 7½ tonnes 2 Mobiles – for ship discharge
Fish Docks	13.0 m. 10.6 m.	6.8 m. 5.7 m.	1 Electric – capacity 15 tonnes 1 Electric – capacity 5 tonnes 1 Mobile – capacity 15 tonnes

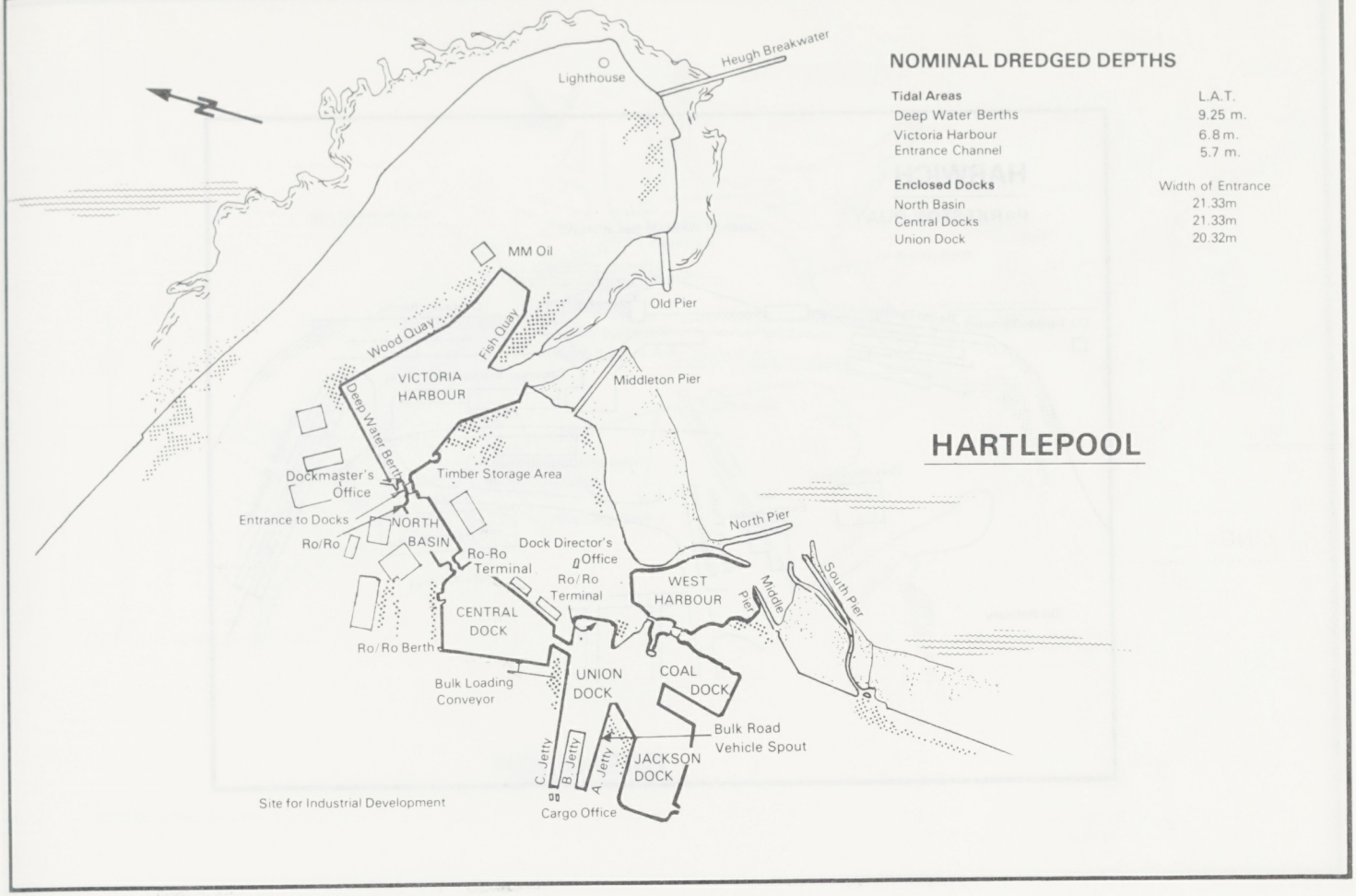
GREAT YARMOUTH

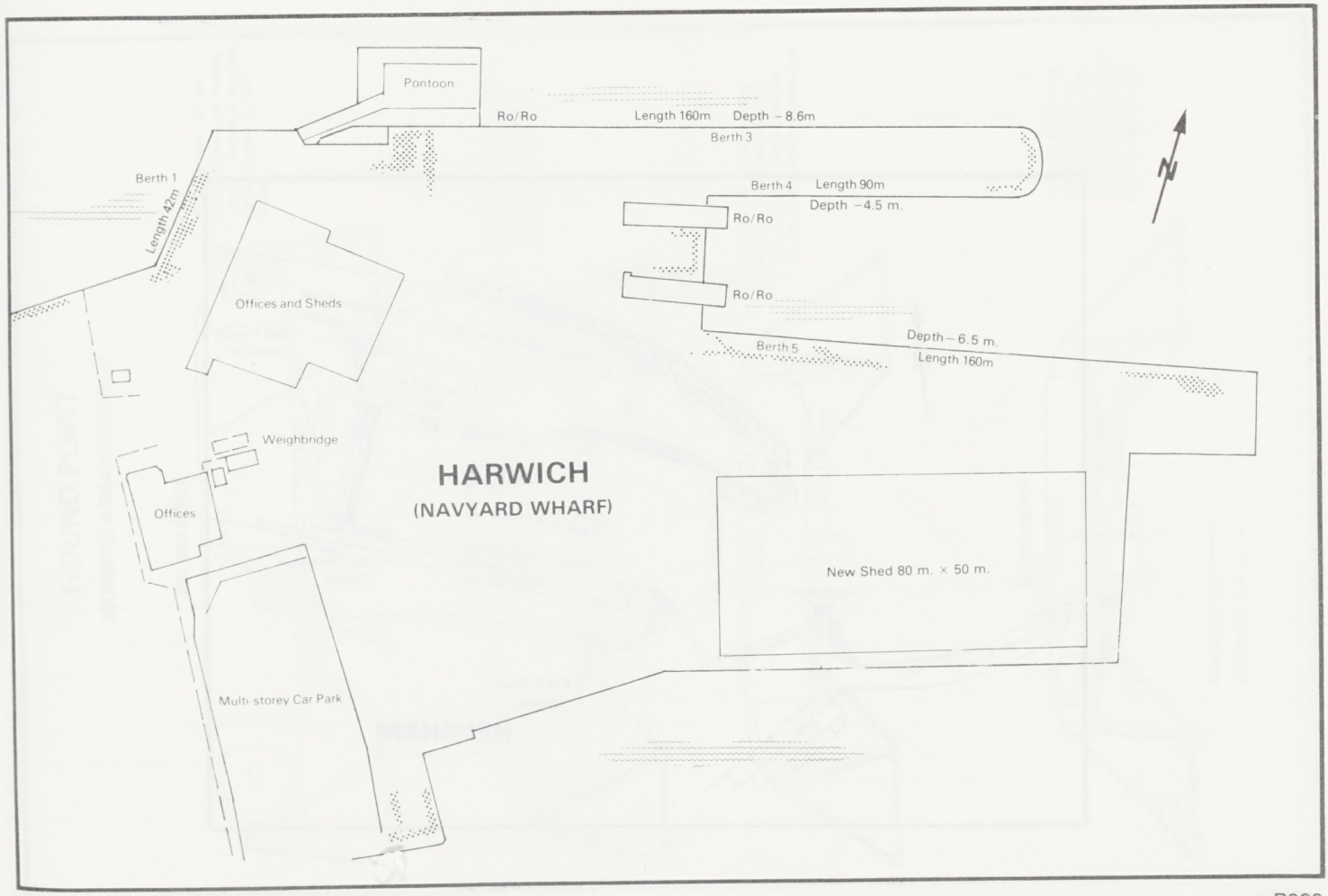


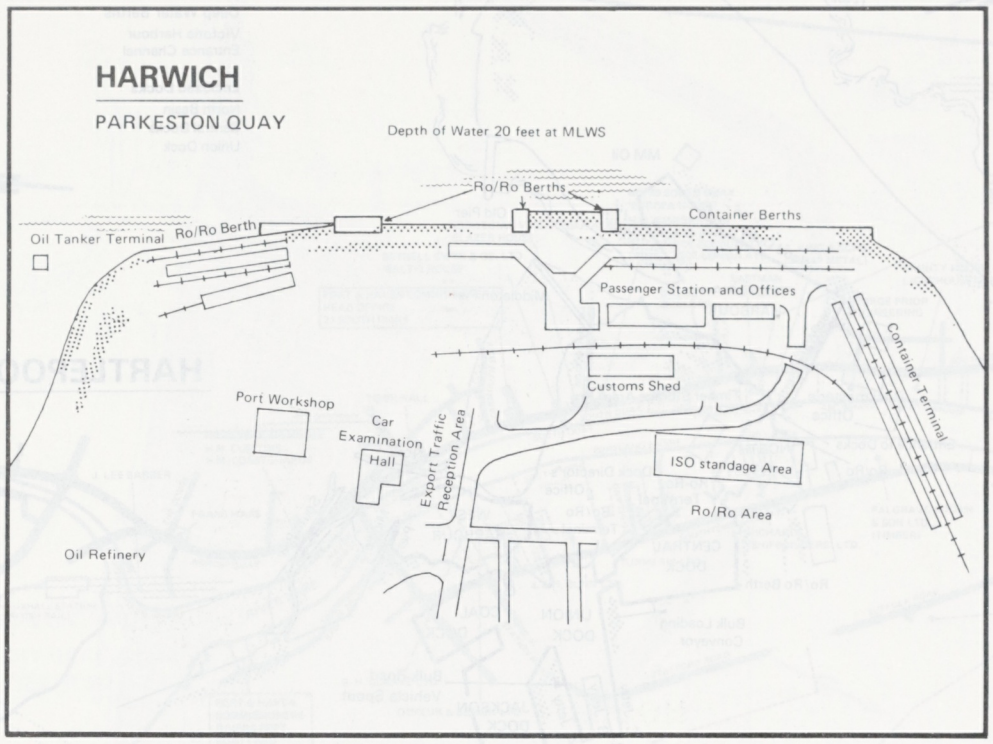
GREAT YARMOUTH

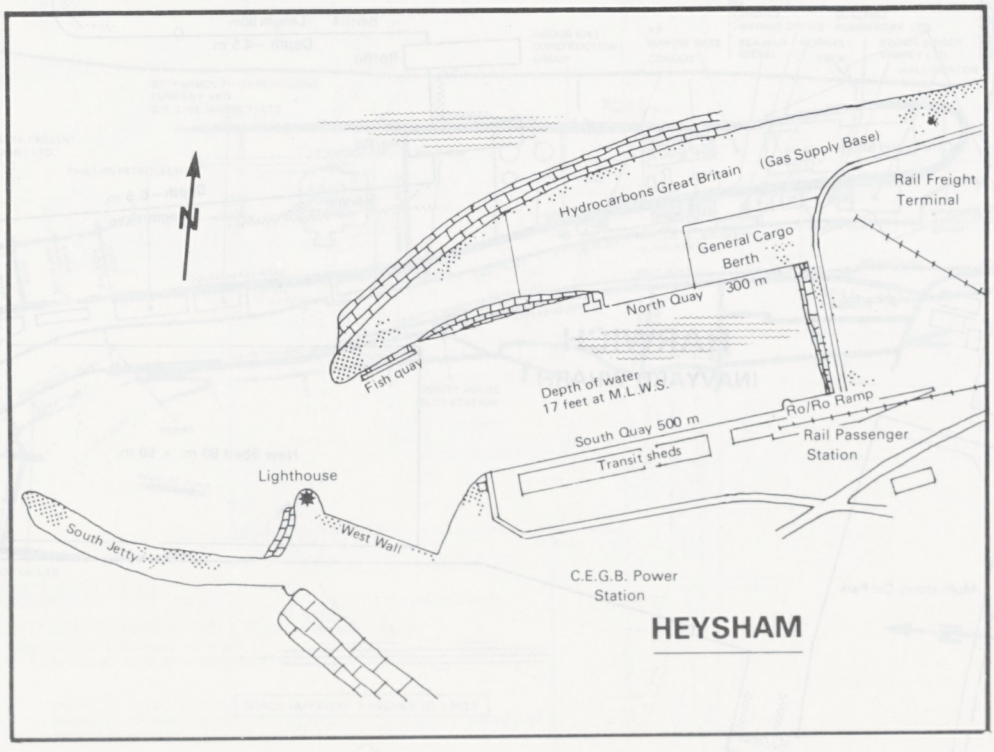


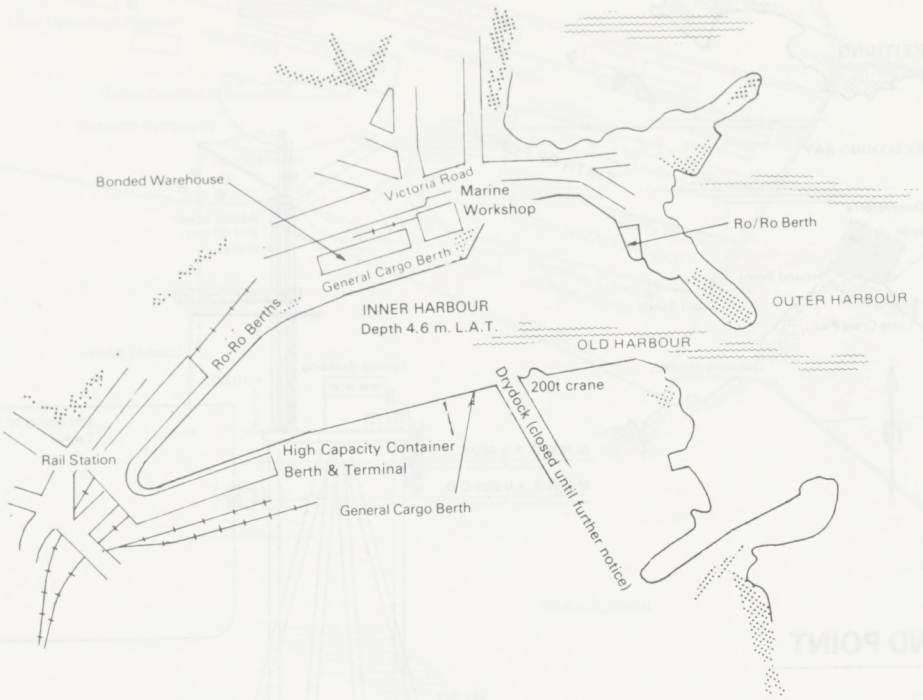
SCALE (APPROX) 7 INCHES TO 1 MILE


Heugh Breakwater
Lighthouse
MM Oil
Old Pier
Wood Quay
Fish Quay
VICTORIA HARBOUR
Deep Water Berth
Middleton Pier
Dockmaster's Office
Timber Storage Area
Entrance to Docks
Ro/Ro
NORTH BASIN
Ro-Ro Terminal
Dock Director's Office
Ro/Ro Terminal
North Pier
WEST HARBOUR
Middle Pier
South Pier
CENTRAL DOCK
Ro/Ro Berth
Bulk Loading Conveyor
UNION DOCK
COAL DOCK
Bulk Road Vehicle Spout
C. Jetty
B. Jetty
A. Jetty
JACKSON DOCK
Cargo Office
Site for Industrial Development
HARTLEPOOL
NOMINAL DREDGED DEPTHS
Tidal Areas
L.A.T.
Deep Water Berths 9.25 m.
Victoria Harbour 6.8 m.
Entrance Channel 5.7 m.
Enclosed Docks
Width of Entrance
North Basin 21.33m
Central Docks 21.33m
Union Dock 20.32m


Pontoon
Ro/Ro
Length 160m
Depth – 8.6m
Berth 3
Berth 1
Length 42m
Berth 4
Length 90m
Depth – 4.5 m.
Ro/Ro
Ro/Ro
Offices and Sheds
Depth – 6.5 m.
Berth 5
Length 160m
Weighbridge
HARWICH
(NAVYARD WHARF)
Offices
New Shed 80 m. × 50 m.
Multi-storey Car Park


HARWICH
PARKESTON QUAY
Depth of Water 20 feet at MLWS
Ro/Ro Berths
Container Berths
Oil Tanker Terminal
Ro/Ro Berth
Passenger Station and Offices
Container Terminal
Customs Shed
Port Workshop
Car Examination Hall
Export Traffic Reception Area
ISO standage Area
Ro/Ro Area
Oil Refinery


N
Hydrocarbons Great Britain
(Gas Supply Base)
Rail Freight Terminal
General Cargo Berth
300 m
North Quay
Fish quay
Depth of water 17 feet at M.L.W.S.
Ro/Ro Ramp
South Quay 500 m
Transit sheds
Rail Passenger Station
Lighthouse
South Jetty
West Wall
C.E.G.B. Power Station
HEYSHAM



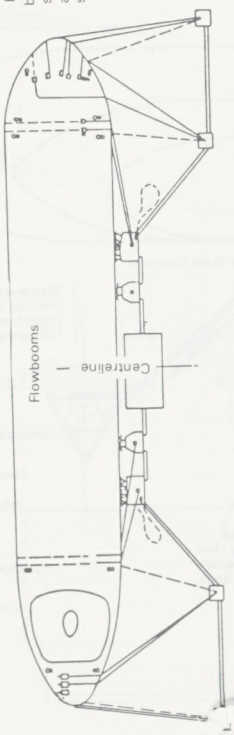
HOLYHEAD

HOUND POINT

MORRING ARRANGEMENTS

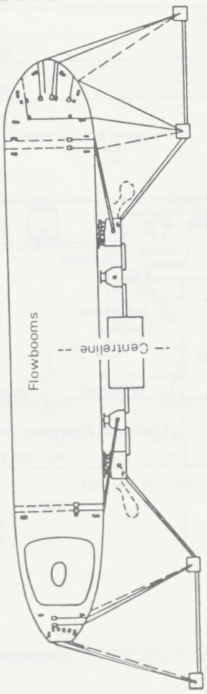
300,000 SDWT

Equipped with 101 ton breaking load wires mooring system. Synthetic first lines ashore (if used) are NOT shown.



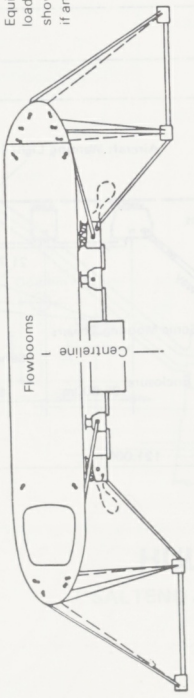
200,000 SDWT

Equipped with 82 ton breaking load wires mooring system. Synthetic first lines ashore (if used) are NOT shown.



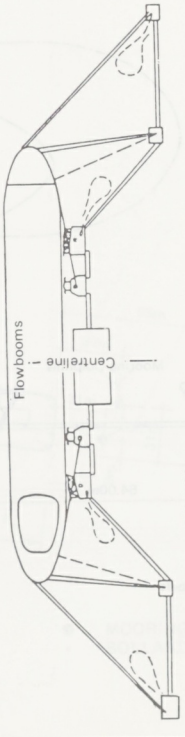
100,000 SDWT

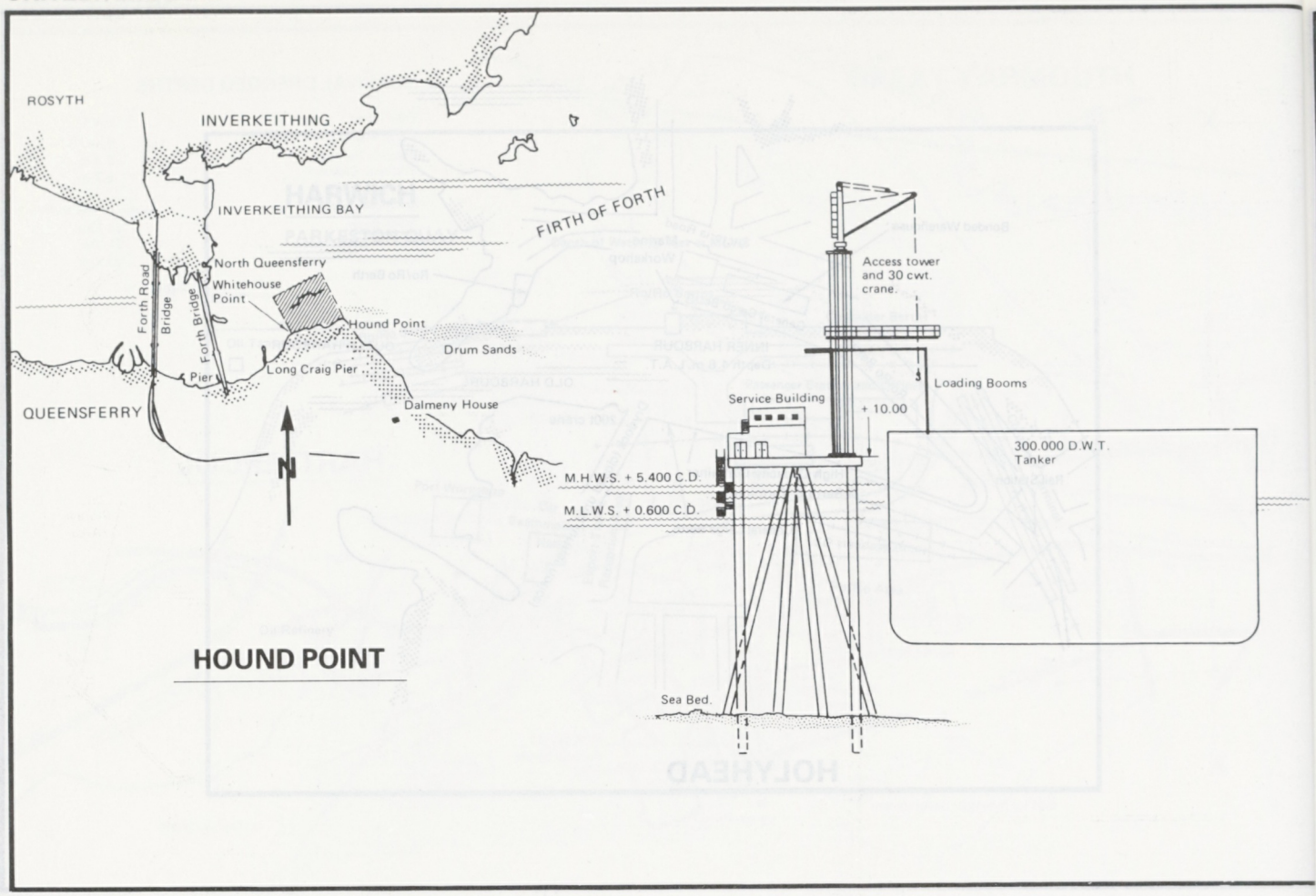
Equipped with 64 ton breaking load lines. This layout does NOT show synthetic first lines ashore if an all wires mooring system is used.



50,000 SDWT

Equipped with 45 ton breaking load lines. This layout does NOT show synthetic first lines ashore if an all wires mooring system is used.



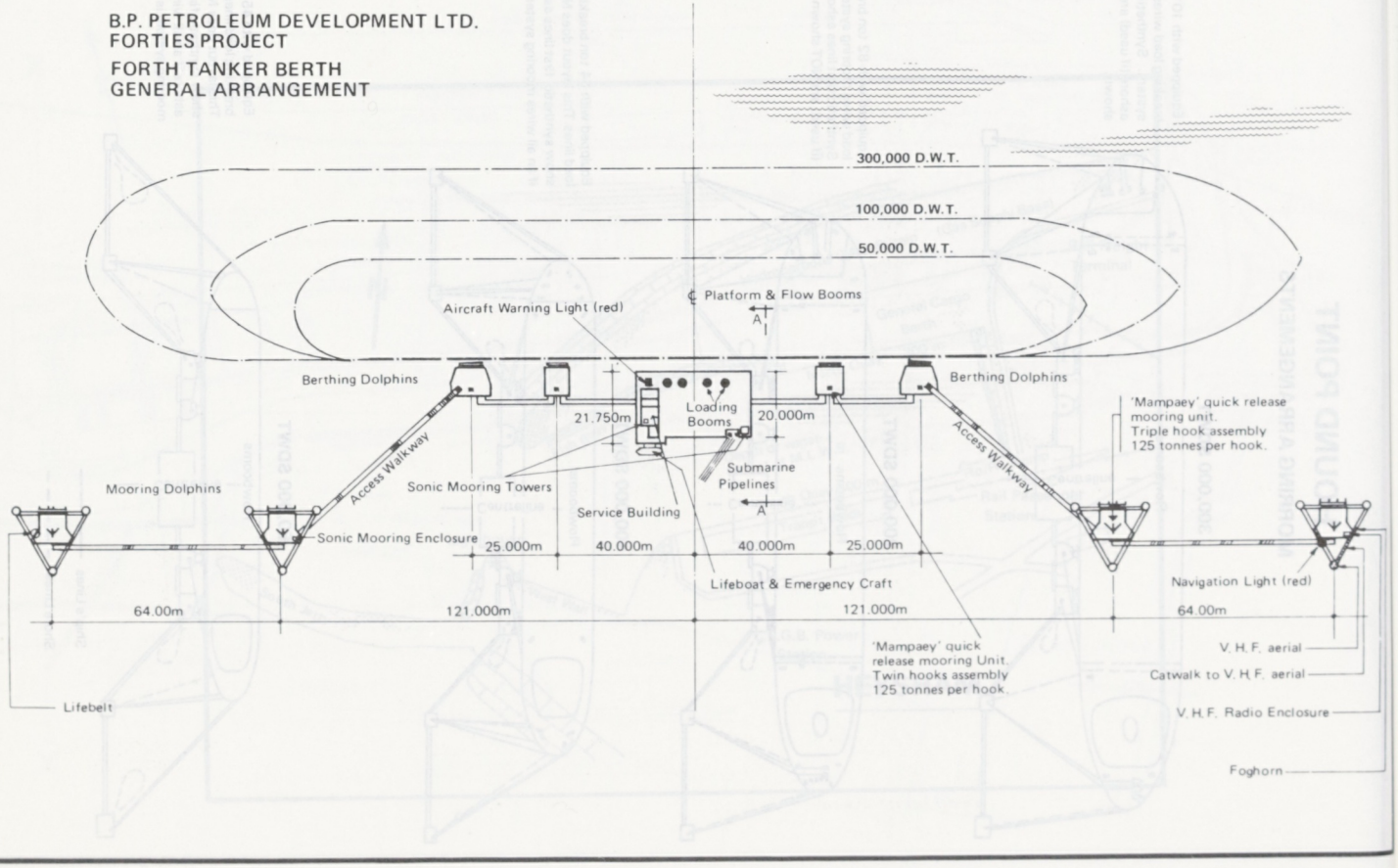


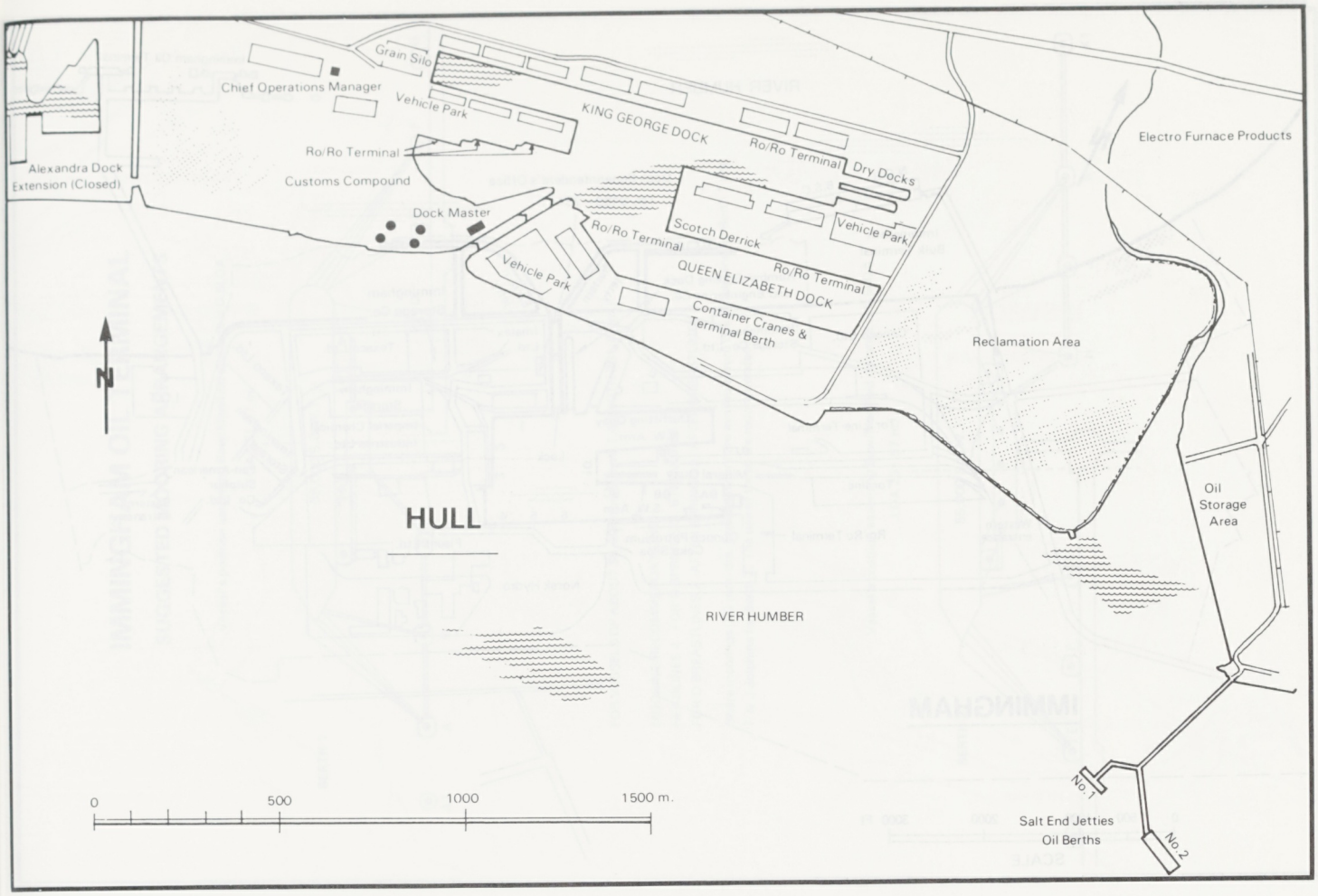
HOUND POINT

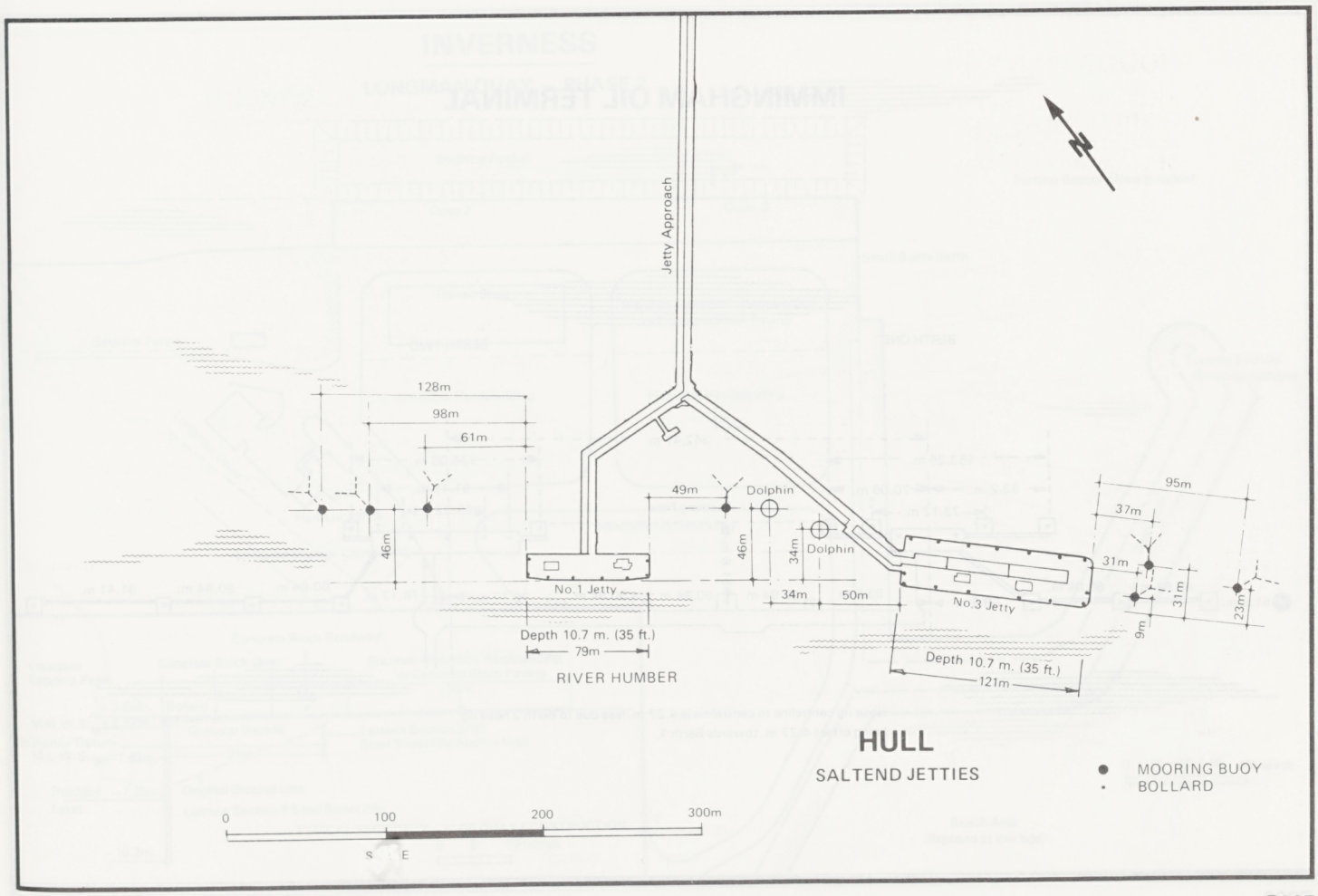
HOUND POINT

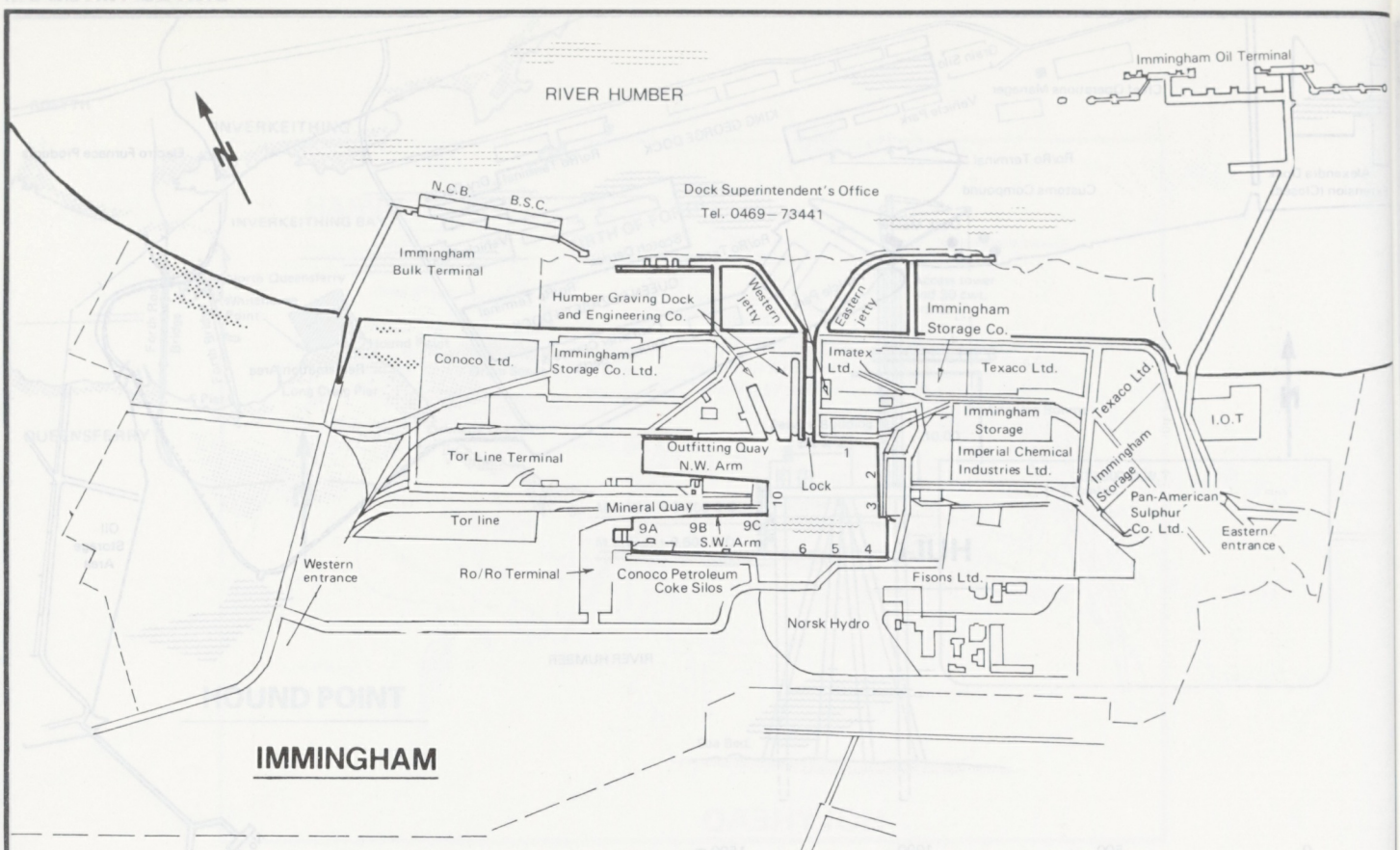
B.P. PETROLEUM DEVELOPMENT LTD.
FORTIES PROJECT

FORTH TANKER BERTH
GENERAL ARRANGEMENT

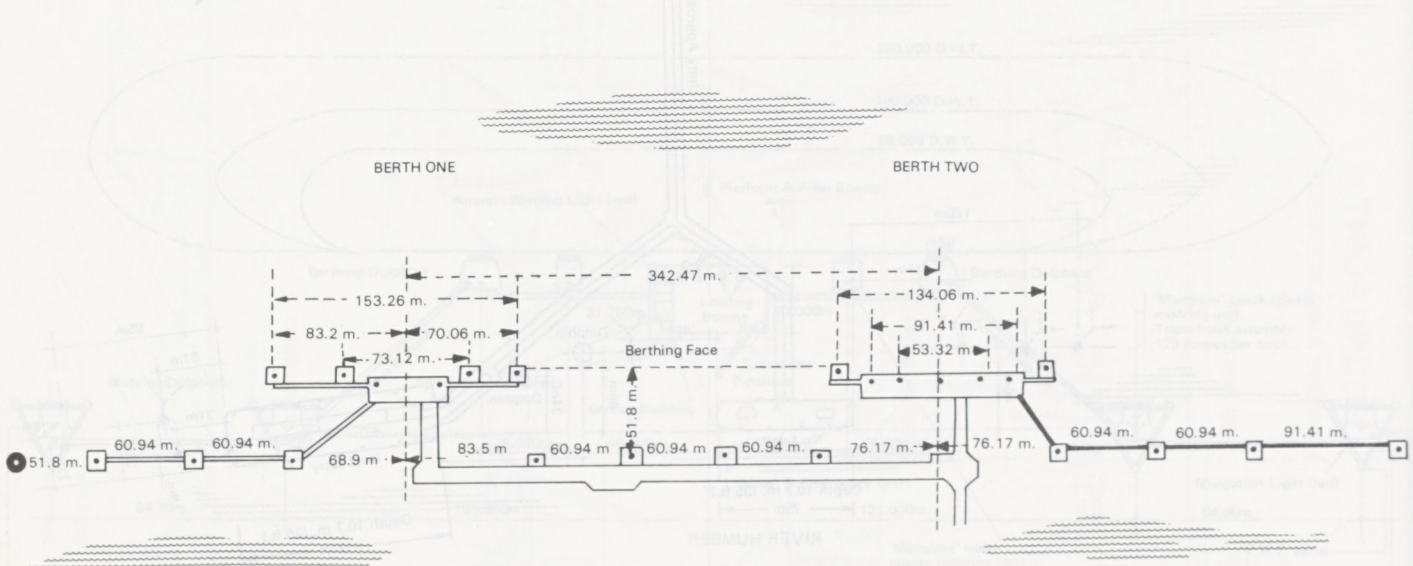



Grain Silo
Chief Operations Manager
Vehicle Park
KING GEORGE DOCK
Ro/Ro Terminal
Dry Docks
Electro Furnace Products
Alexandra Dock
Extension (Closed)
Ro/Ro Terminal
Customs Compound
Dock Master
Scotch Derrick
Vehicle Park
Ro/Ro Terminal
Vehicle Park
QUEEN ELIZABETH DOCK
Ro/Ro Terminal
Container Cranes &
Terminal Berth
Reclamation Area
N
HULL
Oil
Storage
Area
RIVER HUMBER
0
500
1000
1500 m.
No.1
Salt End Jetties
Oil Berths
No.2


Jetty Approach
128m
98m
61m
46m
49m
Dolphin
46m
34m
Dolphin
95m
37m
31m
31m
23m
9m
No.1 Jetty
34m
50m
No.3 Jetty
Depth 10.7 m. (35 ft.)
79m
RIVER HUMBER
Depth 10.7 m. (35 ft.)
121m
HULL
SALTEND JETTIES
MOORING BUOY
BOLLARD
0
100
200
300m



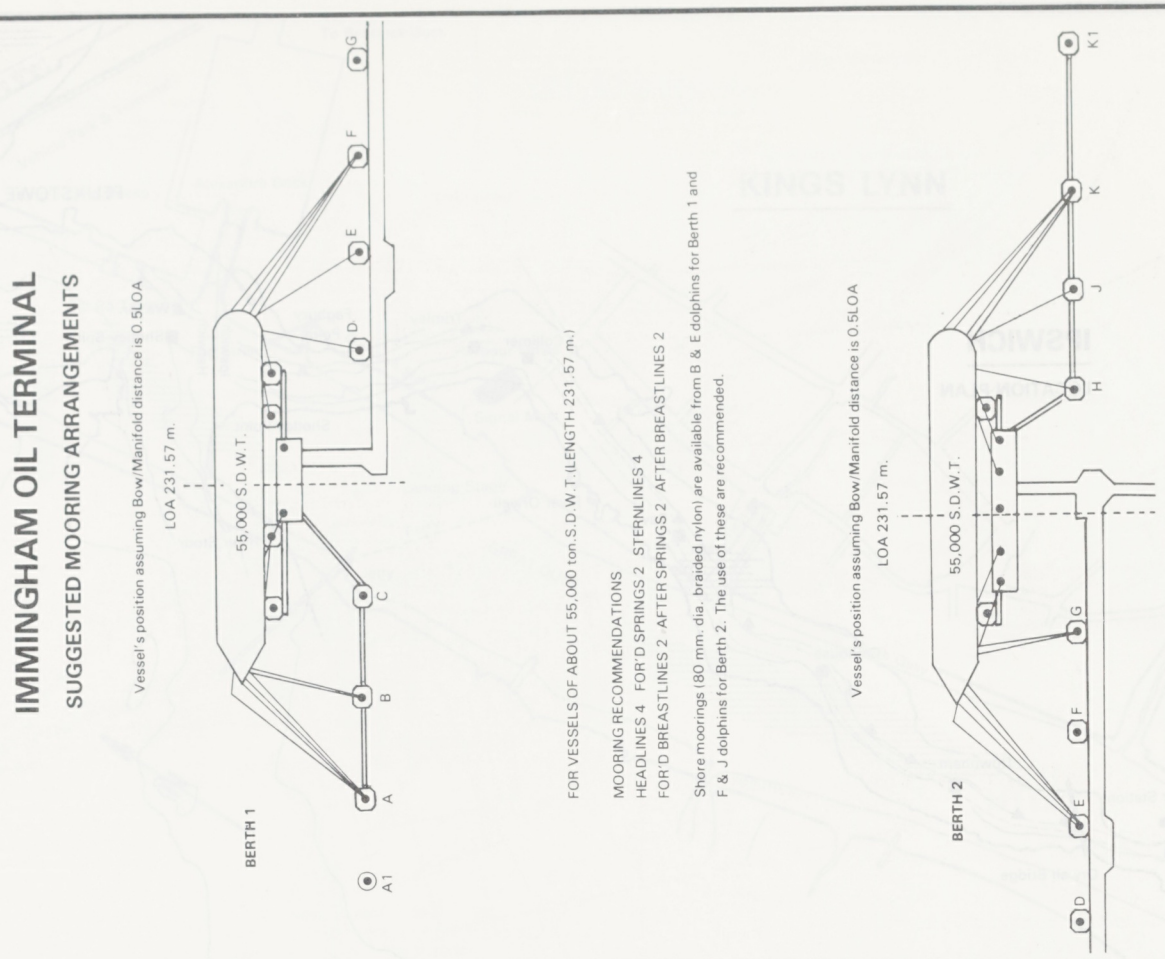
IMMINGHAM OIL TERMINAL



Hose rig centreline to centreline is 4.27 m. less due to Berth 2 hose rig being offset 4.27 m. towards Berth 1.

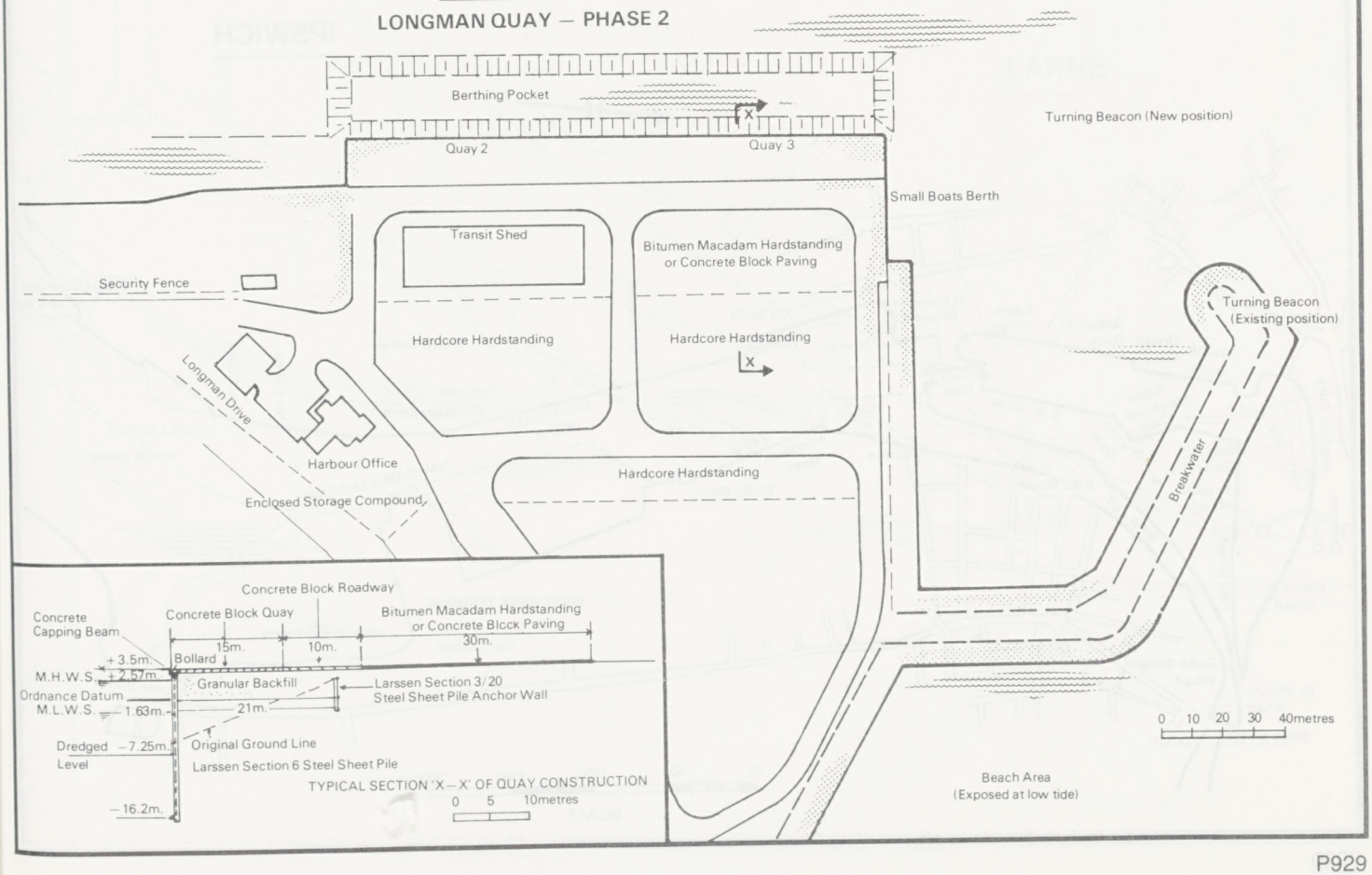
IMMINGHAM OIL TERMINAL

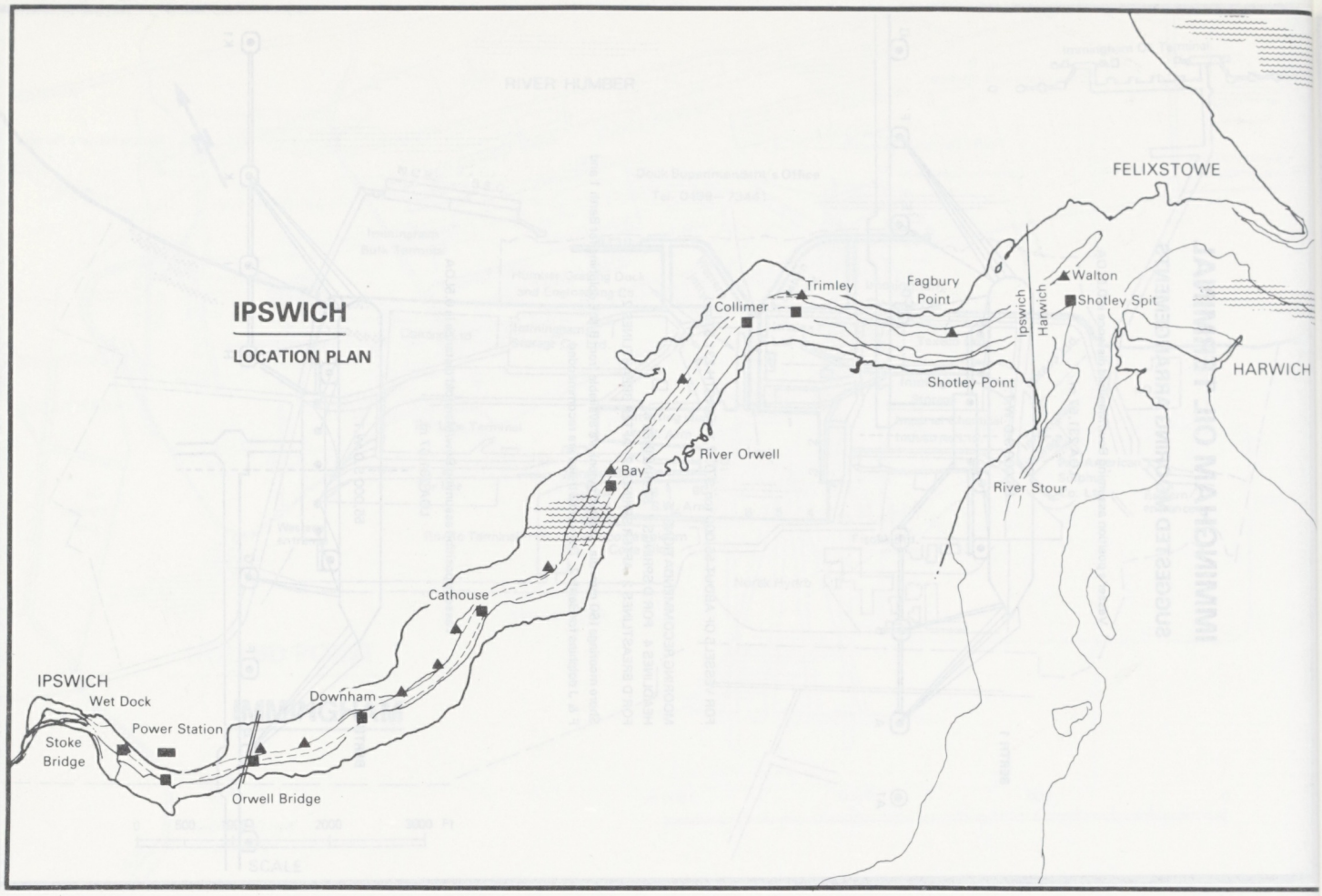
SUGGESTED MOORING ARRANGEMENTS

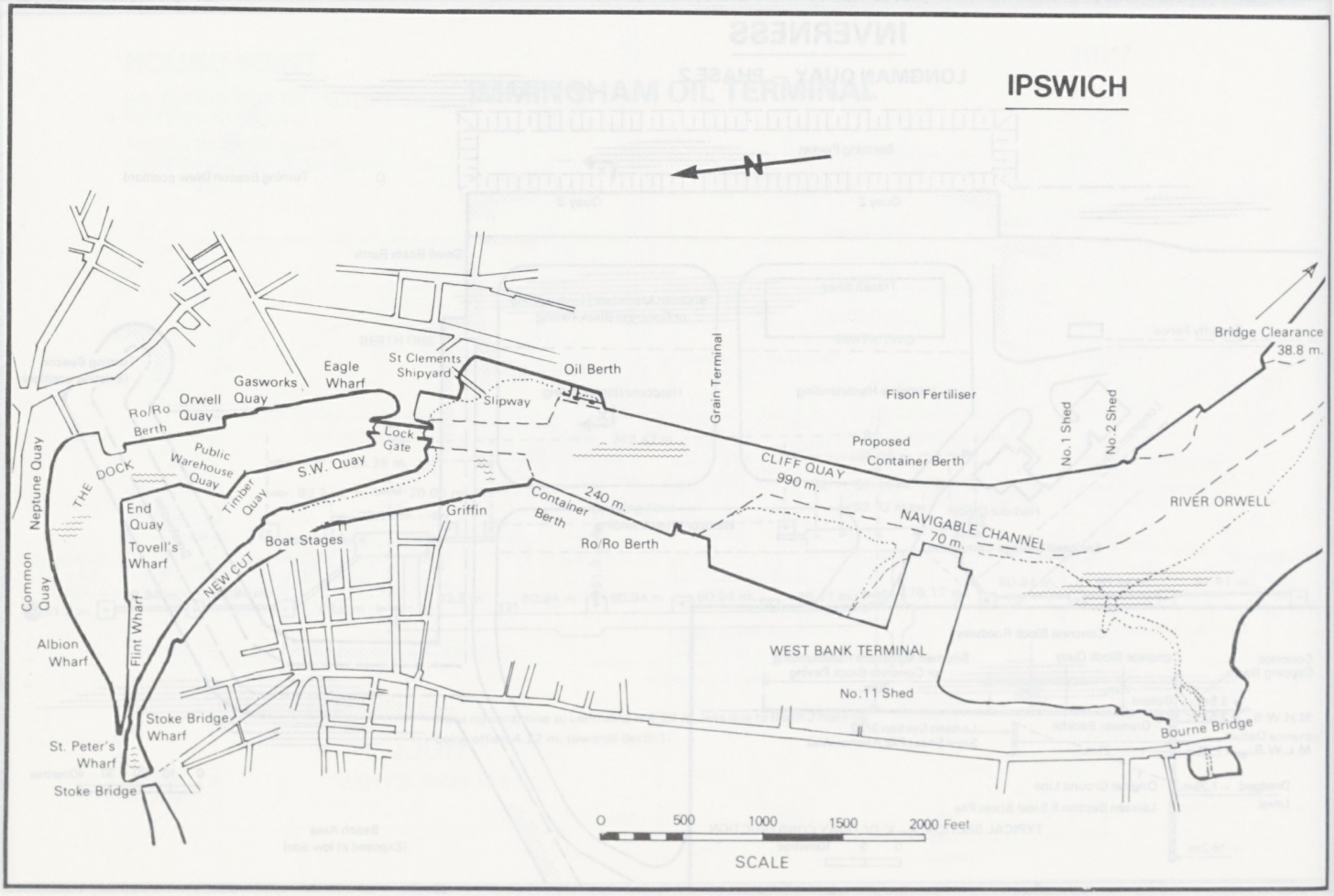


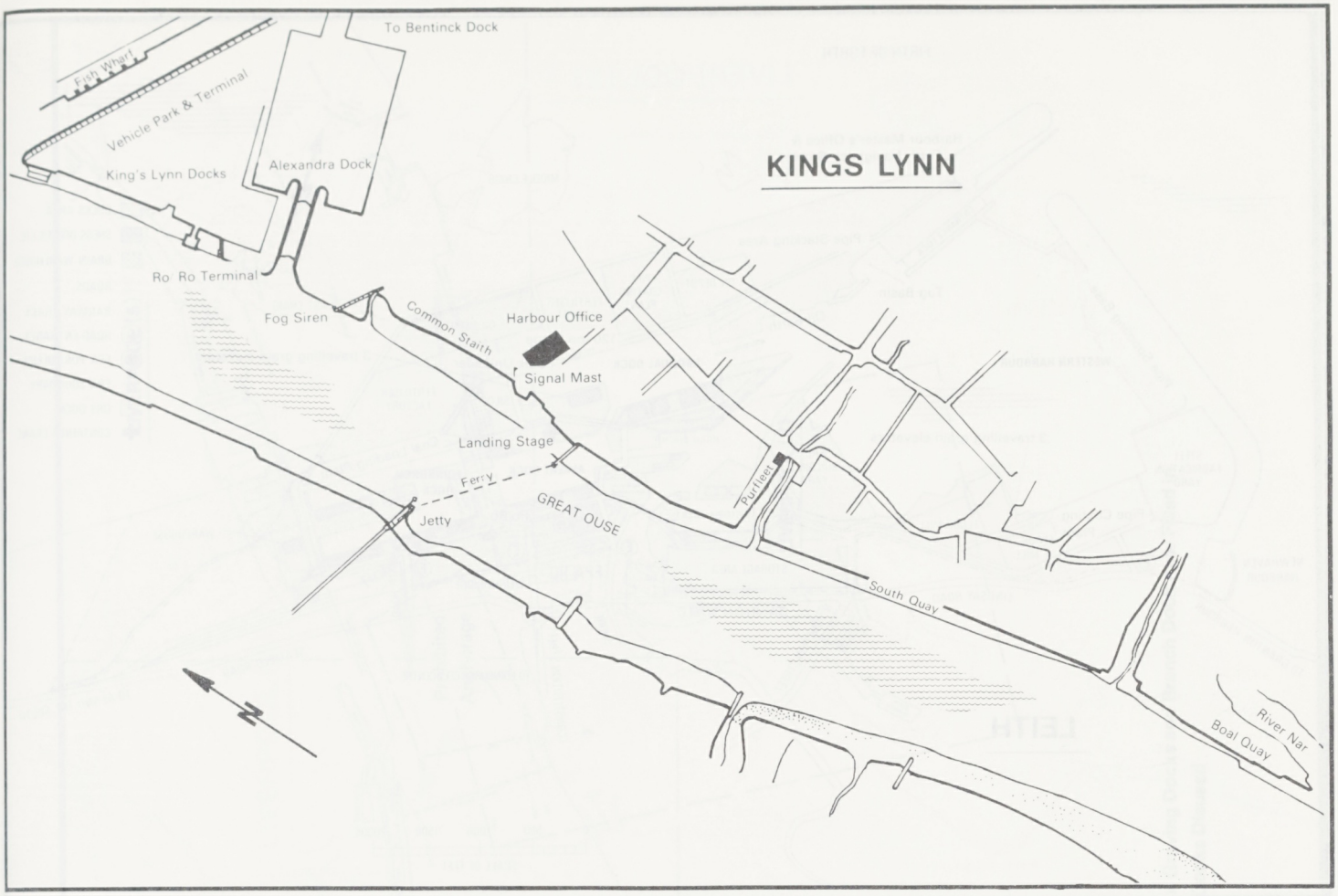
INVERNESS

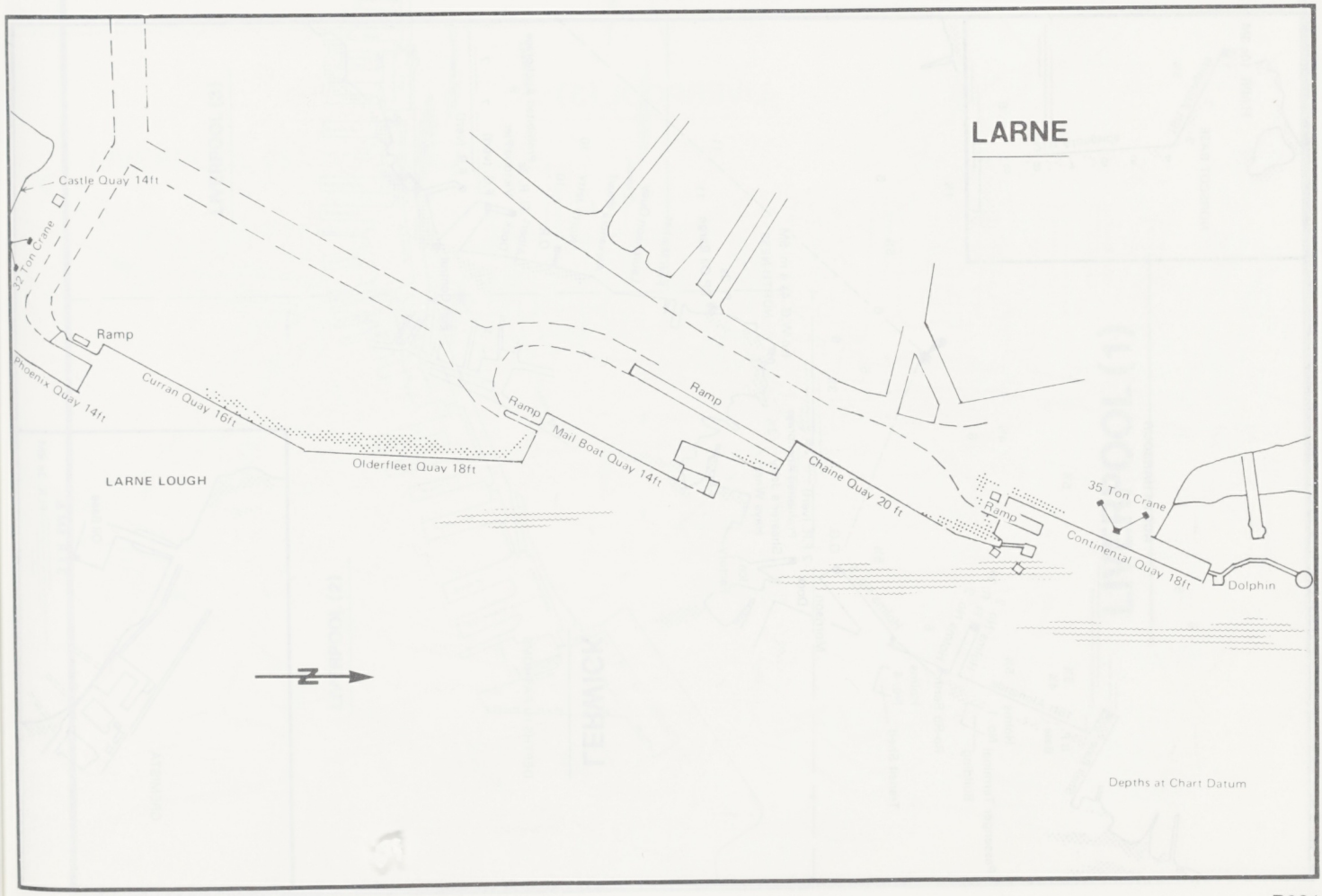
LONGMAN QUAY — PHASE 2

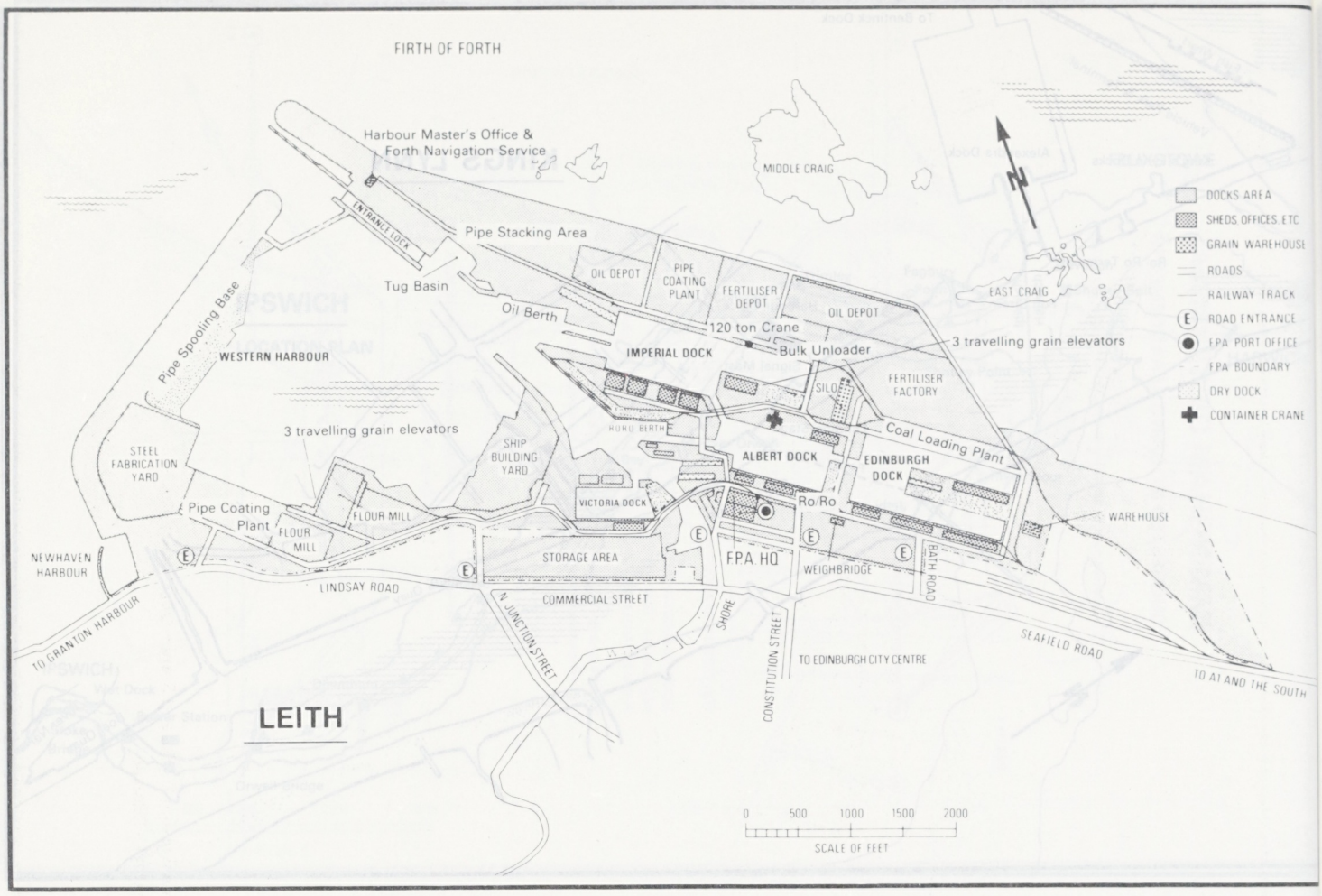


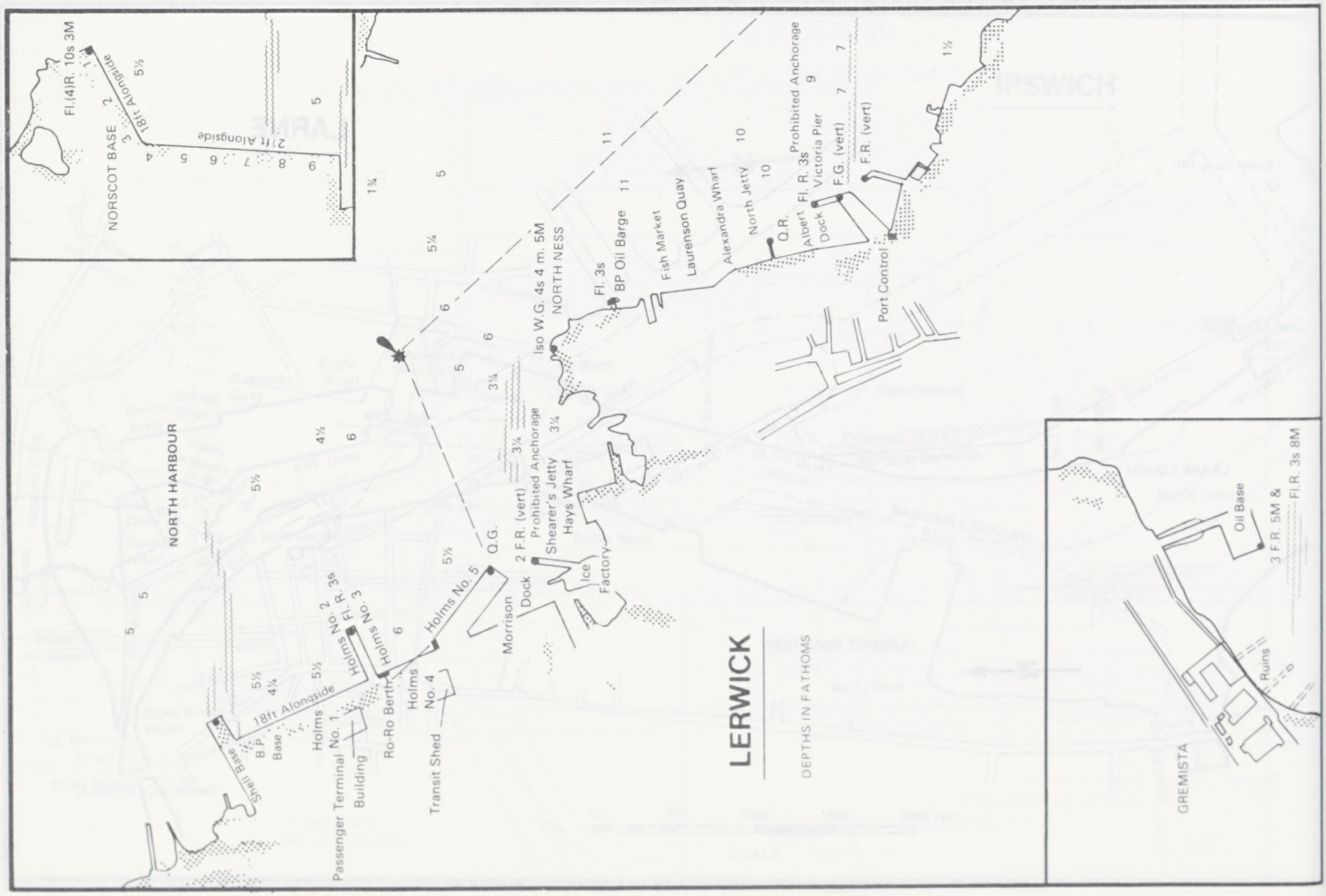

IPSWICH
LOCATION PLAN
FELIXSTOWE
HARWICH
Trimley
Fagbury Point
Collimer
Walton
Shotley Spit
Ipswich
Harwich
Shotley Point
River Orwell
Bay
River Stour
Cathouse
IPSWICH
Wet Dock
Power Station
Stoke Bridge
Downham
Orwell Bridge

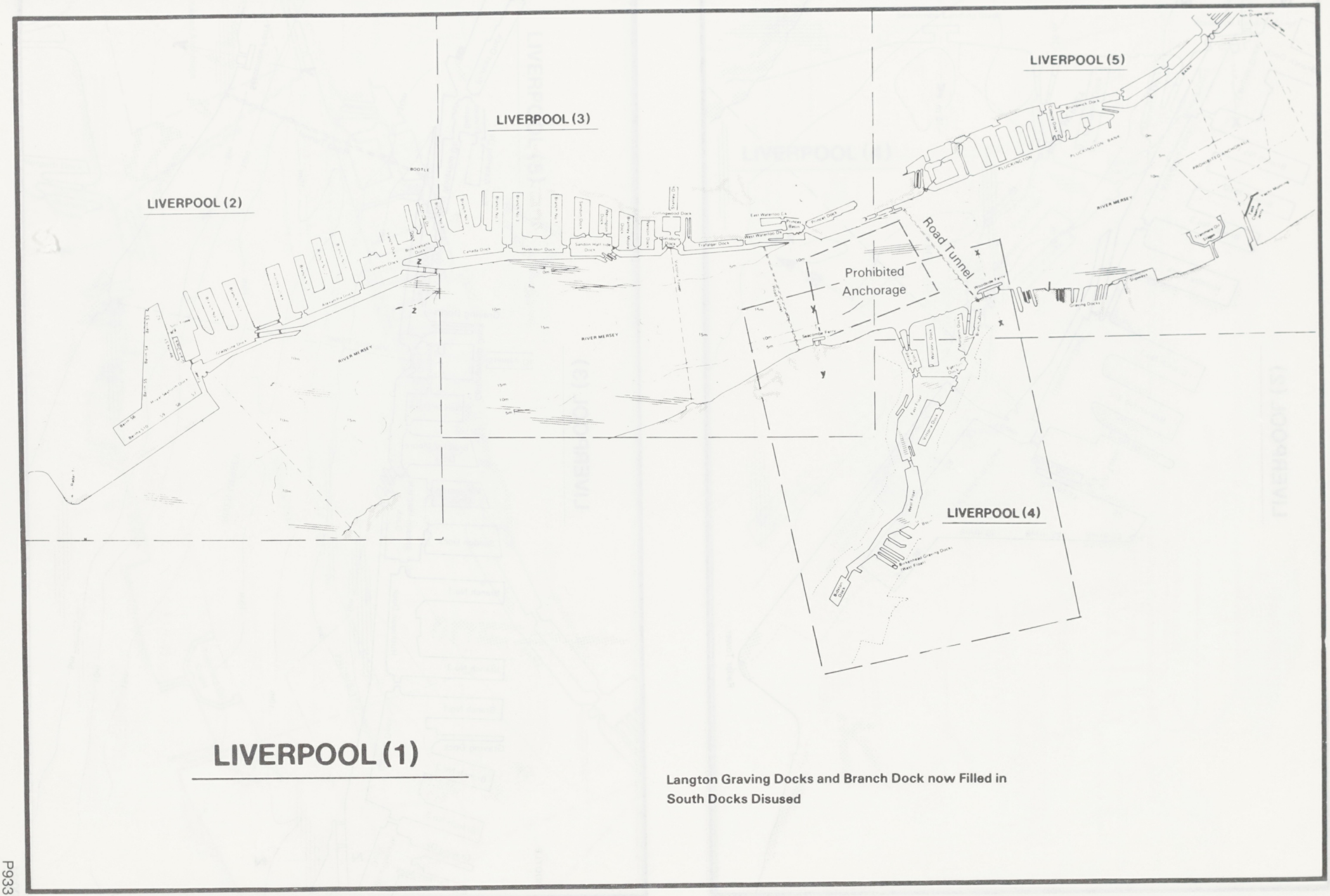

IPSWICH
N
Bridge Clearance 38.8 m.
St Clements Shipyard
Oil Berth
Eagle Wharf
Gasworks Quay
Slipway
Grain Terminal
Fison Fertiliser
Ro/Ro Berth
Orwell Quay
Lock Gate
Proposed Container Berth
No.1 Shed
No.2 Shed
Public Warehouse Quay
S.W. Quay
CLIFF QUAY 990 m.
Neptune Quay
THE DOCK
Timber Quay
End Quay
Tovell's Wharf
Griffin
240 m. Container Berth
NAVIGABLE CHANNEL 70 m.
RIVER ORWELL
Boat Stages
Ro/Ro Berth
Common Quay
NEW CUT
Albion Wharf
Flint Wharf
WEST BANK TERMINAL
No.11 Shed
Stoke Bridge Wharf
St. Peter's Wharf
Bourne Bridge
Stoke Bridge
0 500 1000 1500 2000 Feet
SCALE


KINGS LYNN
To Bentinck Dock
Fish Wharf
Vehicle Park & Terminal
King's Lynn Docks
Alexandra Dock
Ro Ro Terminal
Fog Siren
Common Staith
Harbour Office
Signal Mast
Landing Stage
Ferry
Jetty
GREAT OUSE
Purfleet
South Quay
River Nar
Boal Quay
N


LARNE
Castle Quay 14ft
32 Ton Crane
Ramp
Phoenix Quay 14ft
Curran Quay 16ft
Olderfleet Quay 18ft
LARNE LOUGH
Ramp
Ramp
Mail Boat Quay 14ft
Ramp
Chaine Quay 20 ft
35 Ton Crane
Ramp
Continental Quay 18ft
Dolphin
N
Depths at Chart Datum


FIRTH OF FORTH
Harbour Master's Office & Forth Navigation Service
ENTRANCE LOCK
Pipe Stacking Area
Tug Basin
Oil Berth
OIL DEPOT
PIPE COATING PLANT
FERTILISER DEPOT
OIL DEPOT
120 ton Crane
Bulk Unloader
3 travelling grain elevators
IMPERIAL DOCK
MIDDLE CRAIG
EAST CRAIG
WESTERN HARBOUR
Pipe Spooling Base
STEEL FABRICATION YARD
3 travelling grain elevators
SHIP BUILDING YARD
RORO BERTH
SILO
FERTILISER FACTORY
Coal Loading Plant
ALBERT DOCK
EDINBURGH DOCK
VICTORIA DOCK
Ro/Ro
WAREHOUSE
Pipe Coating Plant
FLOUR MILL
FLOUR MILL
NEWHAVEN HARBOUR
STORAGE AREA
FPA HQ
WEIGHBRIDGE
BATH ROAD
LINDSAY ROAD
COMMERCIAL STREET
N. JUNCTION STREET
SHORE
CONSTITUTION STREET
SEAFIELD ROAD
TO GRANTON HARBOUR
TO EDINBURGH CITY CENTRE
TO AT AND THE SOUTH
LEITH
DOCKS AREA
SHEDS, OFFICES, ETC
GRAIN WAREHOUSE
ROADS
RAILWAY TRACK
ROAD ENTRANCE
FPA PORT OFFICE
FPA BOUNDARY
DRY DOCK
CONTAINER CRANE
0 500 1000 1500 2000
SCALE OF FEET

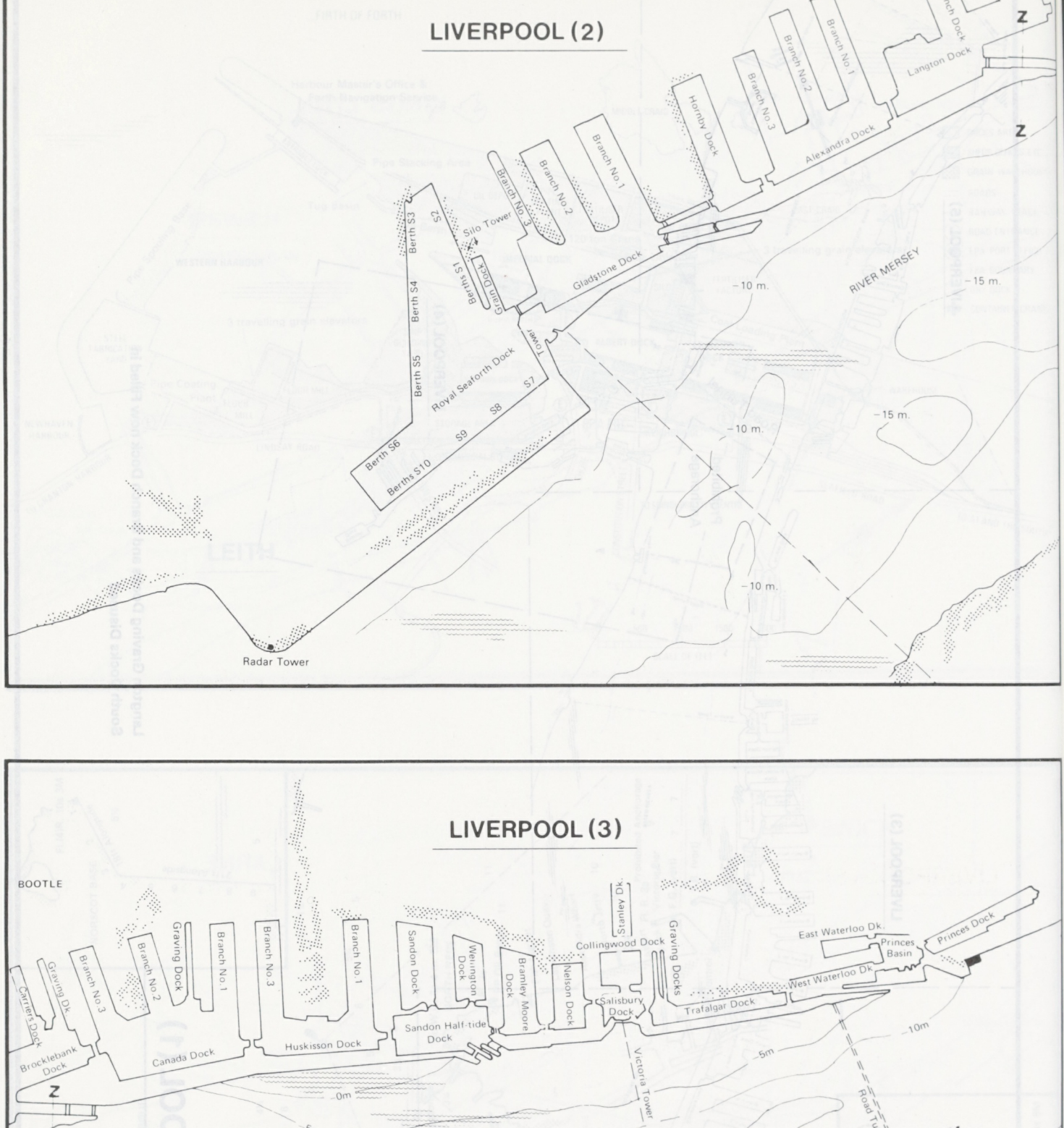

Fl.(4)R. 10s 3M
NORSCOT BASE
18ft Alongside
21ft Alongside
NORTH HARBOUR
Iso W.G. 4s 4 m. 5M
NORTH NESS
Fl. 3s
BP Oil Barge
Fish Market
Laurenson Quay
Alexandra Wharf
North Jetty
Q.R.
Albert Dock
Fl. R. 3s
Victoria Pier
Prohibited Anchorage
F.G. (vert)
F.R. (vert)
Port Control
Q.G.
2 F.R. (vert)
Prohibited Anchorage
Shearer's Jetty
Hays Wharf
Ice Factory
Morrison Dock
Holms No. 5
Holms No. 2
Fl. R. 3s
Holms No. 3
Fl. 3
Holms No. 4
Ro-Ro Berth
18ft Alongside
B.P. Base
Holms No. 1
Passenger Terminal Building
Transit Shed
Mussel Base
LERWICK
DEPTHS IN FATHOMS
Oil Base
3 F.R. 5M &
Fl.R. 3s 8M
Ruins
GREMISTA



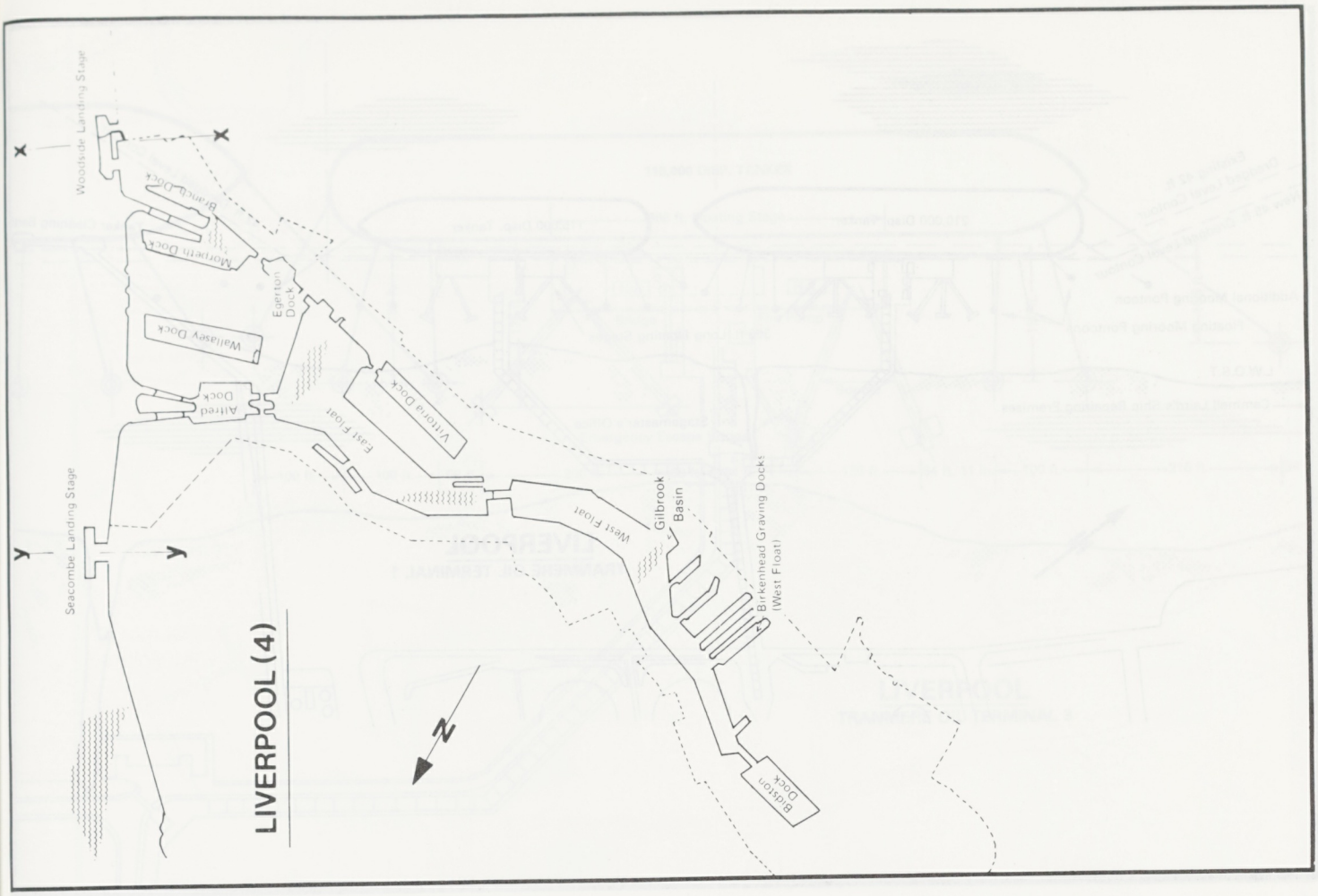
LIVERPOOL (1)

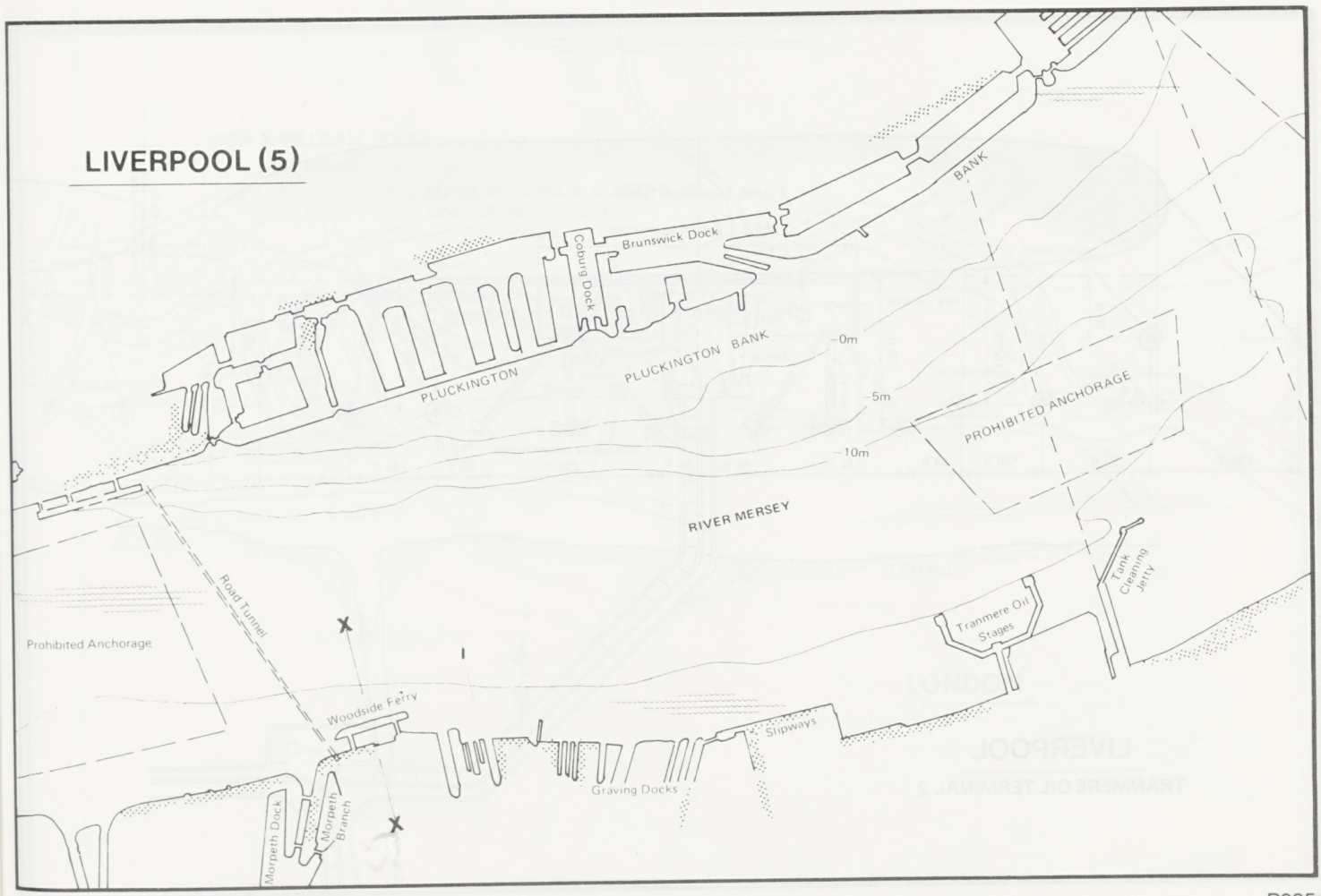
Langton Graving Docks and Branch Dock now Filled in
South Docks Disused

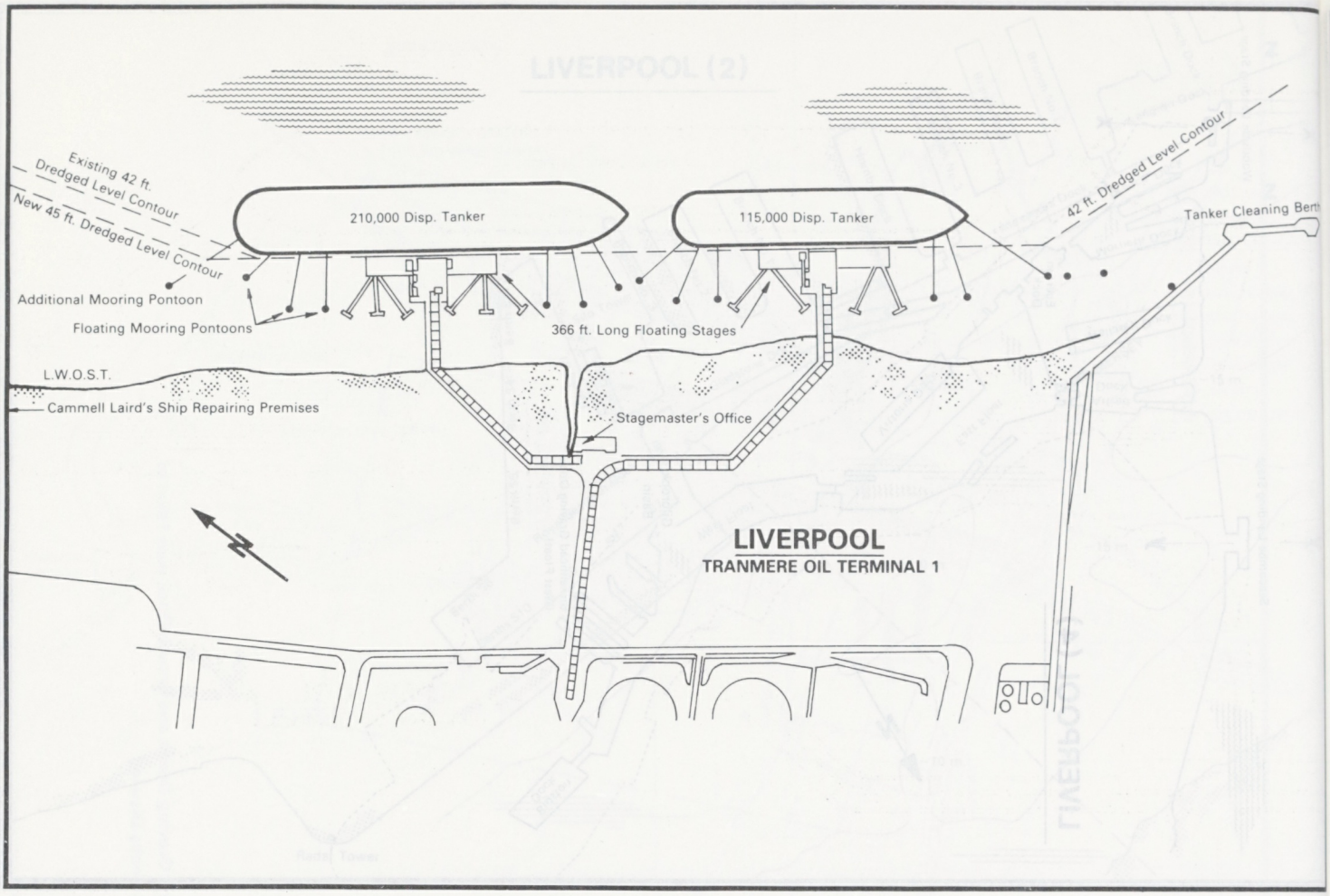
LIVERPOOL (2)

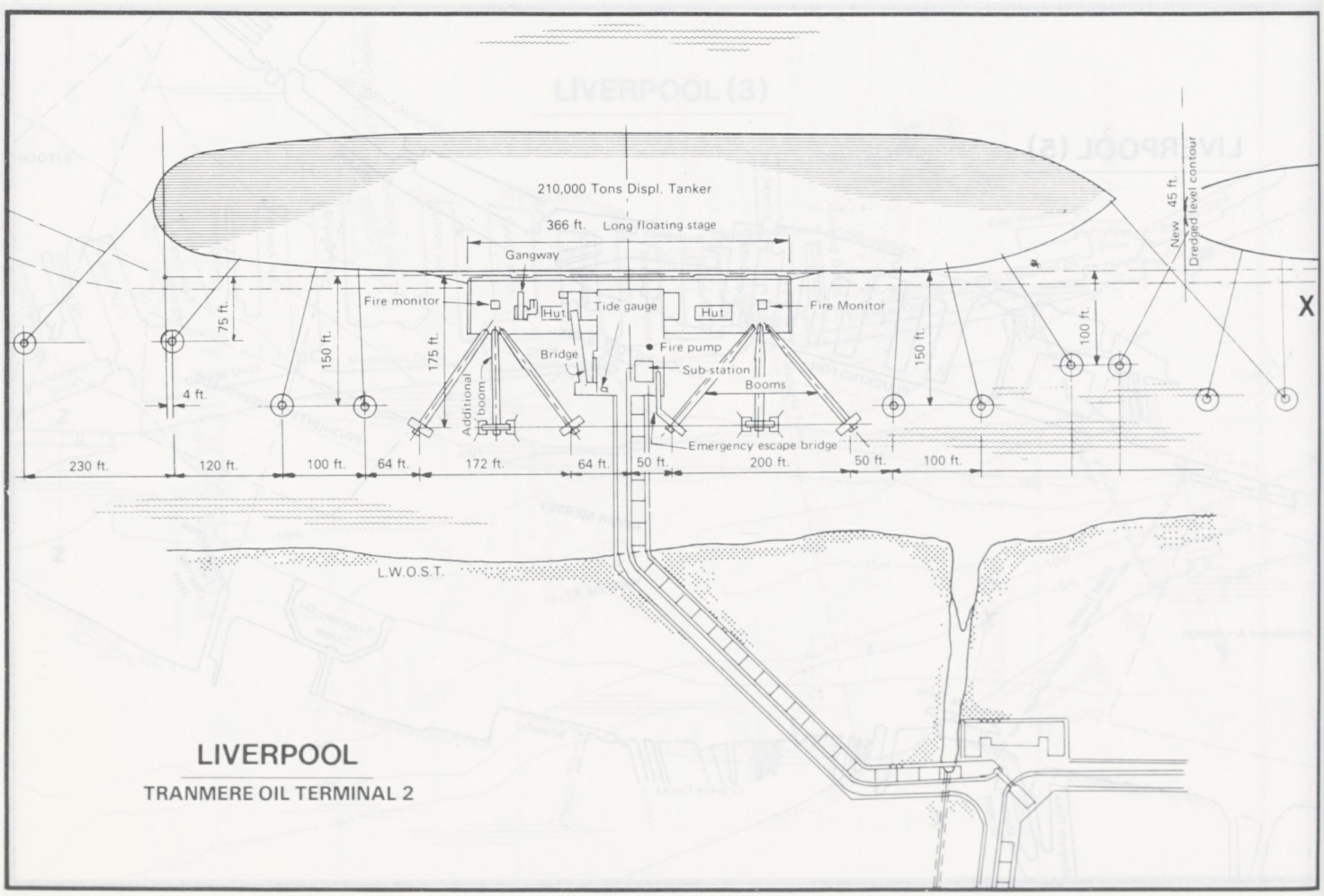


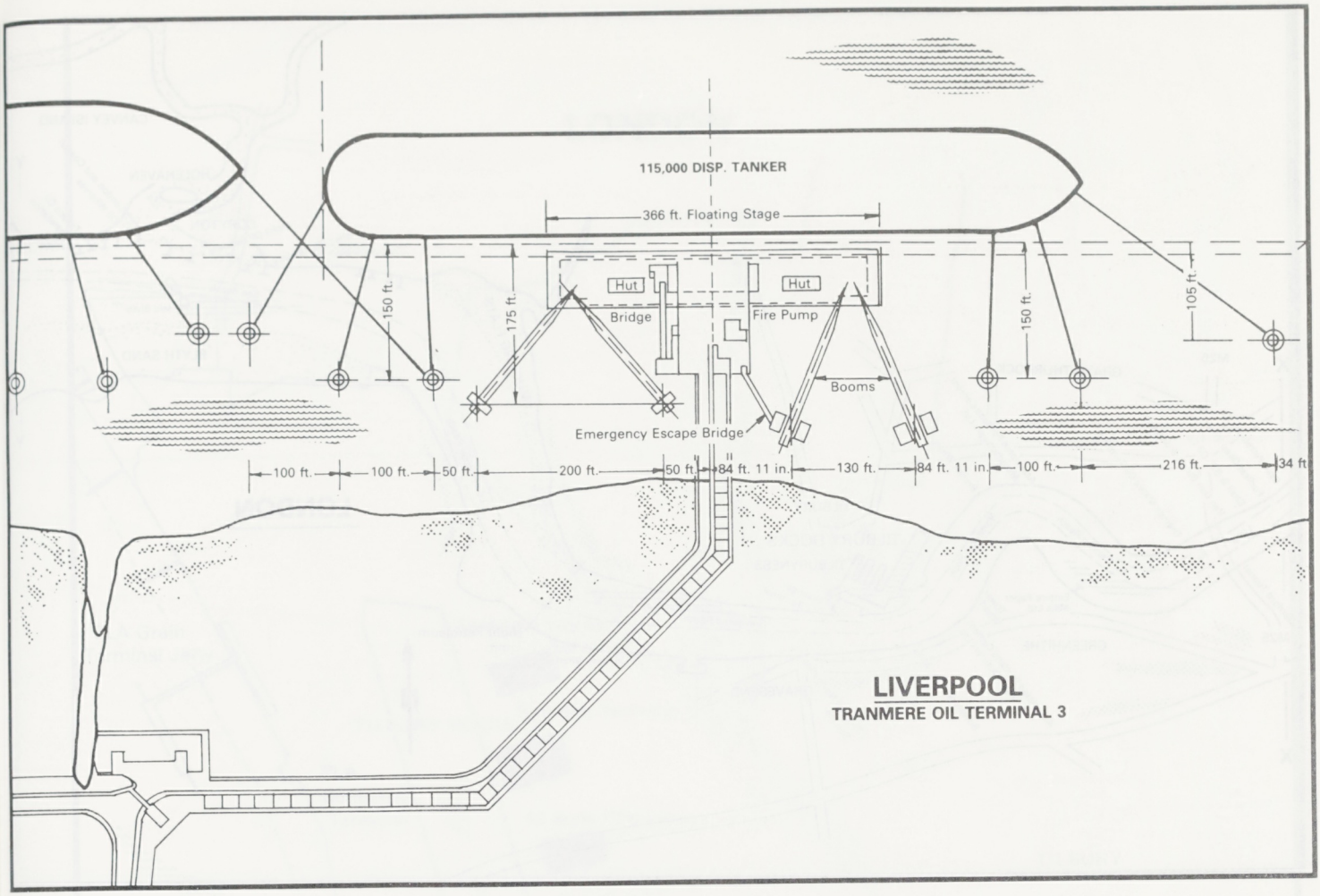
LIVERPOOL (3)


LIVERPOOL (4)
Woodside Landing Stage
Seacombe Landing Stage
Branch Dock
Morpeth Dock
Egerton Dock
Wallasey Dock
Alfred Dock
East Float
Victoria Dock
West Float
Gilbrook Basin
Brkenhead Graving Docks
(West Float)
Bidston Dock
N
X
X
y
y

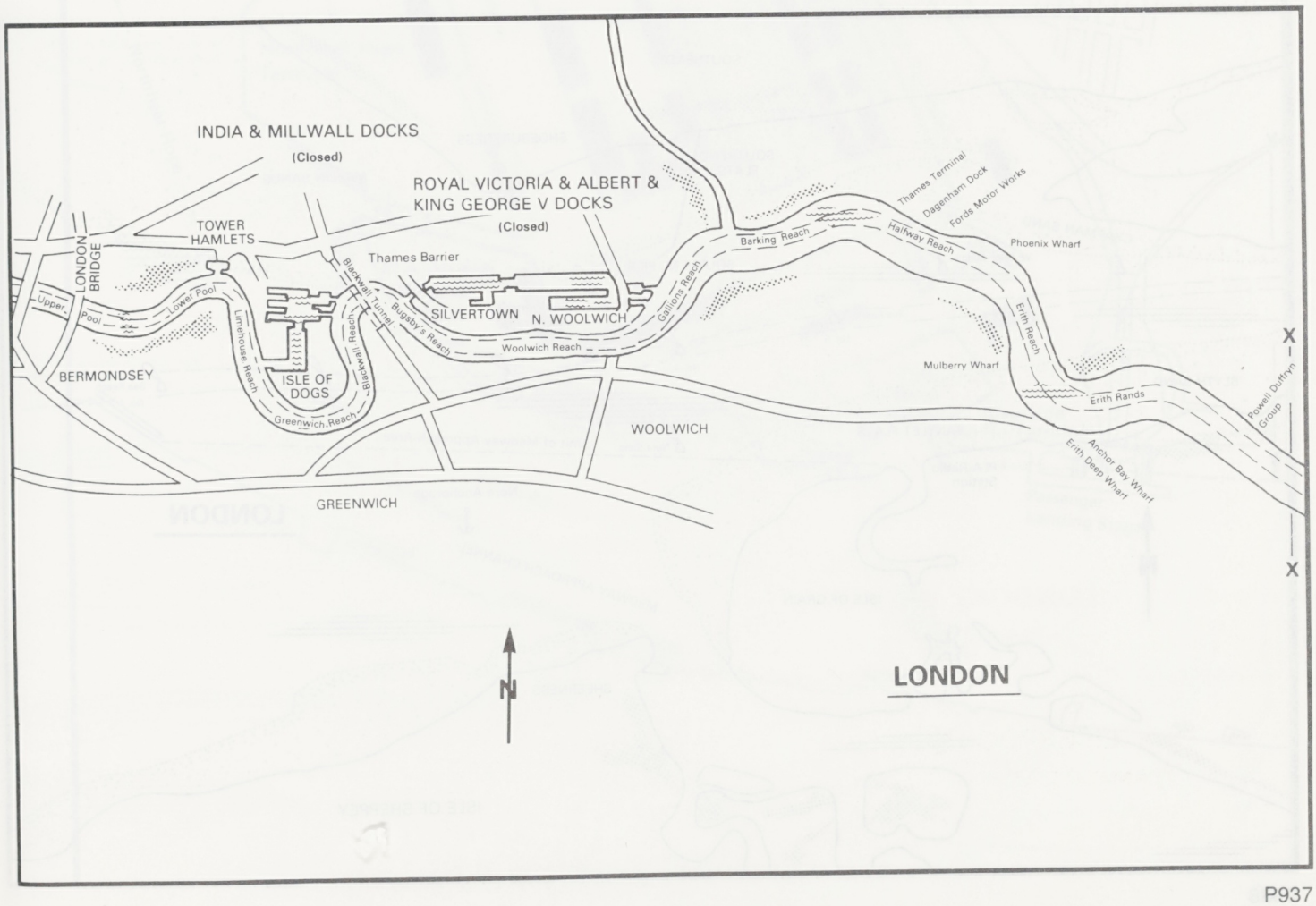

LIVERPOOL (5)
BANK
Brunswick Dock
Coburg Dock
PLUCKINGTON
PLUCKINGTON BANK
0m
5m
10m
PROHIBITED ANCHORAGE
RIVER MERSEY
Road Tunnel
Prohibited Anchorage
Woodside Ferry
Graving Docks
Stipways
Tranmere Oil Stages
Tank Cleaning Jetty
Morpeth Dock
Morpeth Branch
X
X


Existing 42 ft. Dredged Level Contour
New 45 ft. Dredged Level Contour
210,000 Disp. Tanker
115,000 Disp. Tanker
42 ft. Dredged Level Contour
Tanker Cleaning Berth
Additional Mooring Pontoon
Floating Mooring Pontoons
366 ft. Long Floating Stages
L.W.O.S.T.
Cammell Laird's Ship Repairing Premises
Stagemaster's Office
LIVERPOOL
TRANMERE OIL TERMINAL 1

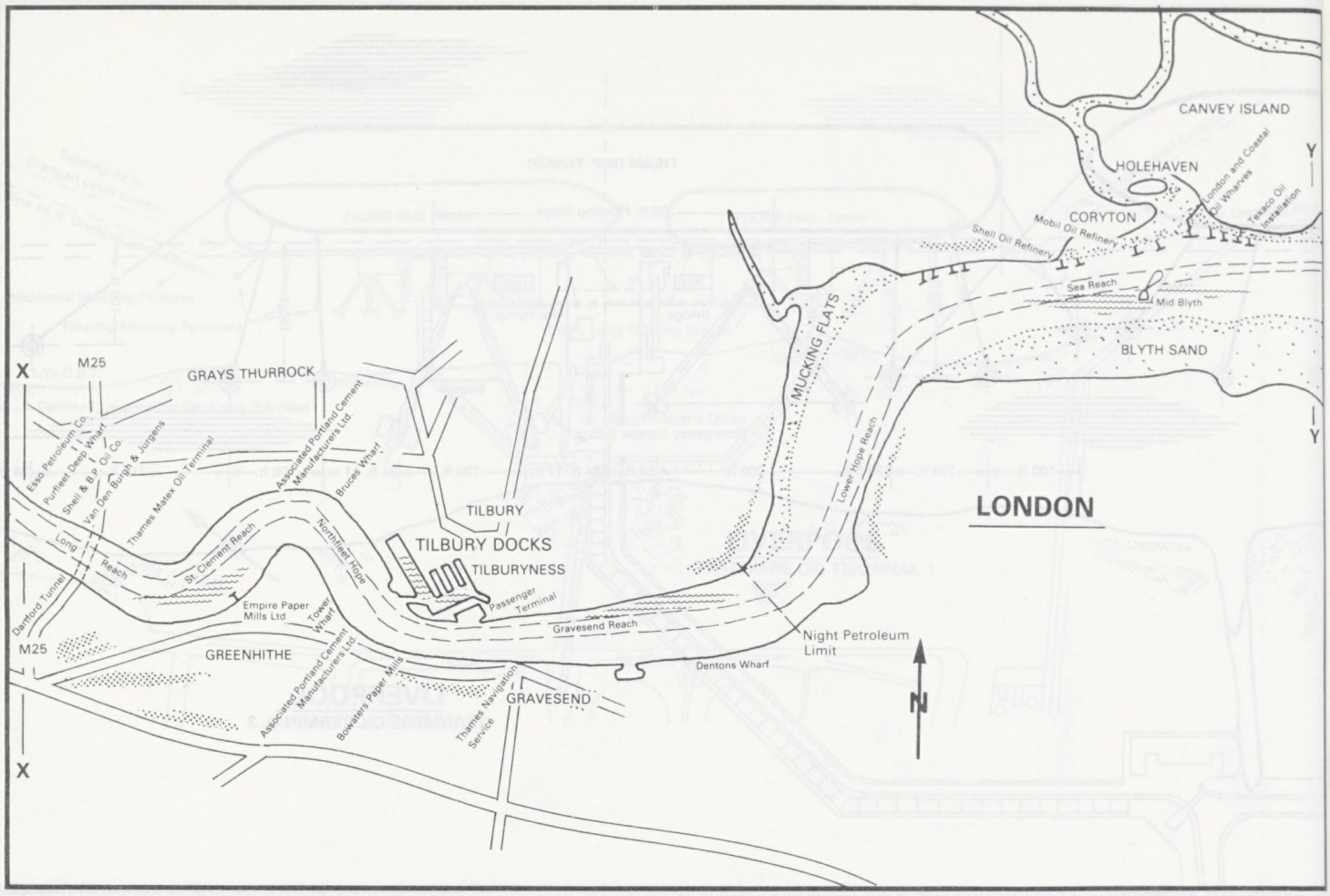

210,000 Tons Displ. Tanker
366 ft. Long floating stage
Gangway
New 45 ft. Dredged level contour
Fire monitor
Hut
Tide gauge
Hut
Fire Monitor
X
75 ft.
150 ft.
175 ft.
Bridge
Fire pump
Sub-station
Booms
Additional boom
150 ft.
100 ft.
4 ft.
Emergency escape bridge
230 ft.
120 ft.
100 ft.
64 ft.
172 ft.
64 ft.
50 ft.
200 ft.
50 ft.
100 ft.
L.W.O.S.T.
LIVERPOOL
TRANMERE OIL TERMINAL 2

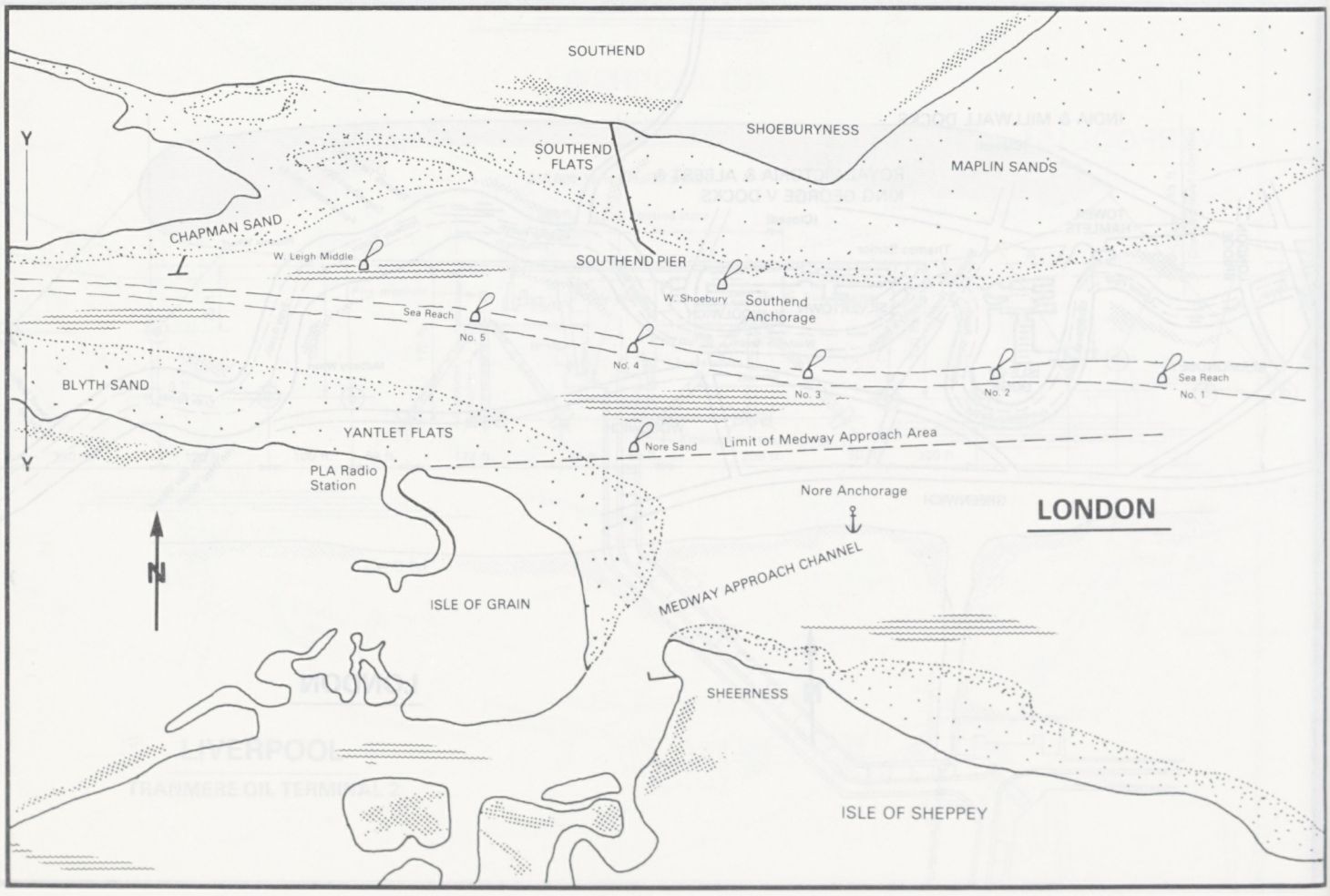


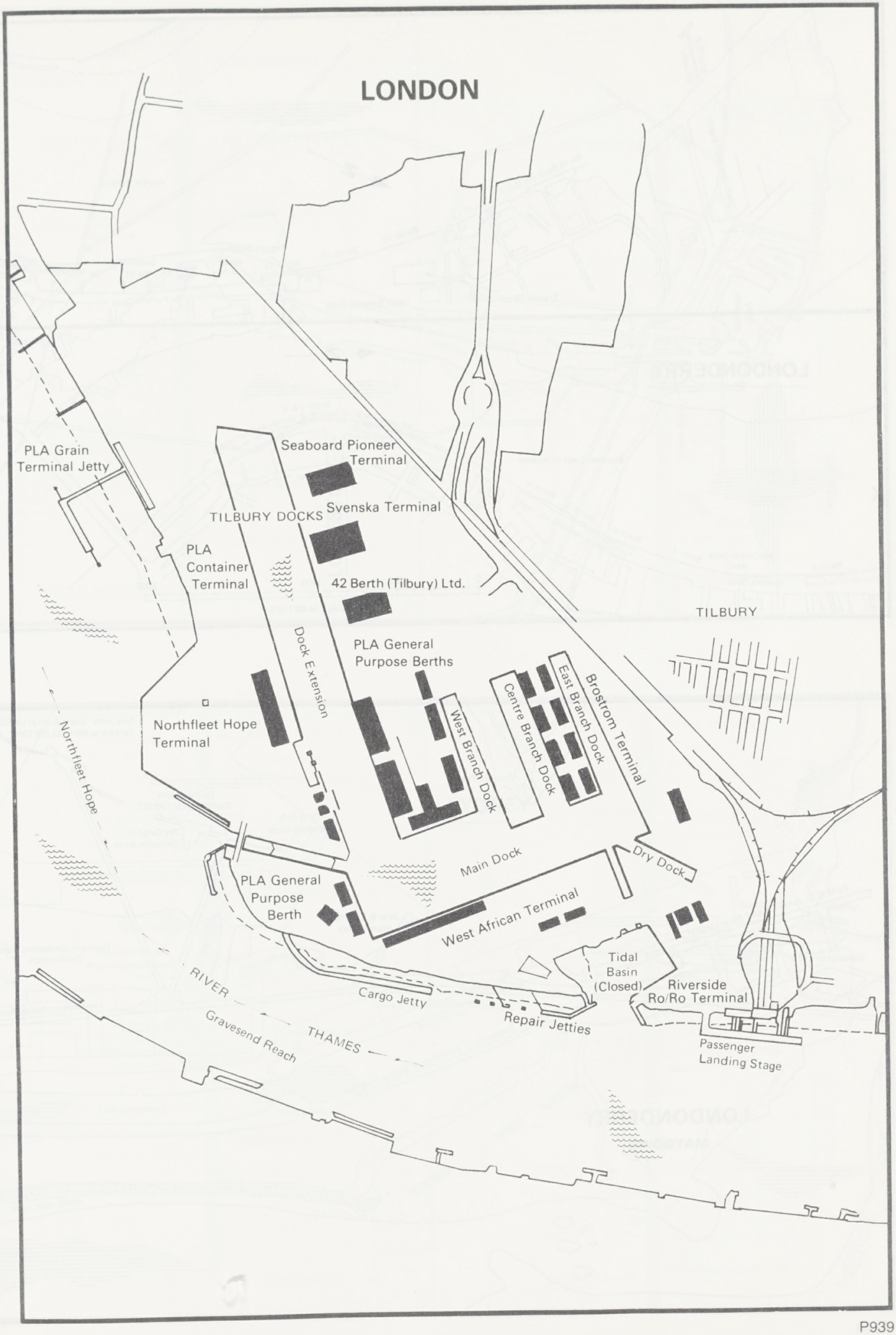
LIVERPOOL
TRANMERE OIL TERMINAL 3

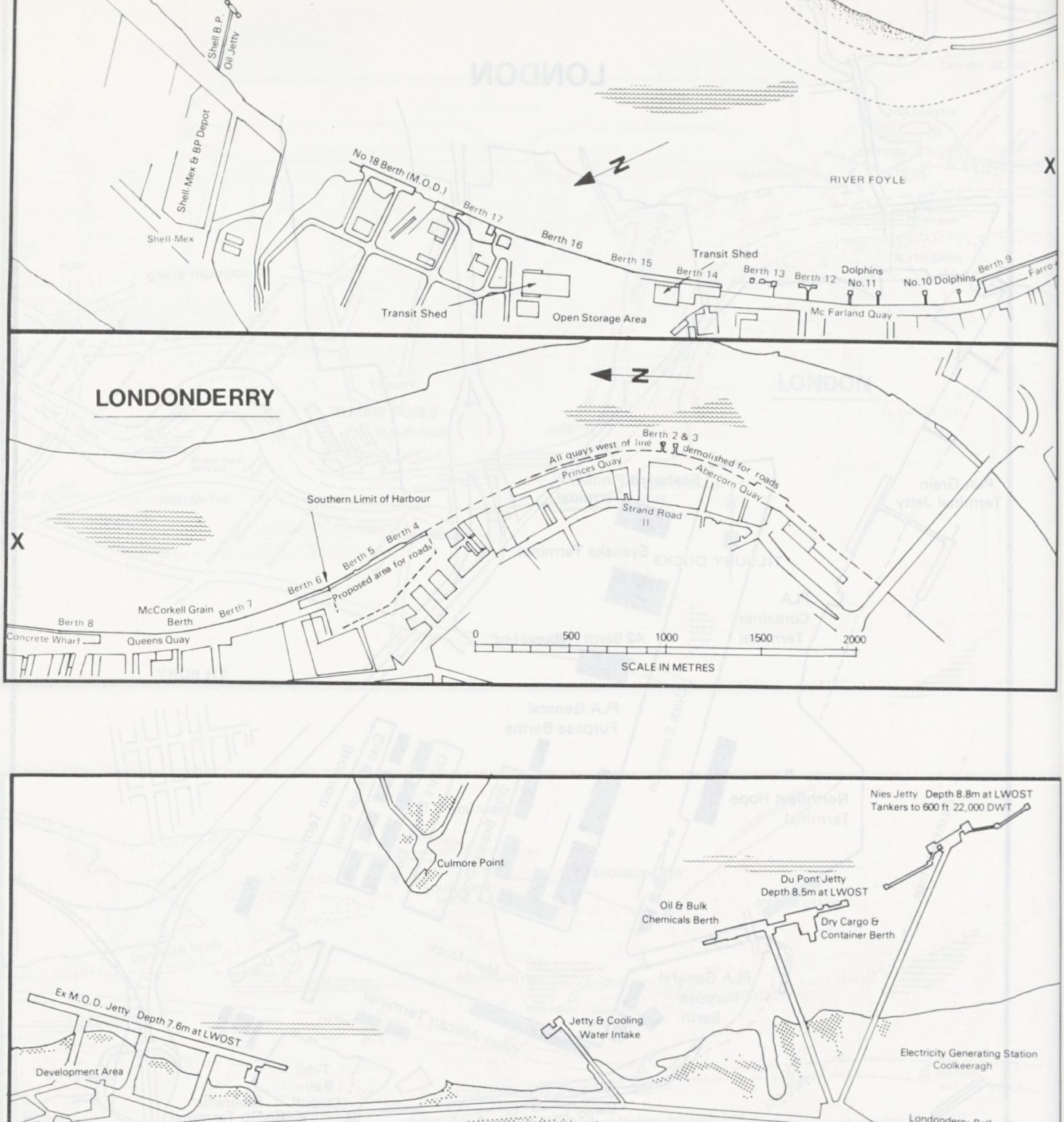


LONDON

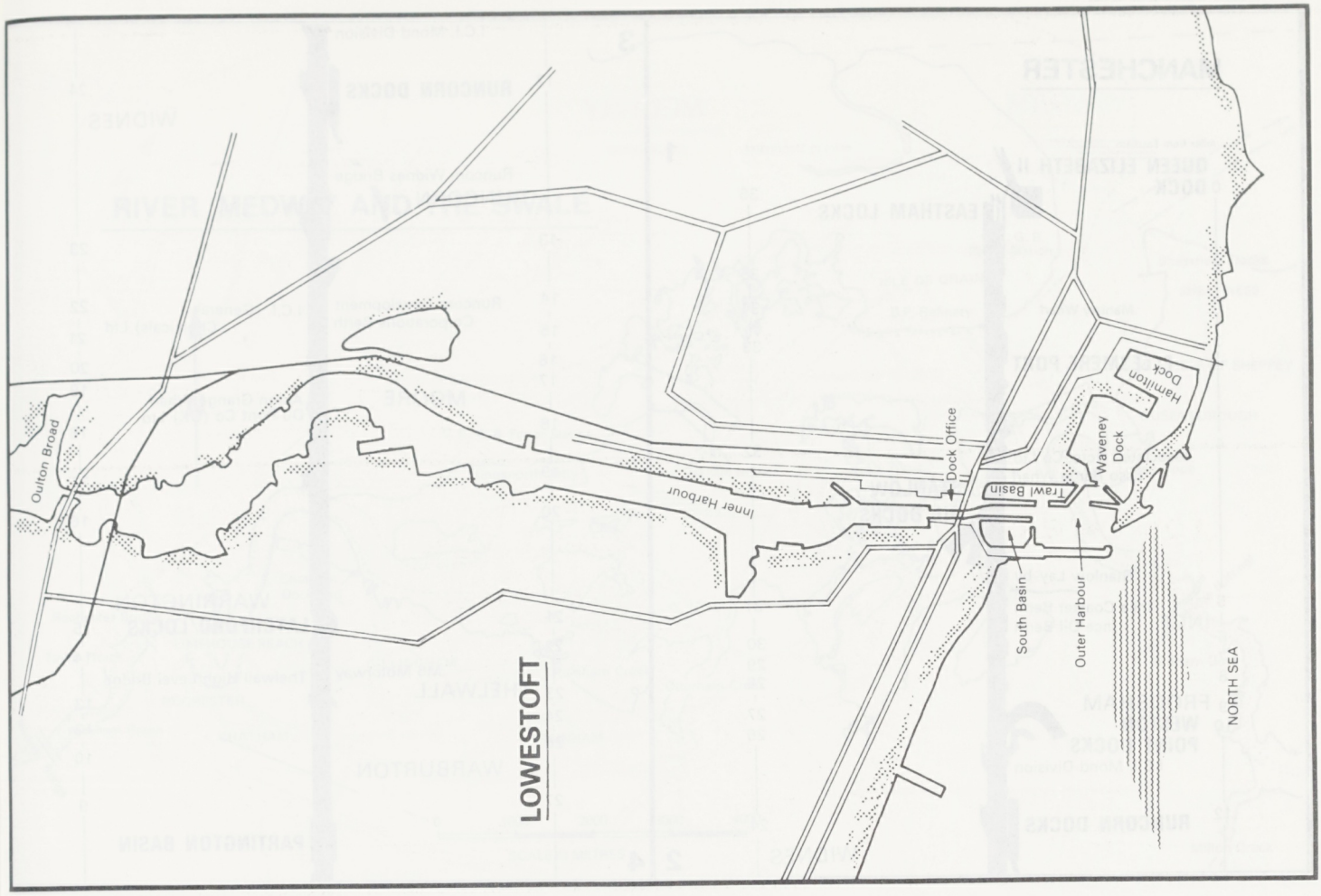

CANVEY ISLAND
HOLEHAVEN
CORYTON
London and Coastal Oil Wharves
Texaco Oil Installation
Mobil Oil Refinery
Shell Oil Refinery
Sea Reach
Mid Blyth
BLYTH SAND
MUCKING FLATS
Lower Hope Reach
LONDON
Y
X
M25
GRAYS THURROCK
Esso Petroleum Co.
Purfleet Deep Wharf
Shell & B.P. Oil Co.
Van Den Burgh & Jurgens
Thames Matex Oil Terminal
Associated Portland Cement Manufacturers Ltd.
Bruce Wharf
TILBURY
TILBURY DOCKS
TILBURYNESS
Passenger Terminal
Gravesend Reach
Long Reach
St. Clement Reach
Northfleet Hope
Dartford Tunnel
Empire Paper Mills Ltd
Tower Wharf
GREENHITHE
Associated Portland Cement Manufacturers Ltd.
Bowaters Paper Mills
Thames Navigation Service
GRAVESEND
Dentons Wharf
Night Petroleum Limit
N

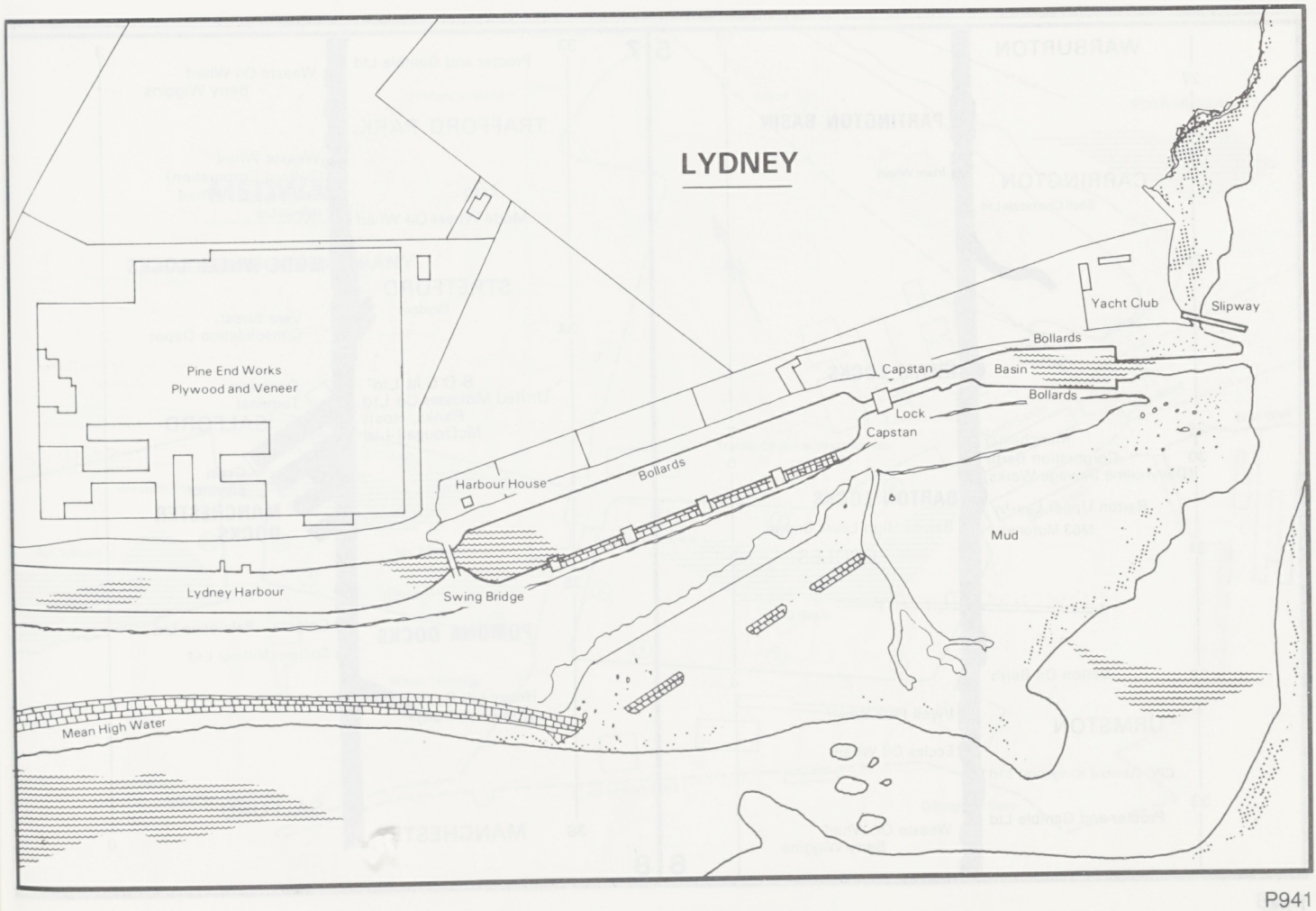

SOUTHEND
SHOEBURYNESS
SOUTHEND FLATS
MAPLIN SANDS
CHAPMAN SAND
W. Leigh Middle
SOUTHEND PIER
W. Shoebury
Southend Anchorage
Sea Reach
No. 5
No. 4
No. 3
No. 2
No. 1
BLYTH SAND
YANTLET FLATS
Nore Sand
Limit of Medway Approach Area
PLA Radio Station
Nore Anchorage
LONDON
MEDWAY APPROACH CHANNEL
ISLE OF GRAIN
SHEERNESS
ISLE OF SHEPPEY
Y
N

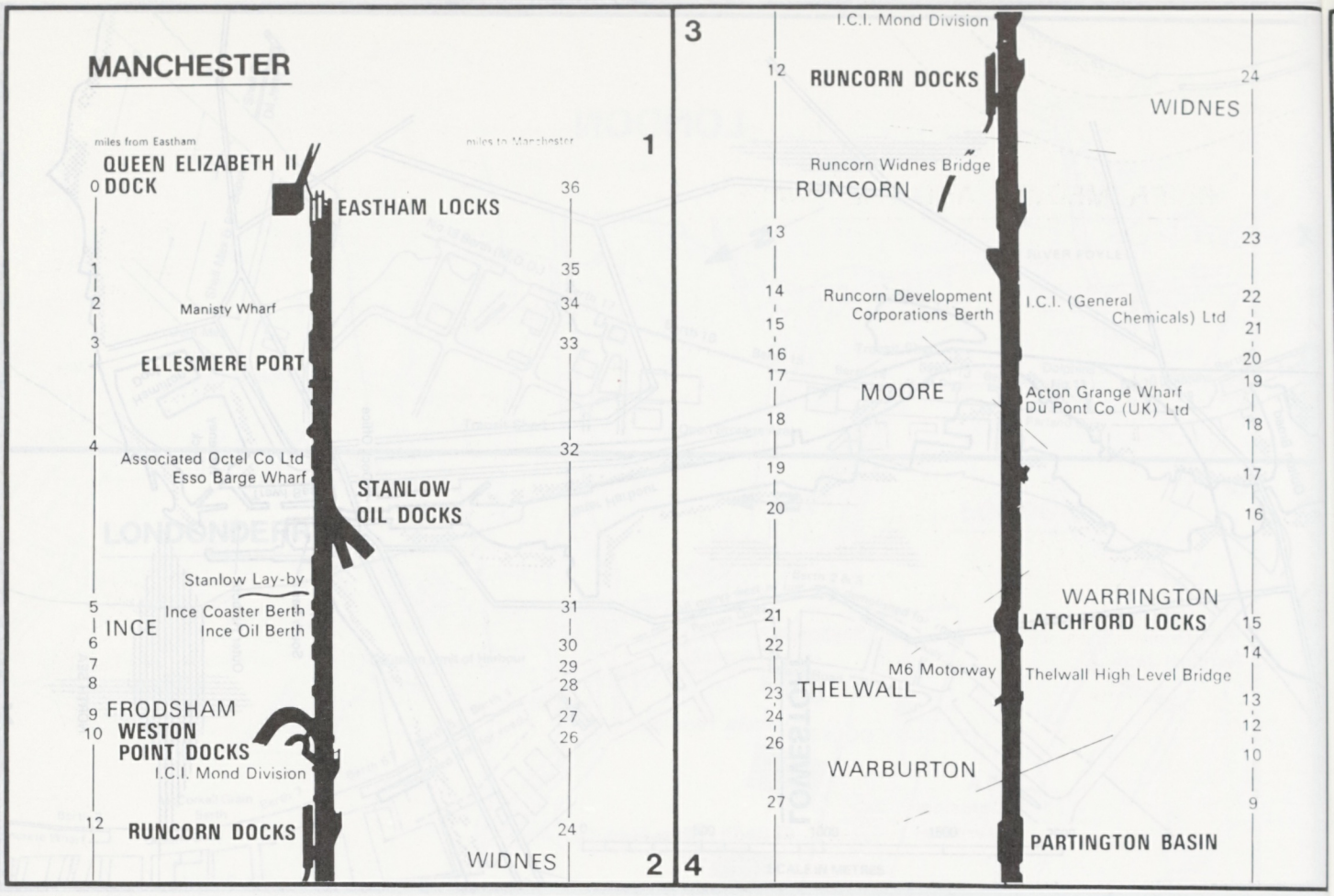

LONDON
PLA Grain Terminal Jetty
Seaboard Pioneer Terminal
TILBURY DOCKS
Svenska Terminal
PLA Container Terminal
42 Berth (Tilbury) Ltd.
TILBURY
PLA General Purpose Berths
Dock Extension
Northfleet Hope Terminal
Northfleet Hope
West Branch Dock
Centre Branch Dock
East Branch Dock
Brostrom Terminal
Main Dock
Dry Dock
PLA General Purpose Berth
West African Terminal
Tidal Basin (Closed)
Riverside Ro/Ro Terminal
RIVER
Cargo Jetty
Repair Jetties
Gravesend Reach
THAMES
Passenger Landing Stage

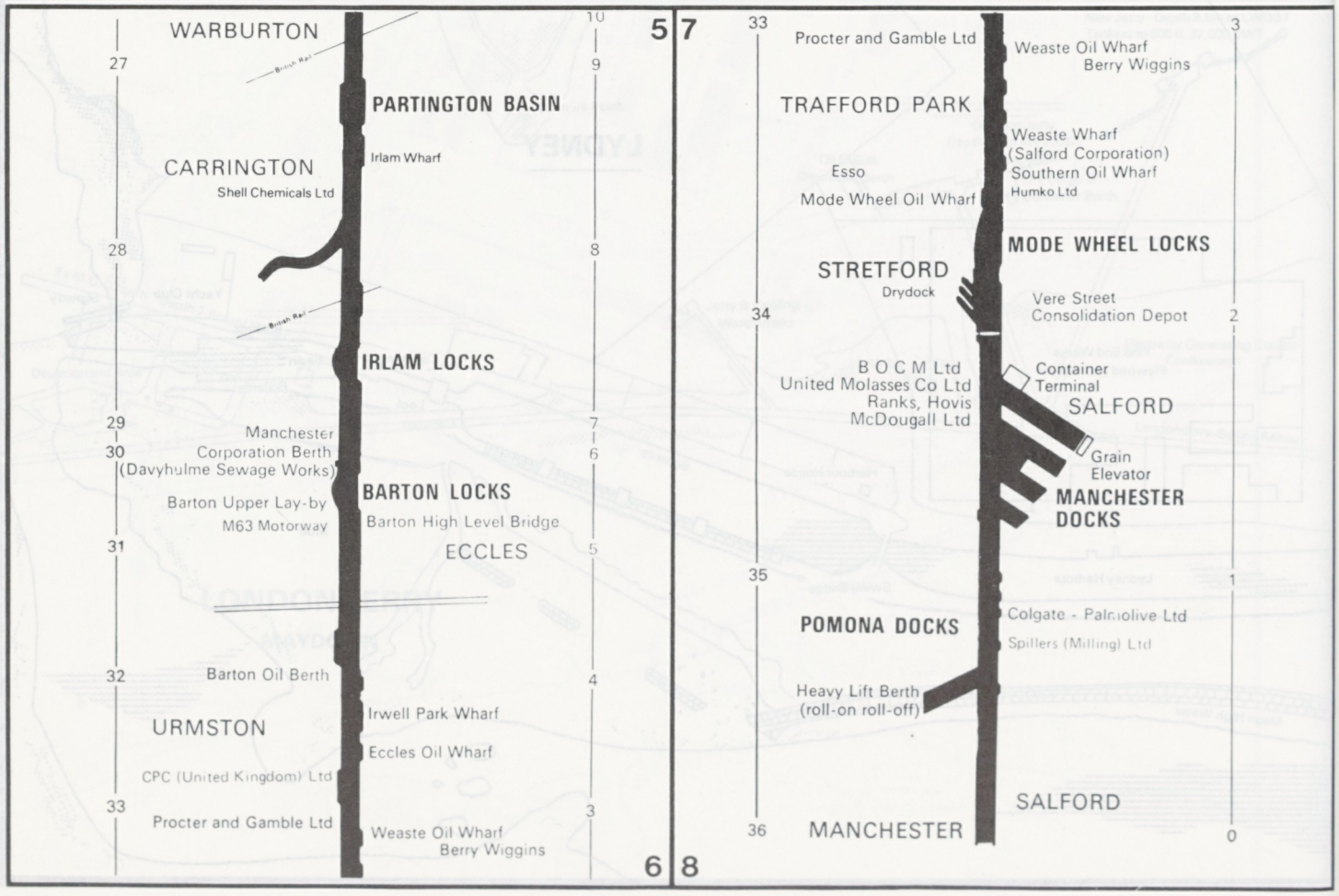

Shell B.P. Oil Jetty
Shell Mex & BP Depot
Shell-Mex
No 18 Berth (M.O.D.)
Berth 17
Berth 16
Berth 15
Berth 14
Transit Shed
Berth 13
Berth 12
Dolphins No.11
No.10 Dolphins
Berth 9
Farro
RIVER FOYLE
Transit Shed
Open Storage Area
Mc Farland Quay
X
N
LONDONDERRY
Berth 2 & 3
All quays west of line demolished for roads
Princes Quay
Abercorn Quay
Strand Road
Southern Limit of Harbour
Berth 6
Berth 5
Berth 4
Proposed area for roads
McCorkell Grain Berth
Berth 7
Berth 8
Concrete Wharf
Queens Quay
X
0 500 1000 1500 2000
SCALE IN METRES

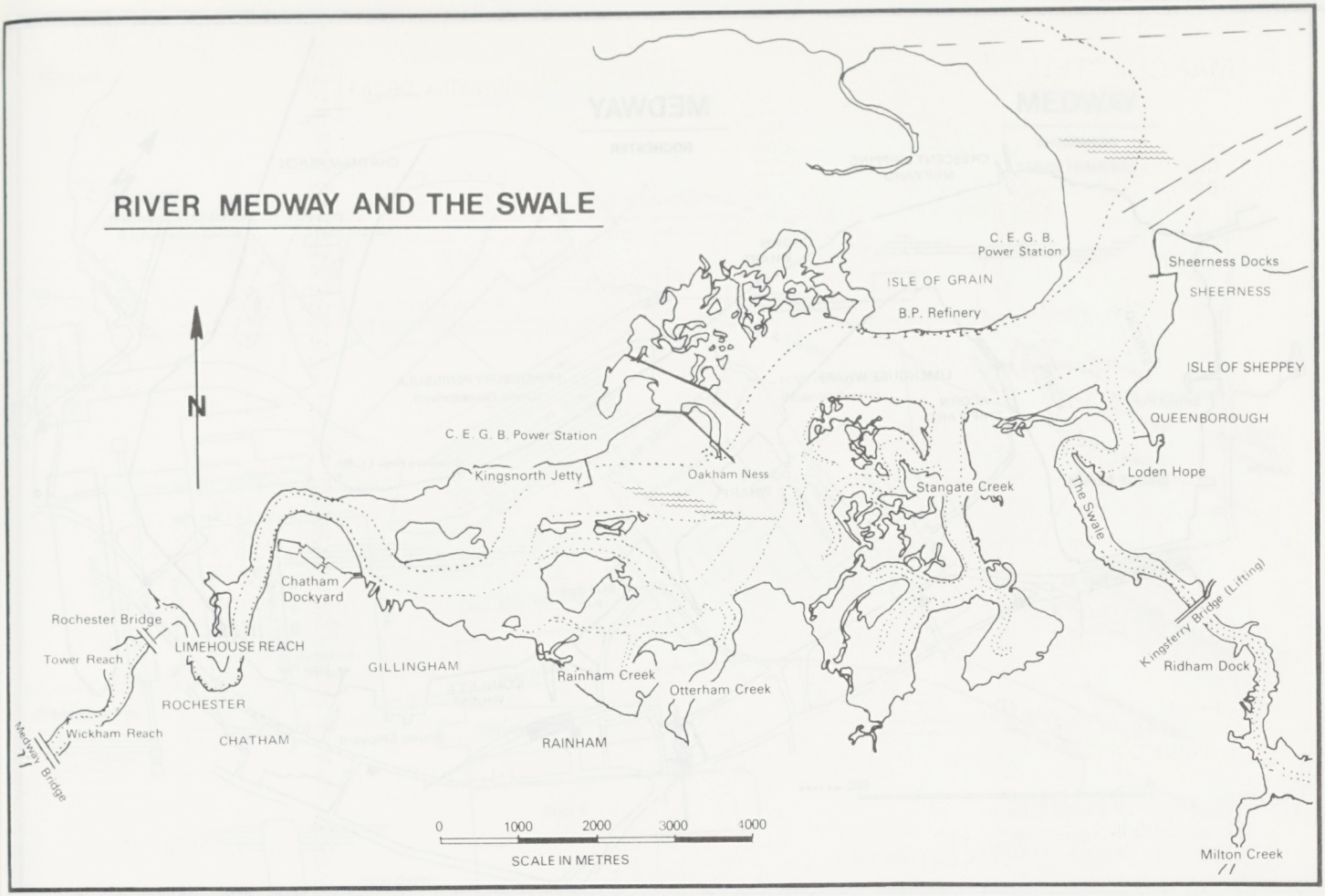
Culmore Point
Nies Jetty Depth 8.8m at LWOST
Tankers to 600 ft 22,000 DWT
Du Pont Jetty
Depth 8.5m at LWOST
Oil & Bulk
Chemicals Berth
Dry Cargo &
Container Berth
Ex M.O.D. Jetty Depth 7.6m at LWOST
Development Area
Jetty & Cooling
Water Intake
Electricity Generating Station
Coolkeeragh
Londonderry-Belfast Railway
LONDONDERRY
MAYDOWN

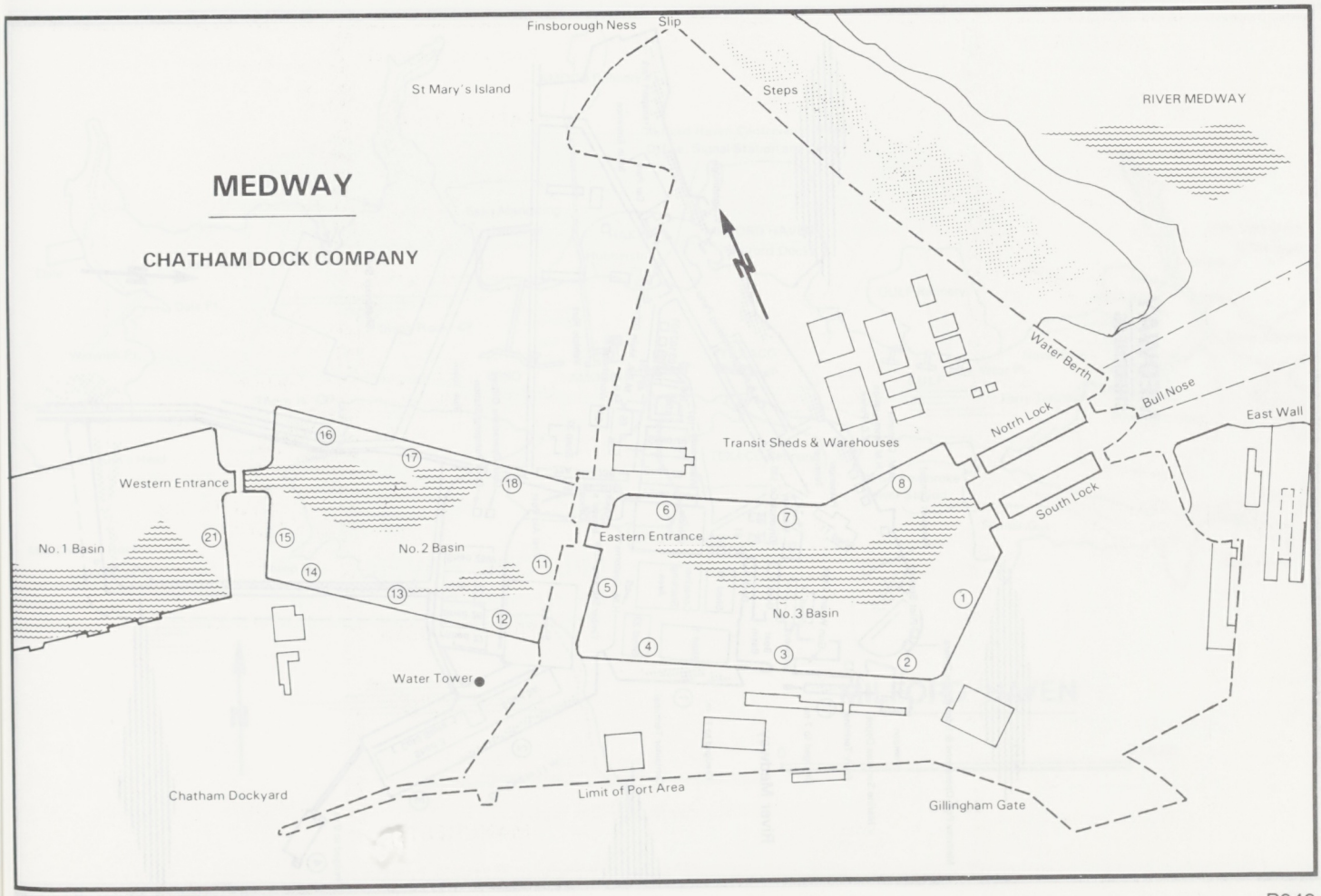

LOWESTOFT
Oulton Broad
Inner Harbour
Dock Office
Trawl Basin
Waveney Dock
Hamilton Dock
South Basin
Outer Harbour
NORTH SEA

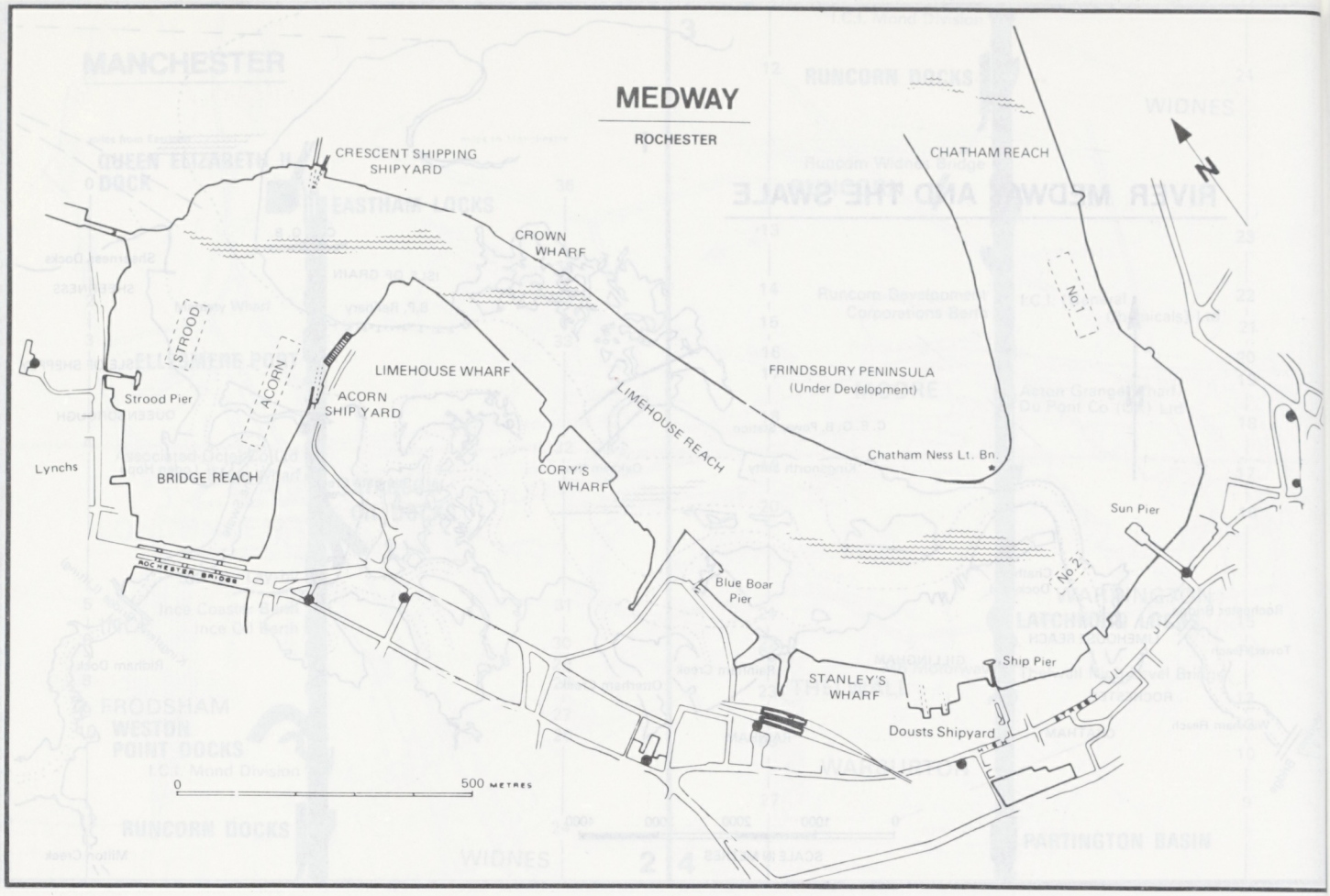

LYDNEY
Pine End Works
Plywood and Veneer
Harbour House
Bollards
Lydney Harbour
Swing Bridge
Mean High Water
Yacht Club
Slipway
Bollards
Capstan
Basin
Bollards
Lock
Capstan
Mud

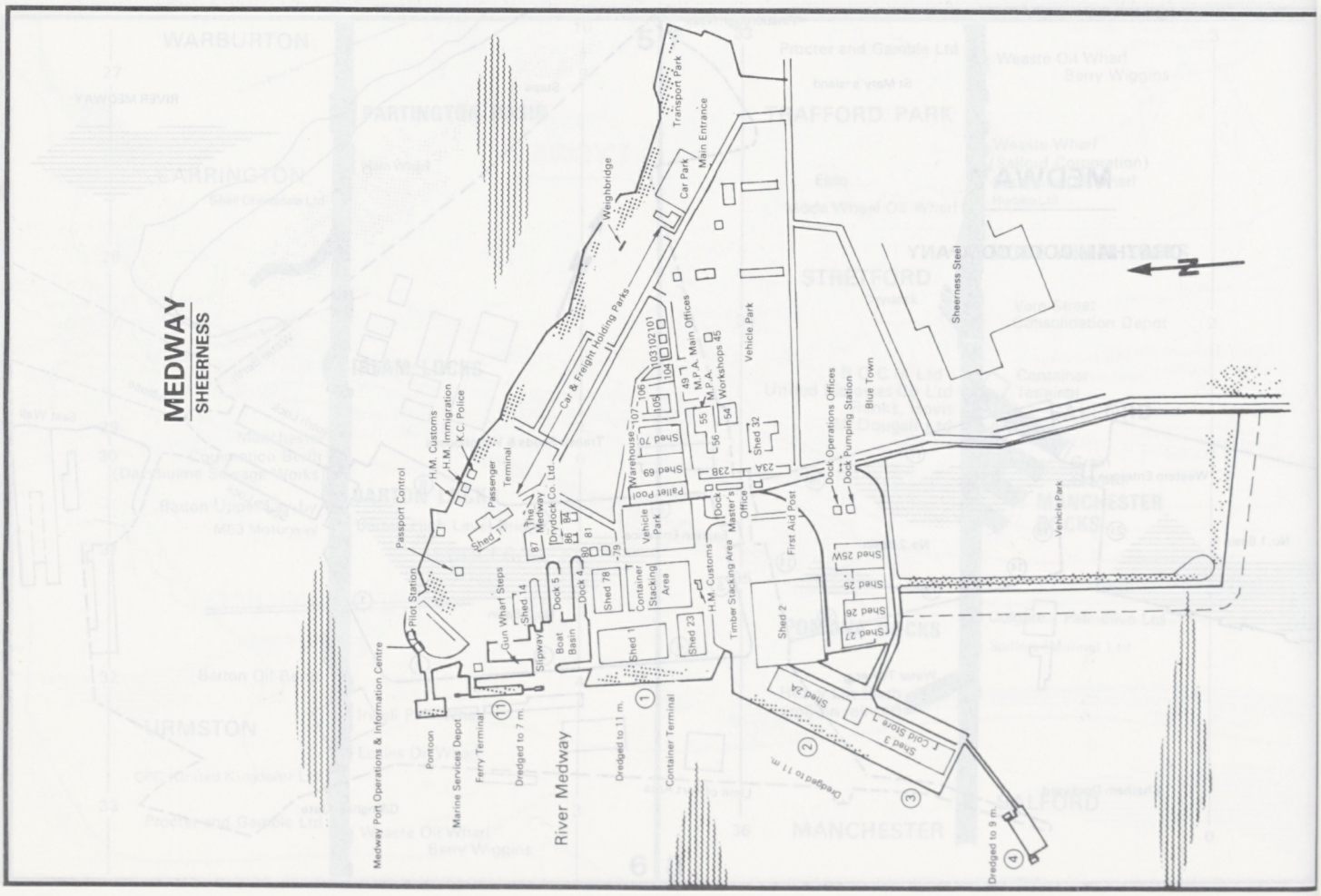

MANCHESTER
miles from Eastham
miles to Manchester
1
QUEEN ELIZABETH II DOCK
0
EASTHAM LOCKS
36
1
35
2
Manisty Wharf
34
3
ELLESMERE PORT
33
4
Associated Octel Co Ltd
Esso Barge Wharf
32
STANLOW OIL DOCKS
Stanlow Lay-by
5
Ince Coaster Berth
INCE
Ince Oil Berth
31
6
30
7
29
8
28
9
FRODSHAM
10
WESTON POINT DOCKS
I.C.I. Mond Division
27
26
12
RUNCORN DOCKS
24
WIDNES
2
3
I.C.I. Mond Division
12
RUNCORN DOCKS
24
WIDNES
Runcorn Widnes Bridge
RUNCORN
13
23
14
Runcorn Development Corporations Berth
I.C.I. (General Chemicals) Ltd
22
15
21
16
20
17
MOORE
Acton Grange Wharf
Du Pont Co (UK) Ltd
19
18
18
19
17
20
16
WARRINGTON
21
LATCHFORD LOCKS
15
22
14
M6 Motorway
Thelwall High Level Bridge
23
THELWALL
13
24
12
26
10
WARBURTON
27
9
PARTINGTON BASIN
4

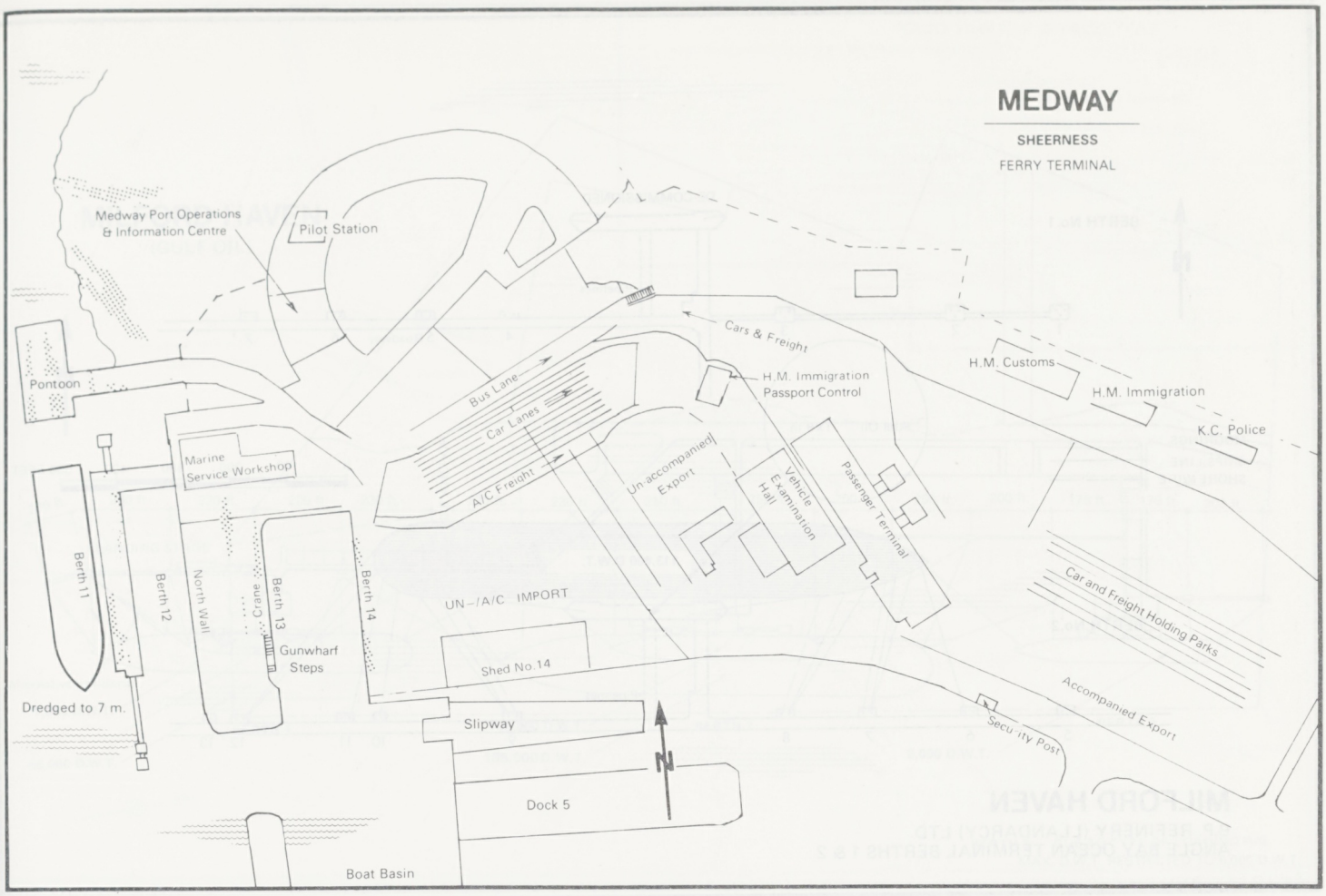

WARBURTON
10
5
27
9
British Rail
PARTINGTON BASIN
Irlam Wharf
CARRINGTON
Shell Chemicals Ltd
28
8
British Rail
IRLAM LOCKS
29
7
Manchester
30
Corporation Berth
(Davyhulme Sewage Works)
6
BARTON LOCKS
Barton Upper Lay-by
M63 Motorway
Barton High Level Bridge
31
ECCLES
5
32
Barton Oil Berth
4
Irwell Park Wharf
URMSTON
Eccles Oil Wharf
CPC (United Kingdom) Ltd
33
3
Procter and Gamble Ltd
Weaste Oil Wharf
Berry Wiggins
6
7
33
3
Procter and Gamble Ltd
Weaste Oil Wharf
Berry Wiggins
TRAFFORD PARK
Weaste Wharf
(Salford Corporation)
Southern Oil Wharf
Esso
Humko Ltd
Mode Wheel Oil Wharf
MODE WHEEL LOCKS
STRETFORD
Drydock
Vere Street
Consolidation Depot
34
2
B O C M Ltd
United Molasses Co Ltd
Ranks, Hovis
McDougall Ltd
Container
Terminal
SALFORD
Grain
Elevator
MANCHESTER
DOCKS
35
1
POMONA DOCKS
Colgate - Palmolive Ltd
Spillers (Milling) Ltd
Heavy Lift Berth
(roll-on roll-off)
SALFORD
36
MANCHESTER
0
8

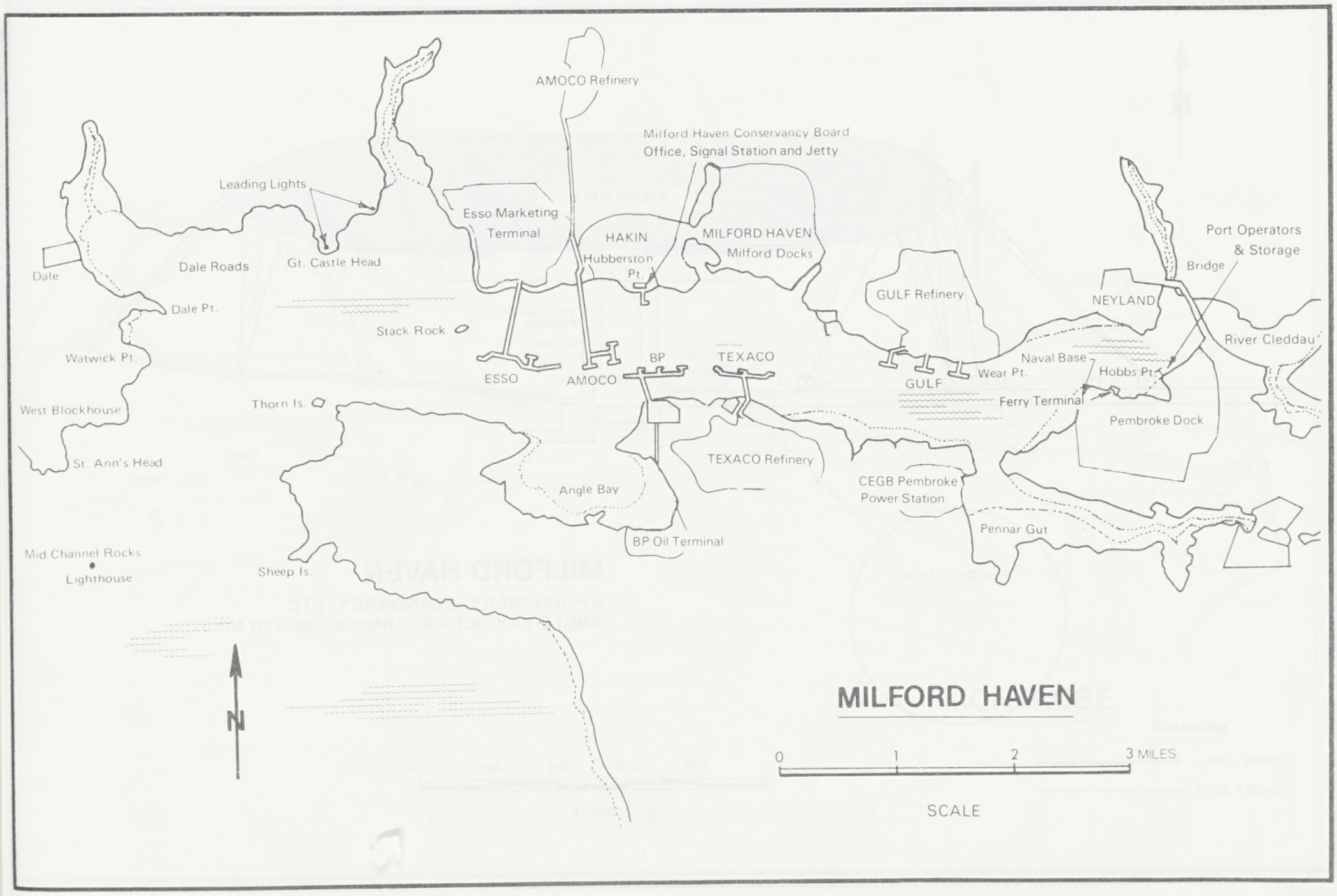

RIVER MEDWAY AND THE SWALE
N
C. E. G. B. Power Station
ISLE OF GRAIN
B.P. Refinery
Sheerness Docks
SHEERNESS
ISLE OF SHEPPEY
QUEENBOROUGH
Loden Hope
The Swale
Kingsferry Bridge (Lifting)
Ridham Dock
Milton Creek
C. E. G. B. Power Station
Kingsnorth Jetty
Oakham Ness
Stangate Creek
Chatham Dockyard
Rochester Bridge
Tower Reach
LIMEHOUSE REACH
GILLINGHAM
Rainham Creek
Otterham Creek
ROCHESTER
Wickham Reach
CHATHAM
RAINHAM
Medway Bridge
0 1000 2000 3000 4000
SCALE IN METRES

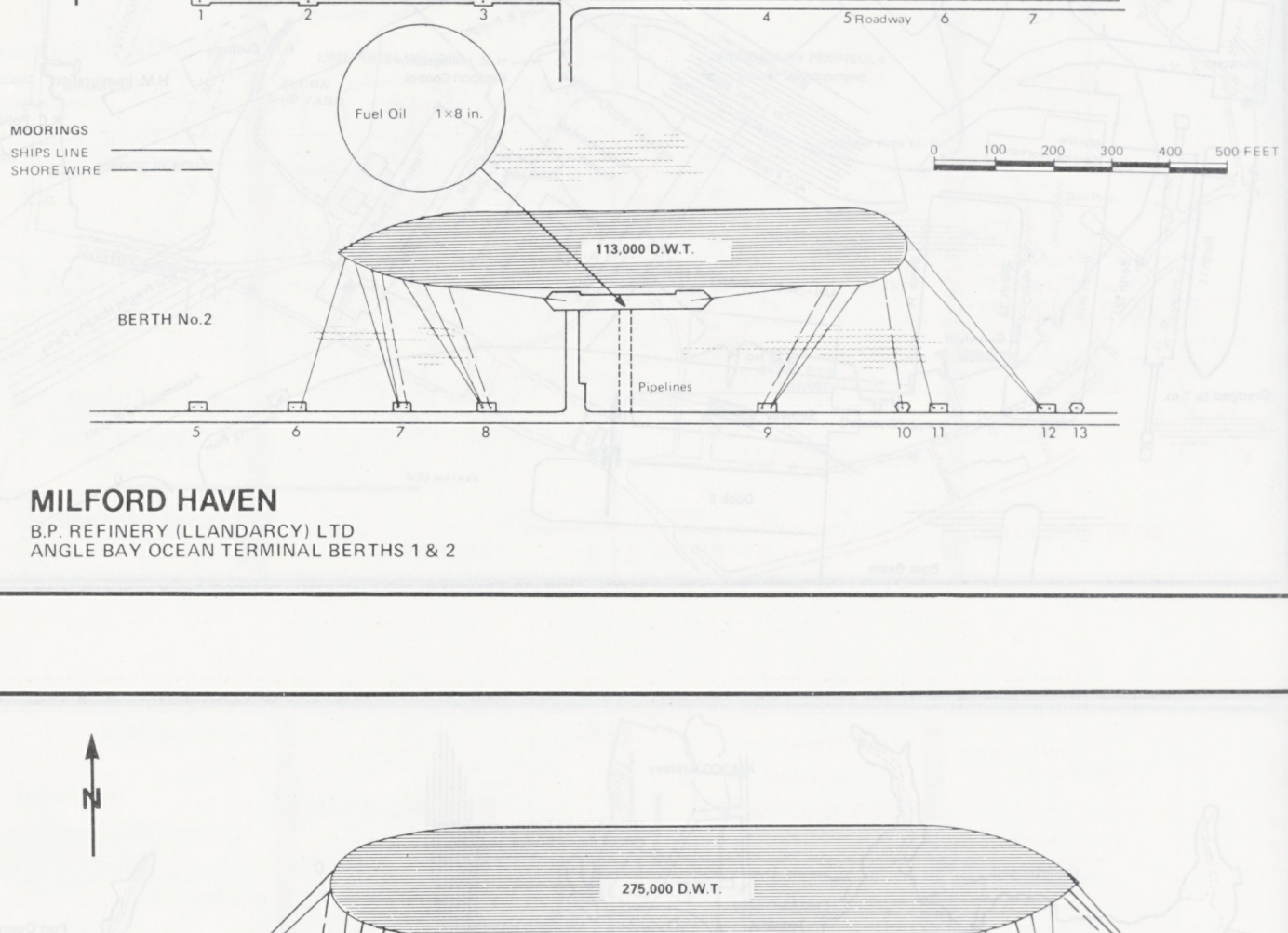

MEDWAY
CHATHAM DOCK COMPANY
Finsborough Ness
Slip
St Mary's Island
Steps
RIVER MEDWAY
N
Water Berth
Bull Nose
East Wall
Transit Sheds & Warehouses
Notrh Lock
South Lock
Western Entrance
No. 1 Basin
No. 2 Basin
Eastern Entrance
No. 3 Basin
Water Tower
Chatham Dockyard
Limit of Port Area
Gillingham Gate


MEDWAY
ROCHESTER
CRESCENT SHIPPING SHIPYARD
CROWN WHARF
CHATHAM REACH
N
STROOD
ACORN
LIMEHOUSE WHARF
ACORN SHIP YARD
Strood Pier
Lynchs
BRIDGE REACH
LIMEHOUSE REACH
FRINDSBURY PENINSULA (Under Development)
No.1
Chatham Ness Lt. Bn.
CORY'S WHARF
Sun Pier
No.2
ROCHESTER BRIDGE
Blue Boar Pier
Ship Pier
STANLEY'S WHARF
Dousts Shipyard
0
500 METRES


MEDWAY
SHEERNESS
N
Weighbridge
Car Park
Main Entrance
Transport Park
Car & Freight Holding Parks
Sheerness Steel
H.M. Customs
H.M. Immigration
K.C. Police
Passport Control
Passenger Terminal
Warehouse
Main Offices
M.P.A.
Workshops
Vehicle Park
Shed 32
Shed 69
Shed 70
Pallet Pool
Dock Operations Offices
Dock Pumping Station
Blue Town
Vehicle Park
Dock Master's Office
First Aid Post
Shed 2
Shed 25W
Shed 25
Shed 26
Shed 27
Shed 2A
Shed 3
Cold Store 1
Timber Stacking Area
H.M. Customs
Container Stacking Area
Shed 78
Shed 1
Shed 23
Dock 4
Dock 5
Boat Basin
Slipway
Gun Wharf Steps
Shed 14
Pilot Station
Pontoon
Medway Port Operations & Information Centre
Marine Services Depot
Ferry Terminal
Dredged to 7 m.
River Medway
Dredged to 11 m.
Container Terminal
Dredged to 11 m.
Dredged to 9 m.

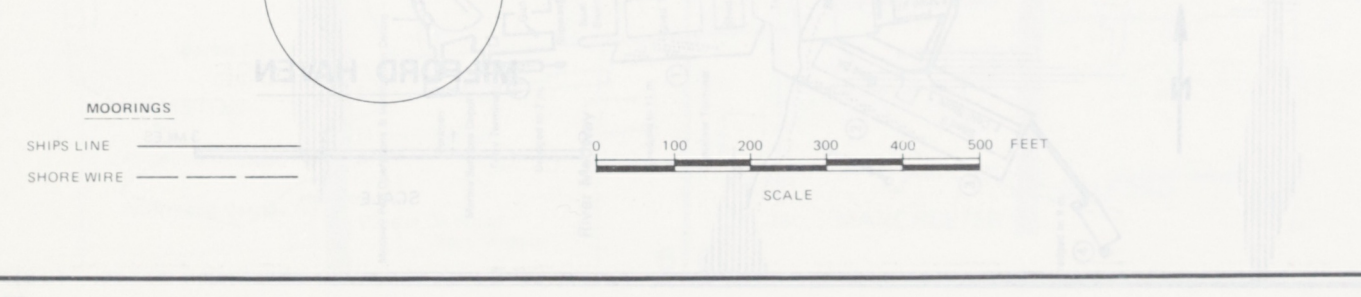

MEDWAY
SHEERNESS
FERRY TERMINAL
Medway Port Operations & Information Centre
Pilot Station
Pontoon
Marine Service Workshop
Berth 11
Berth 12
North Wall
Crane
Berth 13
Berth 14
Gunwharf Steps
Dredged to 7 m.
Bus Lane
Car Lanes
A/C Freight
Cars & Freight
H.M. Immigration Passport Control
Un-accompanied Export
Vehicle Examination Hall
Passenger Terminal
H.M. Customs
H.M. Immigration
K.C. Police
Car and Freight Holding Parks
Accompanied Export
Security Post
UN-/A/C IMPORT
Shed No.14
Slipway
Dock 5
Boat Basin
N


AMOCO Refinery
Milford Haven Conservancy Board Office, Signal Station and Jetty
Leading Lights
Esso Marketing Terminal
HAKIN
Hubberston Pt.
MILFORD HAVEN
Milford Docks
Port Operators & Storage
Bridge
Dale
Dale Roads
Gt. Castle Head
Dale Pt.
Stack Rock
GULF Refinery
NEYLAND
River Cleddau
Watwick Pt.
ESSO
AMOCO
BP
TEXACO
GULF
Naval Base
Wear Pt.
Hobbs Pt.
Ferry Terminal
Pembroke Dock
West Blockhouse
Thorn Is.
St. Ann's Head
TEXACO Refinery
Angle Bay
CEGB Pembroke Power Station
Pennar Gut
BP Oil Terminal
Mid Channel Rocks
Lighthouse
Sheep Is.
N
MILFORD HAVEN
0 1 2 3 MILES
SCALE



MILFORD HAVEN

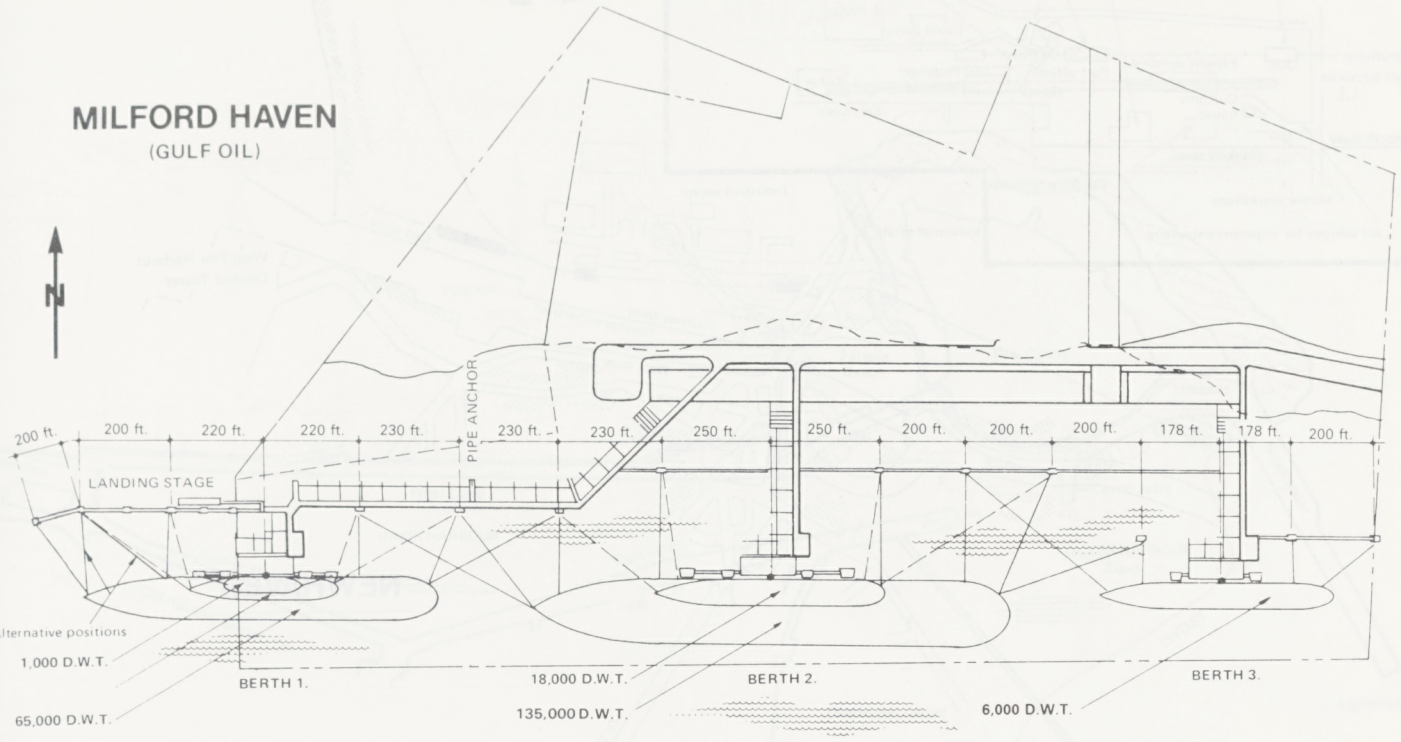
B.P. REFINERY (LLANDARCY) LTD
ANGLE BAY OCEAN TERMINAL BERTHS 1 & 2



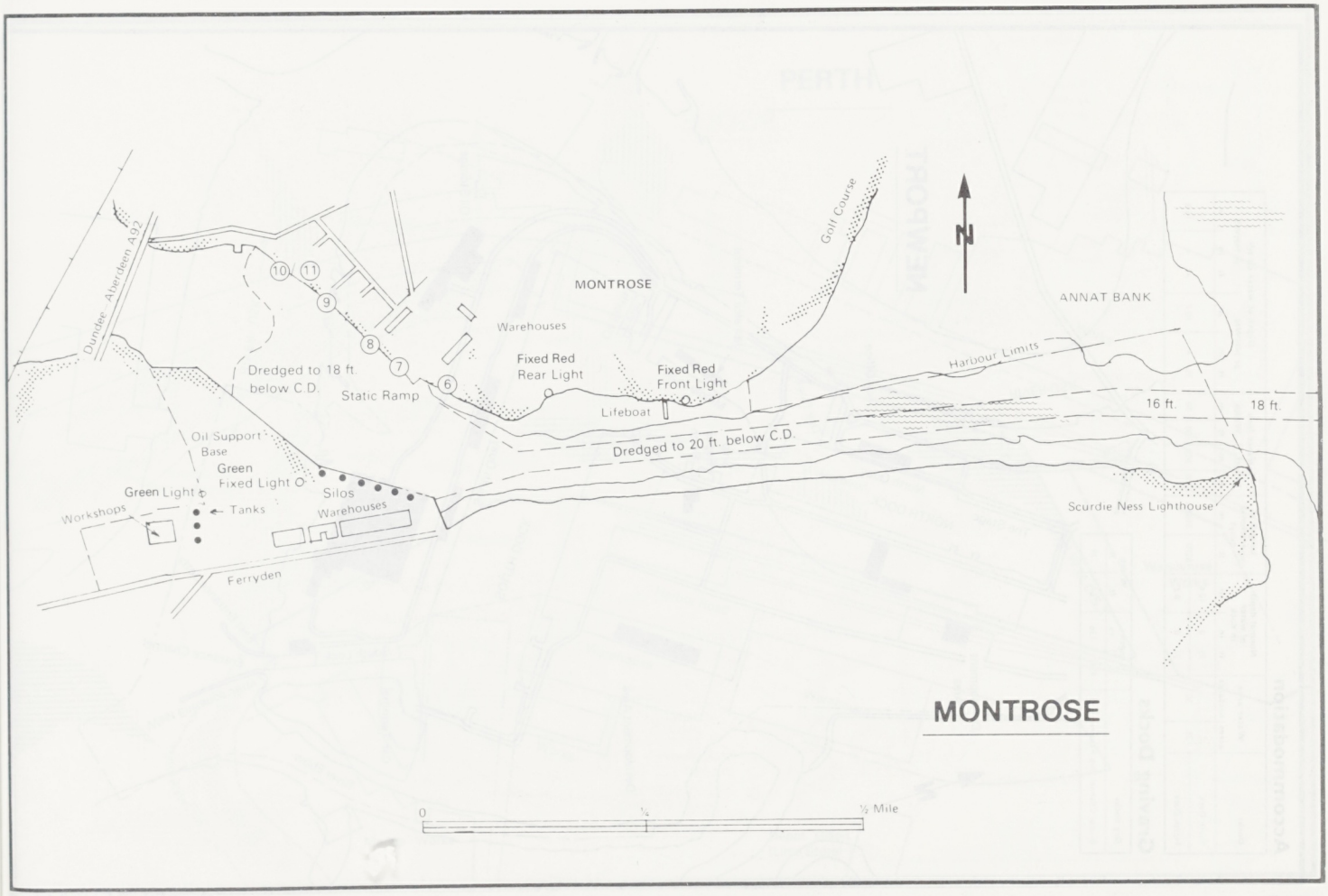
MILFORD HAVEN

B.P. REFINERY (LLANDARCY) LTD
ANGLE BAY OCEAN TERMINAL BERTH NO.3

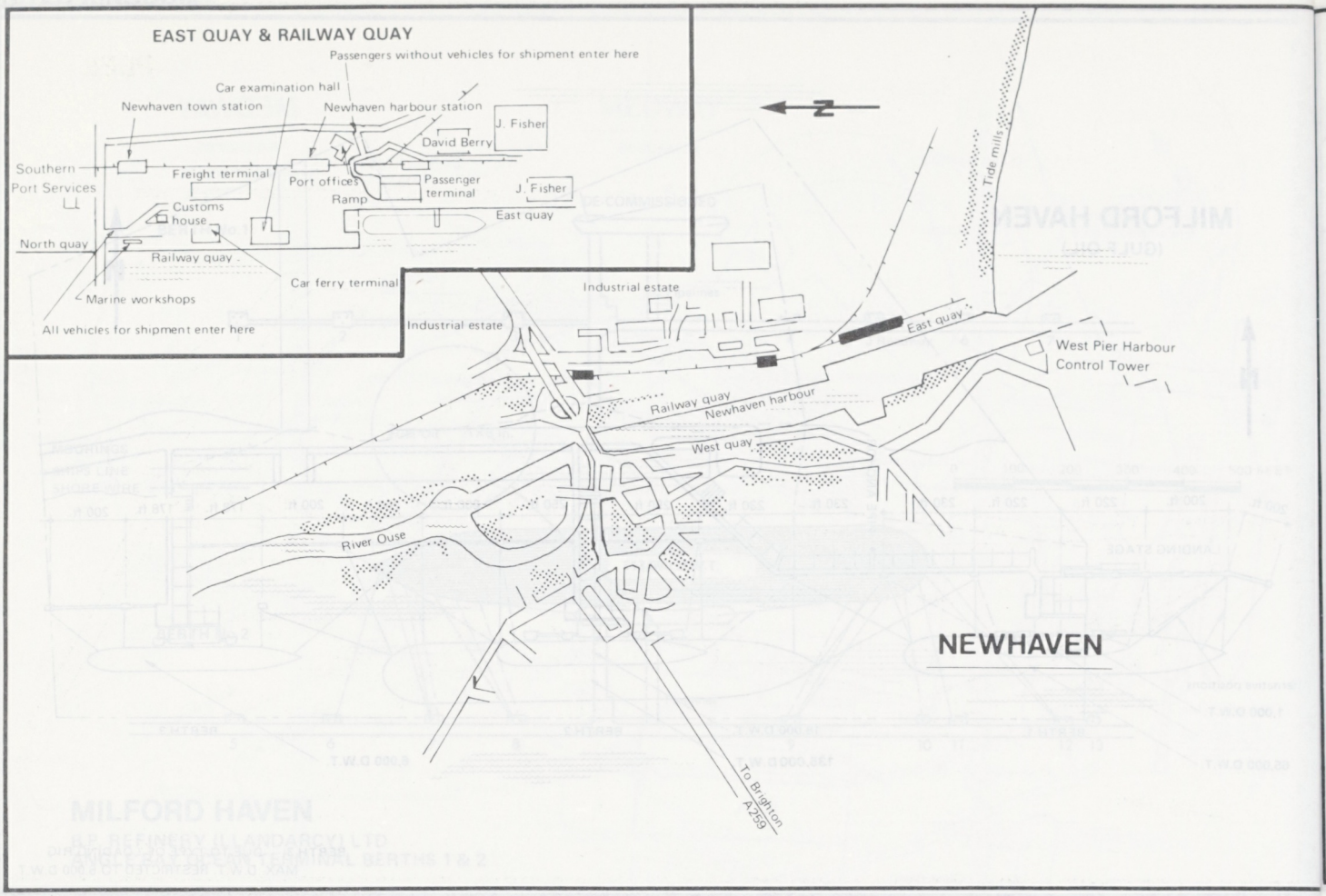
MILFORD HAVEN
(GULF OIL)

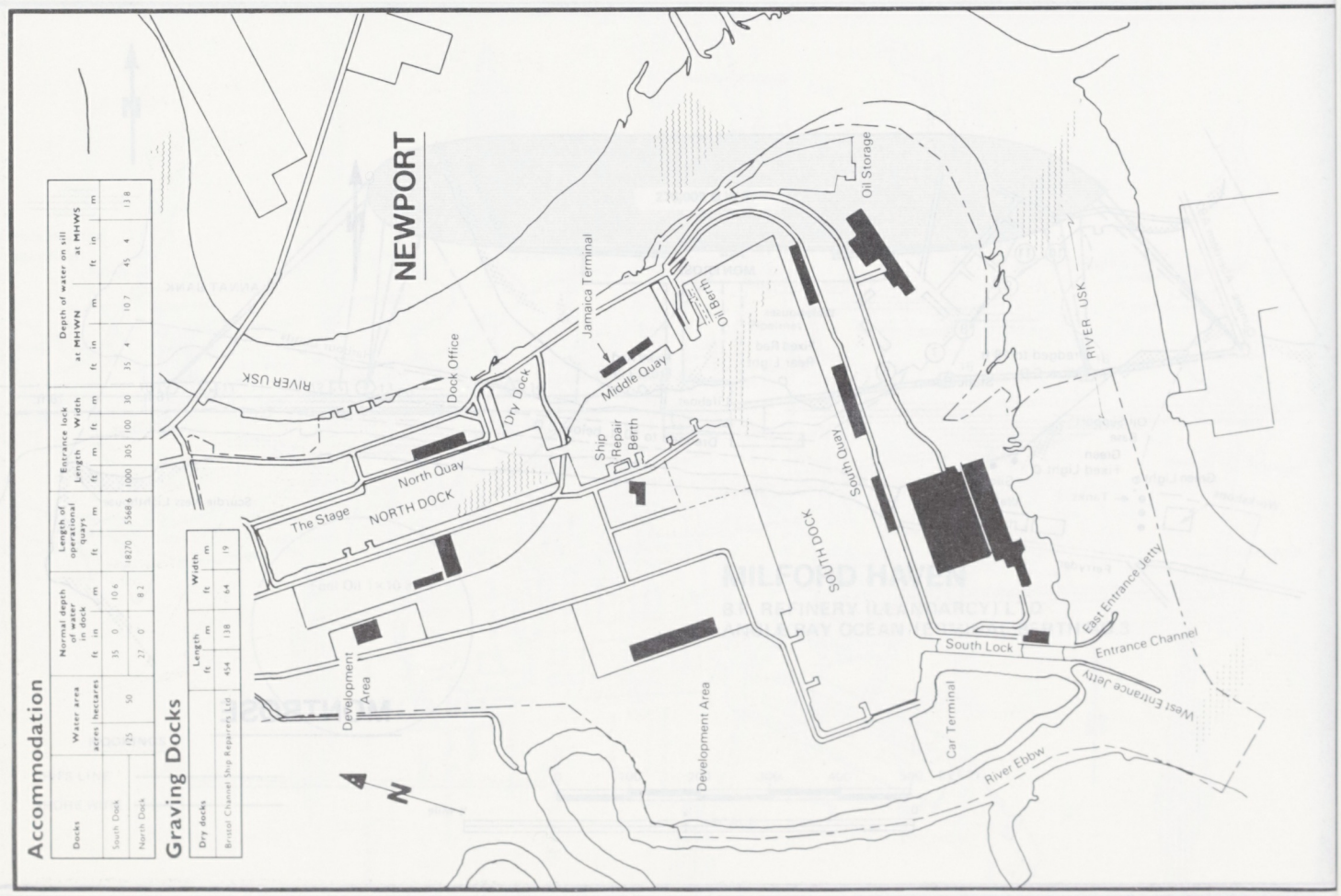


BERTH 3: DUE TO TYPE OF LOADING RIG
MAX. D.W.T. RESTRICTED TO 6,000 D.W.T.



MONTROSE





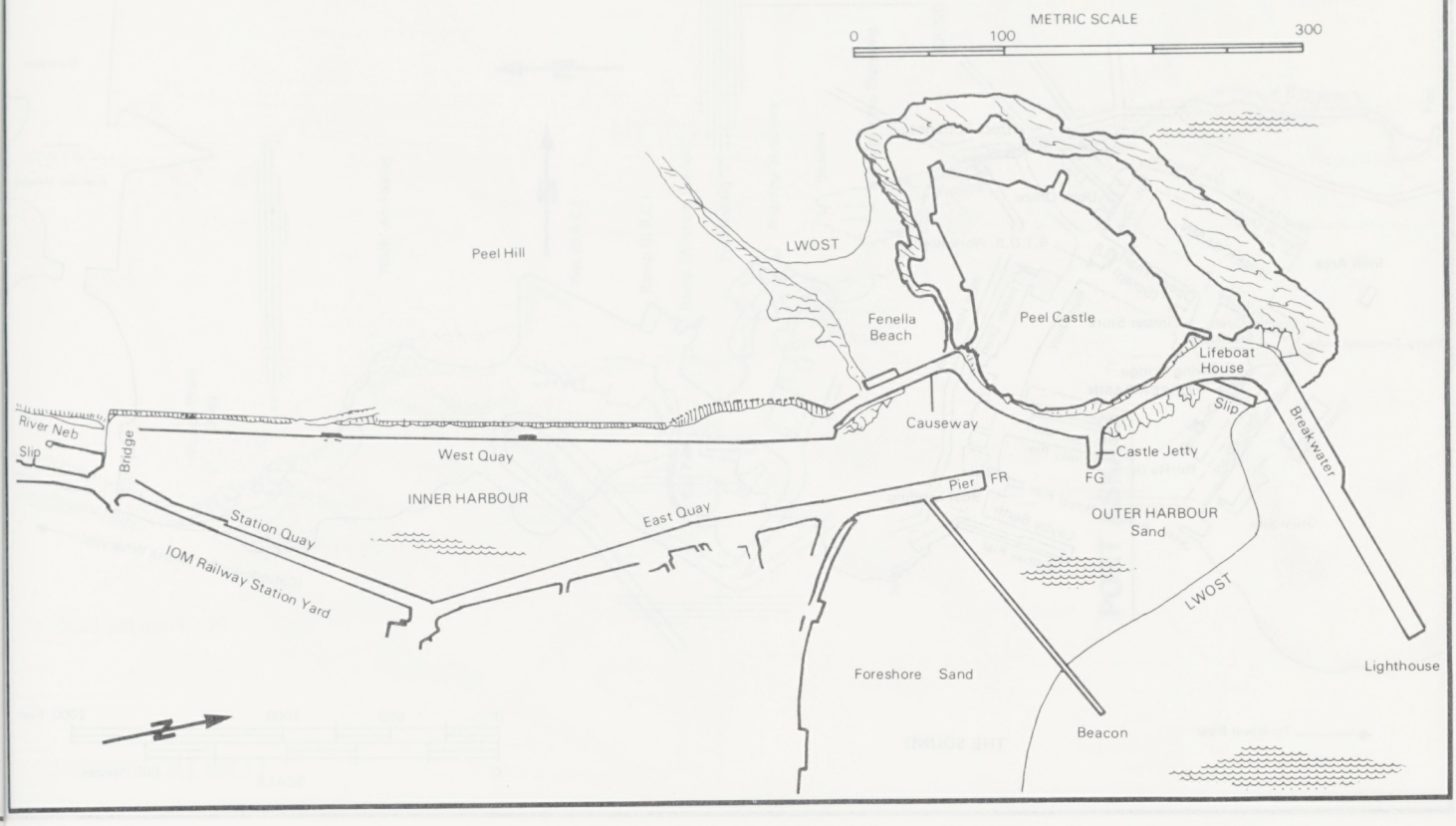
Accommodation

Docks	Water area		Normal depth of water in dock		Length of operational quay		Entrance lock Length		Entrance lock Width		Depth of water on sill at MHWN				Depth of water on sill at MHWS			
	acres	hectares	ft	in	m	ft	m	ft	m	ft	m	ft	in	m	ft	in	m	
South Dock	125	50	35	0	10.6	18270	5568.6	1000	305	100	30	35	4	10.7	45	4	13.8	
North Dock			27	0	8.2													

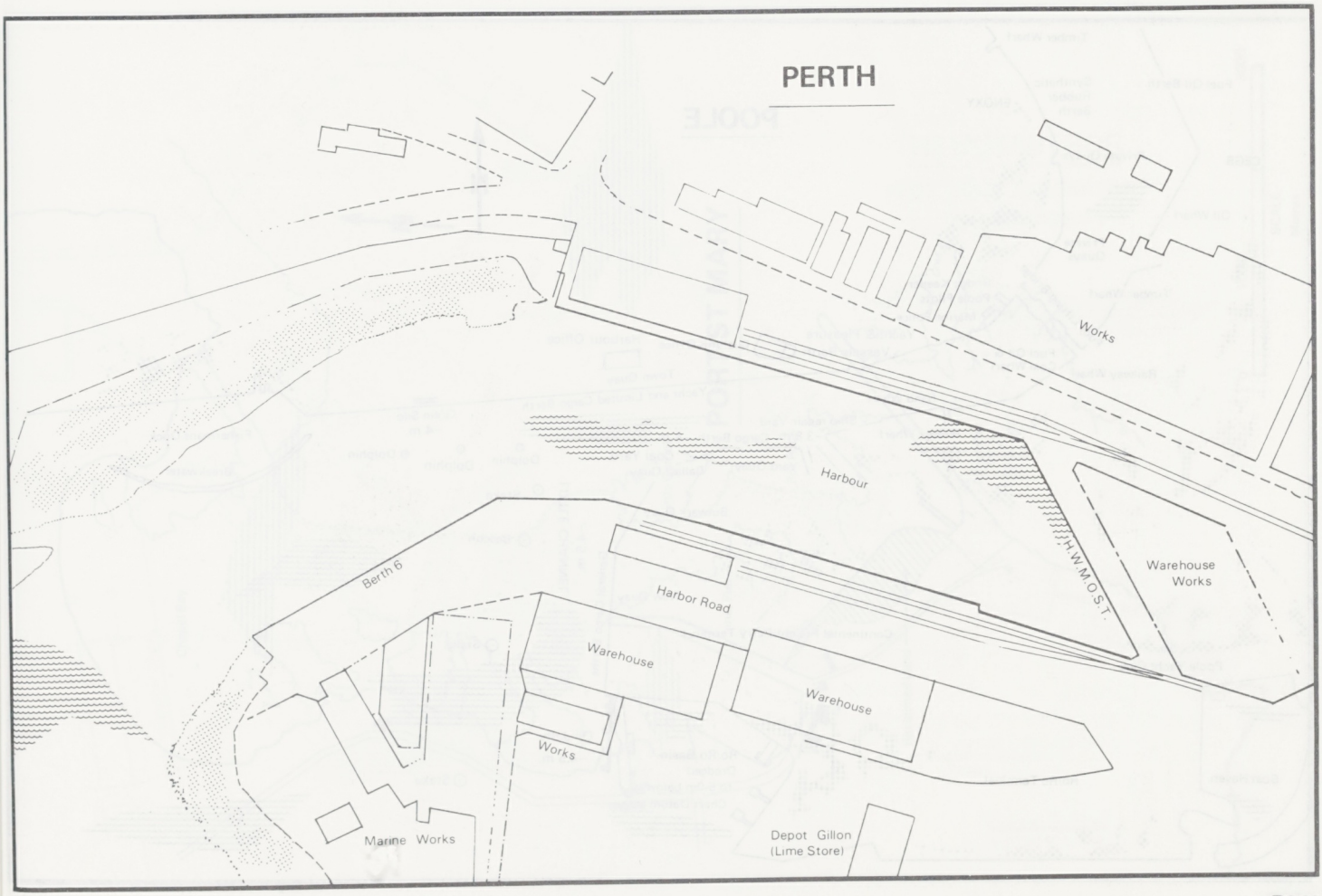
Graving Docks

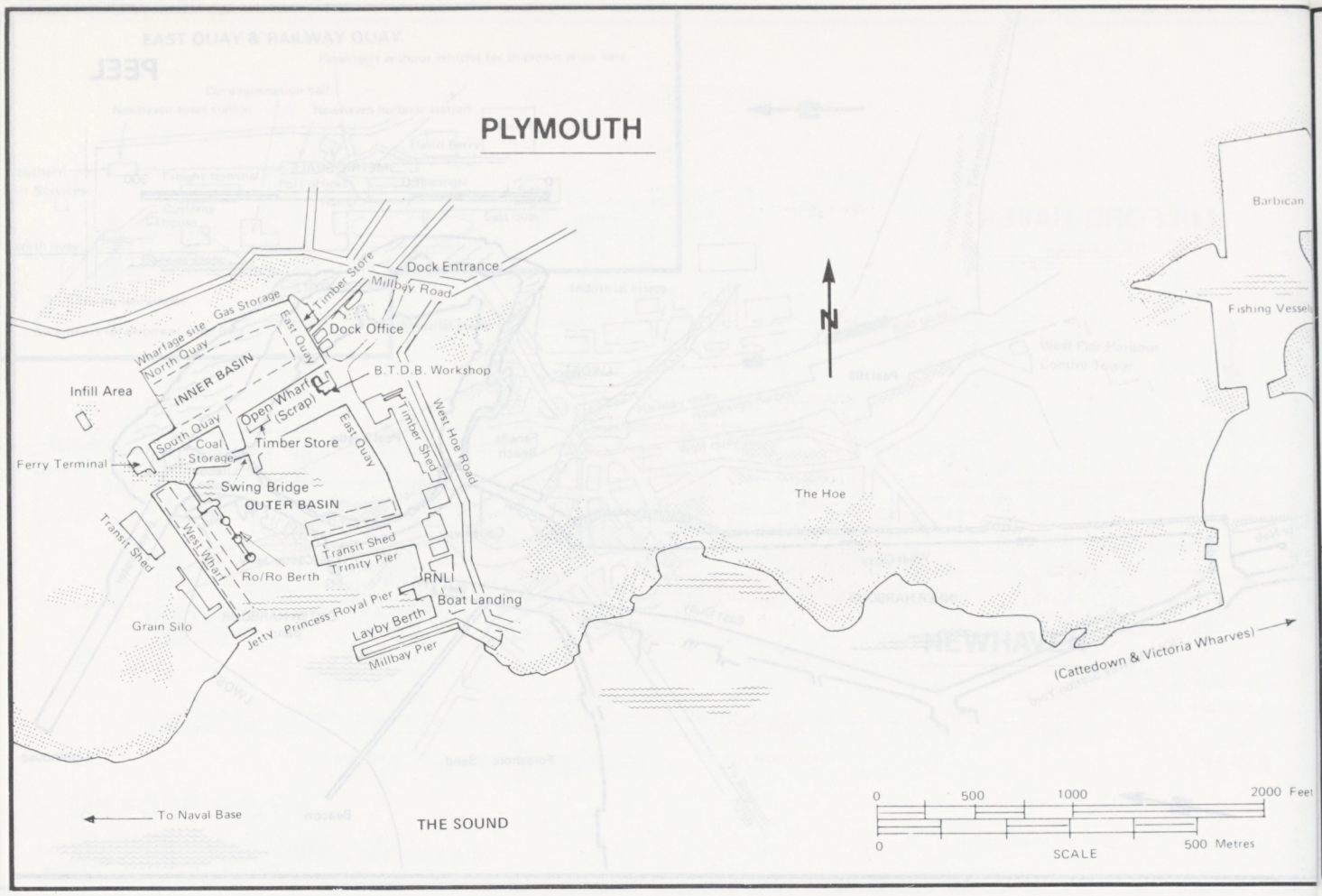
Dry docks	Length		Width	
	ft	m	ft	m
Bristol Channel Ship Repairers Ltd	454	138	64	19

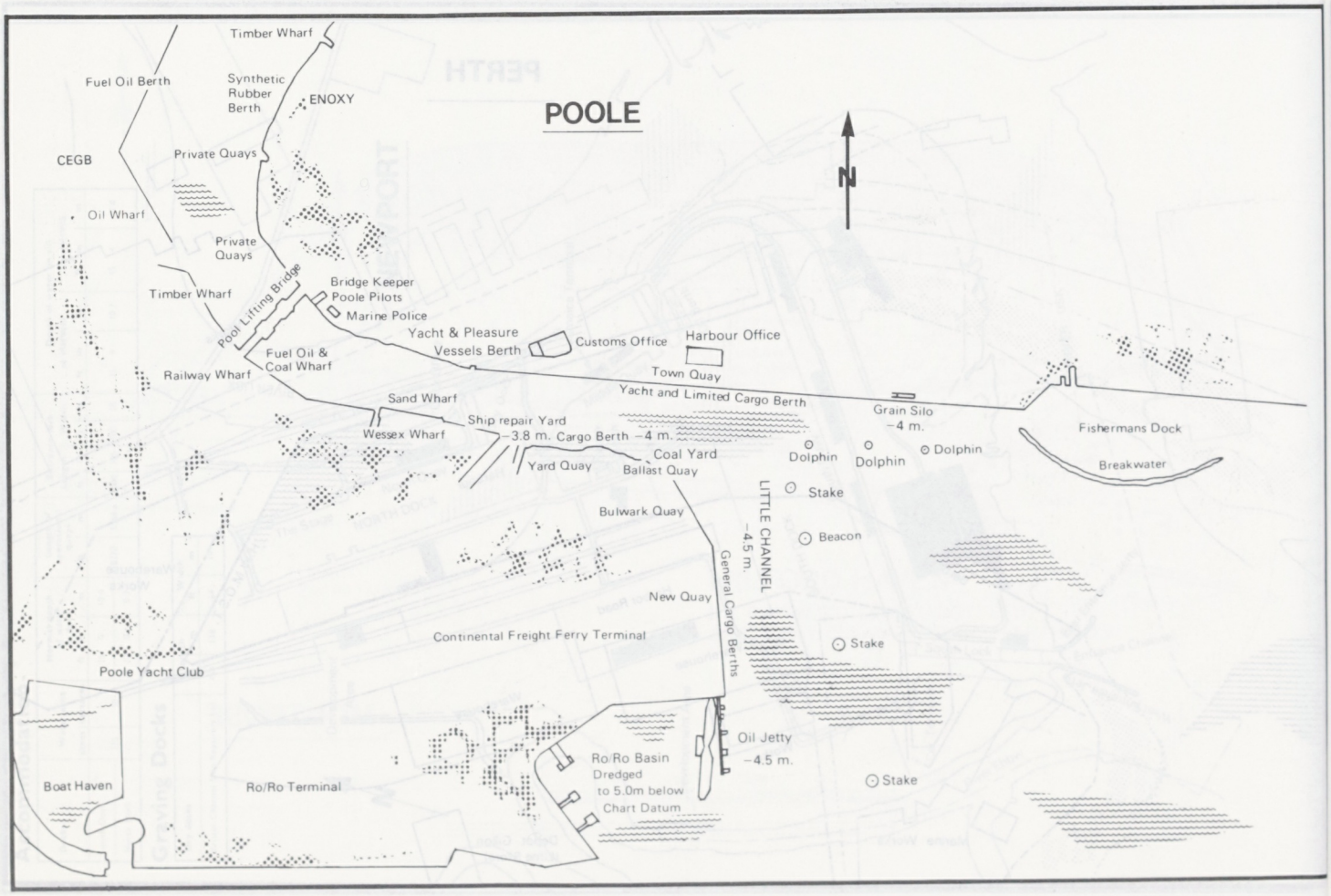
PEEL

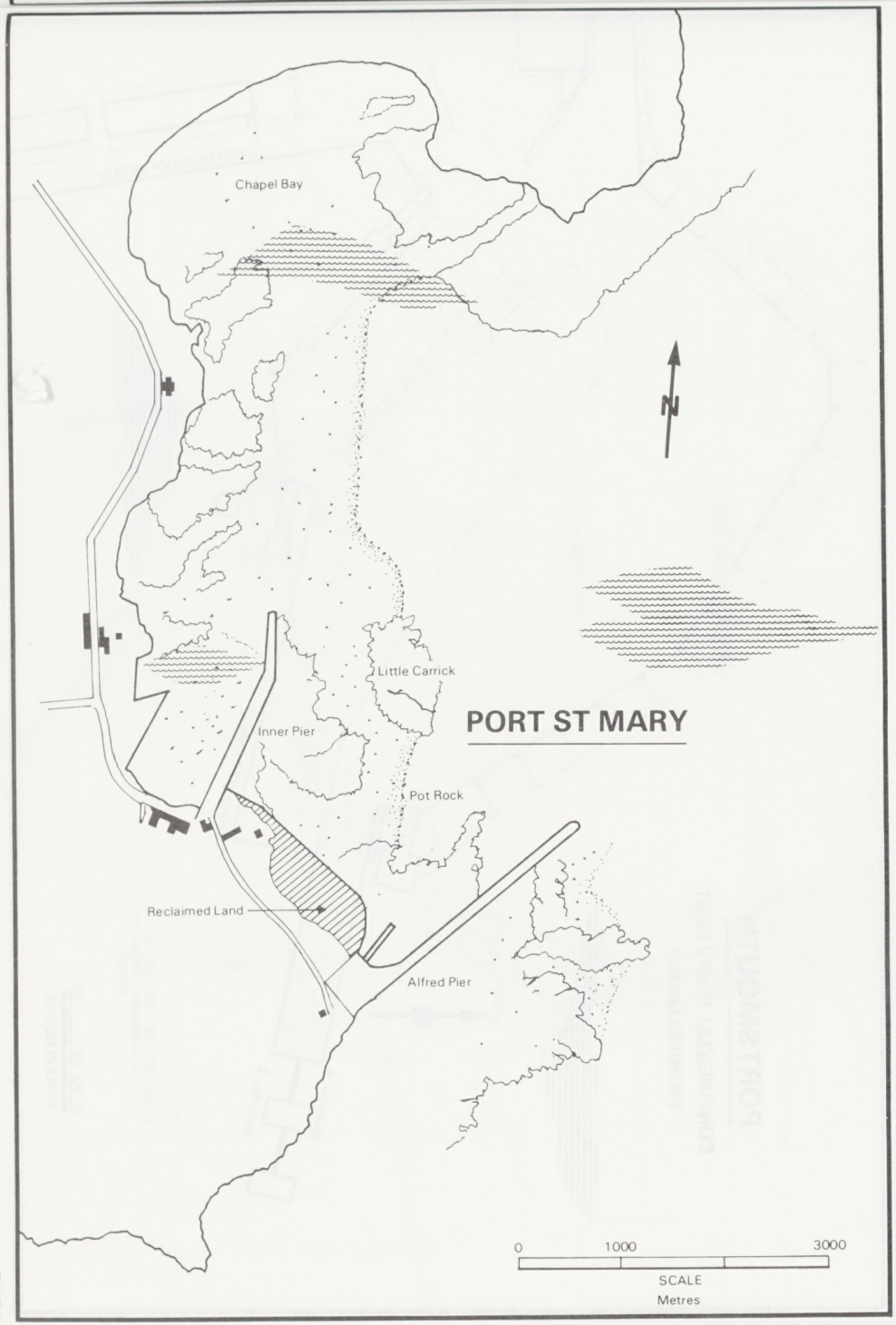

METRIC SCALE
0
100
300
Peel Hill
LWOST
Fenella Beach
Peel Castle
Lifeboat House
Slip
Breakwater
River Neb
Slip
Bridge
West Quay
Causeway
Castle Jetty
FG
INNER HARBOUR
Pier
FR
East Quay
OUTER HARBOUR
Sand
Station Quay
IOM Railway Station Yard
LWOST
Lighthouse
Foreshore Sand
Beacon

PERTH

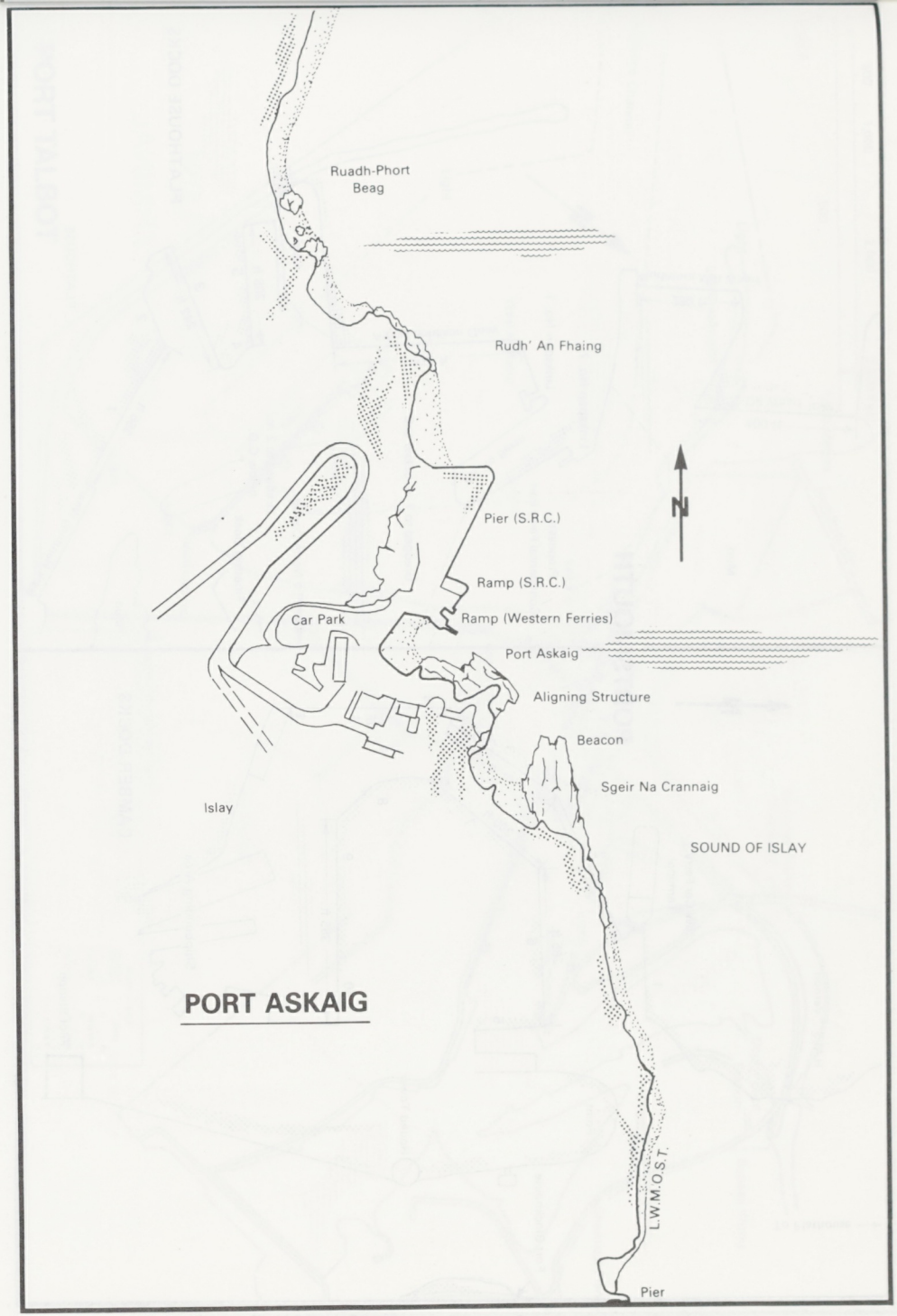

Works
Harbour
H.W.M.O.S.T.
Warehouse Works
Berth 6
Harbor Road
Warehouse
Warehouse
Works
Marine Works
Depot Gillon (Lime Store)


PLYMOUTH
Barbican
Fishing Vessels
Dock Entrance
Millbay Road
Timber Store
Gas Storage
Wharfage site
North Quay
East Quay
Dock Office
INNER BASIN
B.T.D.B. Workshop
Infill Area
Open Wharf (Scrap)
South Quay
Coal Storage
Timber Store
East Quay
Timber Shed
West Hoe Road
Ferry Terminal
Swing Bridge
OUTER BASIN
Transit Shed
West Wharf
Transit Shed
Trinity Pier
Ro/Ro Berth
RNLI
Boat Landing
Grain Silo
Jetty
Princess Royal Pier
Layby Berth
Millbay Pier
The Hoe
(Cattedown & Victoria Wharves)
To Naval Base
THE SOUND
0 500 1000 2000 Feet
0 SCALE 500 Metres


POOLE
Timber Wharf
Fuel Oil Berth
Synthetic Rubber Berth
ENOXY
CEGB
Private Quays
Oil Wharf
Private Quays
Timber Wharf
Pool Lifting Bridge
Bridge Keeper
Poole Pilots
Marine Police
Yacht & Pleasure Vessels Berth
Customs Office
Harbour Office
Fuel Oil & Coal Wharf
Railway Wharf
Town Quay
Yacht and Limited Cargo Berth
Sand Wharf
Ship repair Yard
Wessex Wharf
3.8 m. Cargo Berth
4 m.
Grain Silo
4 m.
Fishermans Dock
Breakwater
Coal Yard
Ballast Quay
Yard Quay
Dolphin
Dolphin
Dolphin
Stake
Bulwark Quay
Beacon
LITTLE CHANNEL
4.5 m.
General Cargo Berths
New Quay
Continental Freight Ferry Terminal
Stake
Poole Yacht Club
Oil Jetty
4.5 m.
Ro/Ro Basin
Dredged
to 5.0m below
Chart Datum
Stake
Boat Haven
Ro/Ro Terminal



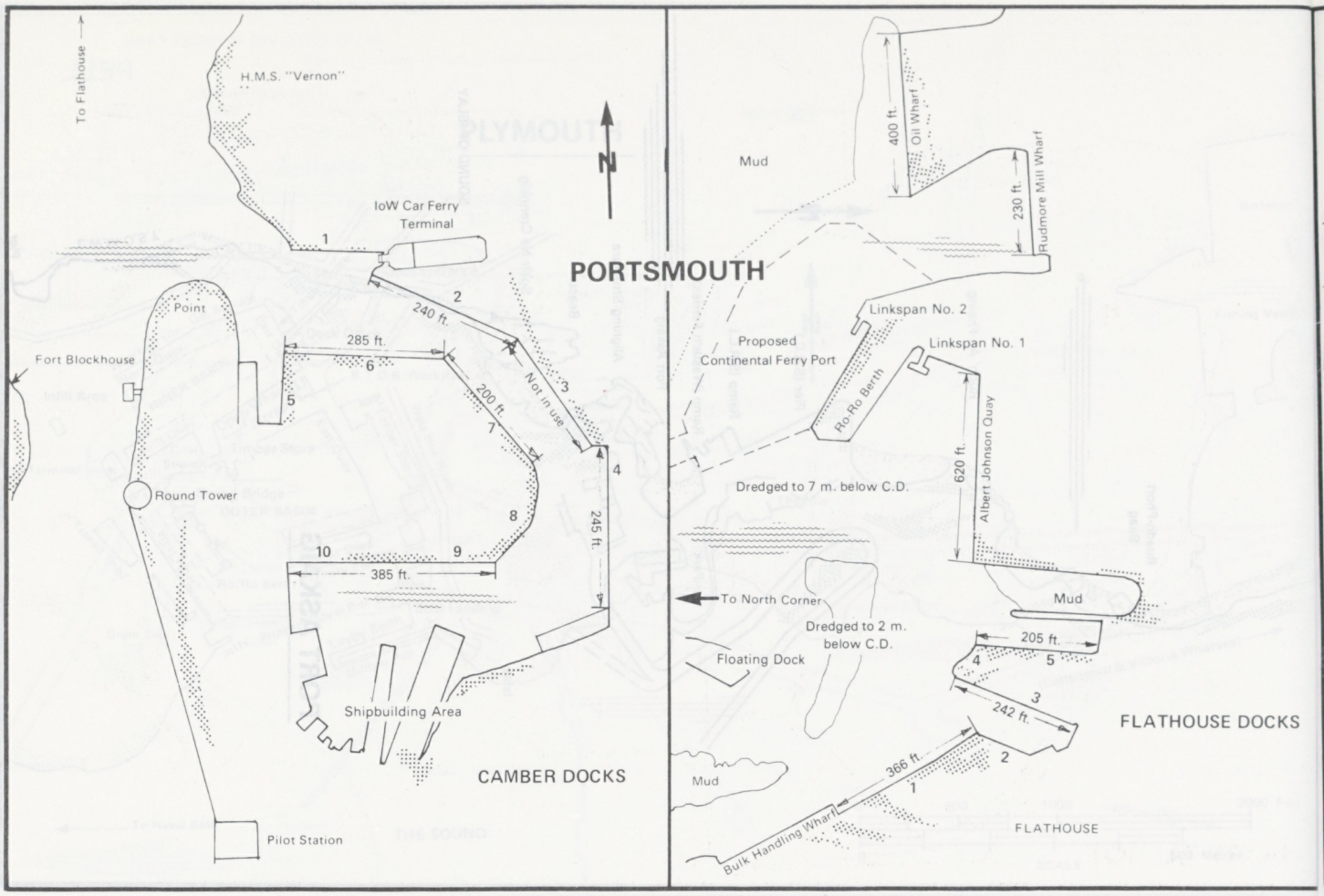
PORT ST MARY

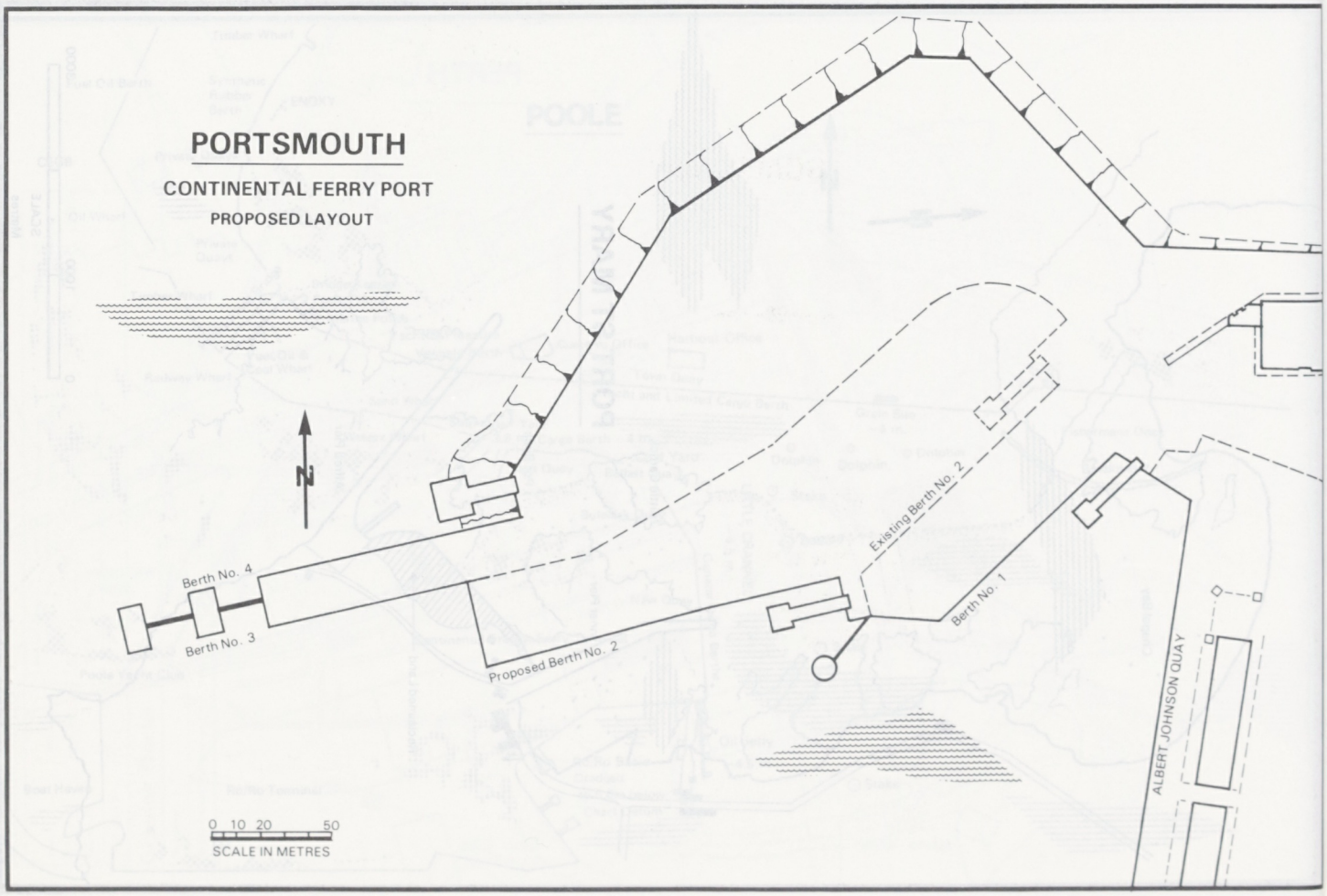


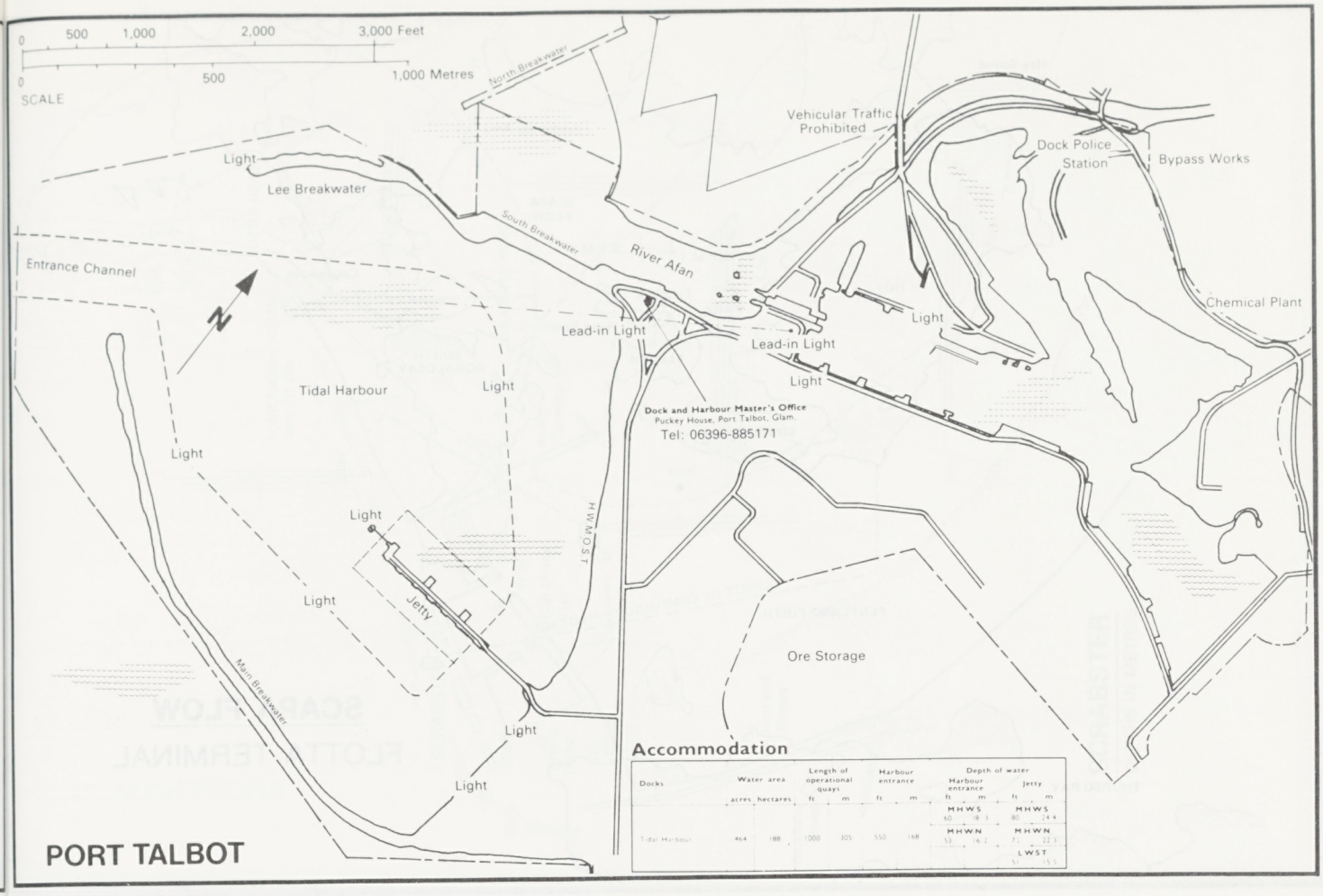
PORT ASKAIG

UNITED KINGDOM

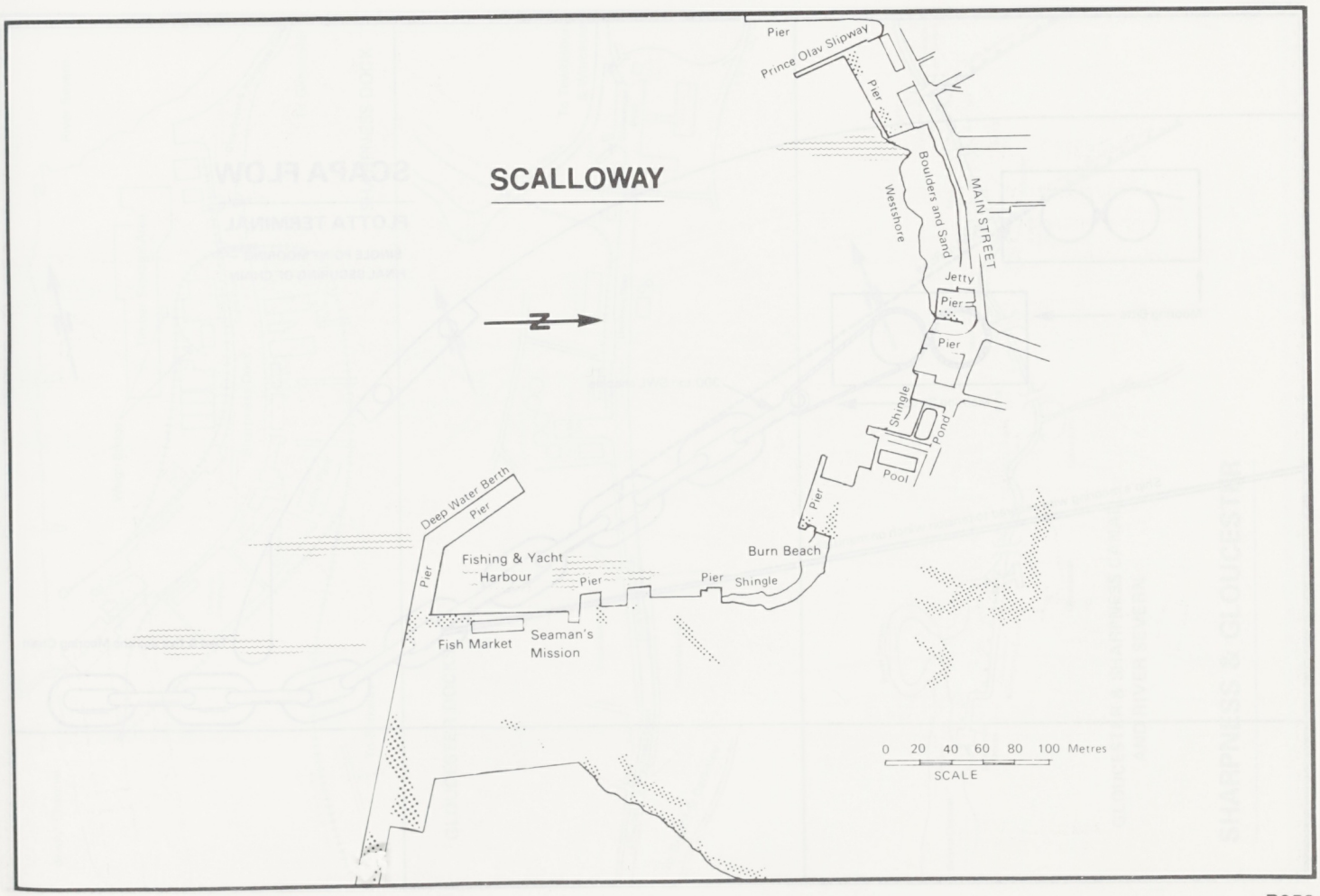
P951

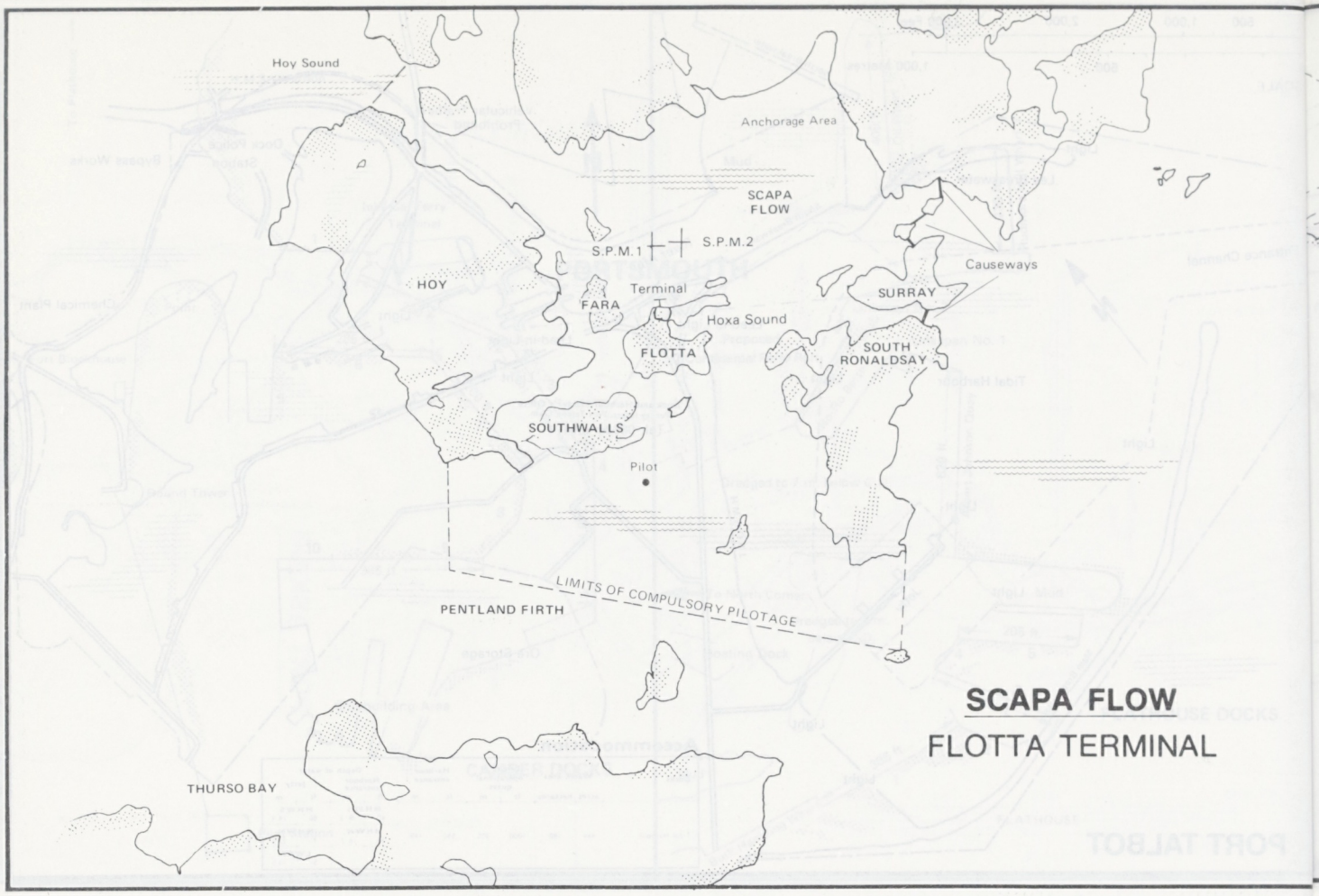

PORTSMOUTH
To Flathouse
H.M.S. "Vernon"
IoW Car Ferry Terminal
Point
Fort Blockhouse
Round Tower
Pilot Station
Shipbuilding Area
CAMBER DOCKS
240 ft.
285 ft.
200 ft.
Not in use
245 ft.
385 ft.
Mud
400 ft.
Oil Wharf
230 ft.
Rudmore Mill Wharf
Linkspan No. 2
Linkspan No. 1
Proposed Continental Ferry Port
Ro-Ro Berth
Albert Johnson Quay
620 ft.
Dredged to 7 m. below C.D.
To North Corner
Dredged to 2 m. below C.D.
Floating Dock
205 ft.
242 ft.
FLATHOUSE DOCKS
366 ft.
Bulk Handling Wharf
FLATHOUSE

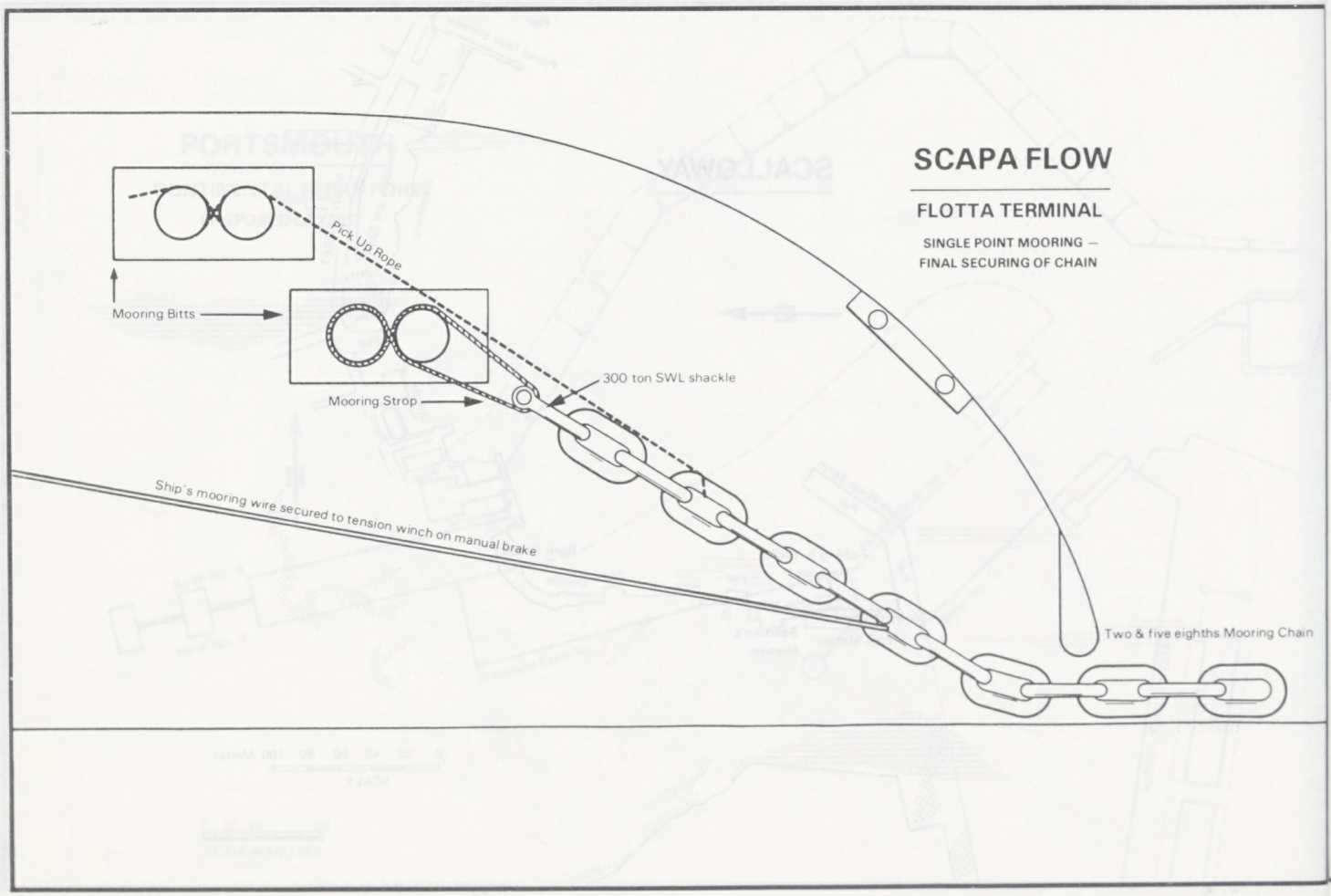

PORTSMOUTH
CONTINENTAL FERRY PORT
PROPOSED LAYOUT
Berth No. 4
Berth No. 3
Proposed Berth No. 2
Existing Berth No. 2
Berth No. 1
ALBERT JOHNSON QUAY
0 10 20 50
SCALE IN METRES

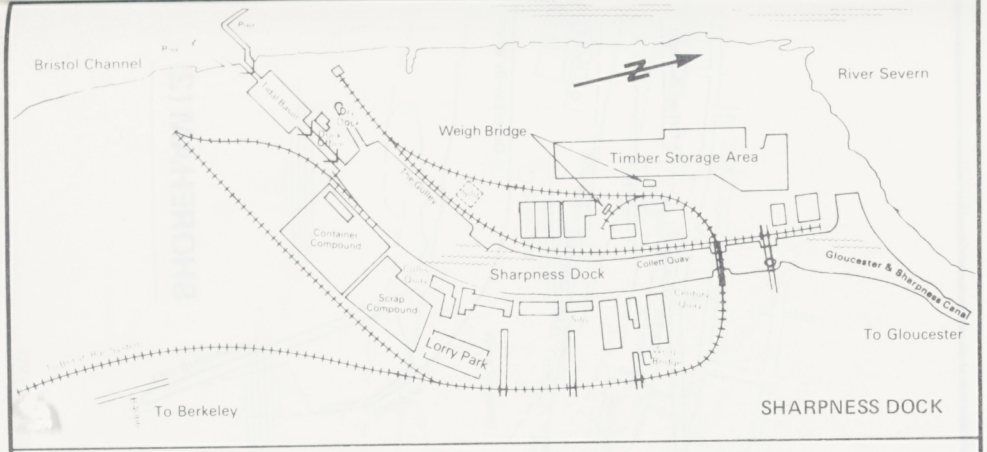


Docks	Water area		Length of operational quays		Harbour entrance		Depth of water Harbour entrance		Depth of water Jetty	
	acres	hectares	ft	m	ft	m	ft	m	ft	m
Tidal Harbour	464	188	1000	305	550	168	MHWS 60 / MHWN 53 / LWST	18.3 / 16.2 / 5.5	MHWS 80 / MHWN 73	24.4 / 22.3

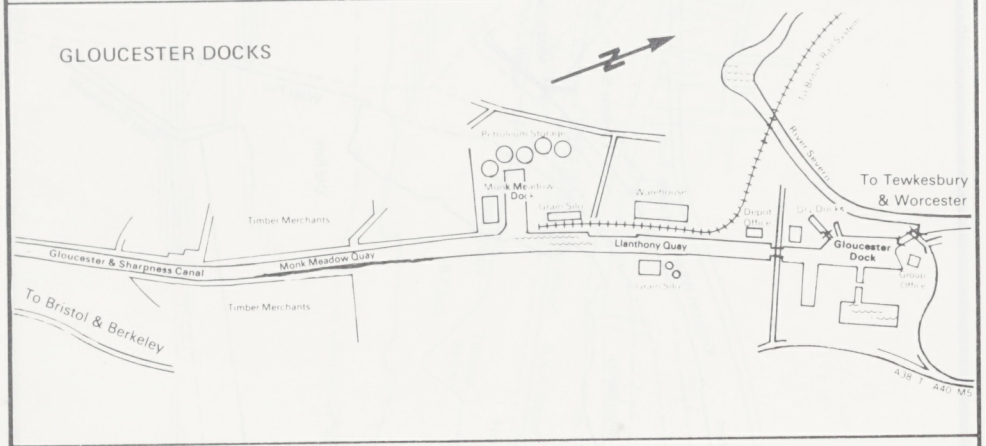


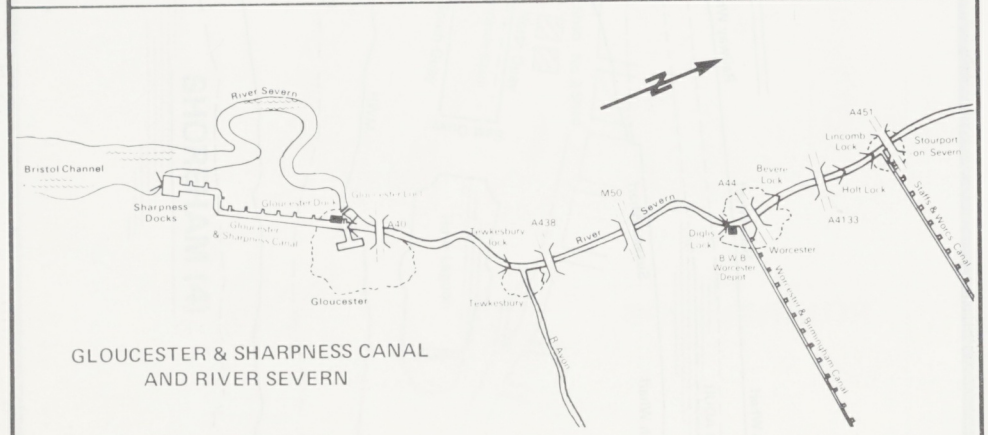

Hoy Sound
Anchorage Area
SCAPA FLOW
S.P.M.1
S.P.M.2
Causeways
HOY
Terminal
FARA
SURRAY
Hoxa Sound
FLOTTA
SOUTH RONALDSAY
SOUTHWALLS
Pilot
LIMITS OF COMPULSORY PILOTAGE
PENTLAND FIRTH
THURSO BAY
SCAPA FLOW
FLOTTA TERMINAL


SCAPA FLOW
FLOTTA TERMINAL
SINGLE POINT MOORING –
FINAL SECURING OF CHAIN
Pick Up Rope
Mooring Bitts
300 ton SWL shackle
Mooring Strop
Ship's mooring wire secured to tension winch on manual brake
Two & five eighths Mooring Chain



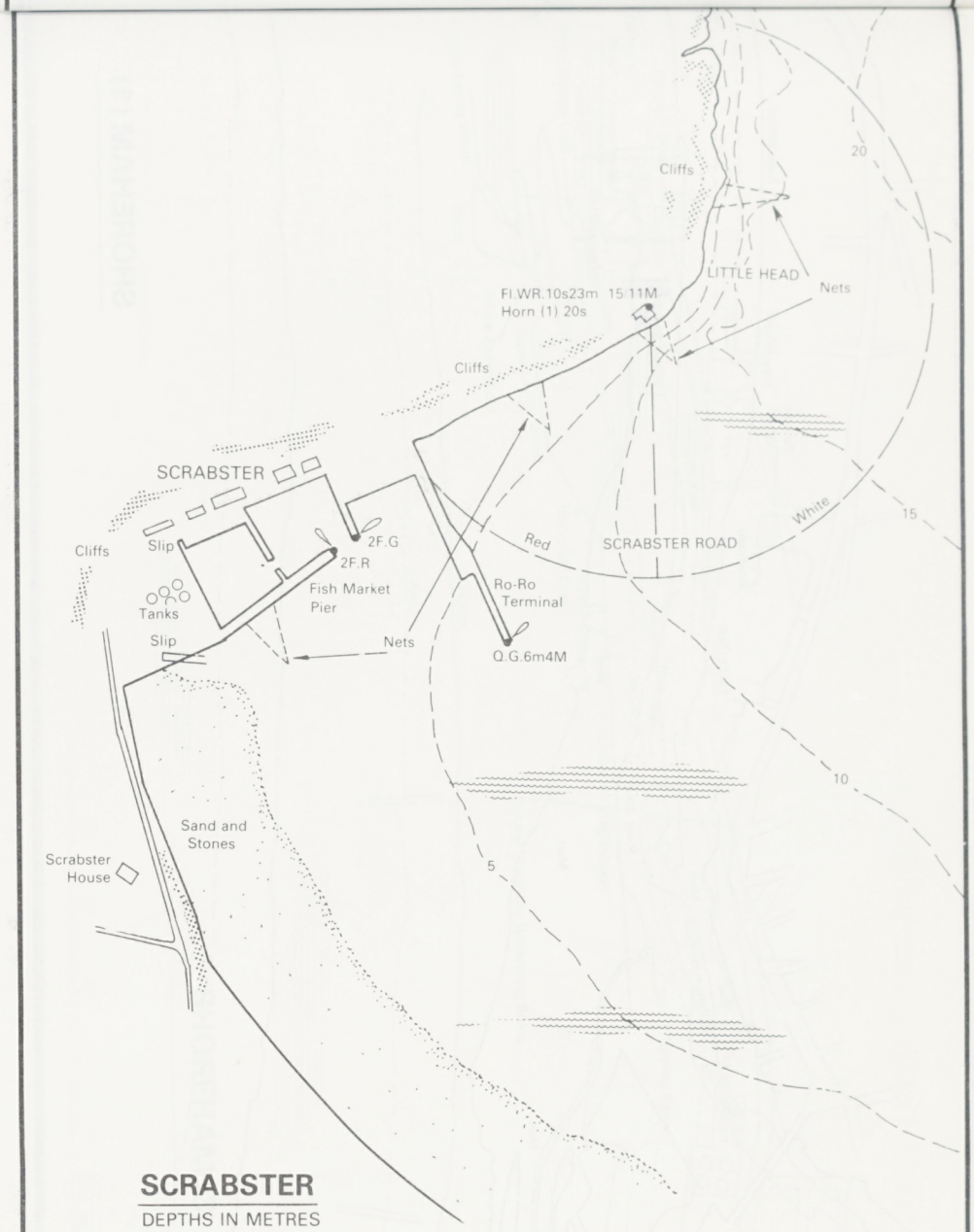
SHARPNESS DOCK





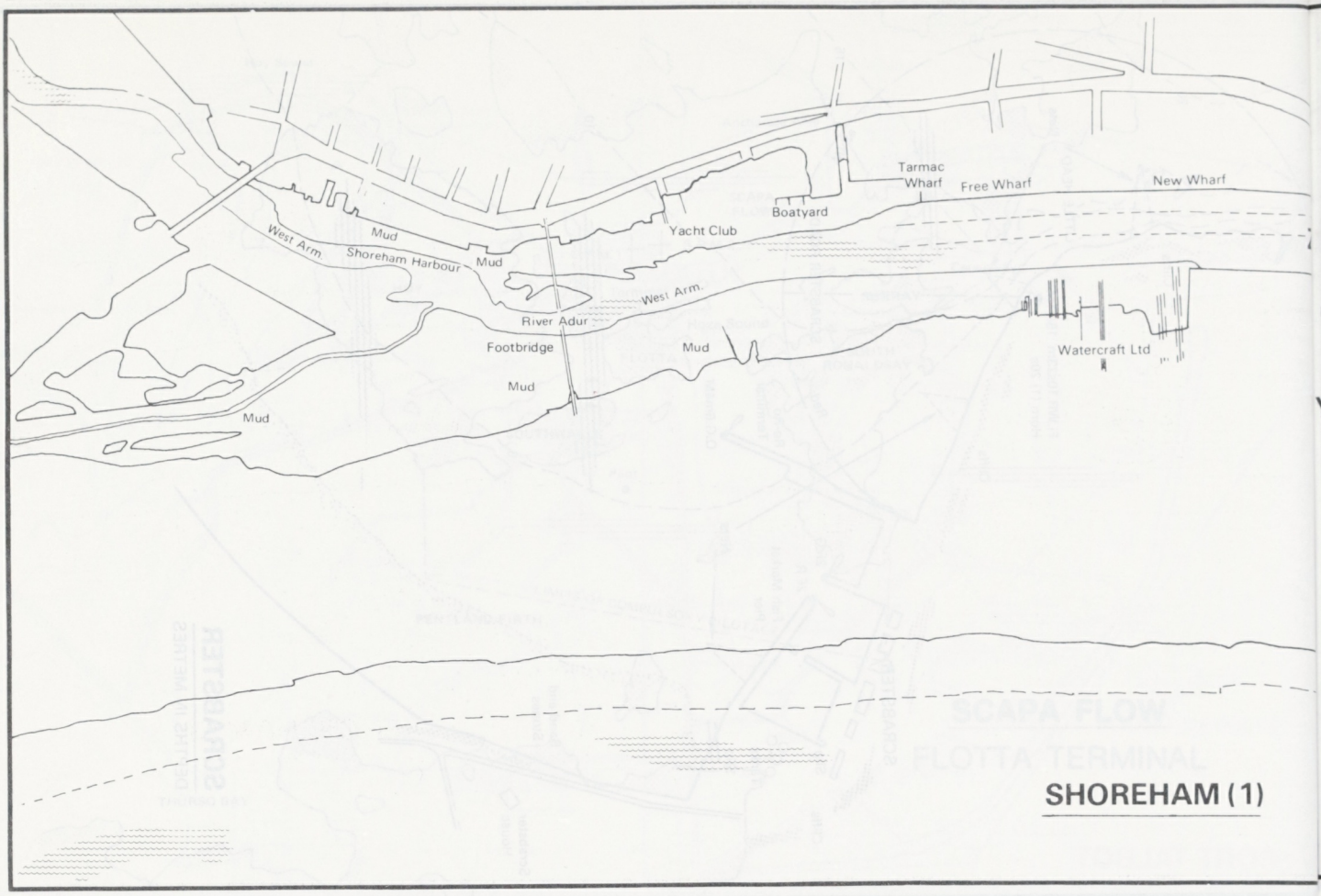
GLOUCESTER & SHARPNESS CANAL AND RIVER SEVERN

SHARPNESS & GLOUCESTER

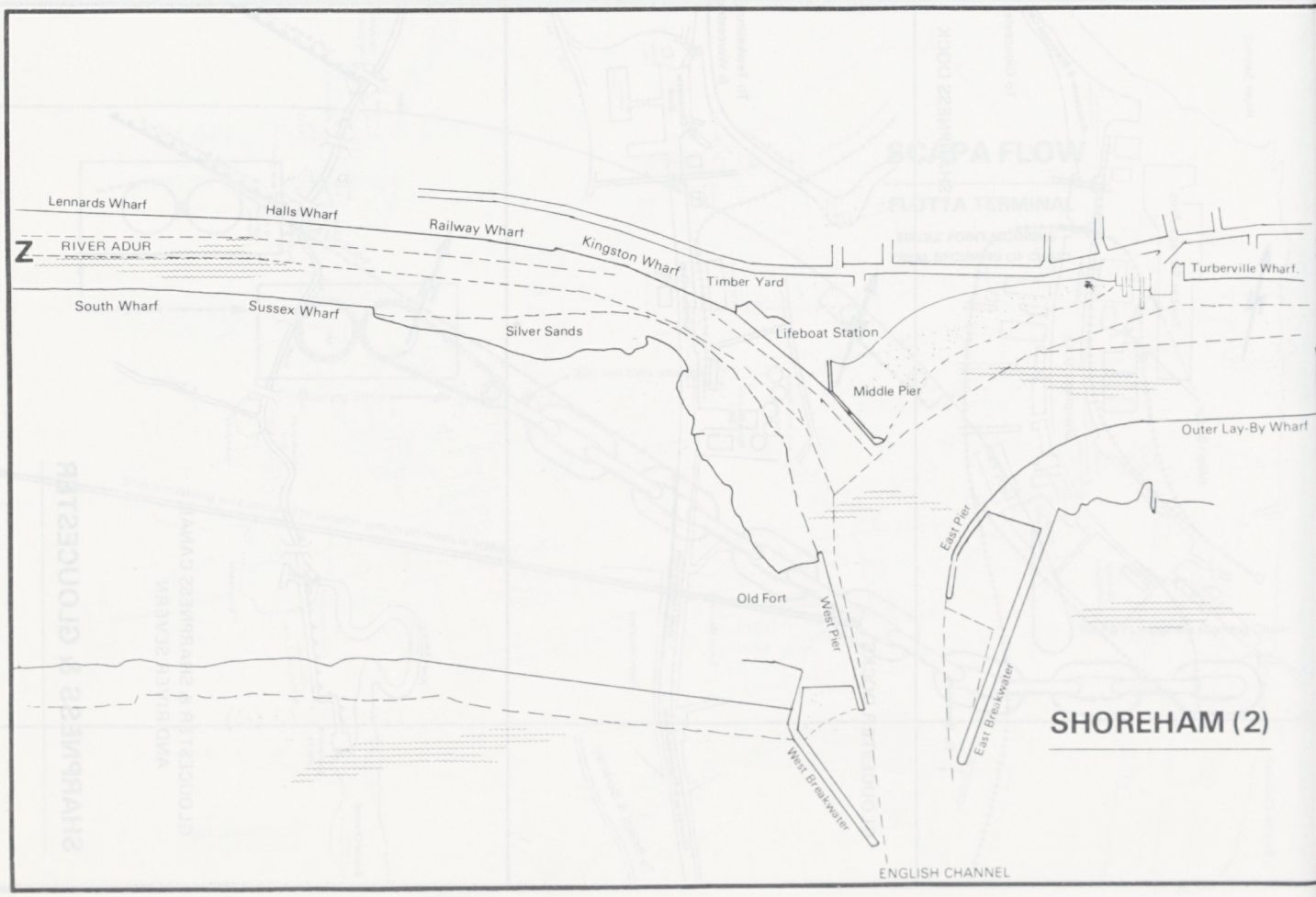


SCRABSTER

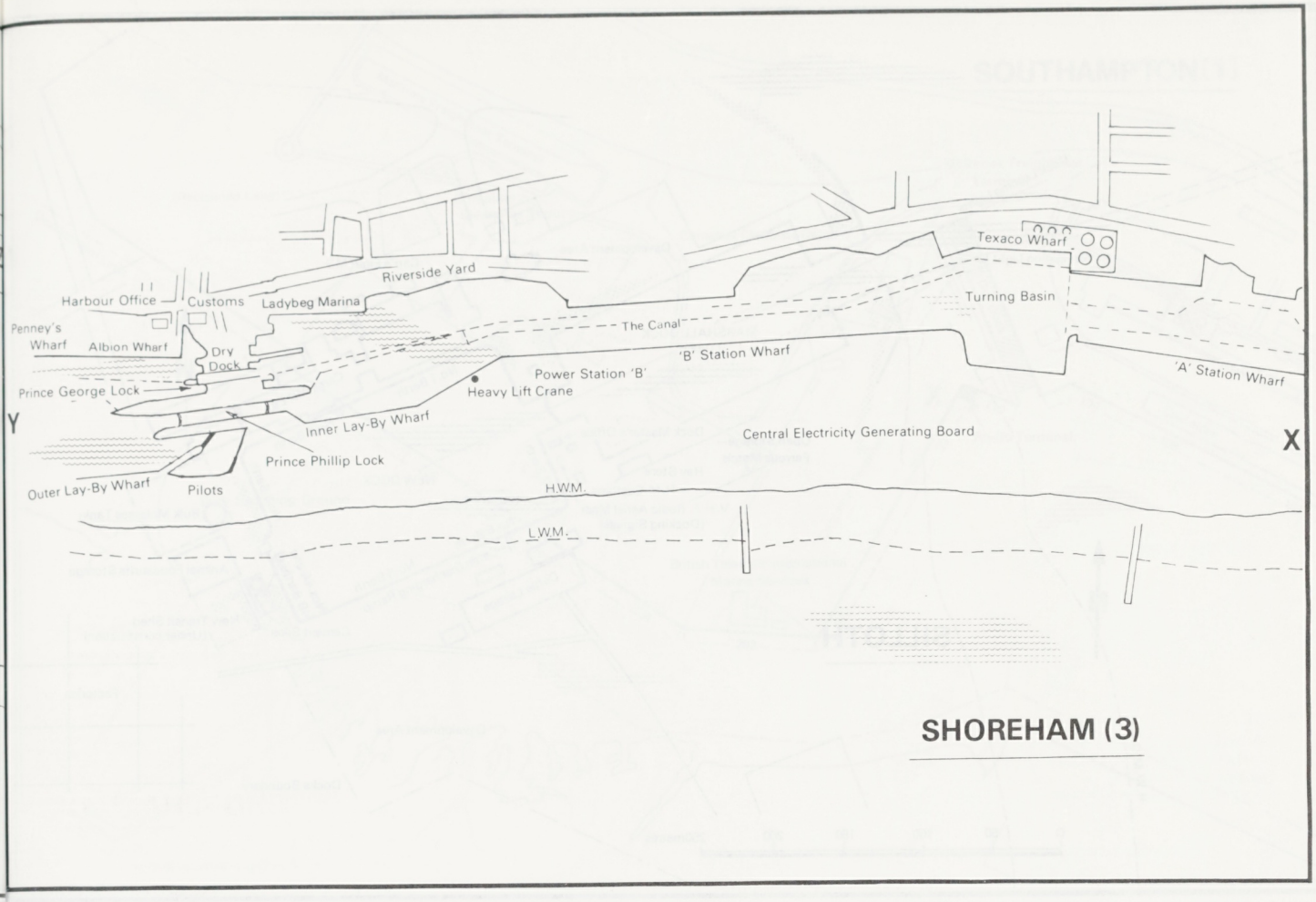
DEPTHS IN METRES



SHOREHAM (1)

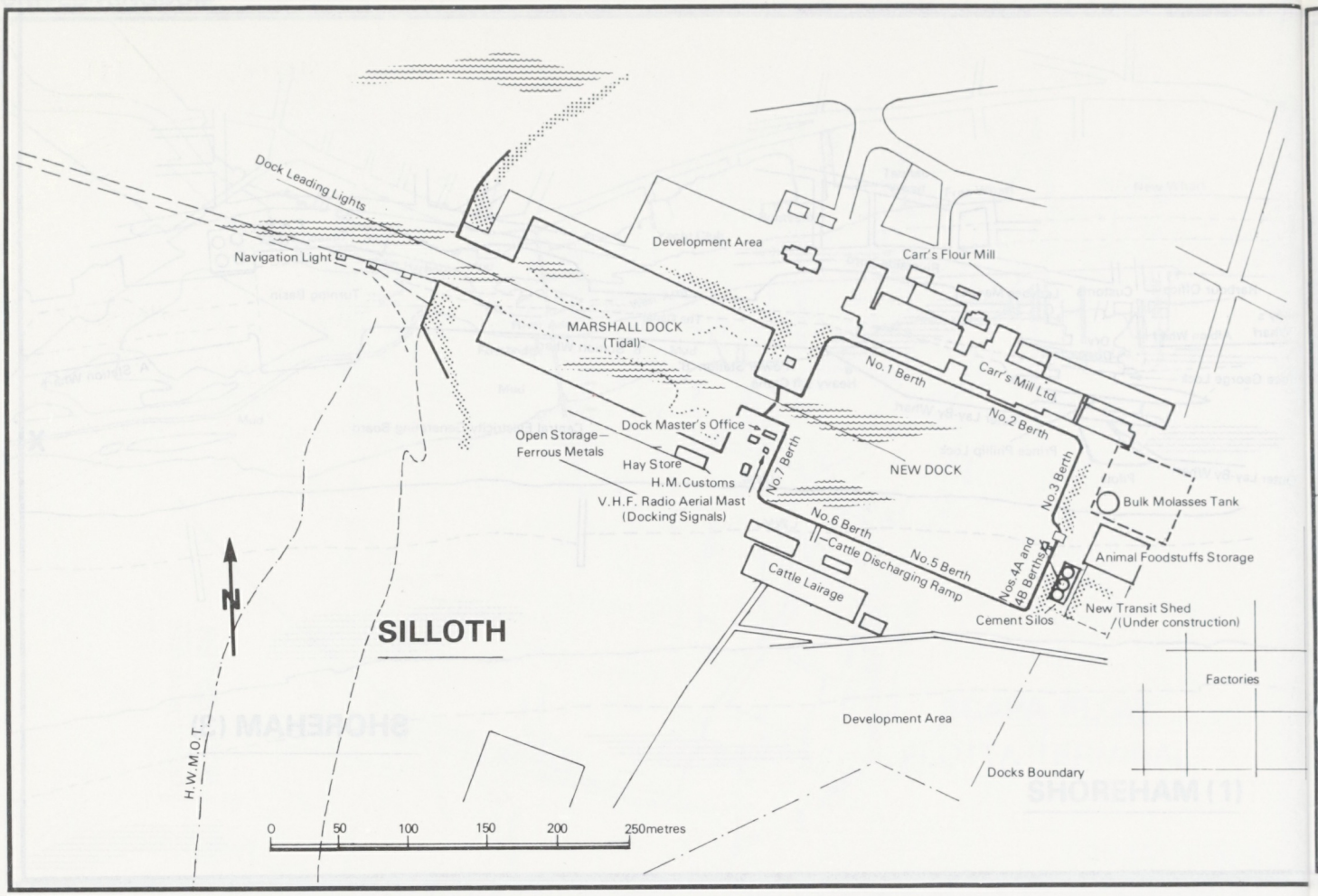


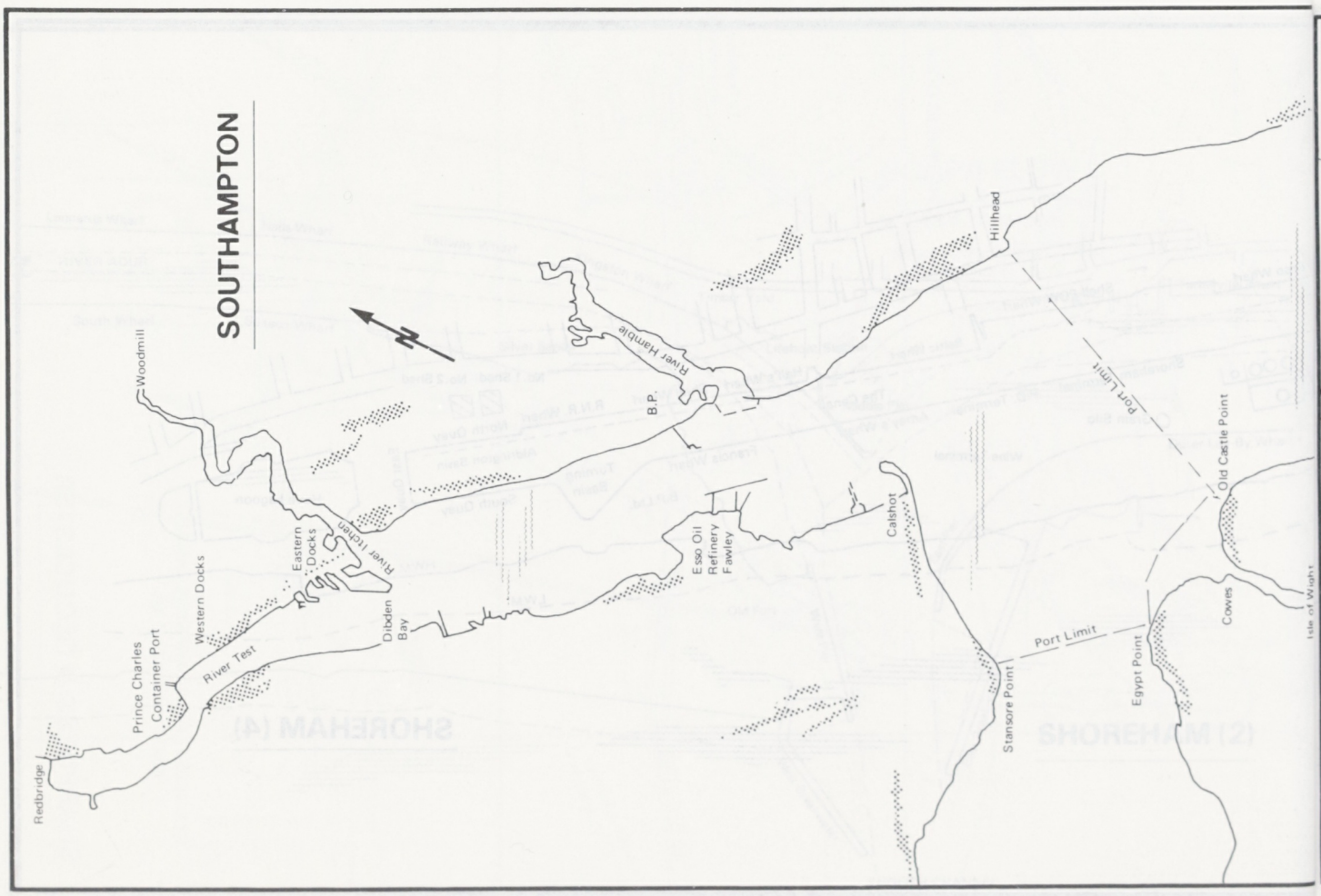
SHOREHAM (2)

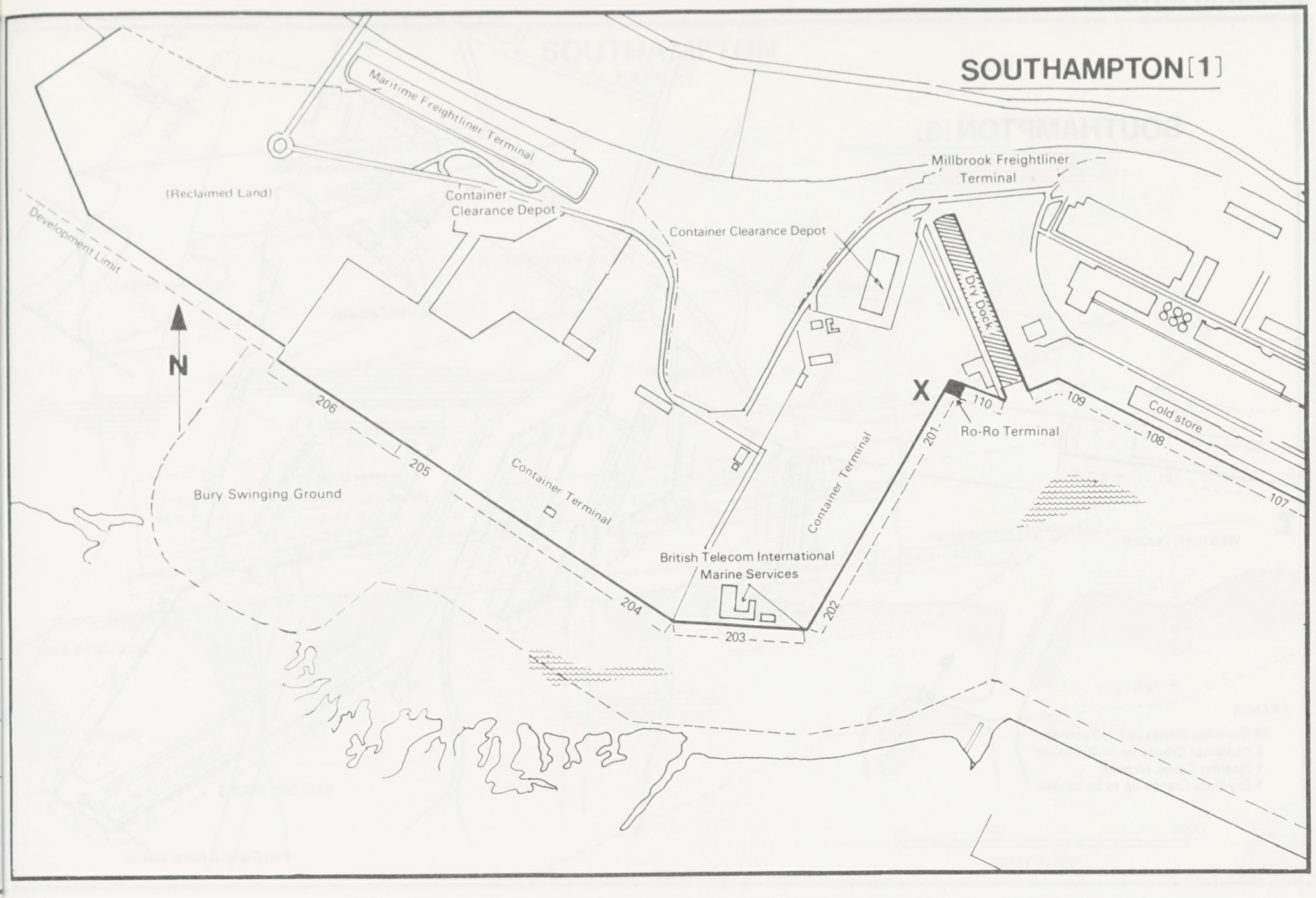


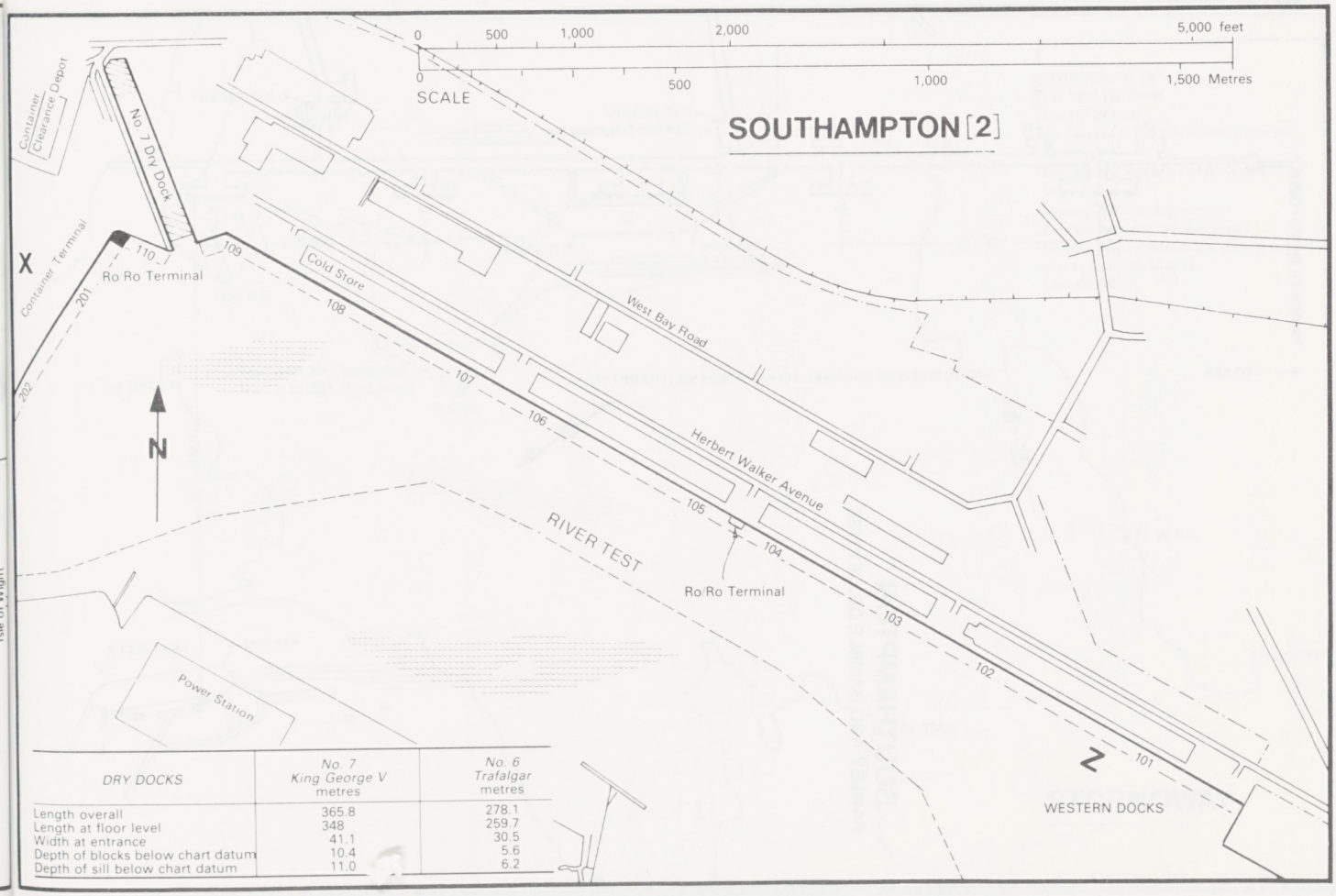
SHOREHAM (3)

SHOREHAM (4)

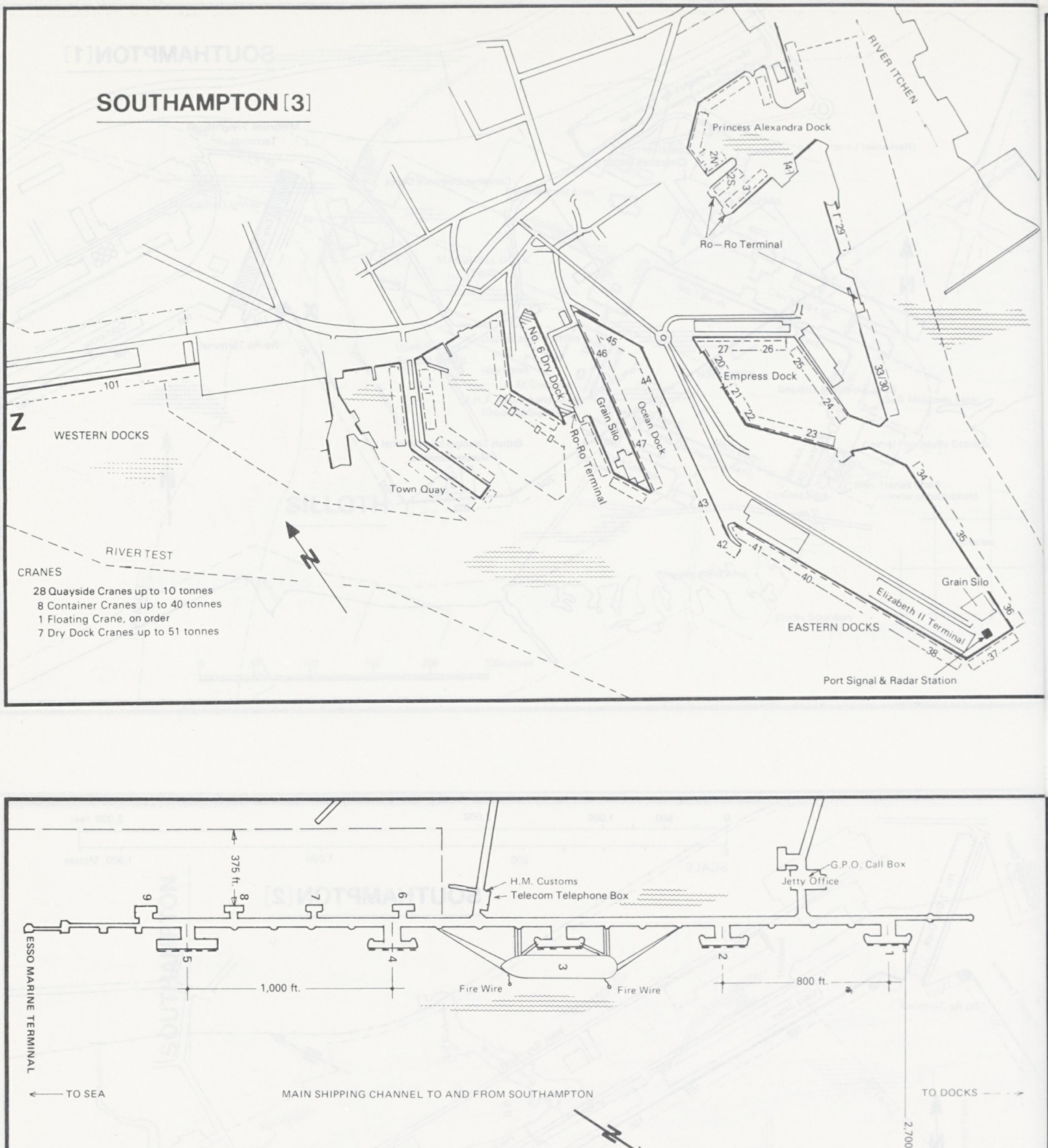

SILLOTH
Dock Leading Lights
Navigation Light
Development Area
Carr's Flour Mill
MARSHALL DOCK
(Tidal)
No.1 Berth
Carr's Mill Ltd.
No.2 Berth
Dock Master's Office
Open Storage—
Ferrous Metals
Hay Store
H.M.Customs
V.H.F. Radio Aerial Mast
(Docking Signals)
No.7 Berth
NEW DOCK
No.3 Berth
Bulk Molasses Tank
No.6 Berth
Cattle Discharging Ramp
No.5 Berth
Nos.4A and 4B Berths
Animal Foodstuffs Storage
Cattle Lairage
Cement Silos
New Transit Shed
(Under construction)
Factories
Development Area
Docks Boundary
H.W.M.O.T.
0 50 100 150 200 250metres


SOUTHAMPTON
Woodmill
River Hamble
B.P.
Hillhead
Port Limit
Old Castle Point
River Itchen
Eastern Docks
Western Docks
Prince Charles Container Port
River Test
Dibden Bay
Esso Oil Refinery Fawley
Calshot
Stansore Point
Egypt Point
Cowes
Redbridge



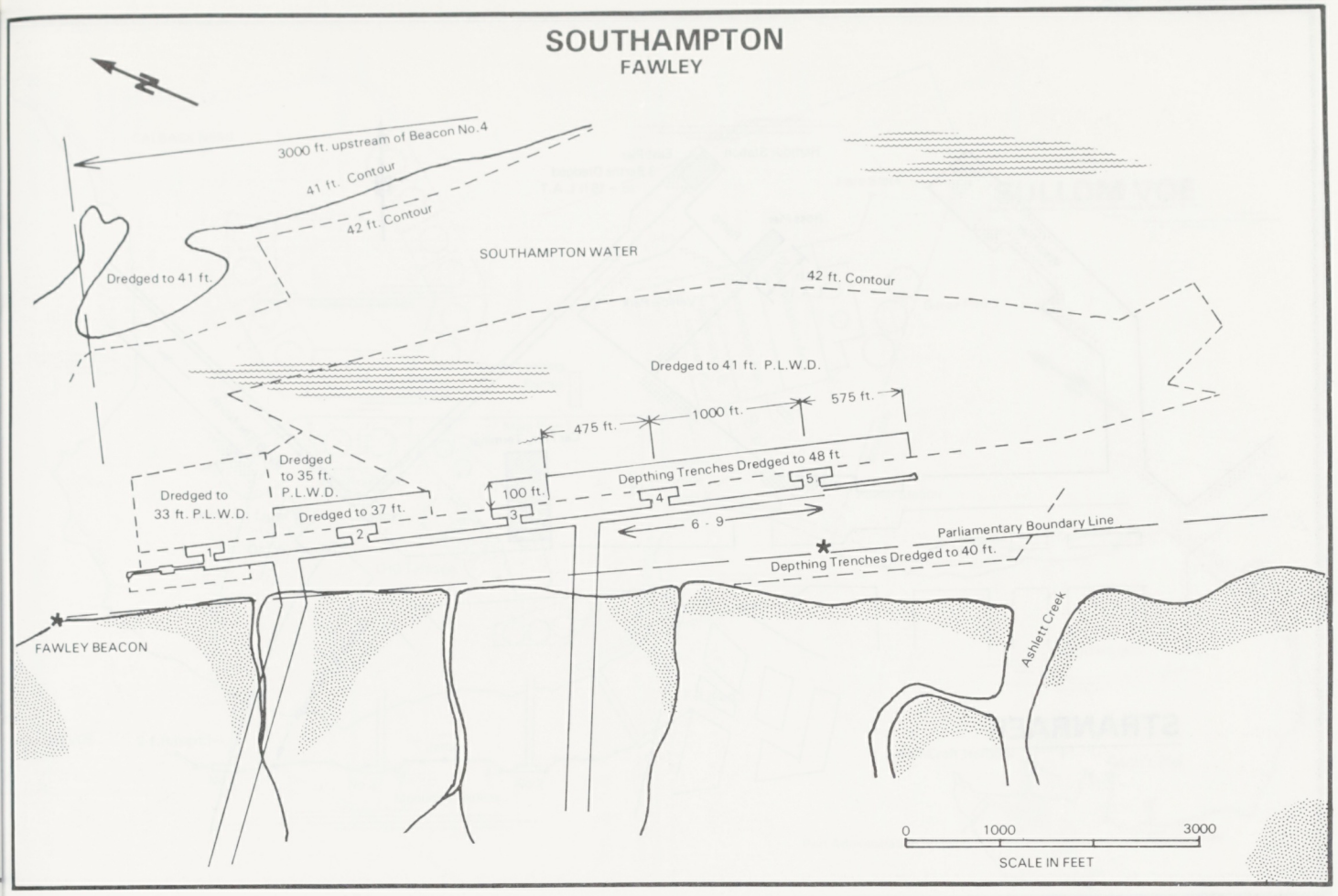


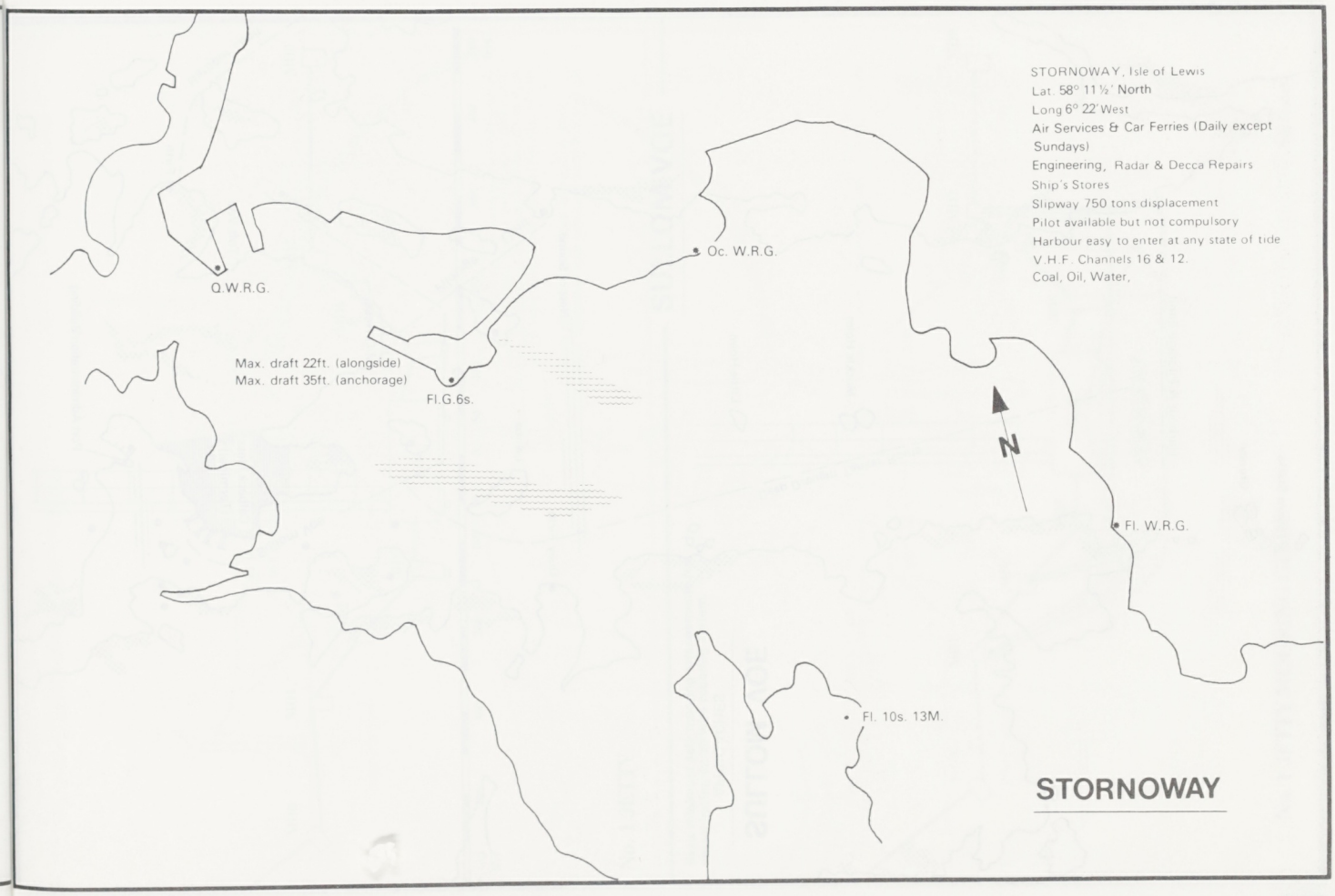
DRY DOCKS	No. 7 King George V metres	No. 6 Trafalgar metres
Length overall	365.8	278.1
Length at floor level	348	259.7
Width at entrance	41.1	30.5
Depth of blocks below chart datum	10.4	5.6
Depth of sill below chart datum	11.0	6.2


SOUTHAMPTON [3]
RIVER ITCHEN
Princess Alexandra Dock
Ro—Ro Terminal
Empress Dock
No. 6 Dry Dock
Ro-Ro Terminal
Grain Silo
Ocean Dock
Town Quay
WESTERN DOCKS
RIVER TEST
EASTERN DOCKS
Elizabeth II Terminal
Grain Silo
Port Signal & Radar Station
CRANES
28 Quayside Cranes up to 10 tonnes
8 Container Cranes up to 40 tonnes
1 Floating Crane, on order
7 Dry Dock Cranes up to 51 tonnes

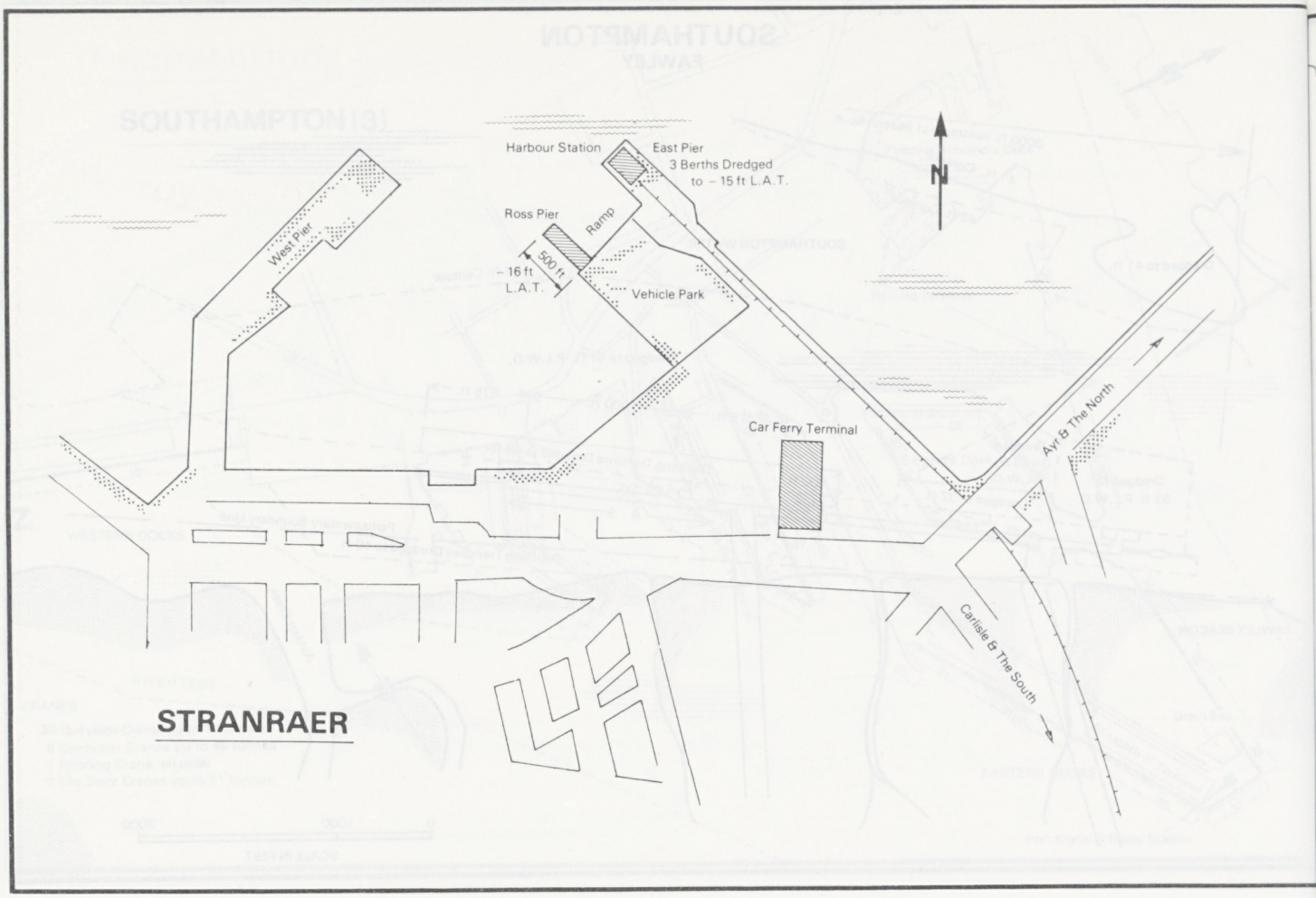
SOUTHAMPTON
FAWLEY AND HAMBLE OIL JETTIES
ESSO MARINE TERMINAL
375 ft.
H.M. Customs
Telecom Telephone Box
G.P.O. Call Box
Jetty Office
1,000 ft.
Fire Wire
Fire Wire
800 ft.
TO SEA
MAIN SHIPPING CHANNEL TO AND FROM SOUTHAMPTON
TO DOCKS
2,700 ft.
Fire Wire
B.P. JETTY

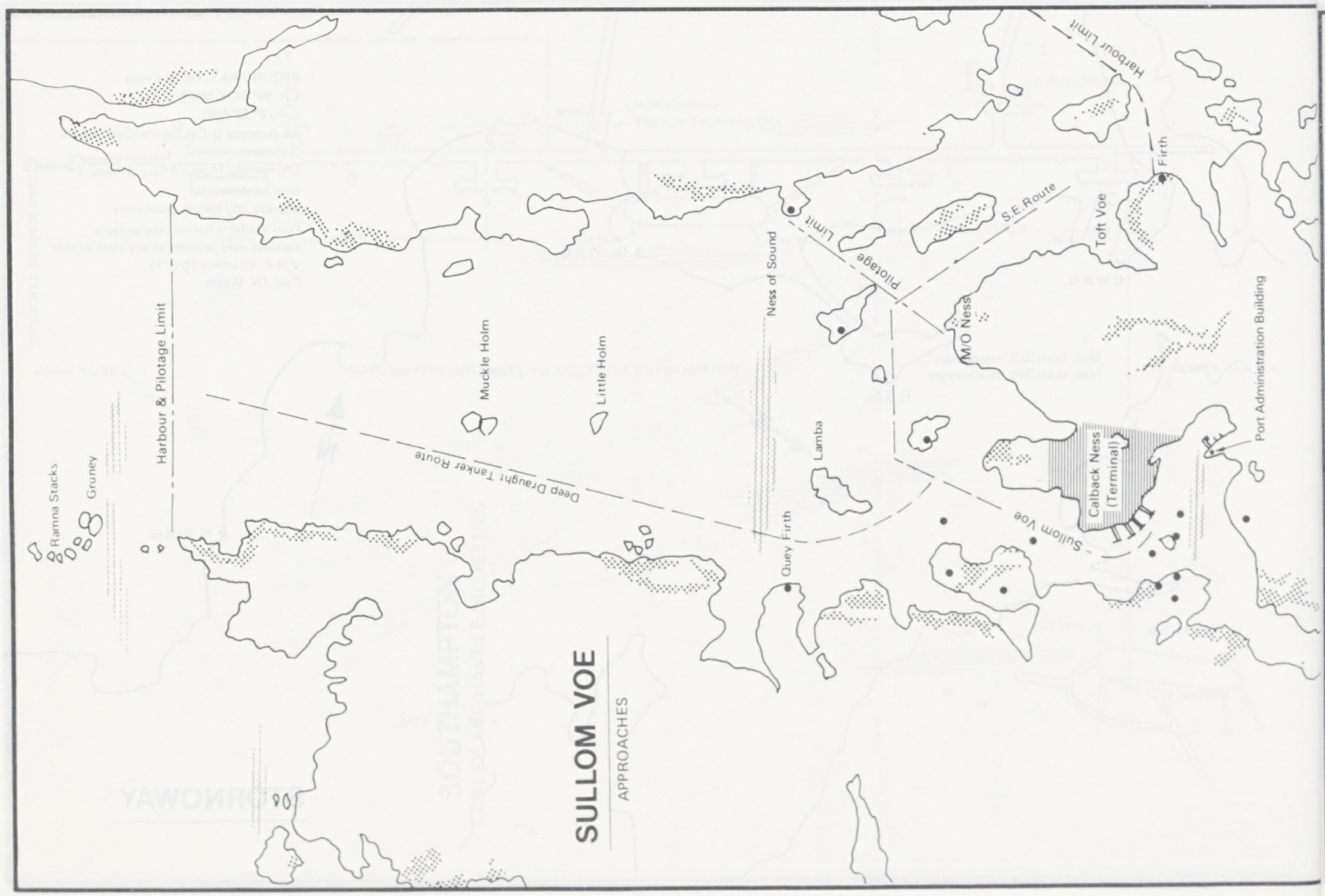
SOUTHAMPTON
FAWLEY

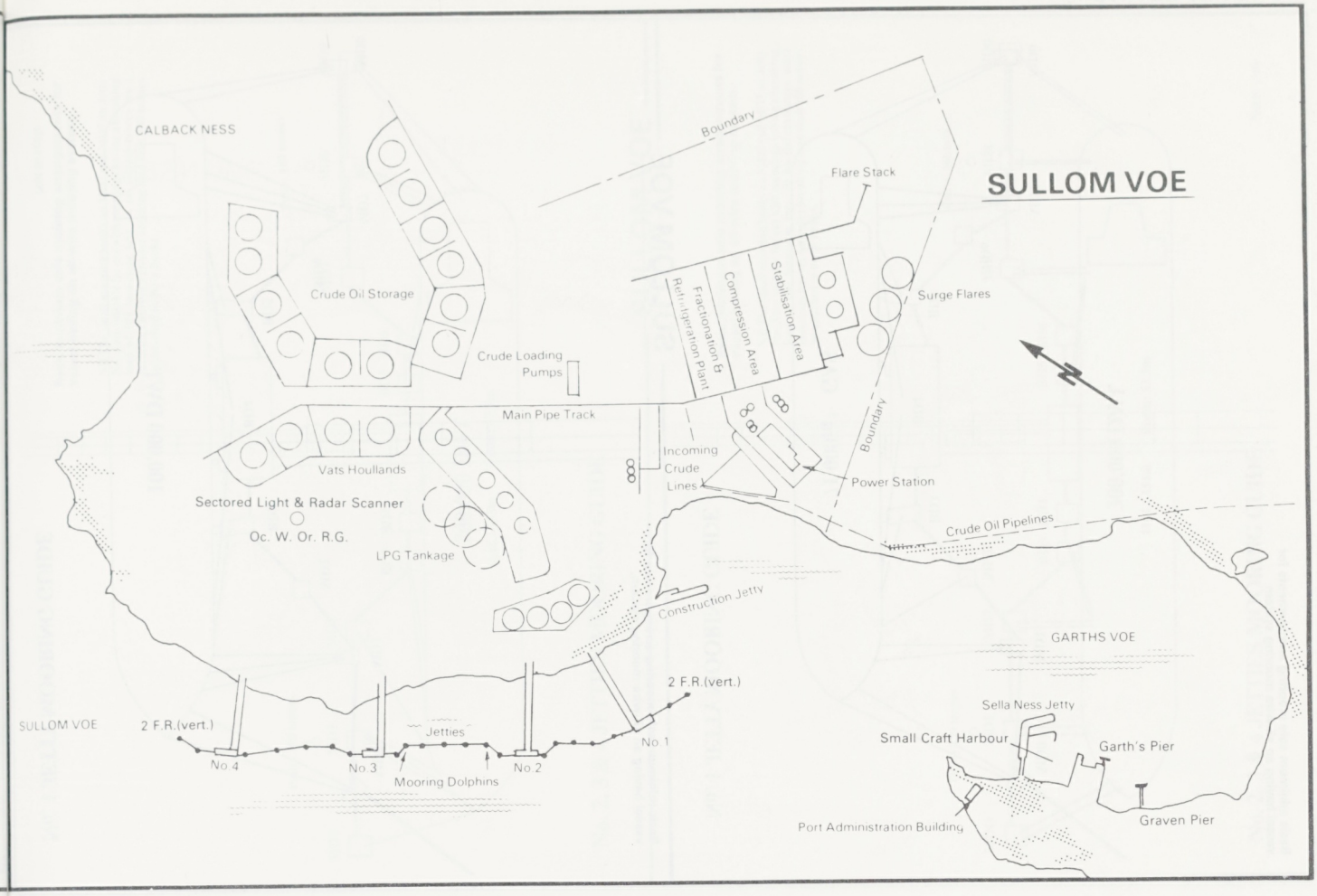


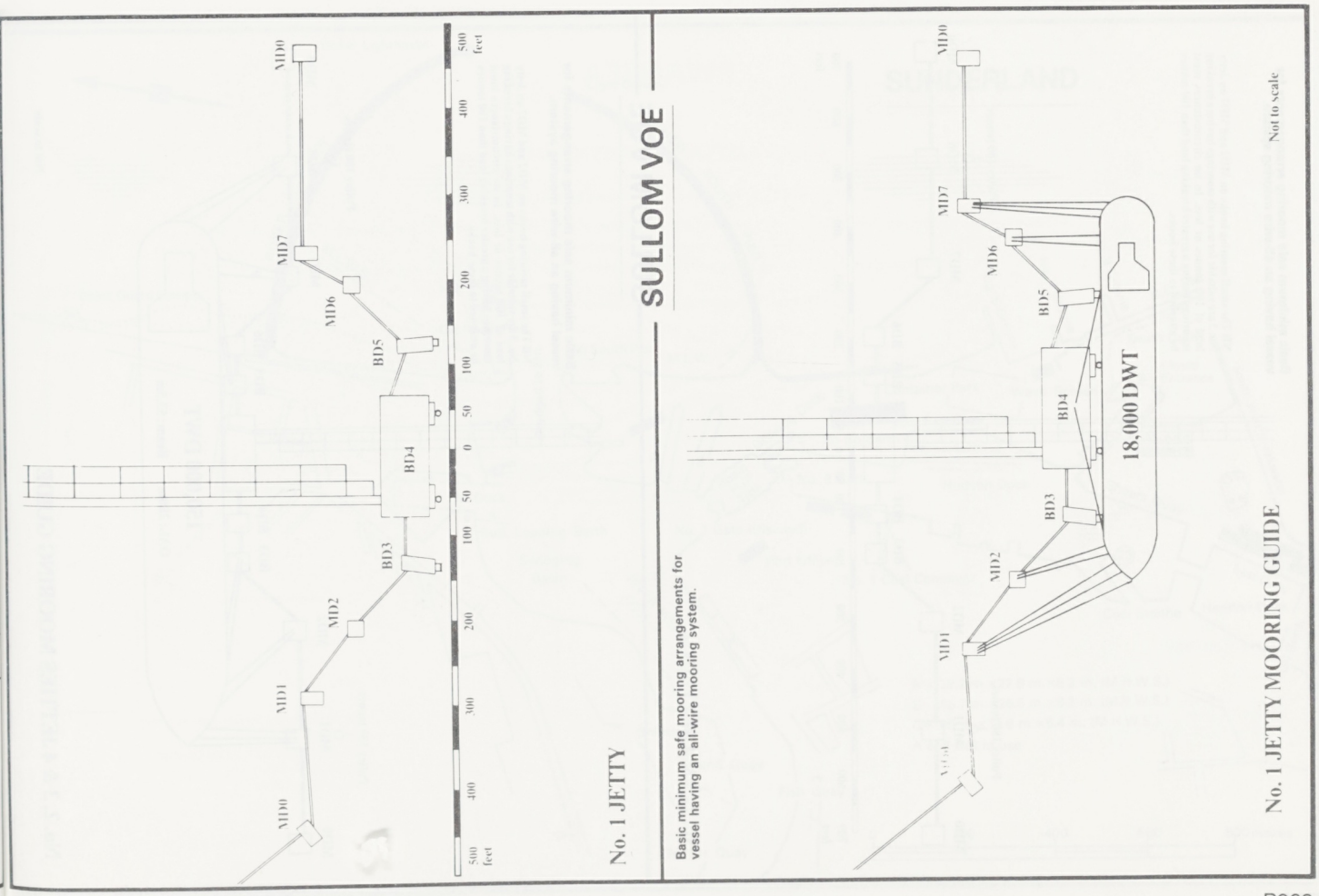


STORNOWAY


Harbour Station
East Pier
3 Berths Dredged
to – 15 ft L.A.T.
Ross Pier
Ramp
West Pier
500 ft
– 16 ft
L.A.T.
Vehicle Park
N
Car Ferry Terminal
Ayr & The North
Carlisle & The South
STRANRAER

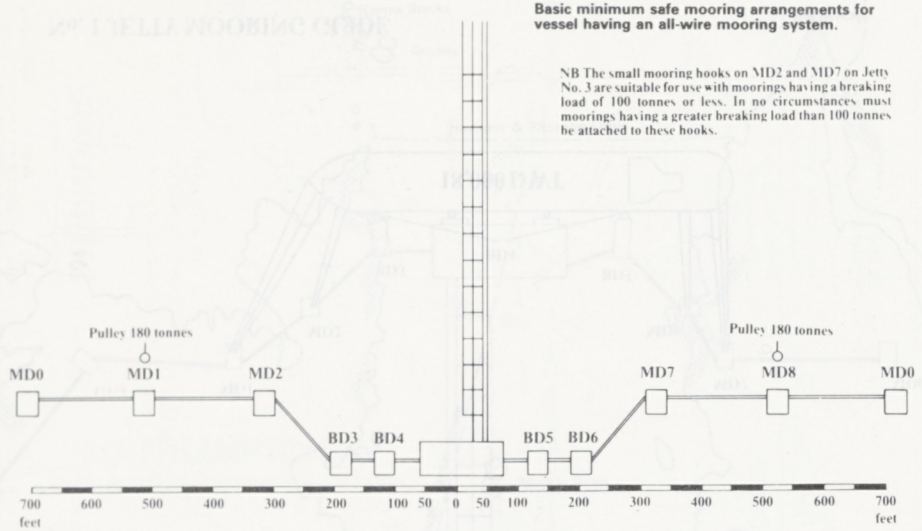

Harbour Limit
Firth
S.E. Route
Toft Voe
Pilotage Limit
Ness of Sound
M/O Ness
Port Administration Building
Harbour & Pilotage Limit
Muckle Holm
Little Holm
Calback Ness
(Terminal)
Deep Draught Tanker Route
Lamba
Sullom Voe
Ramna Stacks
Gruney
Quey Firth
SULLOM VOE
APPROACHES


SULLOM VOE
CALBACK NESS
Boundary
Flare Stack
Surge Flares
Crude Oil Storage
Crude Loading Pumps
Fractionation & Refrigeration Plant
Compression Area
Stabilisation Area
Main Pipe Track
Incoming Crude Lines
Boundary
Power Station
Vats Houllands
Sectored Light & Radar Scanner
Oc. W. Or. R.G.
LPG Tankage
Crude Oil Pipelines
Construction Jetty
GARTHS VOE
Sella Ness Jetty
Small Craft Harbour
Garth's Pier
Graven Pier
Port Administration Building
SULLOM VOE
2 F.R.(vert.)
2 F.R.(vert.)
Jetties
No.4
No.3
No.2
No.1
Mooring Dolphins


SULLOM VOE
No. 1 JETTY
Basic minimum safe mooring arrangements for vessel having an all-wire mooring system.
MD0
MD7
MD6
BD5
BD4
BD3
MD2
MD1
MD0
500 400 300 200 100 50 0 50 100 200 300 400 500 feet
18,000 DWT
Not to scale
No. 1 JETTY MOORING GUIDE

Basic minimum safe mooring arrangements for vessel having an all-wire mooring system.

NB The small mooring hooks on MD2 and MD7 on Jetty No. 3 are suitable for use with moorings having a breaking load of 100 tonnes or less. In no circumstances must moorings having a greater breaking load than 100 tonnes be attached to these hooks.

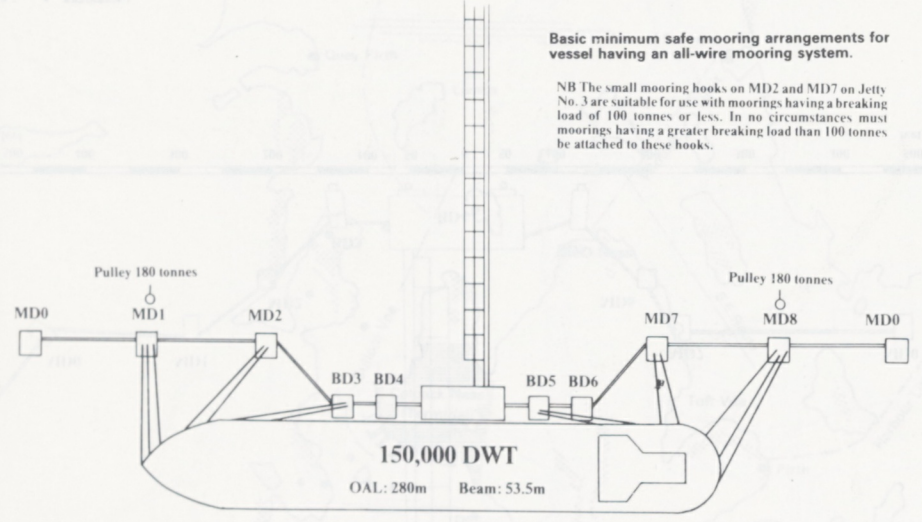


No. 2, 3 & 4 JETTIES

SULLOM VOE

Basic minimum safe mooring arrangements for vessel having an all-wire mooring system.

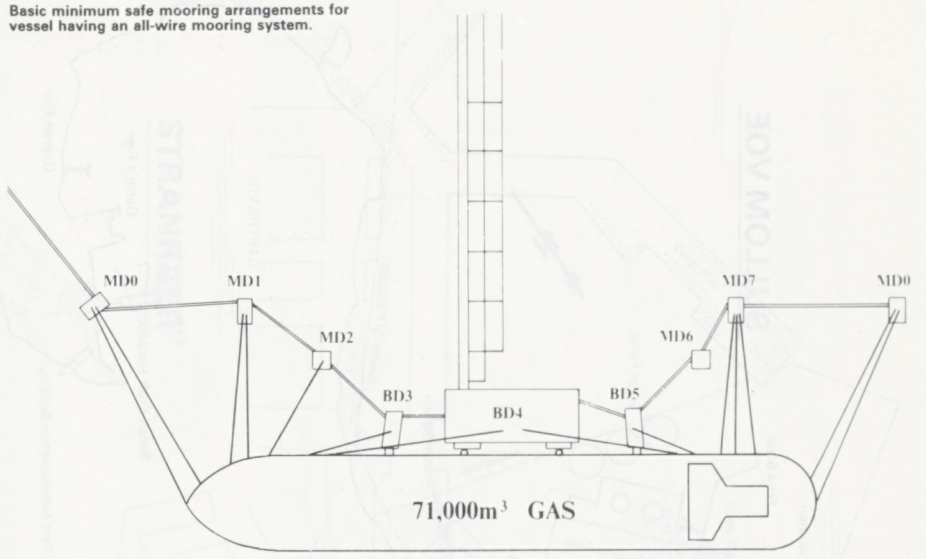
NB The small mooring hooks on MD2 and MD7 on Jetty No. 3 are suitable for use with moorings having a breaking load of 100 tonnes or less. In no circumstances must moorings having a greater breaking load than 100 tonnes be attached to these hooks.



No. 2, 3 & 4 JETTIES MOORING GUIDE

Not to scale

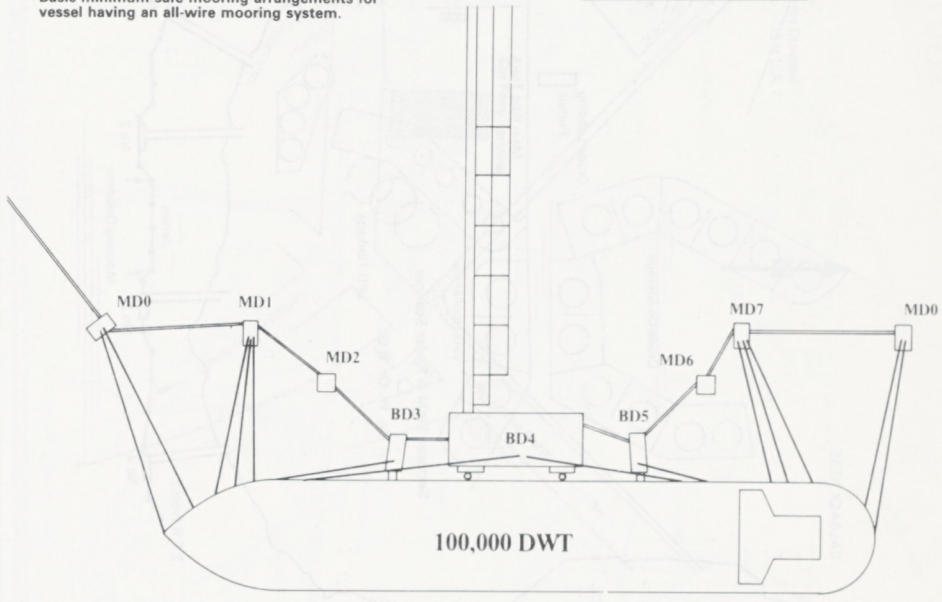
Basic minimum safe mooring arrangements for vessel having an all-wire mooring system.



No. 1 JETTY MOORING GUIDE

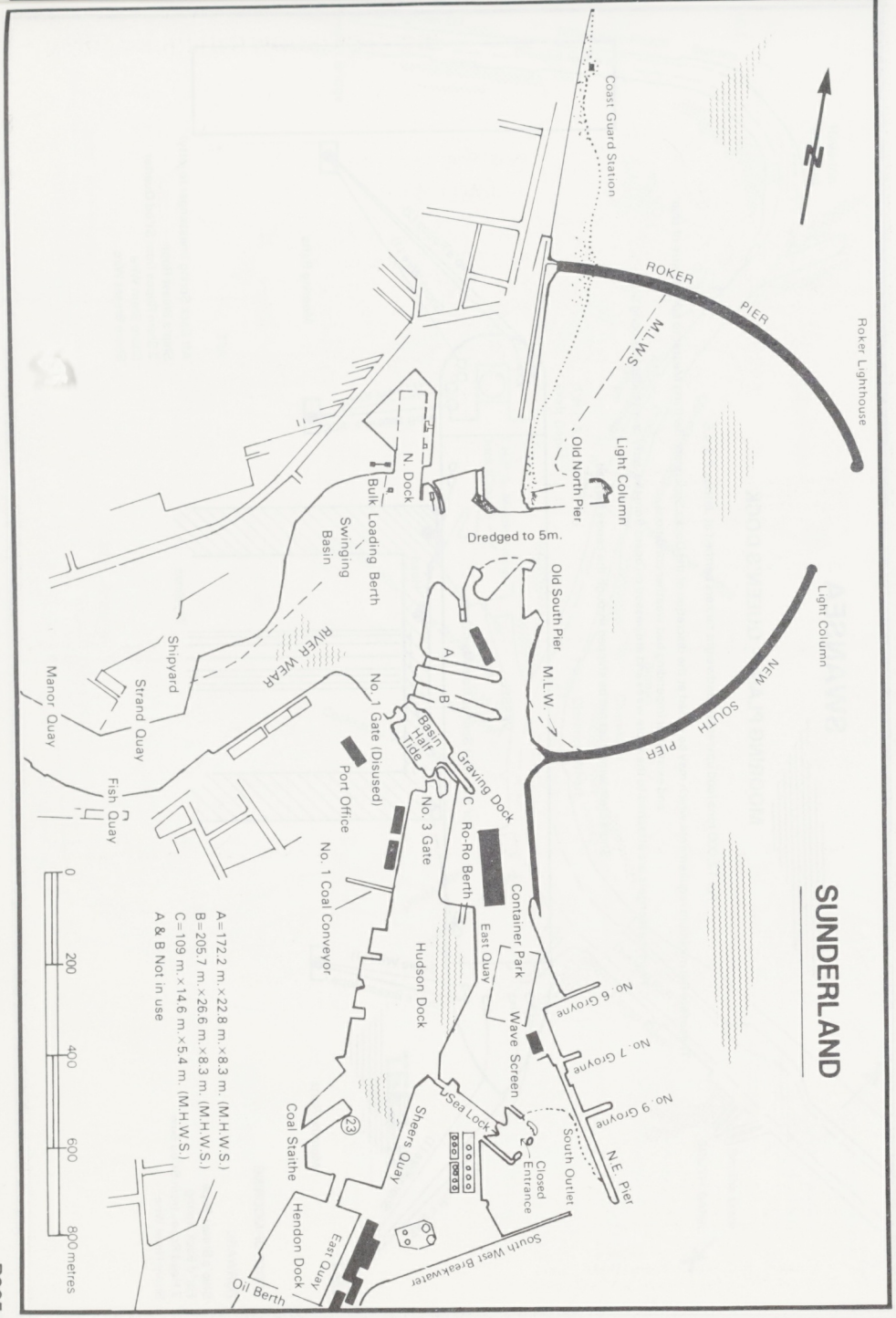
SULLOM VOE

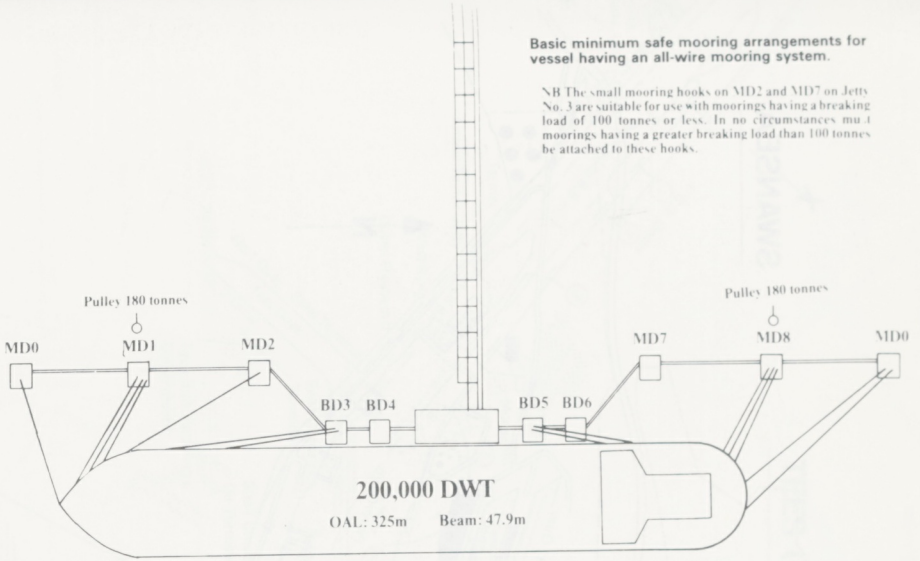
Basic minimum safe mooring arrangements for vessel having an all-wire mooring system.



No. 1 JETTY MOORING GUIDE

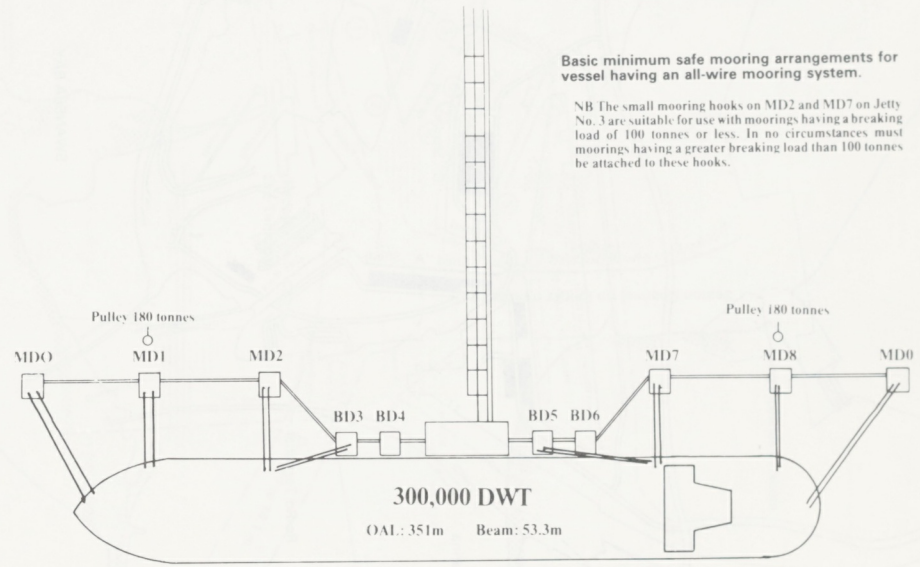
Not to scale





No. 2, 3 & 4 JETTIES MOORING GUIDE

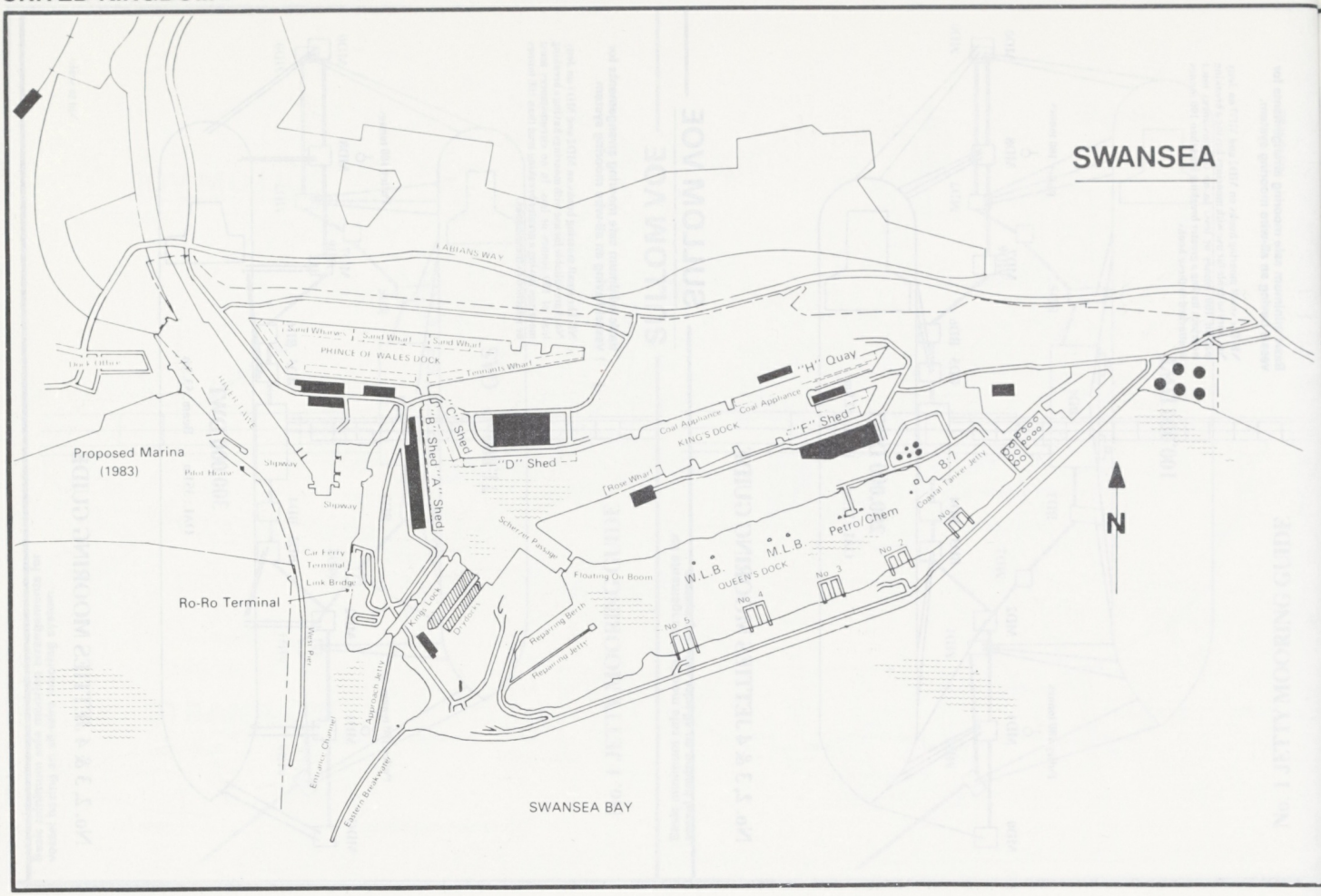
SULLOM VOE



No. 2, 3 & 4 JETTIES MOORING GUIDE

Not to scale

UNITED KINGDOM



SWANSEA

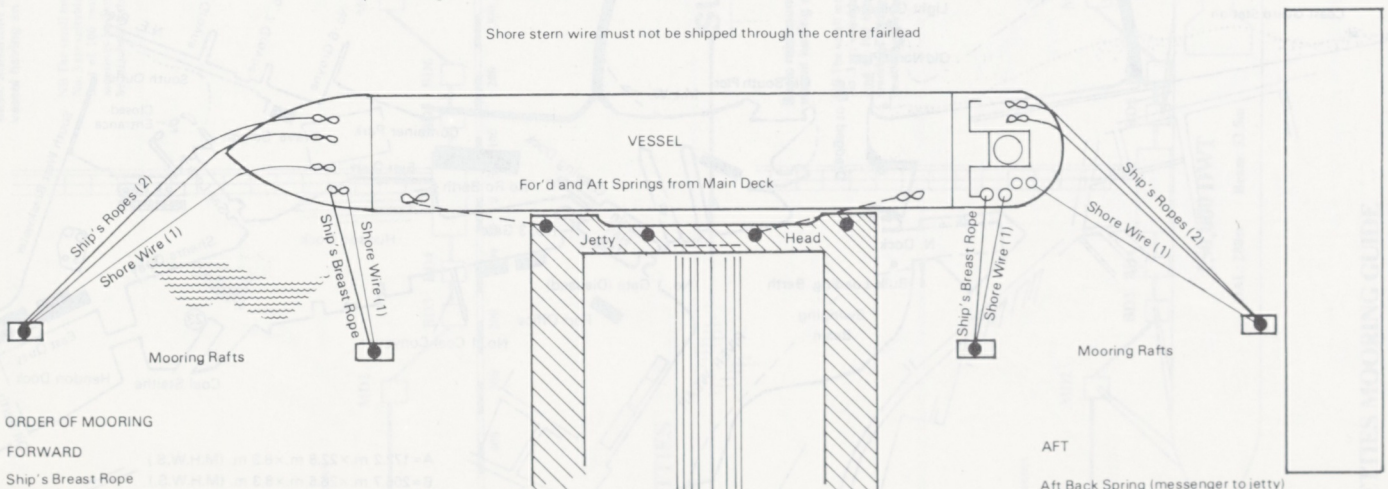
MOORING PLAN — QUEEN'S DOCK

For 12,000 tons (and upwards) deadweight tankers berthed at Jetties 2, 3, 4, 5

These are the minimum requirements which may be varied at the discretion of the Docks Supervisor/Berthing Master to suit the size of ship and existing or impending bad weather conditions.

Rope messengers are attached to the shore wires and are passed on board from the Jetty or attendant mooring boat.

Shore stern wire must not be shipped through the centre fairlead



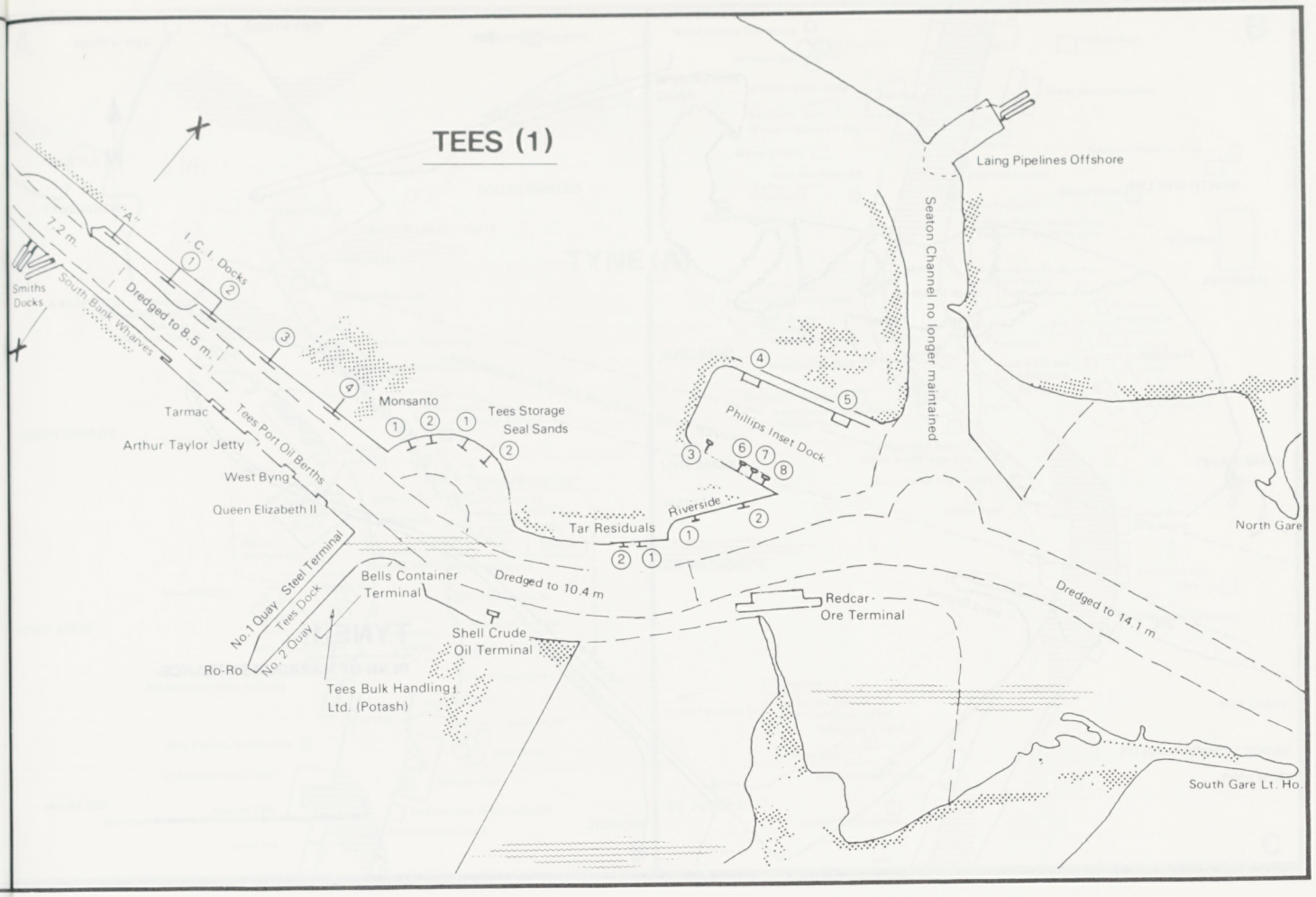
ORDER OF MOORING

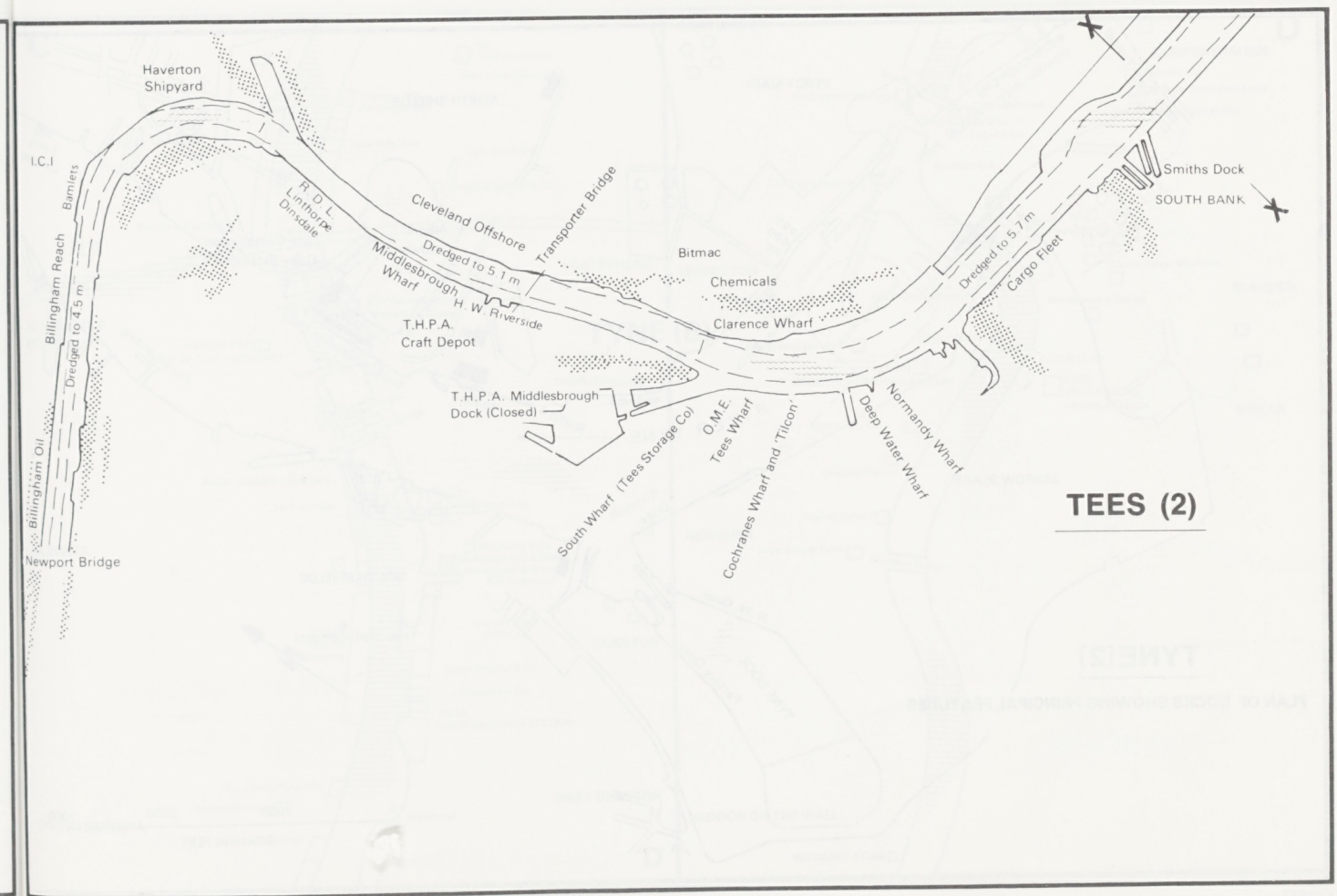
FORWARD

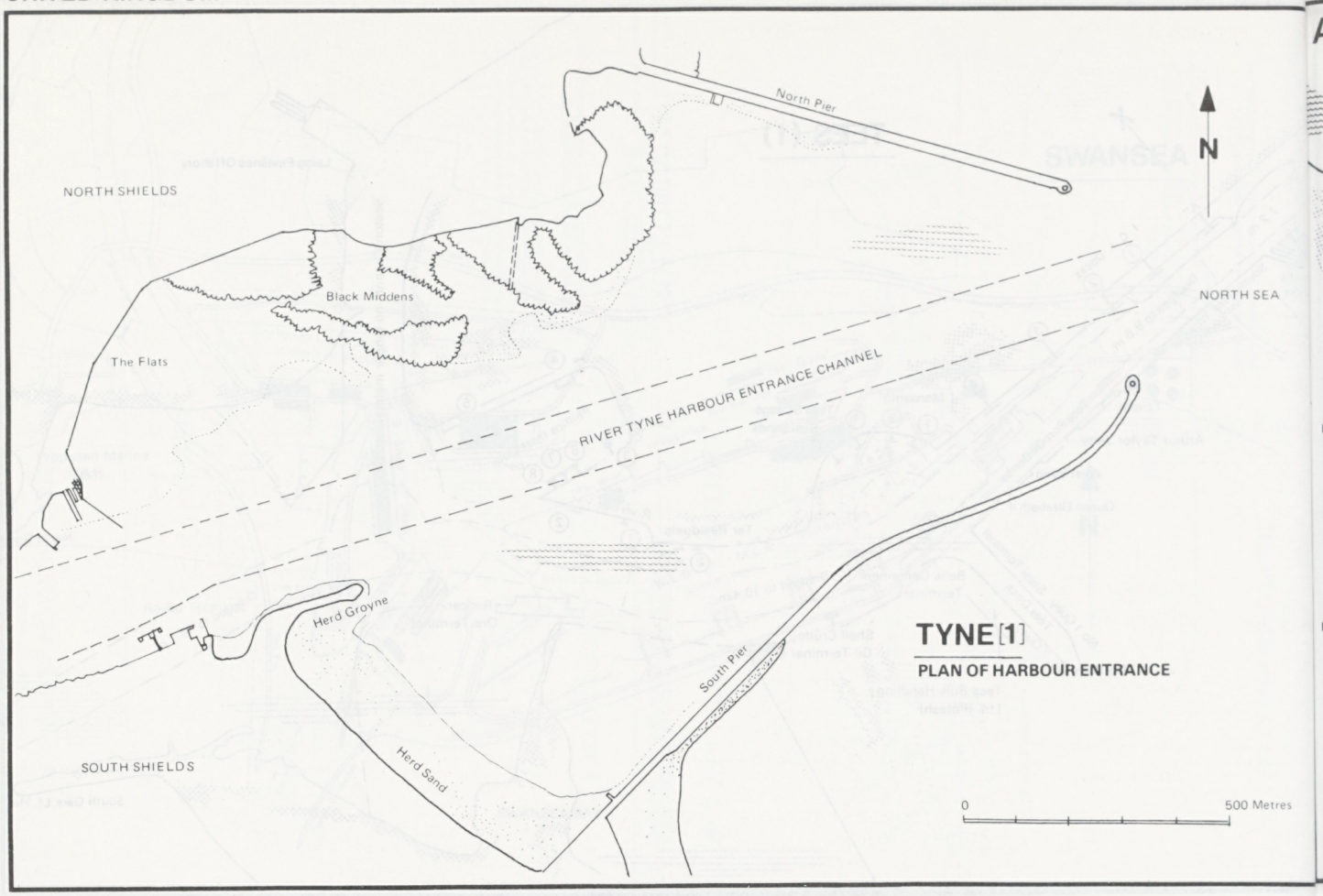
Ship's Breast Rope
For'd Back Spring
2 Head Ropes from St'bd Bow
Shore Head Wire

AFT

Aft Back Spring (messenger to jetty)
Ship's Breast Rope
2 Stern Ropes from St'bd Quarter
Shore Stern Wire
Shore Breast Wire

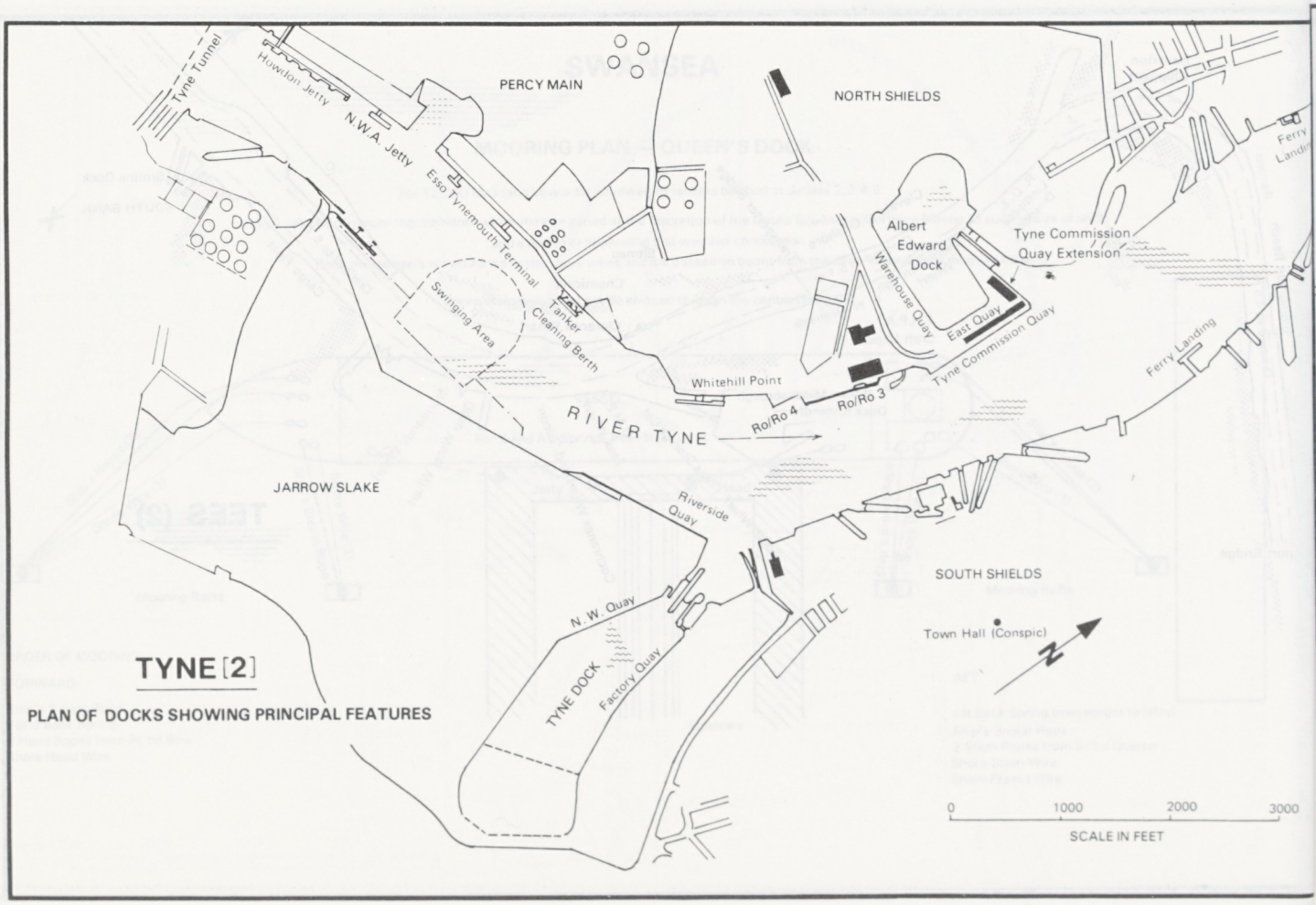

TEES (1)
Laing Pipelines Offshore
Seaton Channel no longer maintained
"A"
7.2 m.
I.C.I. Docks
Smiths Docks
South Bank Wharves
Dredged to 8.5 m.
Monsanto
Tees Storage
Seal Sands
Tarmac
Arthur Taylor Jetty
Tees Port Oil Berths
West Byng
Queen Elizabeth II
Phillips Inset Dock
Riverside
Tar Residuals
North Gare
Steel Terminal
Bells Container Terminal
Dredged to 10.4 m
Redcar Ore Terminal
Dredged to 14.1 m
No.1 Quay
Tees Dock
No.2 Quay
Ro-Ro
Shell Crude Oil Terminal
Tees Bulk Handling Ltd. (Potash)
South Gare Lt. Ho.


TEES (2)
Haverton Shipyard
I.C.I
Billingham Reach
Bamletts
Dredged to 4.5 m
Billingham Oil
Newport Bridge
R.D.L. Lintorpe Dinsdale
Cleveland Offshore
Transporter Bridge
Dredged to 5.1 m
Middlesbrough Wharf
H.W. Riverside
T.H.P.A. Craft Depot
Bitmac
Chemicals
Clarence Wharf
T.H.P.A. Middlesbrough Dock (Closed)
South Wharf (Tees Storage Co)
O.M.E. Tees Wharf
Cochranes Wharf and 'Tilcon'
Deep Water Wharf
Normandy Wharf
Dredged to 5.7 m
Cargo Fleet
Smiths Dock
SOUTH BANK



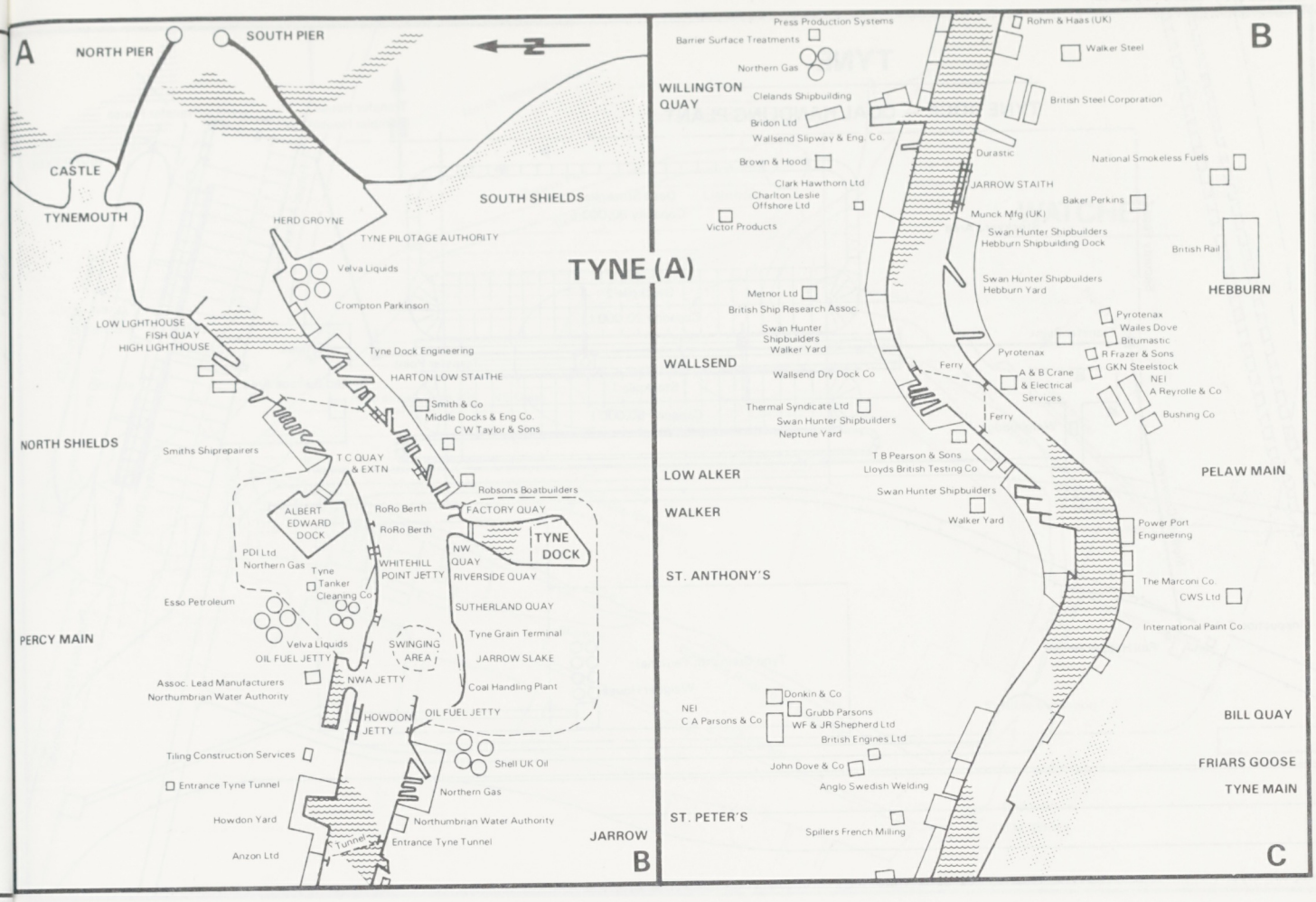
TYNE [1]

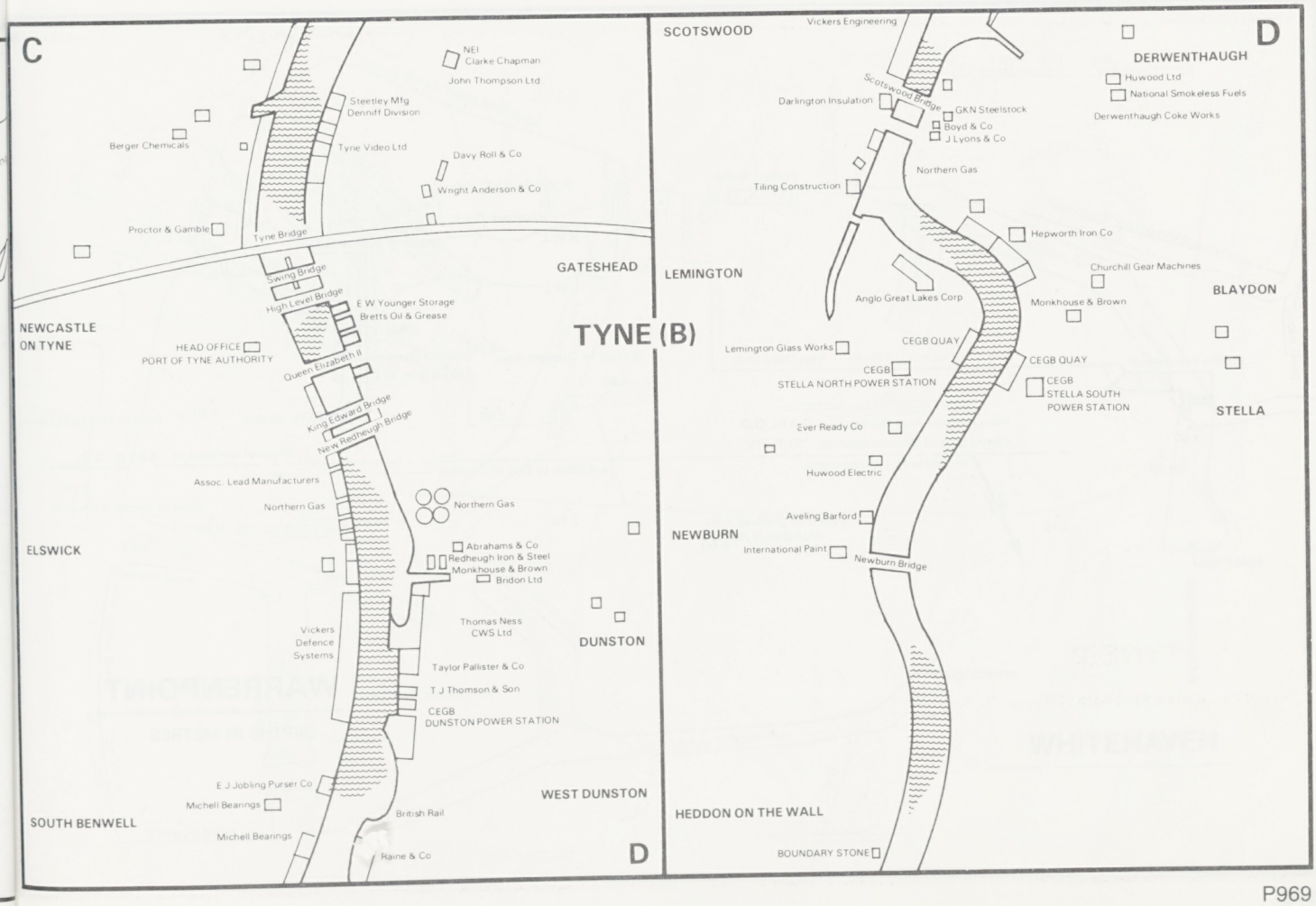
PLAN OF HARBOUR ENTRANCE



TYNE [2]

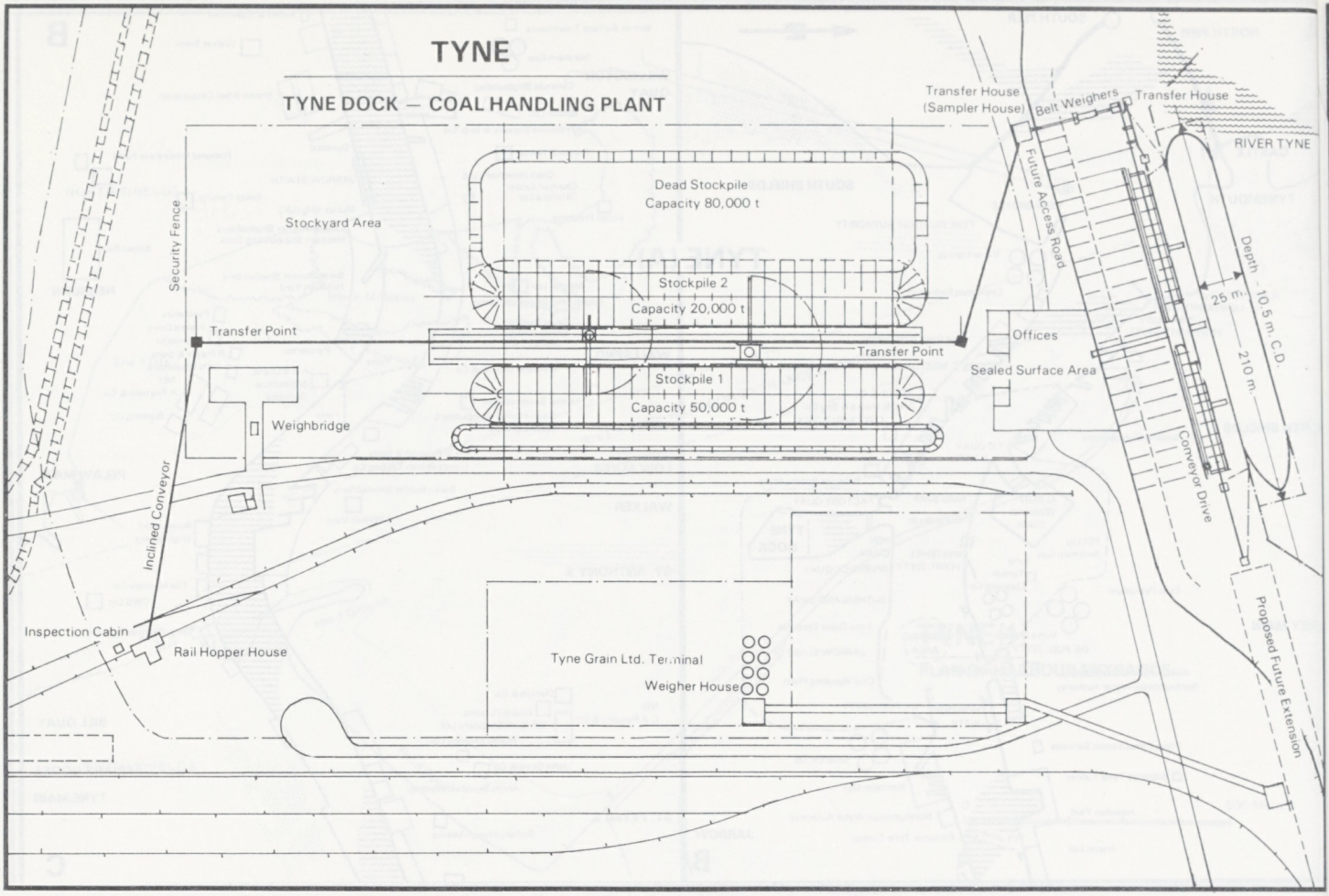
PLAN OF DOCKS SHOWING PRINCIPAL FEATURES

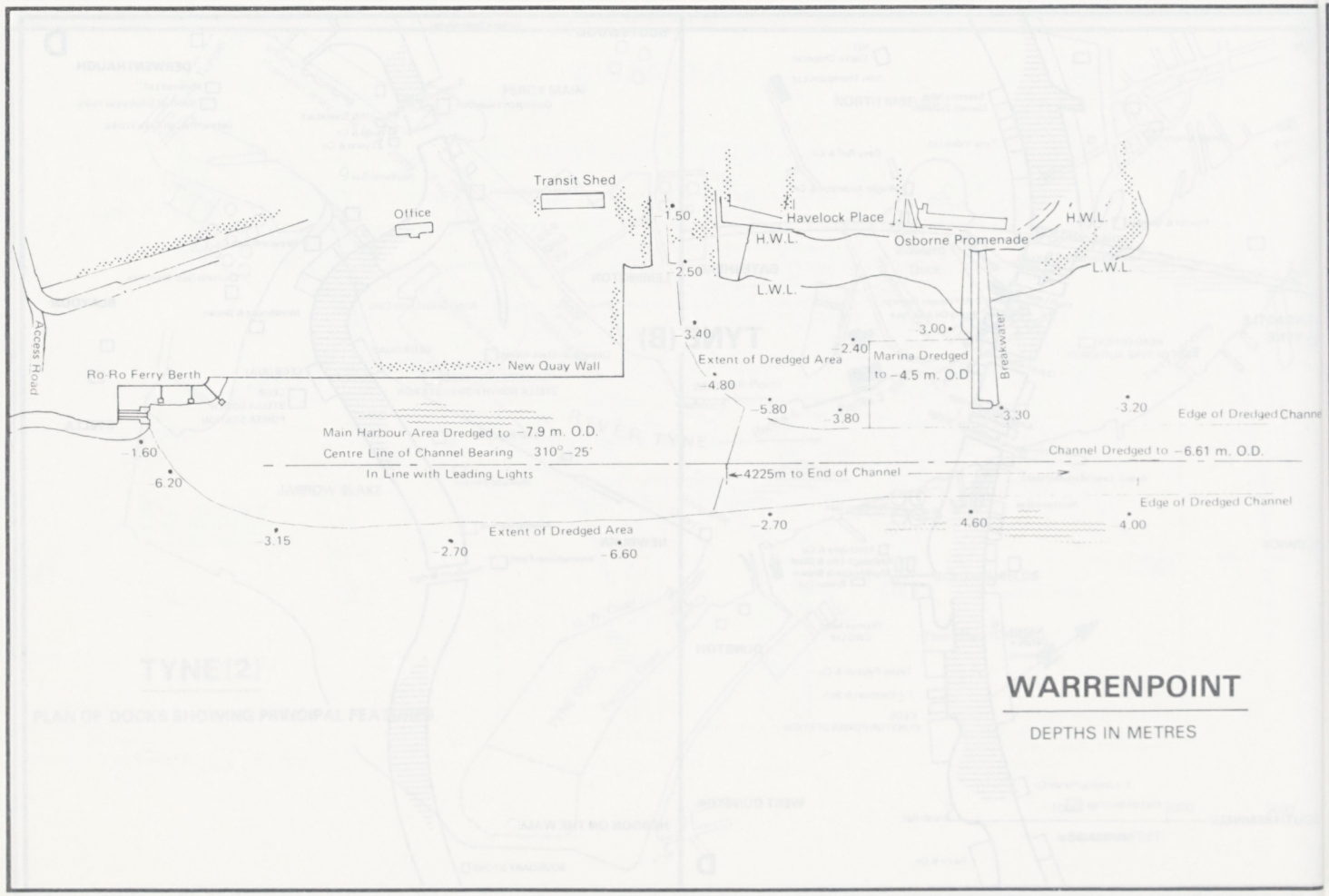

TYNE (A)
A
NORTH PIER
SOUTH PIER
CASTLE
TYNEMOUTH
SOUTH SHIELDS
HERD GROYNE
TYNE PILOTAGE AUTHORITY
Velva Liquids
Crompton Parkinson
LOW LIGHTHOUSE
FISH QUAY
HIGH LIGHTHOUSE
Tyne Dock Engineering
HARTON LOW STAITHE
Smith & Co
Middle Docks & Eng Co.
C W Taylor & Sons
NORTH SHIELDS
Smiths Shiprepairers
T C QUAY & EXTN
Robsons Boatbuilders
ALBERT EDWARD DOCK
RoRo Berth
RoRo Berth
FACTORY QUAY
TYNE DOCK
PDI Ltd
Northern Gas
Tyne Tanker Cleaning Co
WHITEHILL POINT JETTY
NW QUAY
RIVERSIDE QUAY
Esso Petroleum
SUTHERLAND QUAY
PERCY MAIN
Velva Liquids
OIL FUEL JETTY
SWINGING AREA
Tyne Grain Terminal
JARROW SLAKE
Assoc. Lead Manufacturers
Northumbrian Water Authority
NWA JETTY
Coal Handling Plant
HOWDON JETTY
OIL FUEL JETTY
Tiling Construction Services
Shell UK Oil
Entrance Tyne Tunnel
Northern Gas
Howdon Yard
Northumbrian Water Authority
Tunnel
Entrance Tyne Tunnel
Anzon Ltd
JARROW
B
B
Press Production Systems
Barrier Surface Treatments
Northern Gas
Rohm & Haas (UK)
Walker Steel
WILLINGTON QUAY
Clelands Shipbuilding
British Steel Corporation
Bridon Ltd
Wallsend Slipway & Eng. Co.
Durastic
Brown & Hood
National Smokeless Fuels
Clark Hawthorn Ltd
Charlton Leslie Offshore Ltd
JARROW STAITH
Baker Perkins
Victor Products
Munck Mfg (UK)
Swan Hunter Shipbuilders
Hebburn Shipbuilding Dock
British Rail
Swan Hunter Shipbuilders
Hebburn Yard
HEBBURN
Metnor Ltd
British Ship Research Assoc.
Pyrotenax
Wailes Dove Bitumastic
Swan Hunter Shipbuilders
Walker Yard
Pyrotenax
R Frazer & Sons
WALLSEND
Ferry
GKN Steelstock
Wallsend Dry Dock Co
A & B Crane & Electrical Services
NEI
A Reyrolle & Co
Thermal Syndicate Ltd
Ferry
Swan Hunter Shipbuilders
Neptune Yard
Bushing Co
T B Pearson & Sons
LOW ALKER
Lloyds British Testing Co
PELAW MAIN
Swan Hunter Shipbuilders
WALKER
Walker Yard
Power Port Engineering
ST. ANTHONY'S
The Marconi Co.
CWS Ltd
International Paint Co.
Donkin & Co
NEI
C A Parsons & Co
Grubb Parsons
WF & JR Shepherd Ltd
BILL QUAY
British Engines Ltd
John Dove & Co
FRIARS GOOSE
Anglo Swedish Welding
TYNE MAIN
ST. PETER'S
Spillers French Milling
C


TYNE (B)
C
NEI
Clarke Chapman
John Thompson Ltd
Steetley Mfg
Denniff Division
Berger Chemicals
Tyne Video Ltd
Davy Roll & Co
Wright Anderson & Co
Proctor & Gamble
Tyne Bridge
GATESHEAD
Swing Bridge
High Level Bridge
E W Younger Storage
Bretts Oil & Grease
NEWCASTLE ON TYNE
HEAD OFFICE
PORT OF TYNE AUTHORITY
Queen Elizabeth II
King Edward Bridge
New Redheugh Bridge
Assoc. Lead Manufacturers
Northern Gas
Northern Gas
ELSWICK
Abrahams & Co
Redheugh Iron & Steel
Monkhouse & Brown
Bridon Ltd
Thomas Ness
CWS Ltd
Vickers Defence Systems
DUNSTON
Taylor Pallister & Co
T J Thomson & Son
CEGB
DUNSTON POWER STATION
E J Jobling Purser Co
Michell Bearings
British Rail
WEST DUNSTON
SOUTH BENWELL
Michell Bearings
Raine & Co
D
D
SCOTSWOOD
Vickers Engineering
DERWENTHAUGH
Huwood Ltd
National Smokeless Fuels
Scotswood Bridge
Darlington Insulation
GKN Steelstock
Boyd & Co
J Lyons & Co
Derwenthaugh Coke Works
Northern Gas
Tiling Construction
Hepworth Iron Co
Churchill Gear Machines
LEMINGTON
Anglo Great Lakes Corp
Monkhouse & Brown
BLAYDON
CEGB QUAY
Lemington Glass Works
CEGB
STELLA NORTH POWER STATION
CEGB QUAY
CEGB
STELLA SOUTH POWER STATION
STELLA
Ever Ready Co
Huwood Electric
Aveling Barford
NEWBURN
International Paint
Newburn Bridge
HEDDON ON THE WALL
BOUNDARY STONE

TYNE

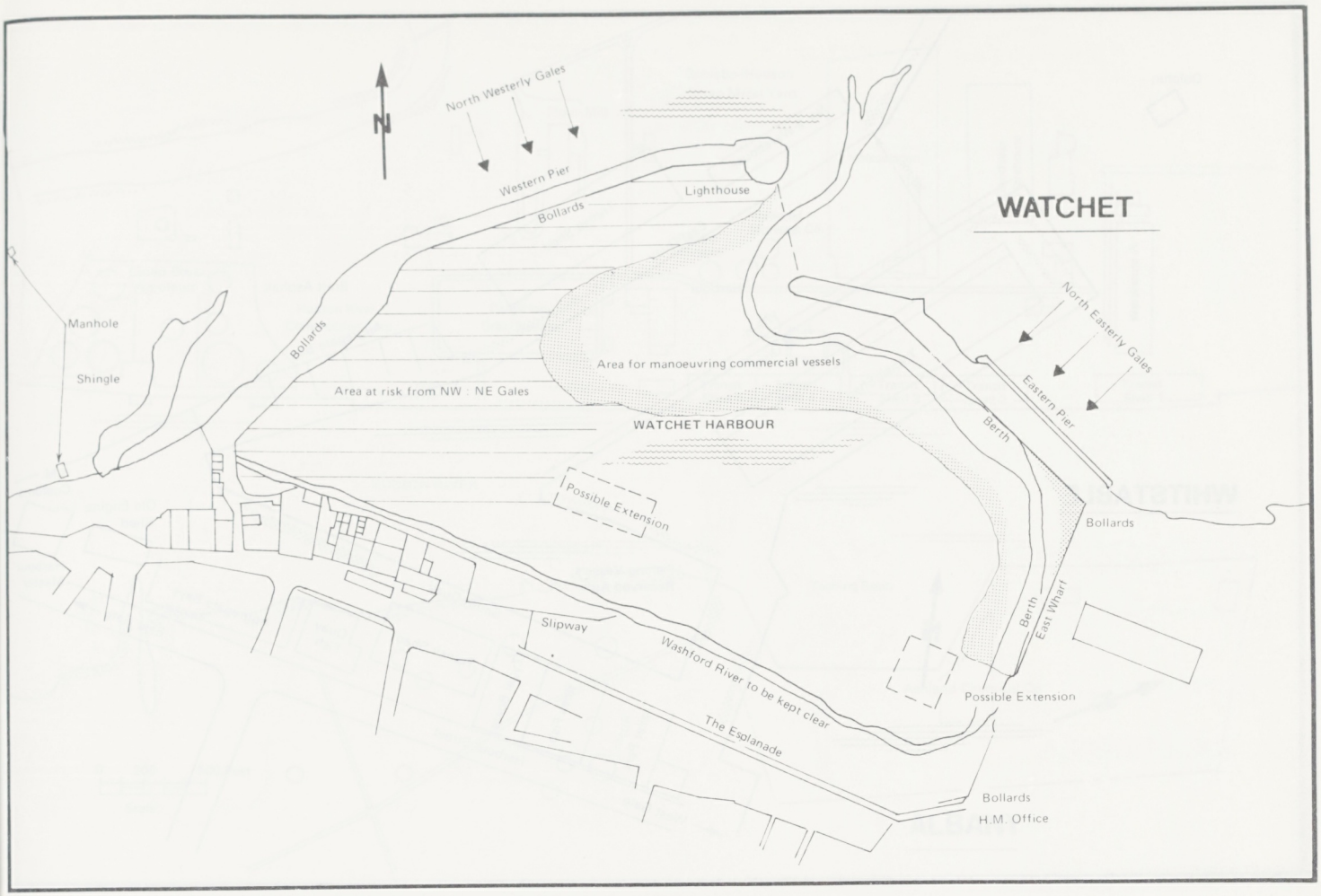
TYNE DOCK — COAL HANDLING PLANT

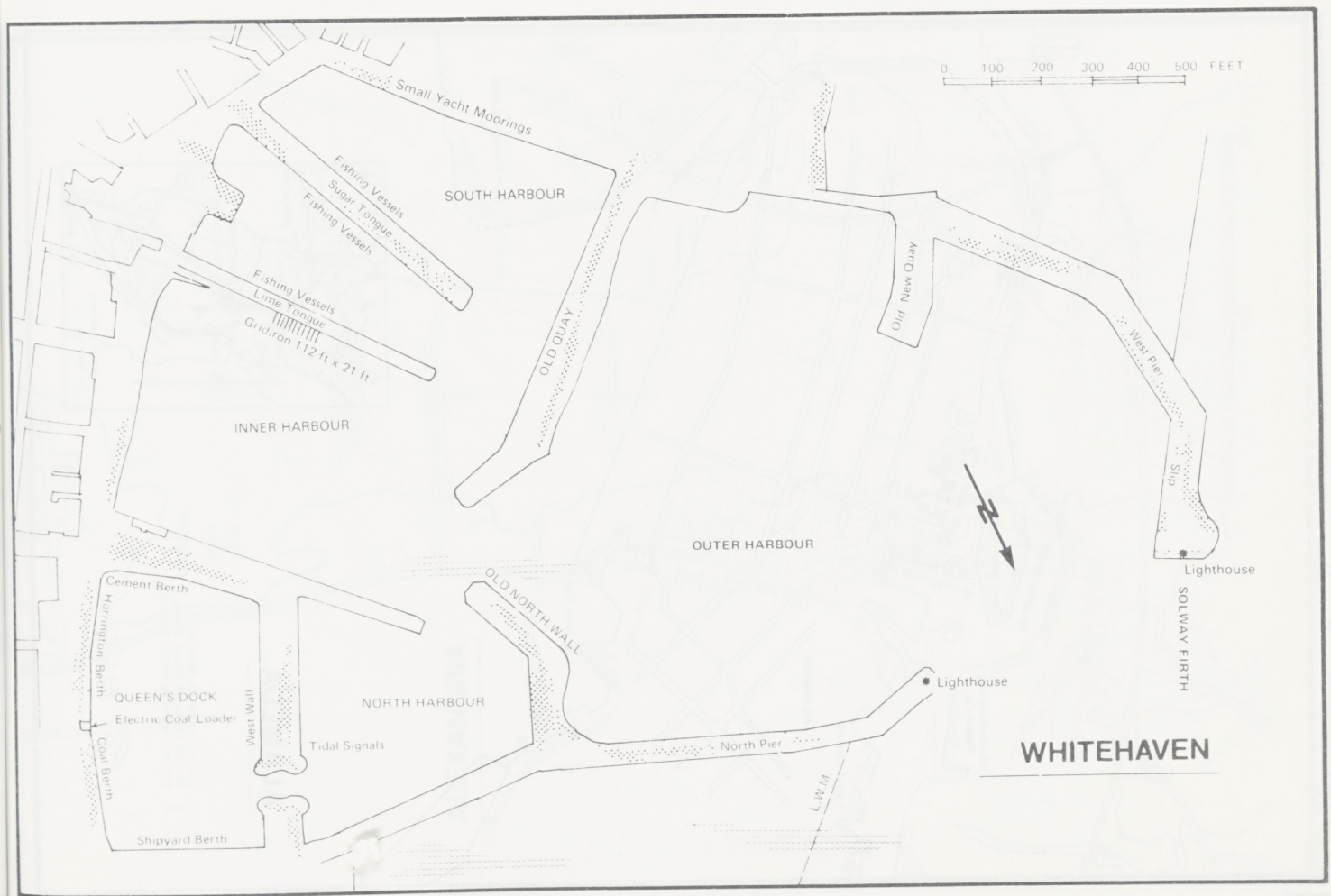


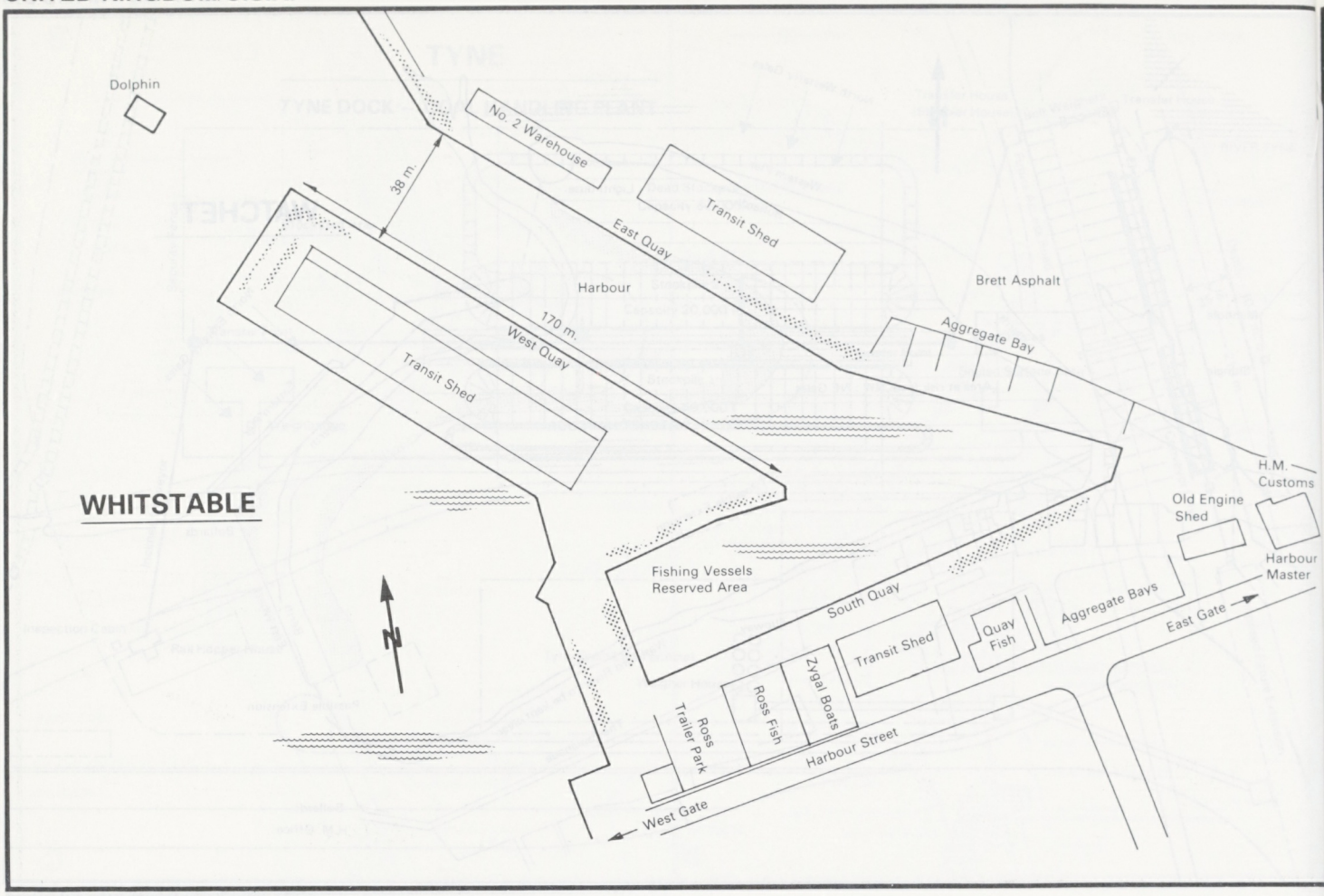


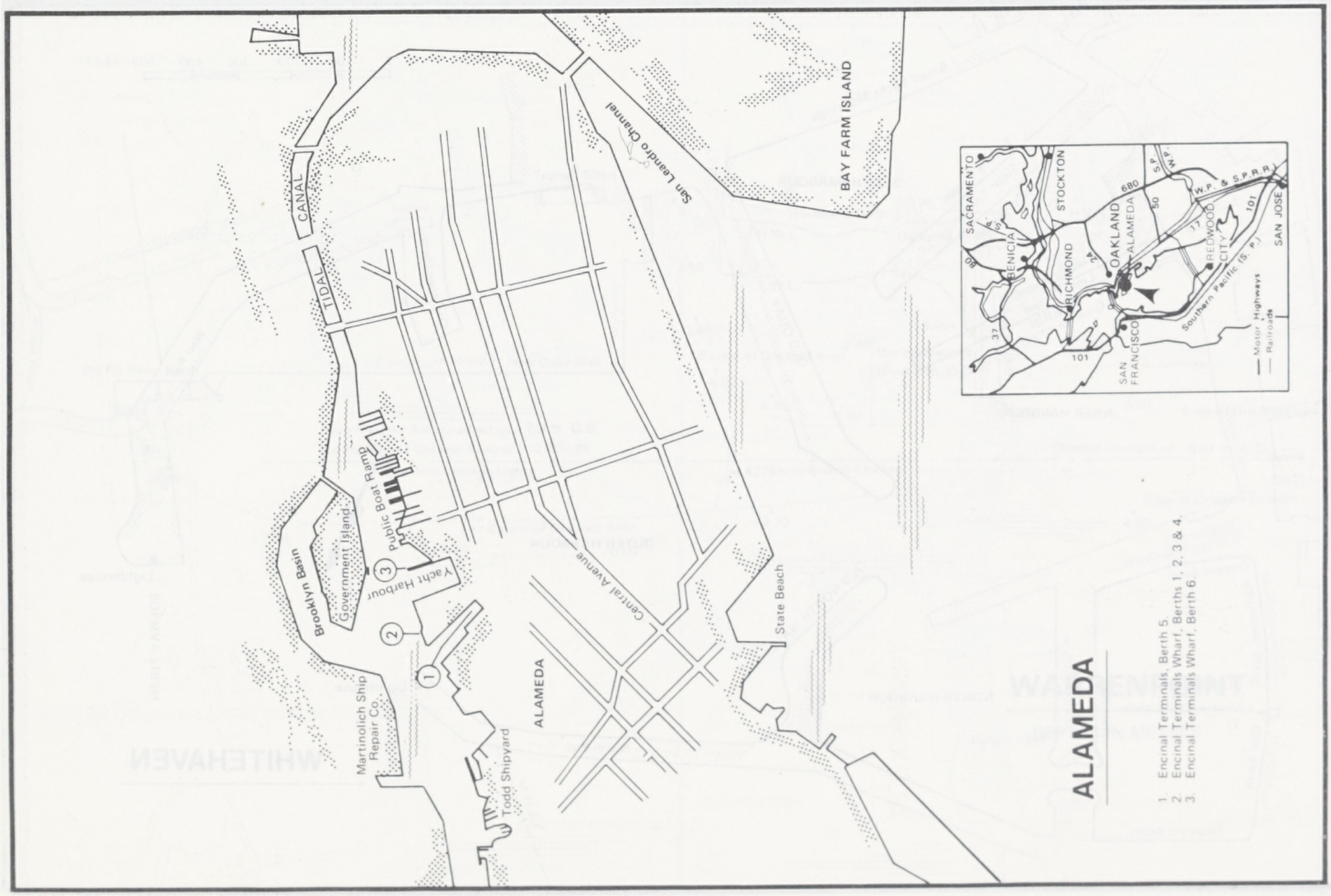
WARRENPOINT

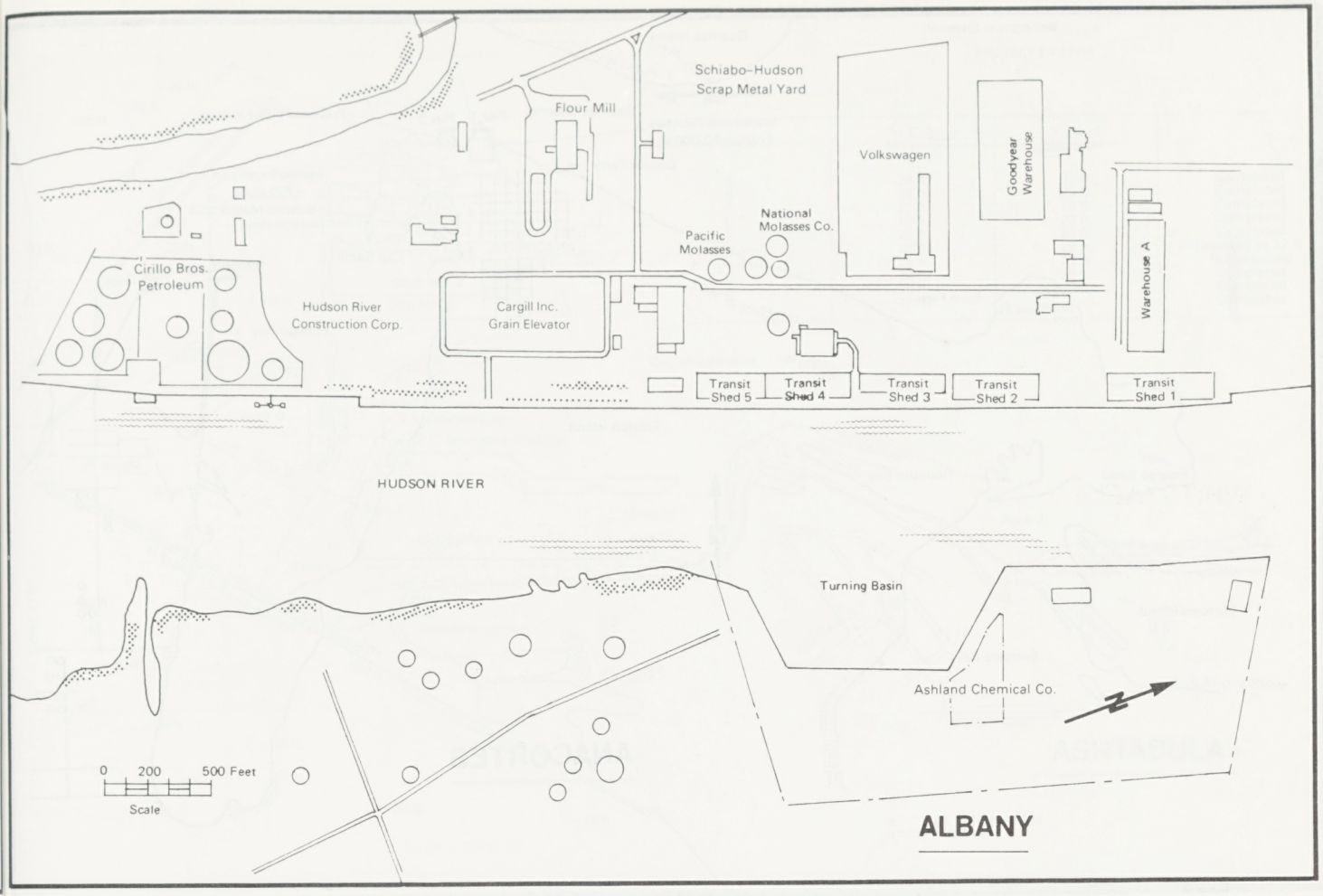
DEPTHS IN METRES

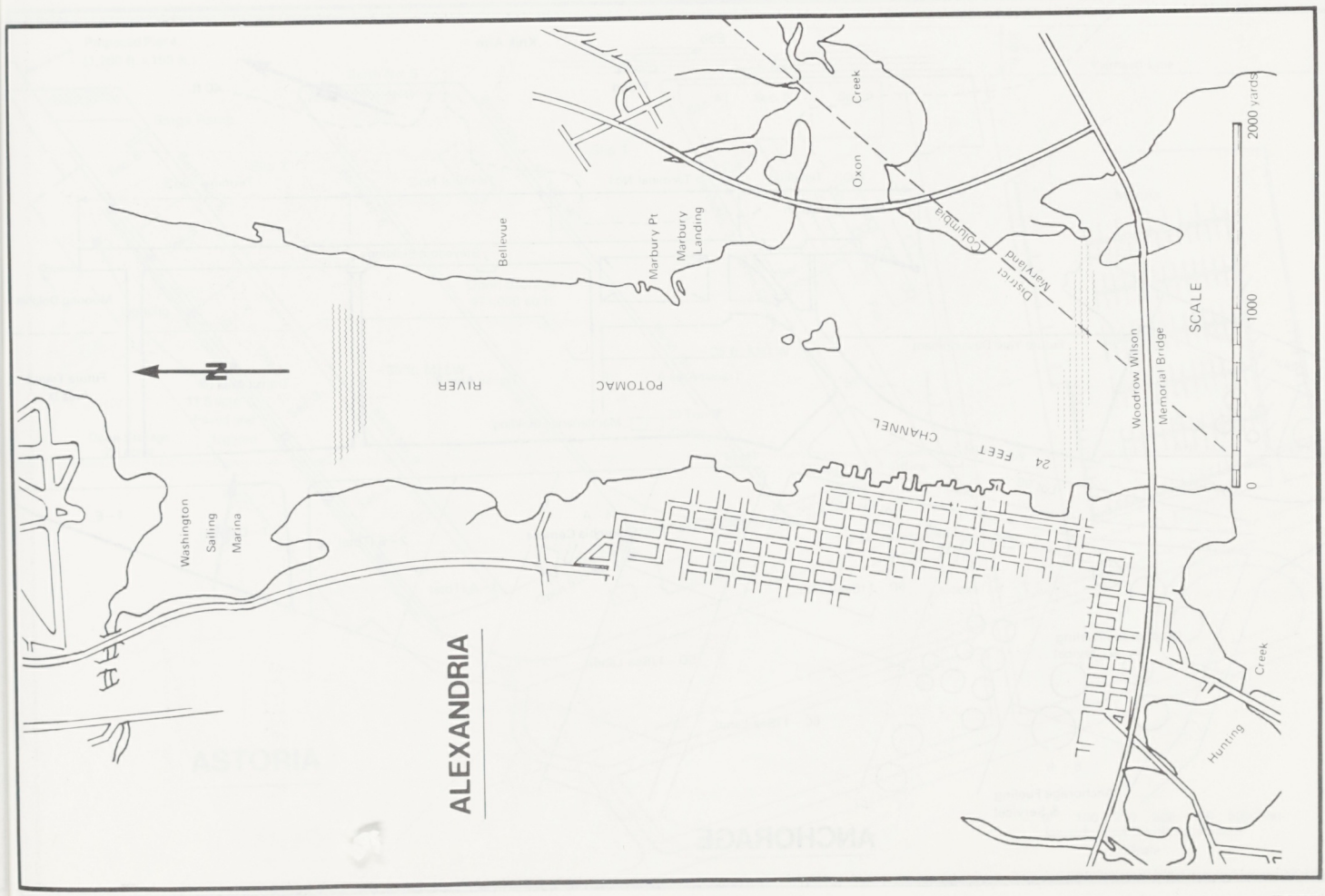

N
North Westerly Gales
Western Pier
Lighthouse
Bollards
WATCHET
North Easterly Gales
Eastern Pier
Manhole
Shingle
Bollards
Area for manoeuvring commercial vessels
Area at risk from NW : NE Gales
WATCHET HARBOUR
Berth
Possible Extension
Bollards
Slipway
Washford River to be kept clear
Berth
East Wharf
The Esplanade
Possible Extension
Bollards
H.M. Office

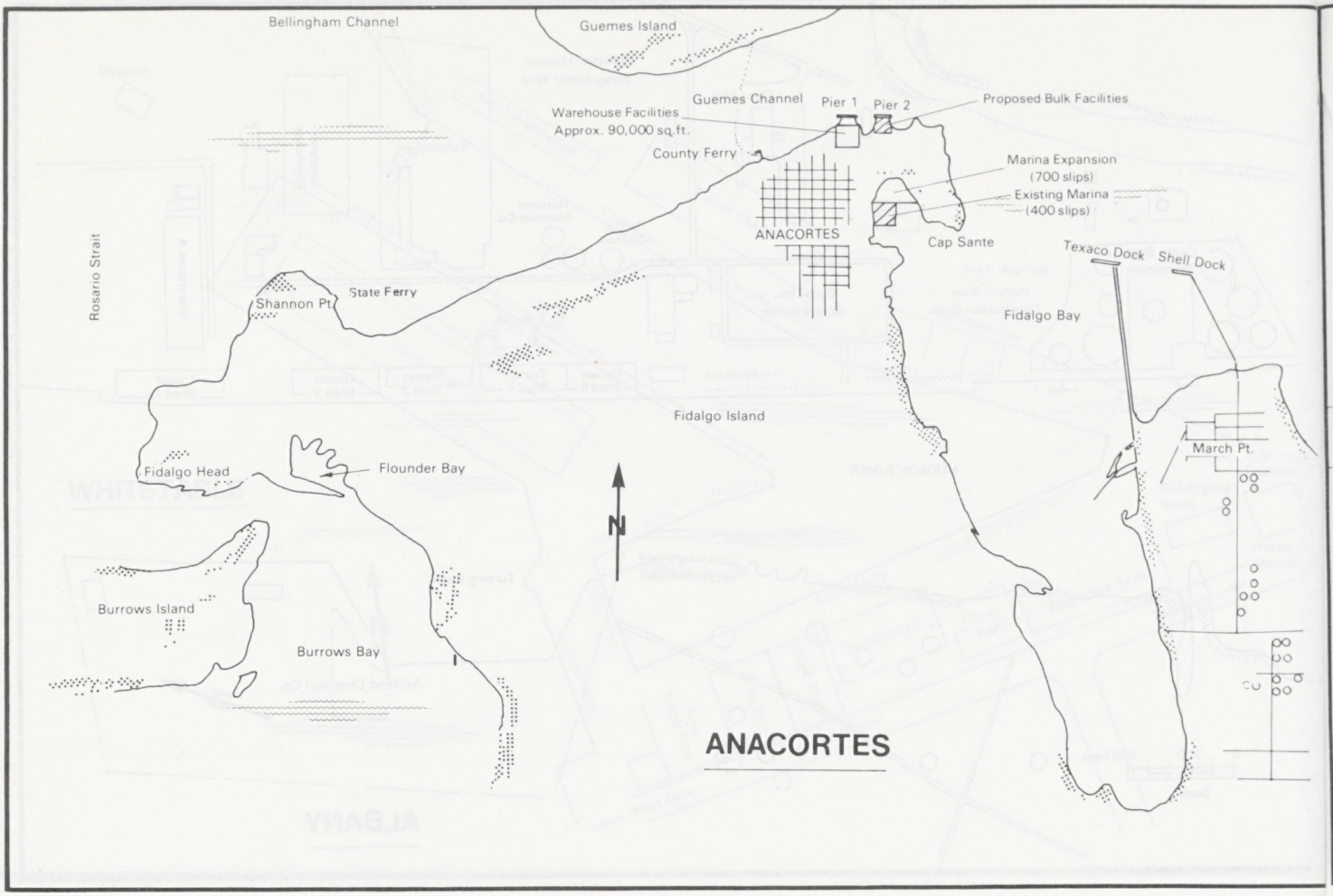

0 100 200 300 400 500 FEET
Small Yacht Moorings
SOUTH HARBOUR
Fishing Vessels
Sugar Tongue
Fishing Vessels
Fishing Vessels
Lime Tongue
Gridiron 112 ft x 21 ft
INNER HARBOUR
OLD QUAY
Old New Quay
West Pier
Slip
N
OUTER HARBOUR
Lighthouse
Cement Berth
Harrington Berth
OLD NORTH WALL
SOLWAY FIRTH
Lighthouse
QUEEN'S DOCK
Electric Coal Loader
Coal Berth
West Wall
NORTH HARBOUR
Tidal Signals
North Pier
L.W.M.
Shipyard Berth
WHITEHAVEN

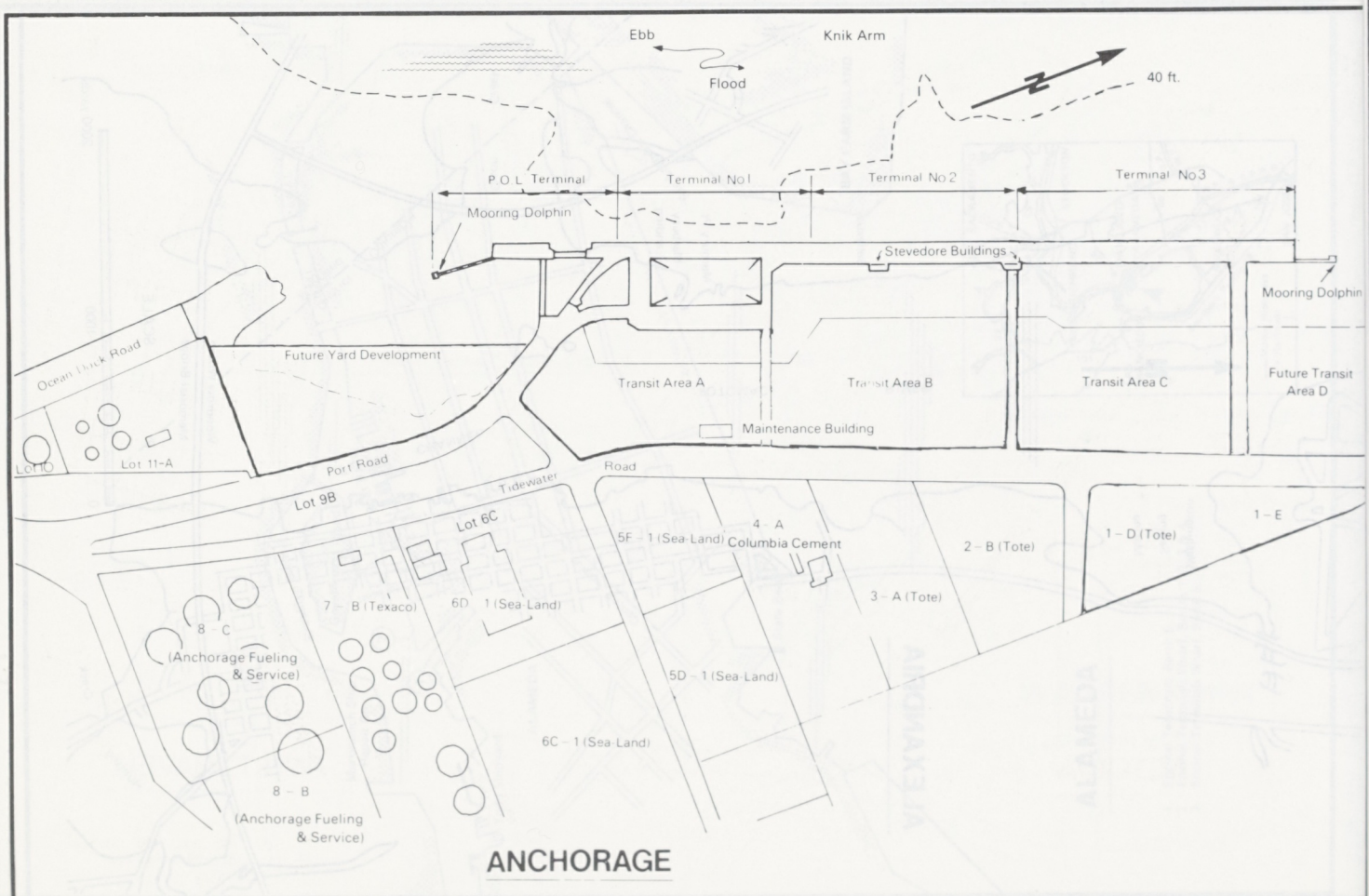

WHITSTABLE
Dolphin
No. 2 Warehouse
38 m.
East Quay
Transit Shed
Harbour
Brett Asphalt
Aggregate Bay
170 m.
West Quay
Transit Shed
H.M. Customs
Old Engine Shed
Harbour Master
Fishing Vessels Reserved Area
South Quay
Aggregate Bays
East Gate
Transit Shed
Quay Fish
Zygal Boats
Ross Fish
Ross Trailer Park
Harbour Street
West Gate
N

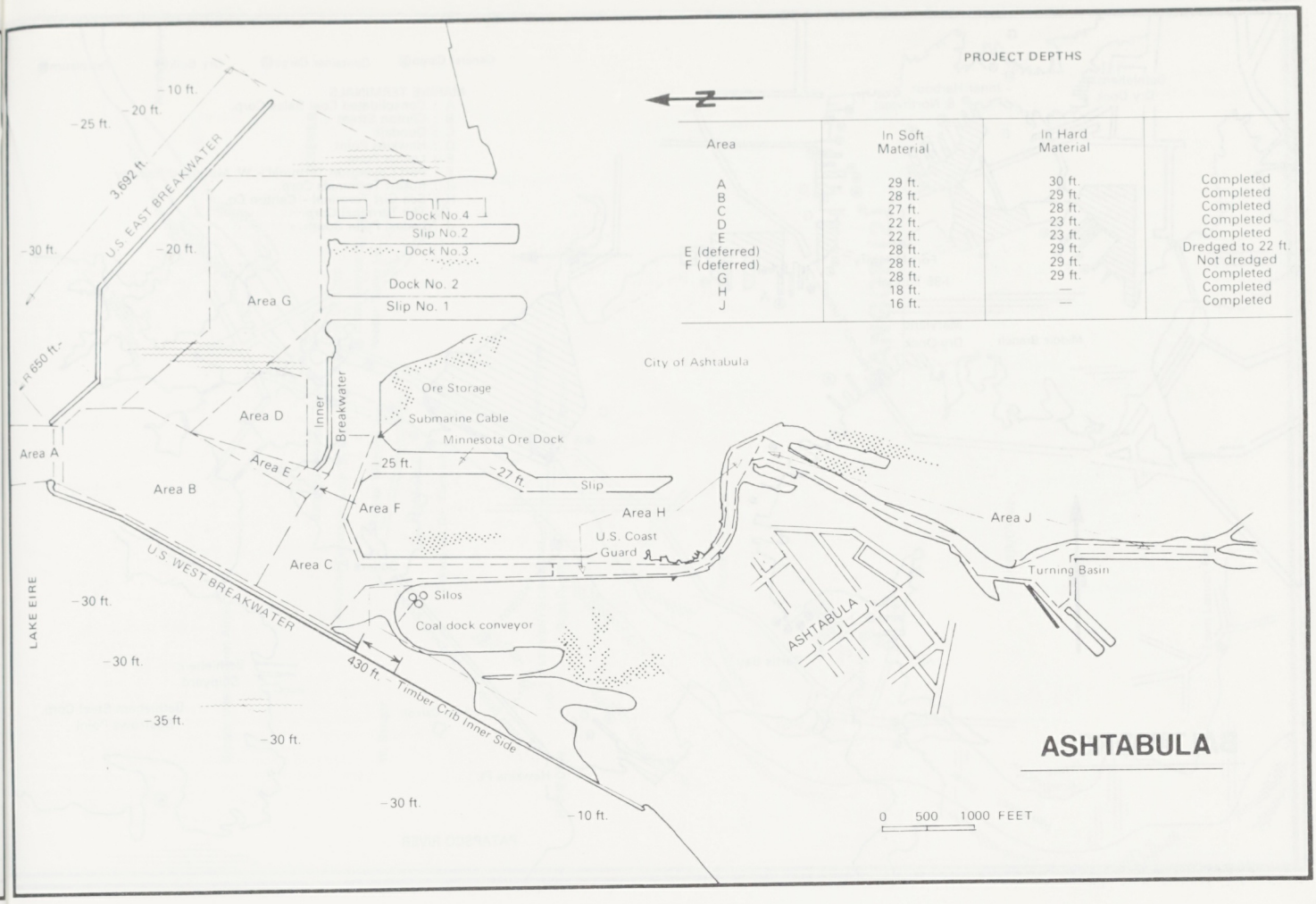

ALAMEDA
1. Encinal Terminals Berth 5.
2. Encinal Terminals Wharf, Berths 1, 2, 3 & 4.
3. Encinal Terminals Wharf, Berth 6.
CANAL
TIDAL
San Leandro Channel
BAY FARM ISLAND
Brooklyn Basin
Government Island
Public Boat Ramp
Yacht Harbour
Central Avenue
State Beach
Martinolich Ship Repair Co.
Todd Shipyard
ALAMEDA
SACRAMENTO
STOCKTON
OAKLAND
ALAMEDA
RICHMOND
SAN FRANCISCO
REDWOOD CITY
SAN JOSE
Southern Pacific (S P)
Motor Highways
Railroads


Schiabo-Hudson
Scrap Metal Yard
Flour Mill
Volkswagen
Goodyear
Warehouse
National
Molasses Co.
Pacific
Molasses
Cirillo Bros.
Petroleum
Hudson River
Construction Corp.
Cargill Inc.
Grain Elevator
Warehouse A
Transit
Shed 5
Transit
Shed 4
Transit
Shed 3
Transit
Shed 2
Transit
Shed 1
HUDSON RIVER
Turning Basin
Ashland Chemical Co.
N
0 200 500 Feet
Scale
ALBANY

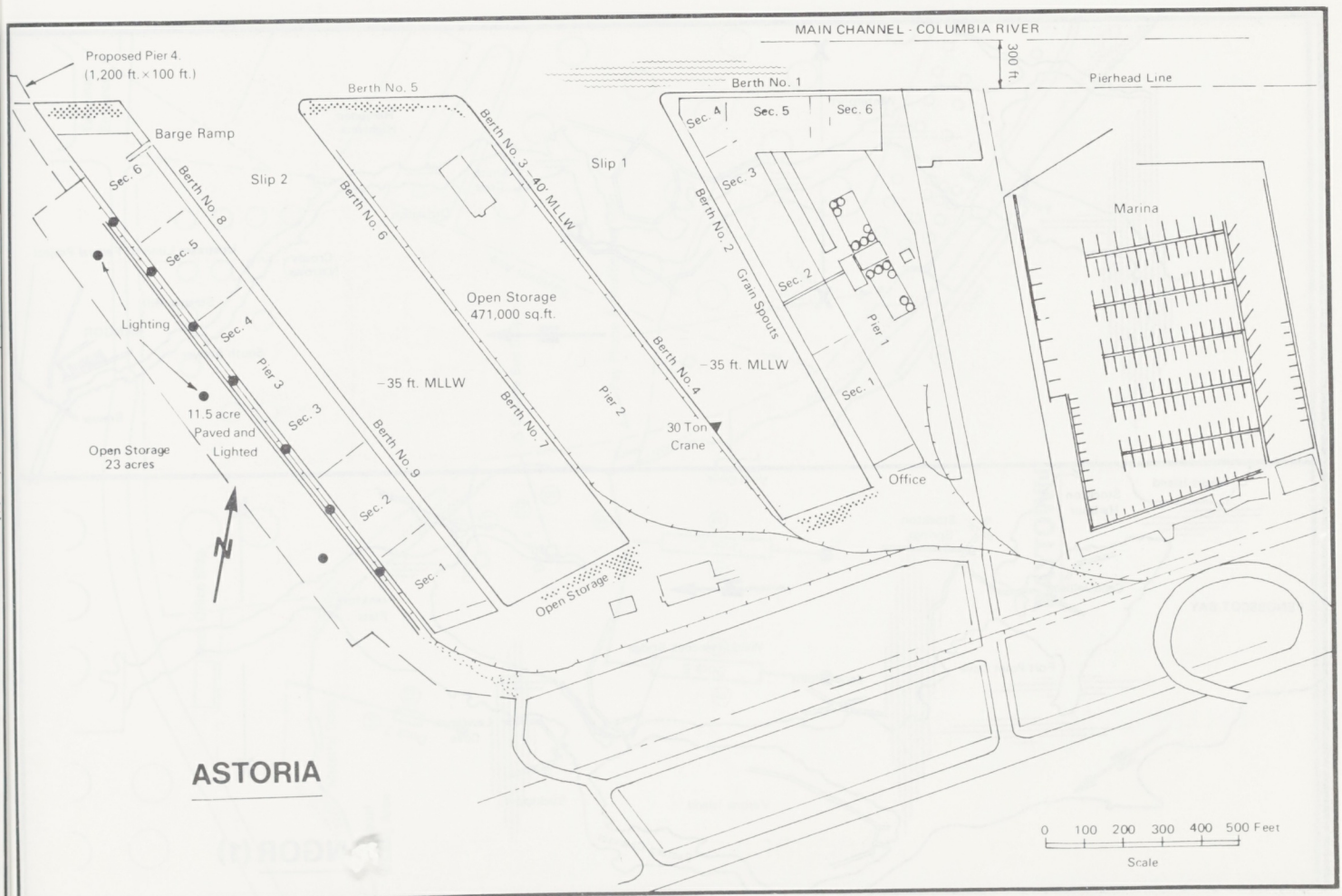

Creek
Oxon
Bellevue
Marbury Pt
Marbury
Landing
District
Columbia
Maryland
2000 yards
1000
0
SCALE
Woodrow Wilson
Memorial Bridge
N
RIVER
POTOMAC
CHANNEL
24 FEET
Washington
Sailing
Marina
ALEXANDRIA
Creek
Hunting

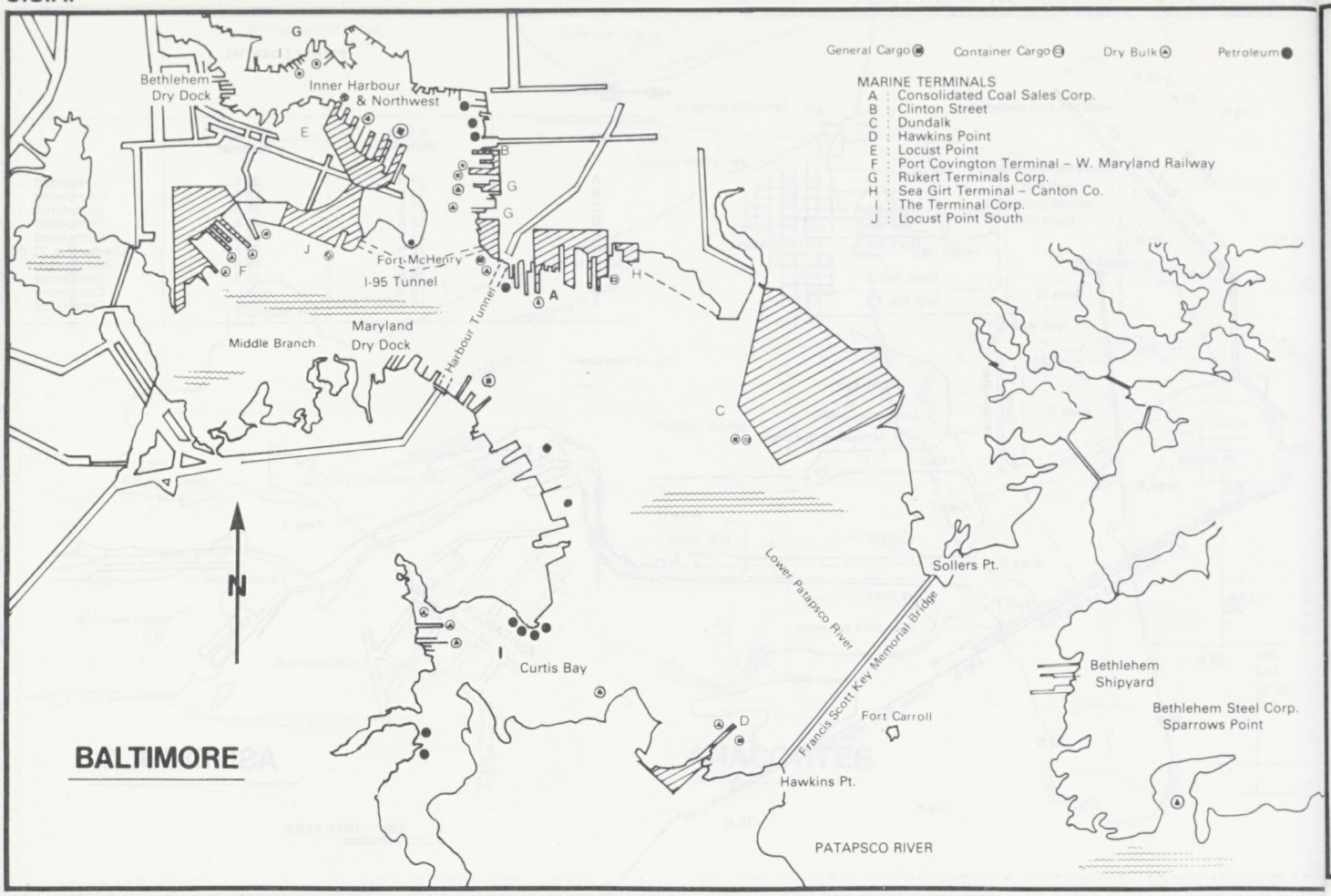

Bellingham Channel
Guemes Island
Guemes Channel
Pier 1
Pier 2
Proposed Bulk Facilities
Warehouse Facilities
Approx. 90,000 sq.ft.
County Ferry
Marina Expansion
(700 slips)
Existing Marina
(400 slips)
ANACORTES
Cap Sante
Texaco Dock
Shell Dock
Rosario Strait
Shannon Pt
State Ferry
Fidalgo Bay
Fidalgo Island
March Pt.
Fidalgo Head
Flounder Bay
N
Burrows Island
Burrows Bay
ANACORTES

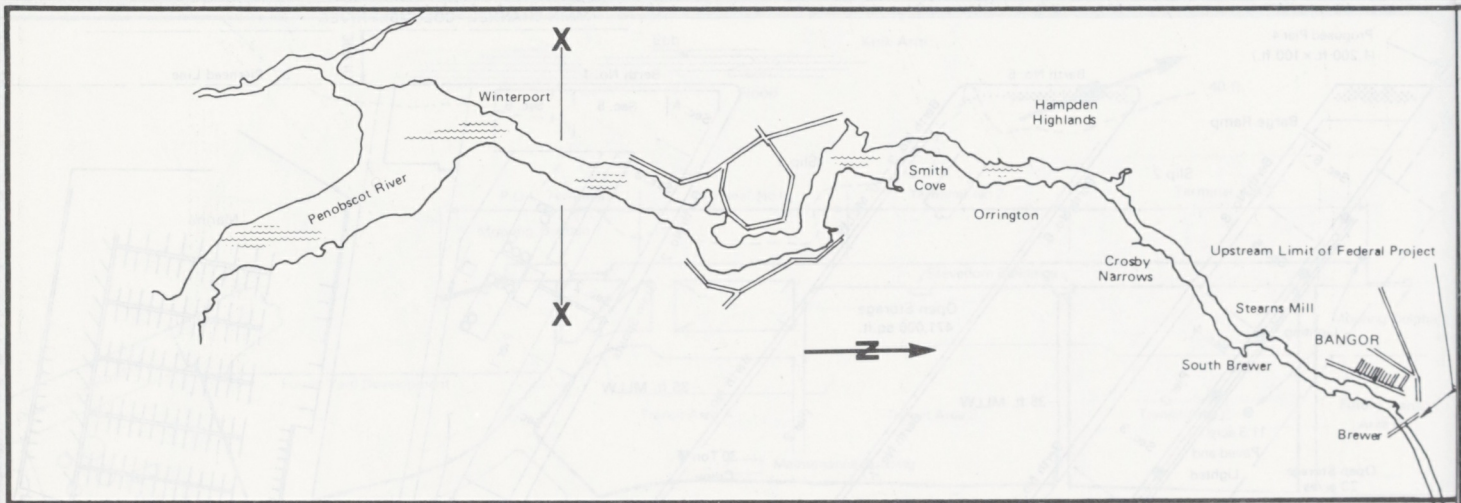

Ebb
Flood
Knik Arm
40 ft.
P.O.L. Terminal
Terminal No.1
Terminal No.2
Terminal No.3
Mooring Dolphin
Stevedore Buildings
Mooring Dolphin
Ocean Dock Road
Future Yard Development
Transit Area A
Transit Area B
Transit Area C
Future Transit Area D
Maintenance Building
Lot 10
Lot 11-A
Port Road
Lot 9B
Tidewater
Road
Lot 6C
4 - A
Columbia Cement
5F - 1 (Sea-Land)
2 - B (Tote)
1 - D (Tote)
1 - E
3 - A (Tote)
7 - B (Texaco)
6D - 1 (Sea-Land)
8 - C
(Anchorage Fueling & Service)
5D - 1 (Sea-Land)
6C - 1 (Sea-Land)
8 - B
(Anchorage Fueling & Service)
ANCHORAGE

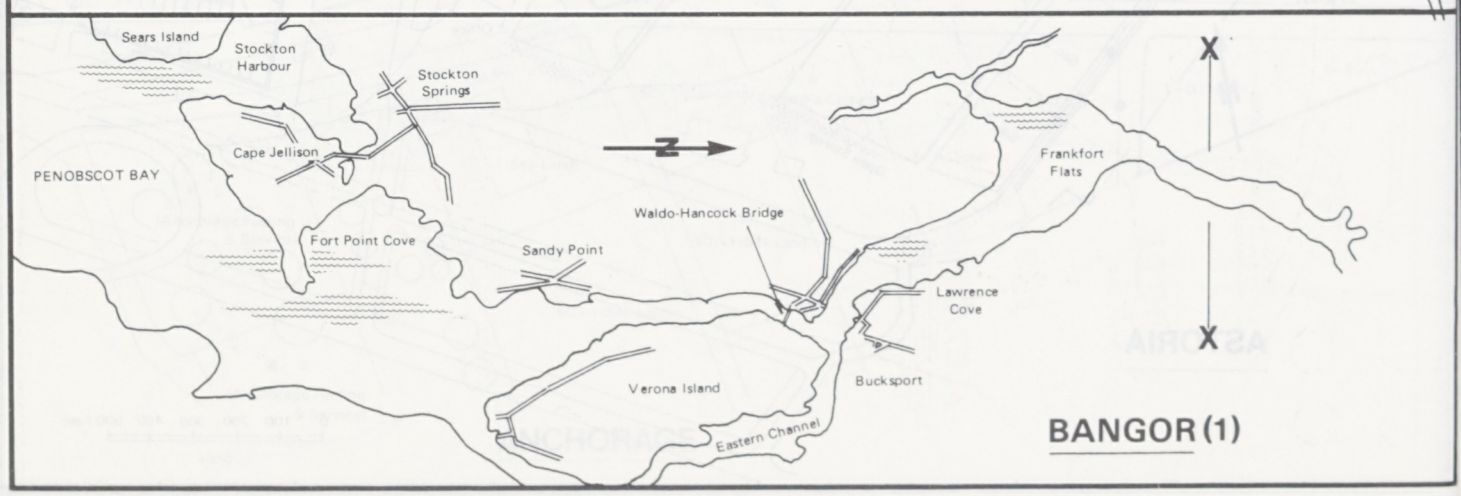

PROJECT DEPTHS
N
Area | In Soft Material | In Hard Material
A 29 ft. 30 ft. Completed
B 28 ft. 29 ft. Completed
C 27 ft. 28 ft. Completed
D 22 ft. 23 ft. Completed
E 22 ft. 23 ft. Completed
E (deferred) 28 ft. 29 ft. Dredged to 22 ft.
F (deferred) 28 ft. 29 ft. Not dredged
G 28 ft. 29 ft. Completed
H 18 ft. — Completed
J 16 ft. — Completed
-10 ft.
-20 ft.
-25 ft.
3,692 ft.
U.S. EAST BREAKWATER
-30 ft.
-20 ft.
Dock No. 4
Slip No. 2
Dock No. 3
Dock No. 2
Slip No. 1
Area G
R 650 ft.
City of Ashtabula
Ore Storage
Area D
Inner Breakwater
Submarine Cable
Minnesota Ore Dock
Area A
Area E
-25 ft.
-27 ft.
Slip
Area B
Area F
Area H
Area J
U.S. Coast Guard
Area C
Turning Basin
U.S. WEST BREAKWATER
Silos
Coal dock conveyor
LAKE EIRE
-30 ft.
ASHTABULA
430 ft. Timber Crib Inner Side
-30 ft.
-35 ft.
-30 ft.
-30 ft.
-10 ft.
0 500 1000 FEET

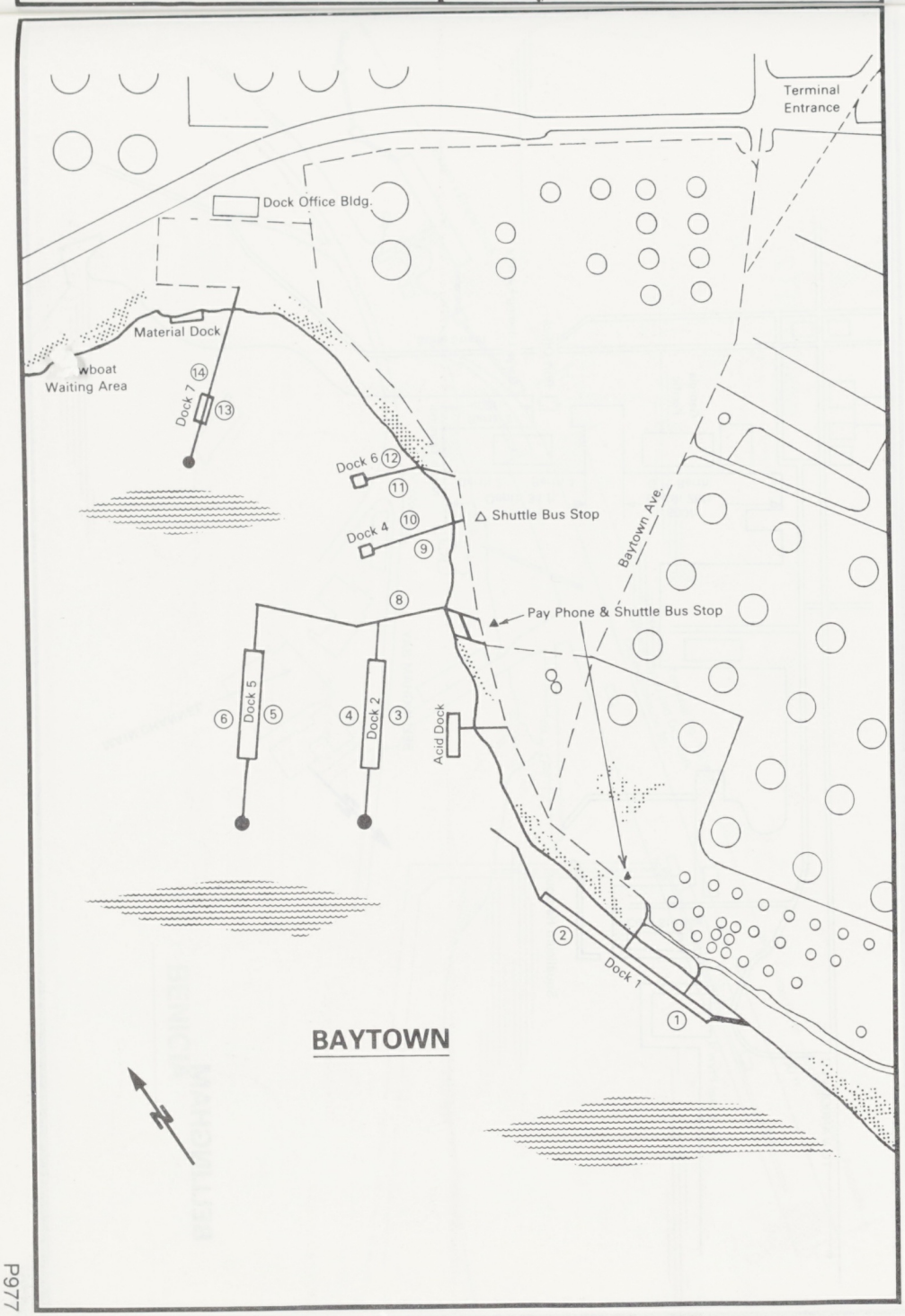
ASHTABULA

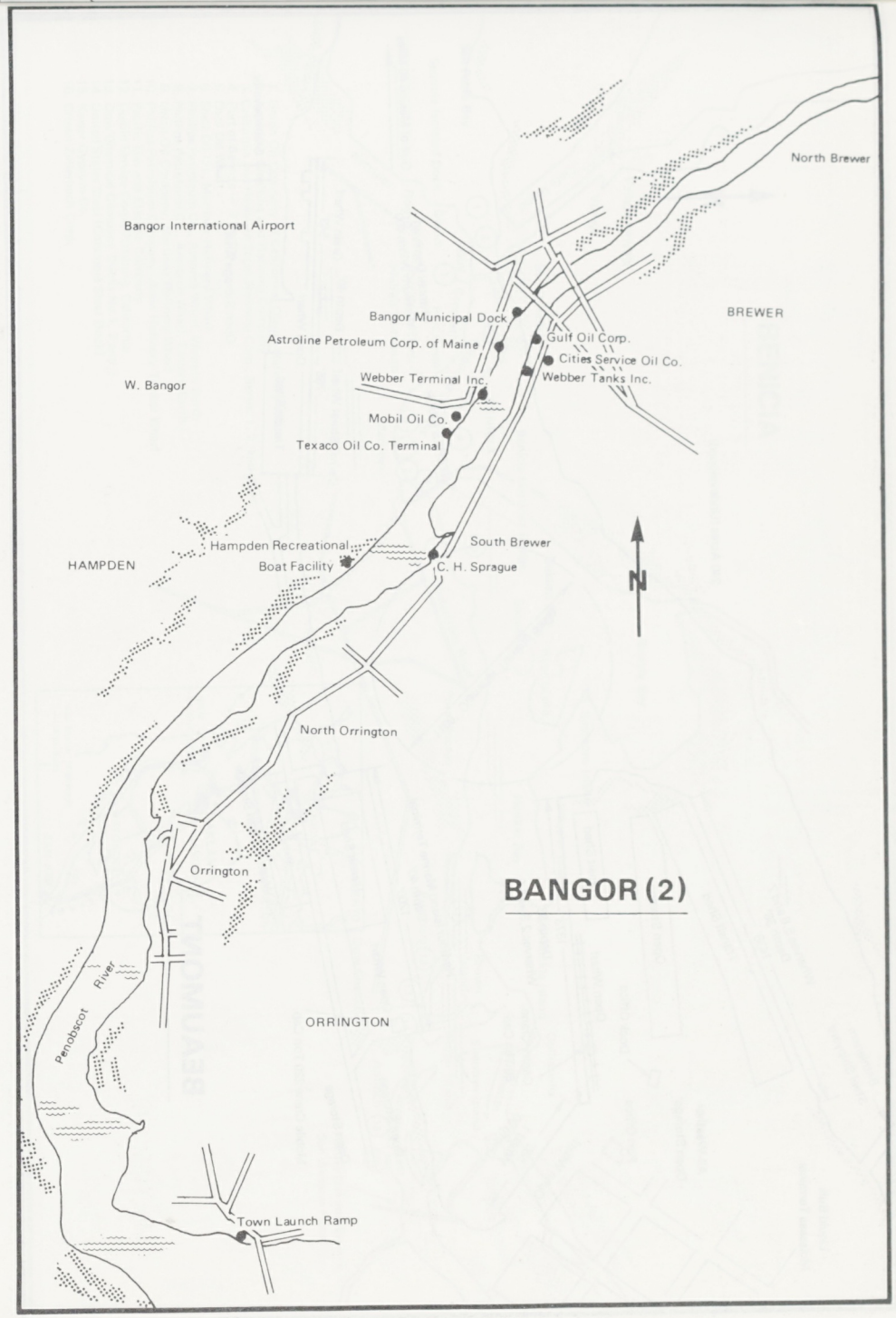

MAIN CHANNEL - COLUMBIA RIVER
300 ft.
Pierhead Line
Proposed Pier 4.
(1,200 ft. × 100 ft.)
Berth No. 5
Berth No. 1
Barge Ramp
Sec. 6
Berth No. 8
Slip 2
Berth No. 3 -40' MLLW
Slip 1
Sec. 4
Sec. 5
Sec. 6
Sec. 3
Berth No. 6
Berth No. 2
Grain Spouts
Marina
Sec. 5
Sec. 2
Pier 1
Lighting
Sec. 4
Open Storage
471,000 sq.ft.
Berth No. 4
-35 ft. MLLW
Sec. 1
Pier 3
-35 ft. MLLW
Pier 2
Berth No. 7
30 Ton Crane
Office
11.5 acre Paved and Lighted
Sec. 3
Berth No. 9
Open Storage 23 acres
Sec. 2
N
Sec. 1
Open Storage
ASTORIA
0 100 200 300 400 500 Feet
Scale

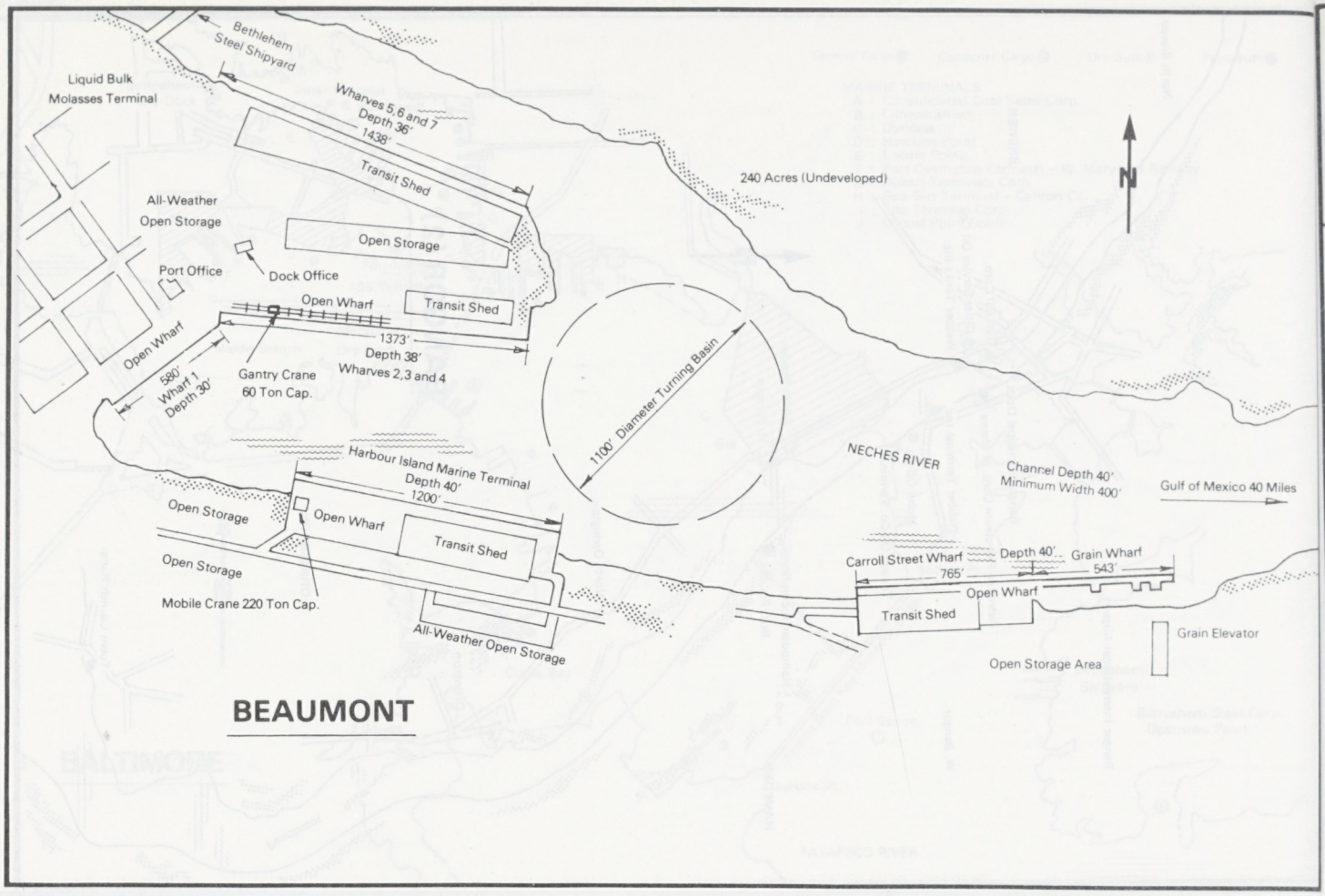

General Cargo
Container Cargo
Dry Bulk
Petroleum
MARINE TERMINALS
A : Consolidated Coal Sales Corp.
B : Clinton Street
C : Dundalk
D : Hawkins Point
E : Locust Point
F : Port Covington Terminal – W. Maryland Railway
G : Rukert Terminals Corp.
H : Sea Girt Terminal – Canton Co.
I : The Terminal Corp.
J : Locust Point South
Bethlehem Dry Dock
Inner Harbour & Northwest
Fort McHenry
I-95 Tunnel
Harbour Tunnel
Maryland Dry Dock
Middle Branch
N
Curtis Bay
Lower Patapsco River
Francis Scott Key Memorial Bridge
Sollers Pt.
Bethlehem Shipyard
Bethlehem Steel Corp. Sparrows Point
Fort Carroll
Hawkins Pt.
PATAPSCO RIVER
BALTIMORE

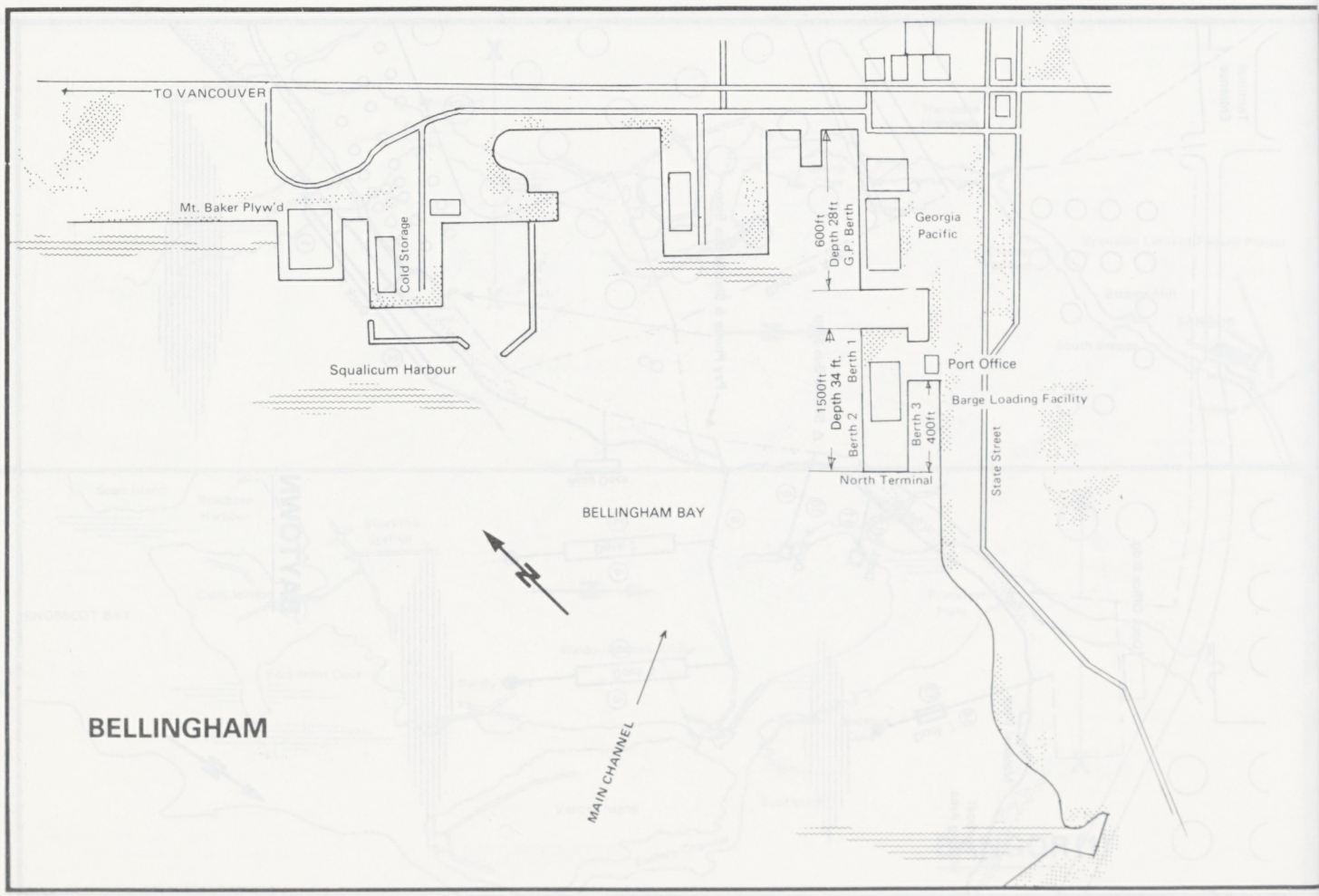

Winterport
Penobscot River
Hampden Highlands
Smith Cove
Orrington
Crosby Narrows
Upstream Limit of Federal Project
Stearns Mill
BANGOR
South Brewer
Brewer

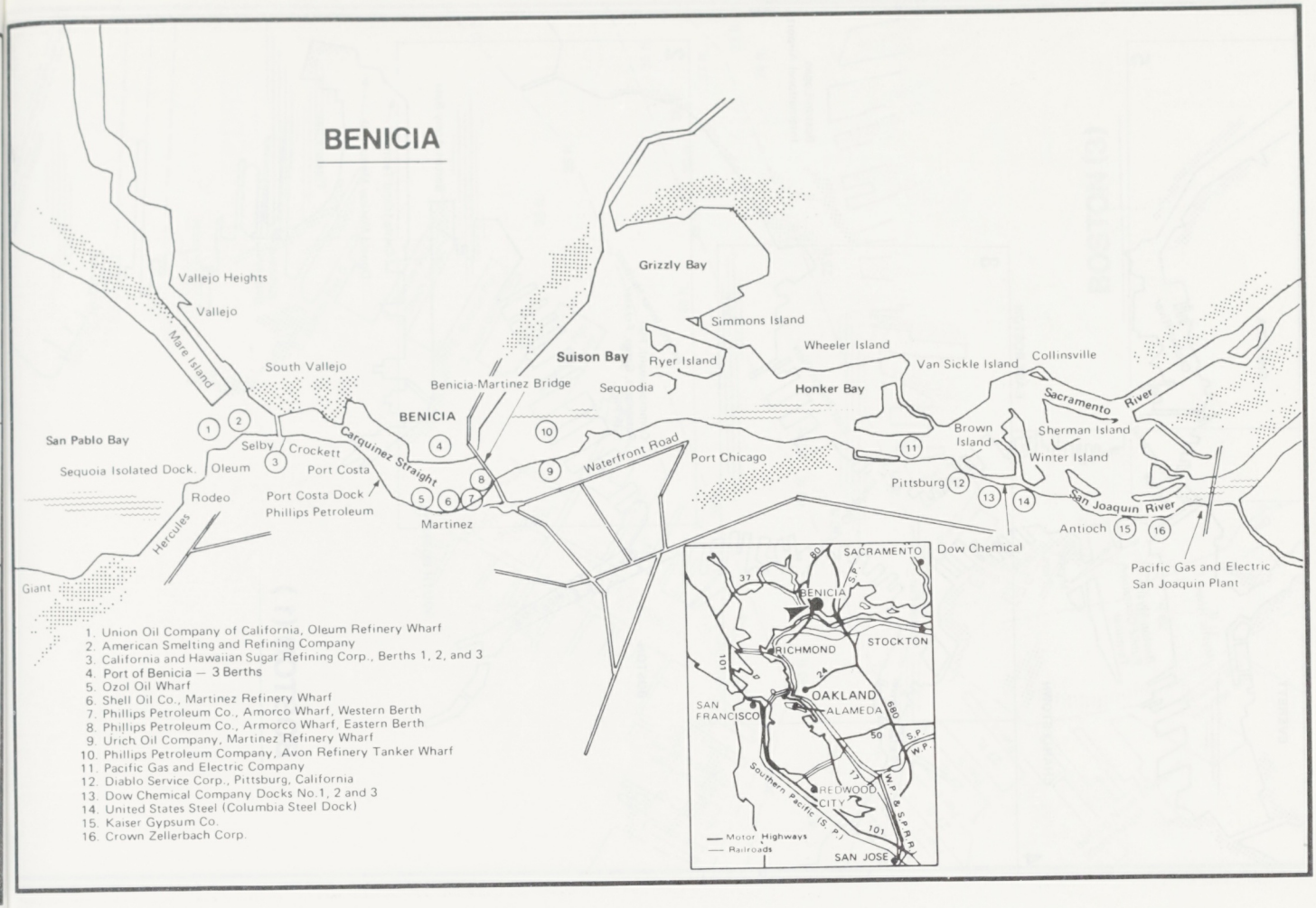

Sears Island
Stockton Harbour
Stockton Springs
Cape Jellison
PENOBSCOT BAY
Fort Point Cove
Sandy Point
Waldo-Hancock Bridge
Frankfort Flats
Lawrence Cove
Verona Island
Bucksport
Eastern Channel
BANGOR (1)


Terminal Entrance
Dock Office Bldg.
Material Dock
wboat Waiting Area
Dock 7
14
13
Dock 6
12
11
Dock 4
10
9
Shuttle Bus Stop
Baytown Ave.
8
Pay Phone & Shuttle Bus Stop
Dock 5
6
5
Dock 2
4
3
Acid Dock
2
Dock 1
1
BAYTOWN

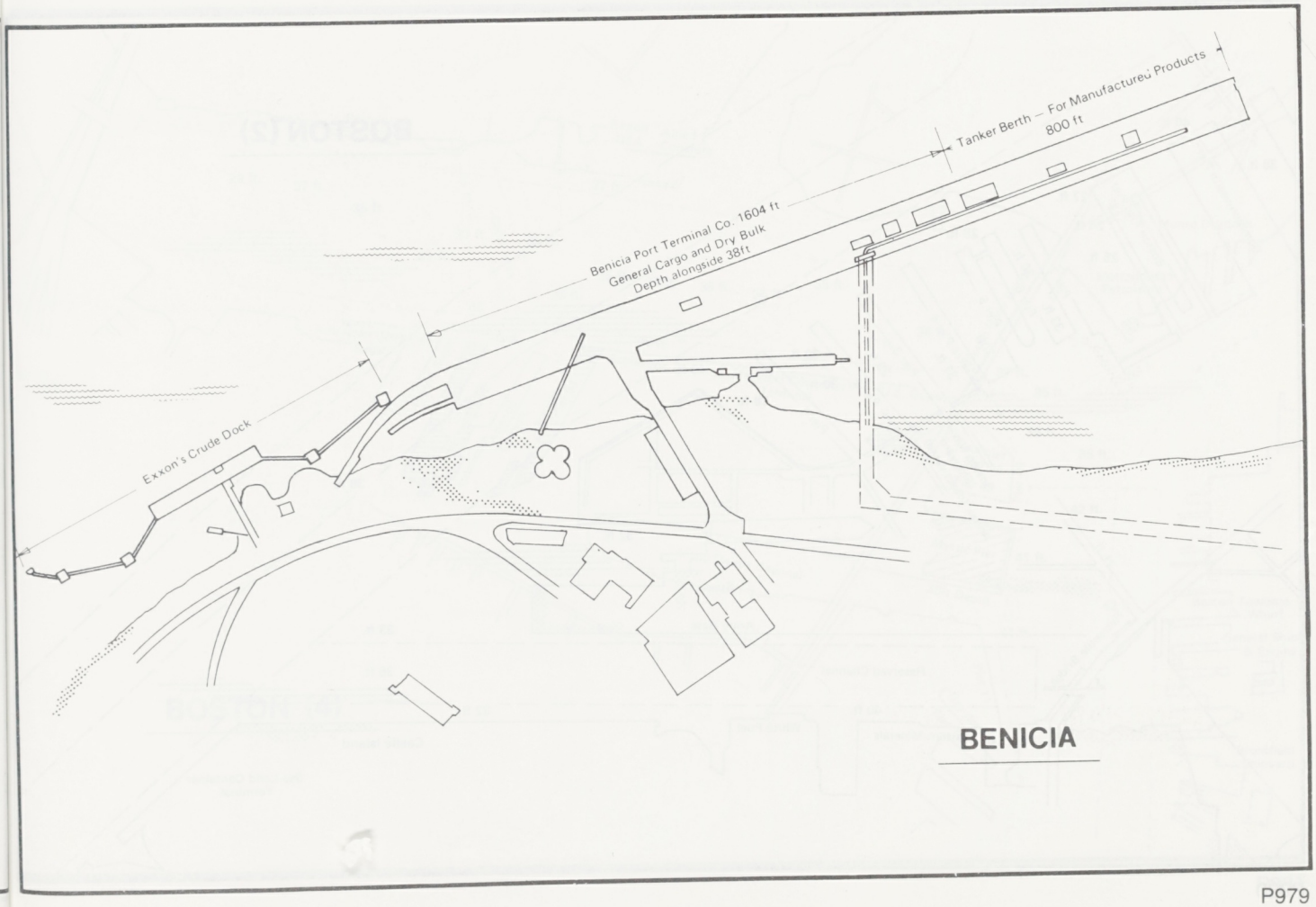

North Brewer
Bangor International Airport
BREWER
Bangor Municipal Dock
Gulf Oil Corp.
Astroline Petroleum Corp. of Maine
Cities Service Oil Co.
W. Bangor
Webber Terminal Inc.
Webber Tanks Inc.
Mobil Oil Co.
Texaco Oil Co. Terminal
HAMPDEN
Hampden Recreational Boat Facility
South Brewer
C. H. Sprague
N
North Orrington
Orrington
BANGOR (2)
Penobscot River
ORRINGTON
Town Launch Ramp

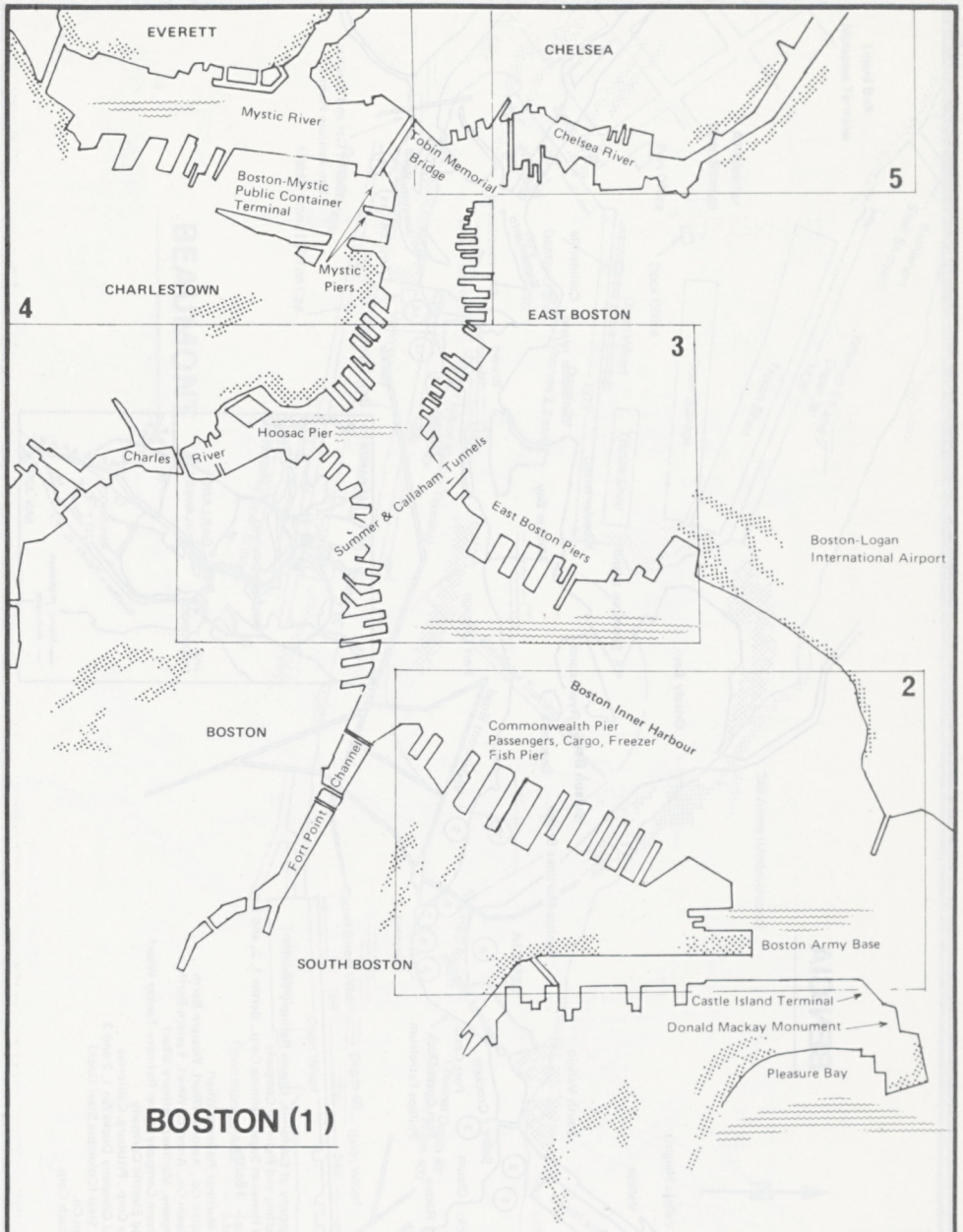

Bethlehem Steel Shipyard
Liquid Bulk Molasses Terminal
Wharves 5,6 and 7
Depth 36'
1438'
Transit Shed
240 Acres (Undeveloped)
N
All-Weather Open Storage
Open Storage
Port Office
Dock Office
Open Wharf
Transit Shed
1373'
Depth 38'
Wharves 2,3 and 4
Open Wharf
580'
Wharf 1
Depth 30'
Gantry Crane 60 Ton Cap.
1100' Diameter Turning Basin
NECHES RIVER
Channel Depth 40'
Minimum Width 400'
Gulf of Mexico 40 Miles
Harbour Island Marine Terminal
Depth 40'
1200'
Open Storage
Open Wharf
Transit Shed
Open Storage
Mobile Crane 220 Ton Cap.
All-Weather Open Storage
Carroll Street Wharf
765'
Depth 40'
Grain Wharf
543'
Open Wharf
Transit Shed
Grain Elevator
Open Storage Area
BEAUMONT


TO VANCOUVER
Mt. Baker Plyw'd
Cold Storage
Squalicum Harbour
600ft
Depth 28ft
G.P. Berth
Georgia Pacific
1500ft
Depth 34 ft.
Berth 1
Berth 2
Berth 3
400ft
North Terminal
Port Office
Barge Loading Facility
State Street
BELLINGHAM BAY
MAIN CHANNEL
BELLINGHAM

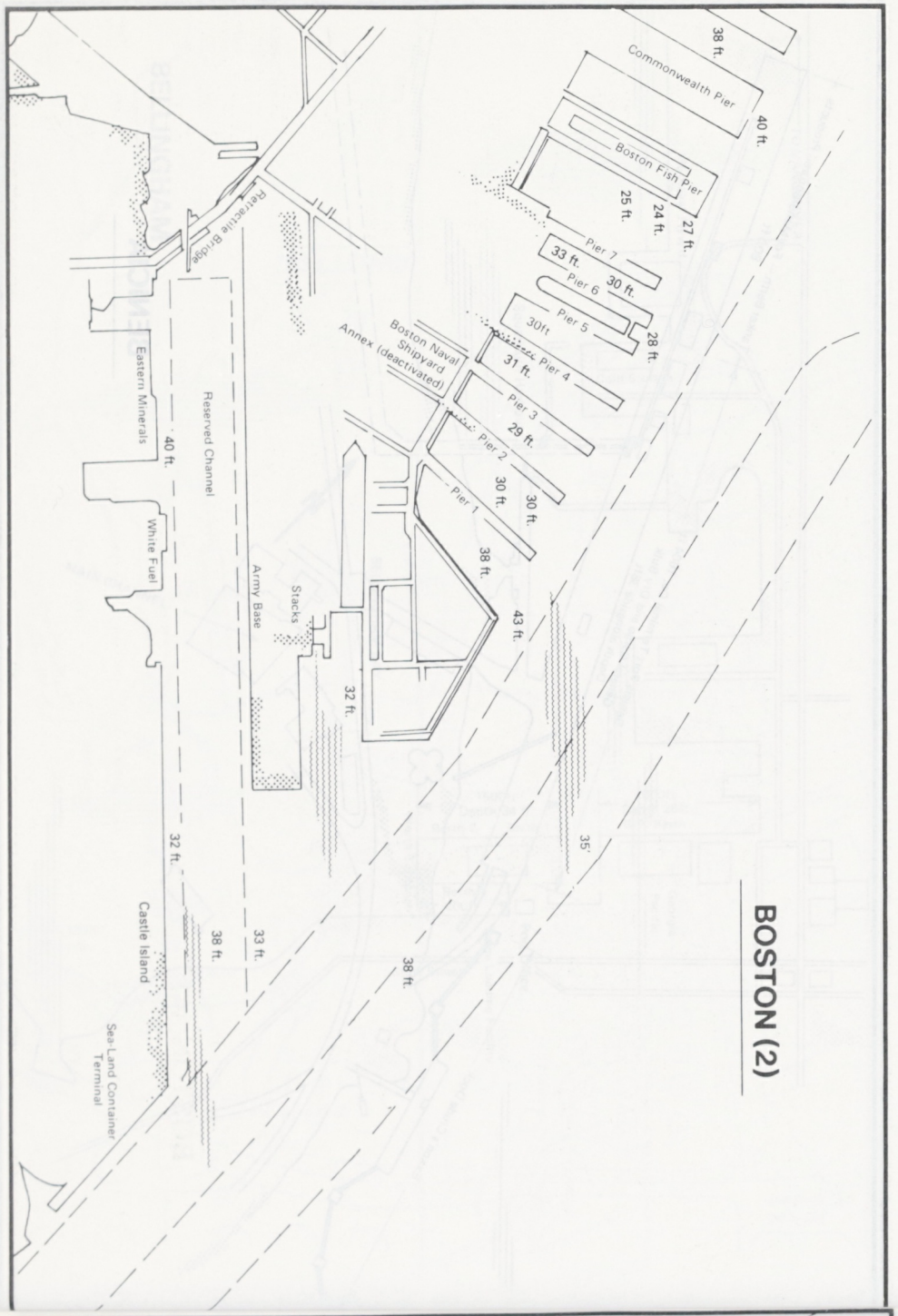


1. Union Oil Company of California, Oleum Refinery Wharf
2. American Smelting and Refining Company
3. California and Hawaiian Sugar Refining Corp., Berths 1, 2, and 3
4. Port of Benicia — 3 Berths
5. Ozol Oil Wharf
6. Shell Oil Co., Martinez Refinery Wharf
7. Phillips Petroleum Co., Amorco Wharf, Western Berth
8. Phillips Petroleum Co., Armorco Wharf, Eastern Berth
9. Urich Oil Company, Martinez Refinery Wharf
10. Phillips Petroleum Company, Avon Refinery Tanker Wharf
11. Pacific Gas and Electric Company
12. Diablo Service Corp., Pittsburg, California
13. Dow Chemical Company Docks No.1, 2 and 3
14. United States Steel (Columbia Steel Dock)
15. Kaiser Gypsum Co.
16. Crown Zellerbach Corp.

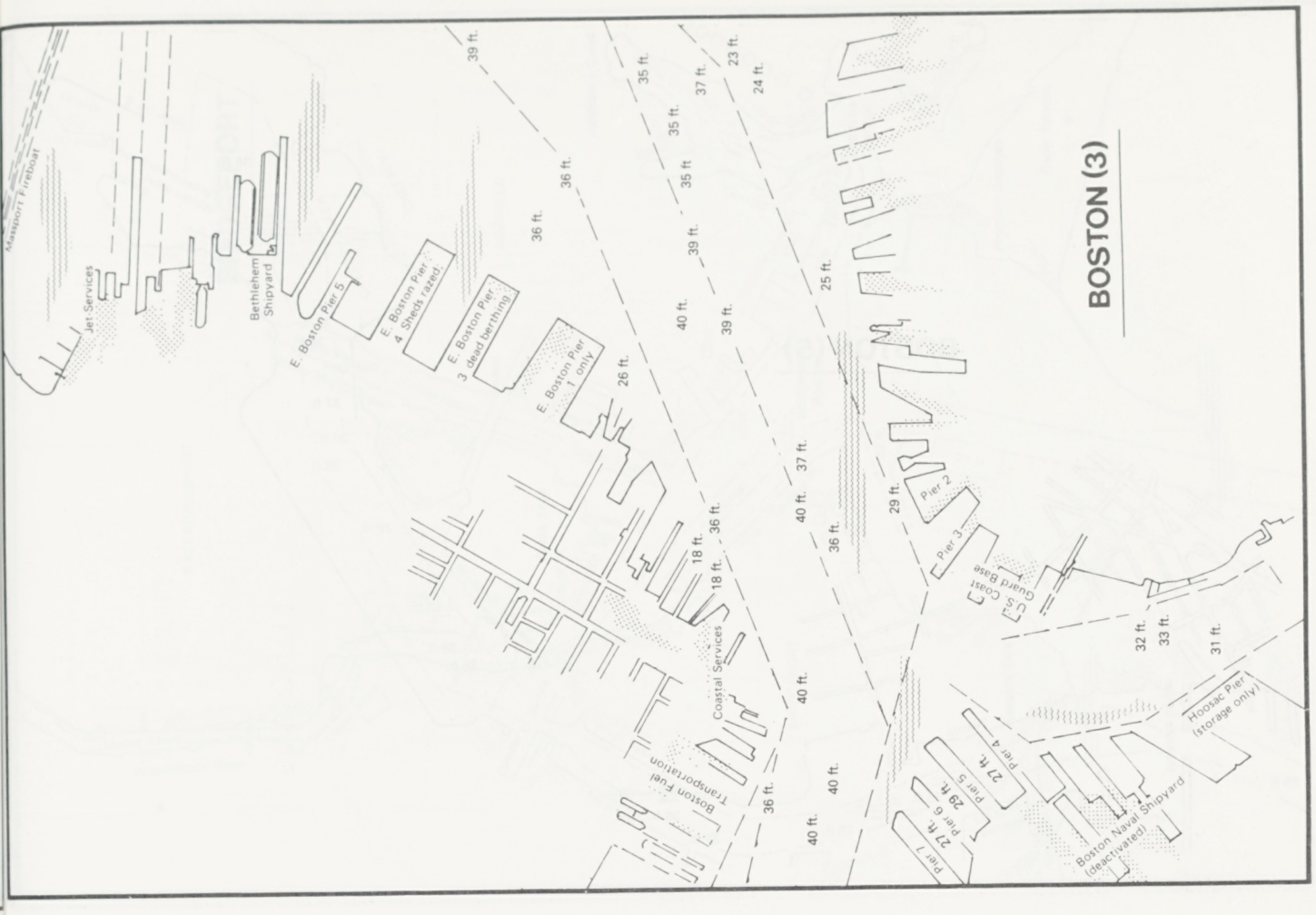


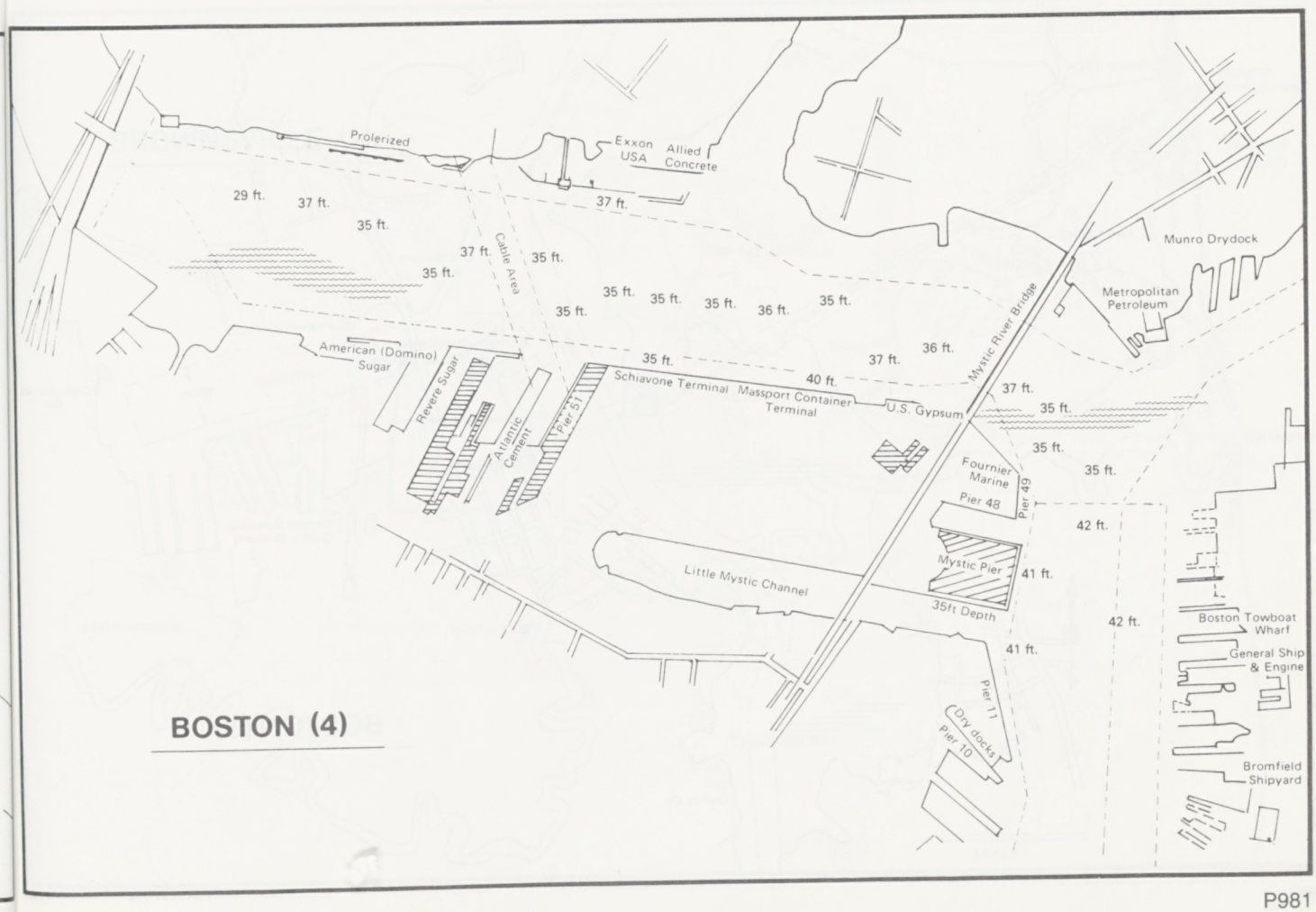


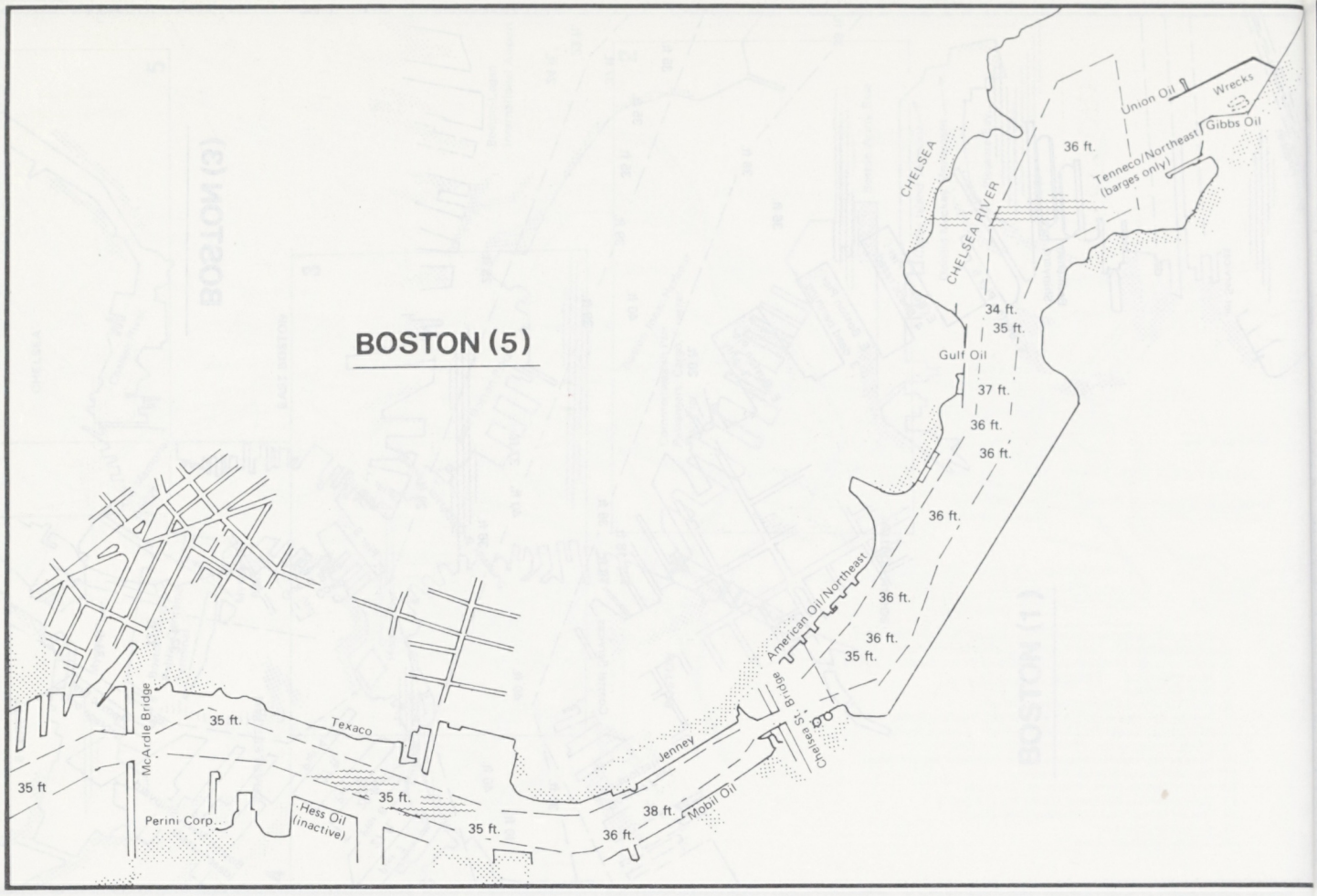
BOSTON (1)

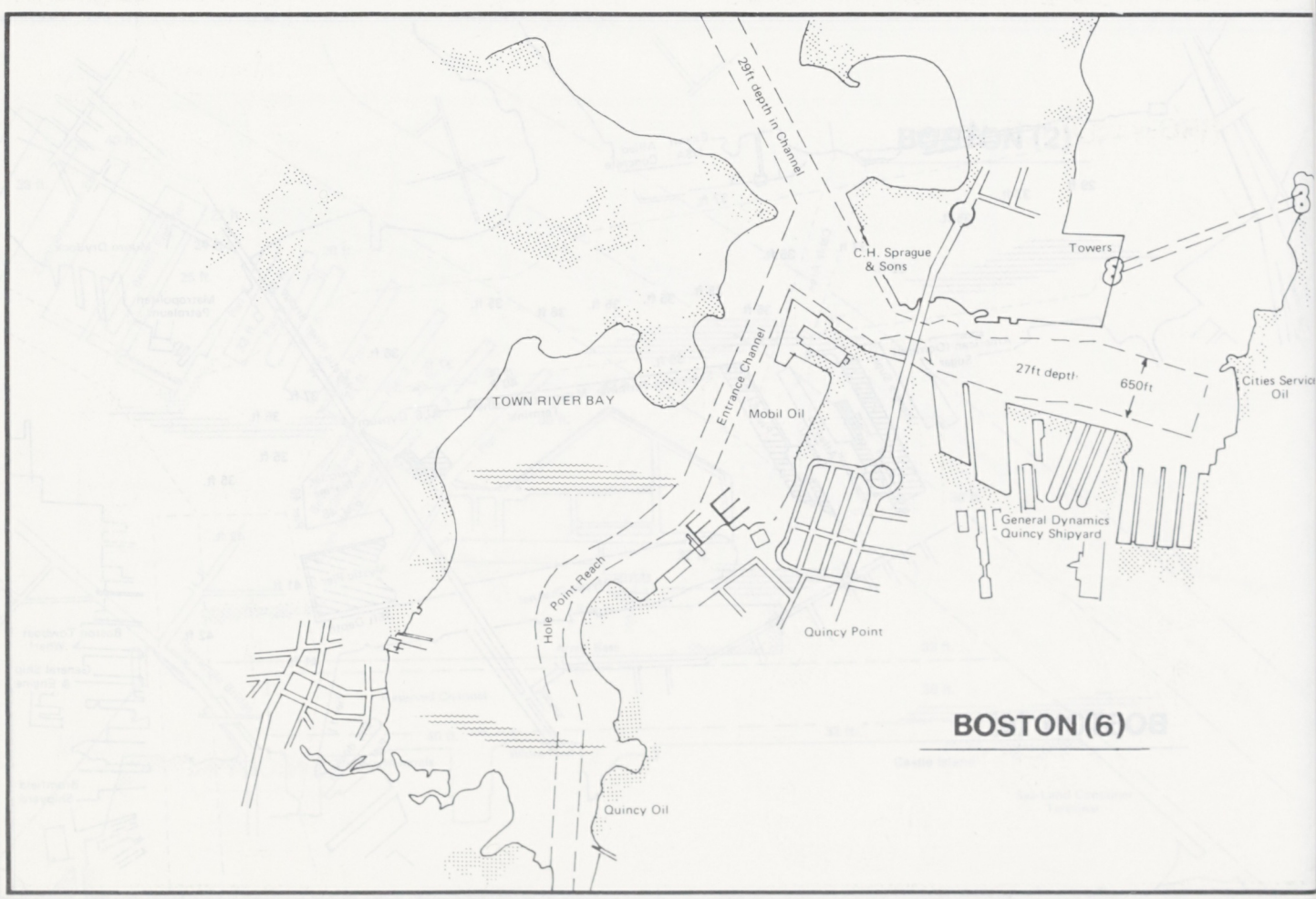


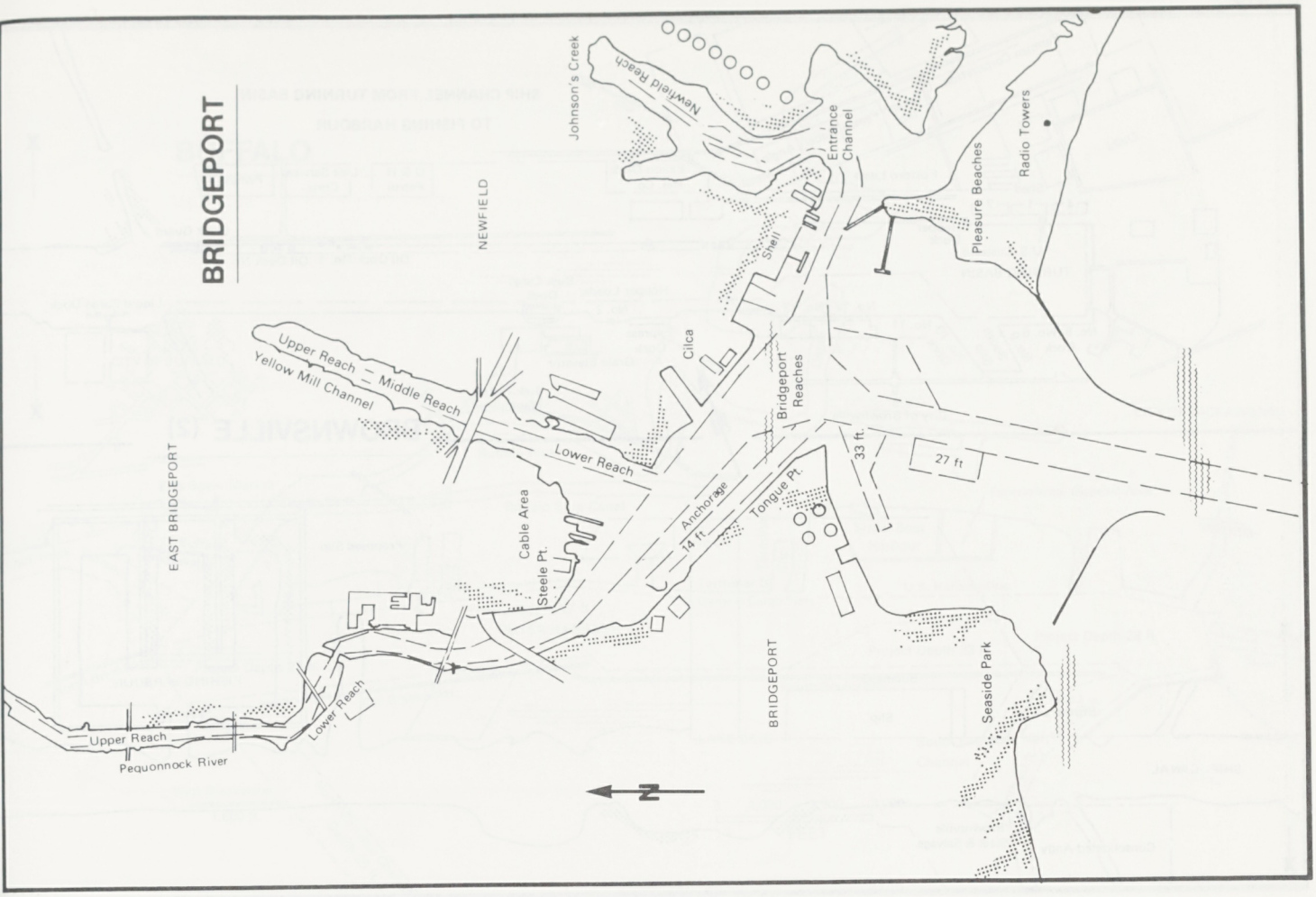
BOSTON (2)

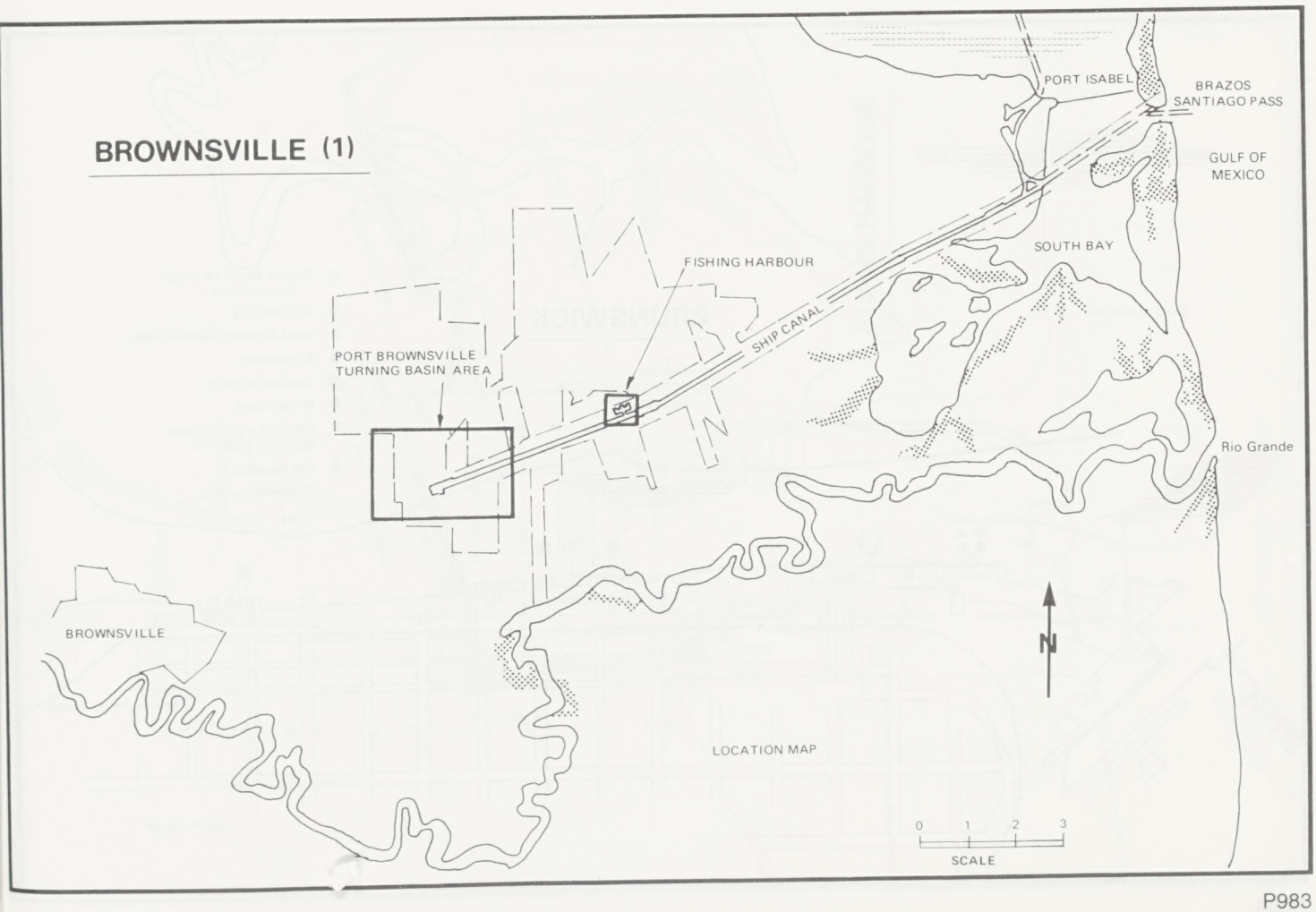

BOSTON (3)
Massport Fireboat
Jet Services
Bethlehem Shipyard
E. Boston Pier 5
E. Boston Pier 4 Sheds razed.
E. Boston Pier 3 dead berthing
E. Boston Pier 1 only
Coastal Services
Boston Fuel Transportation
Pier 2
Pier 3
U.S. Coast Guard Base
Hoosac Pier (storage only)
Pier 4
Pier 5
Pier 6
Pier 7
Boston Naval Shipyard (deactivated)
39 ft.
36 ft.
35 ft.
37 ft.
23 ft.
24 ft.
25 ft.
26 ft.
40 ft.
18 ft.
29 ft.
32 ft.
33 ft.
31 ft.
21 ft.
29 ft.
27 ft.

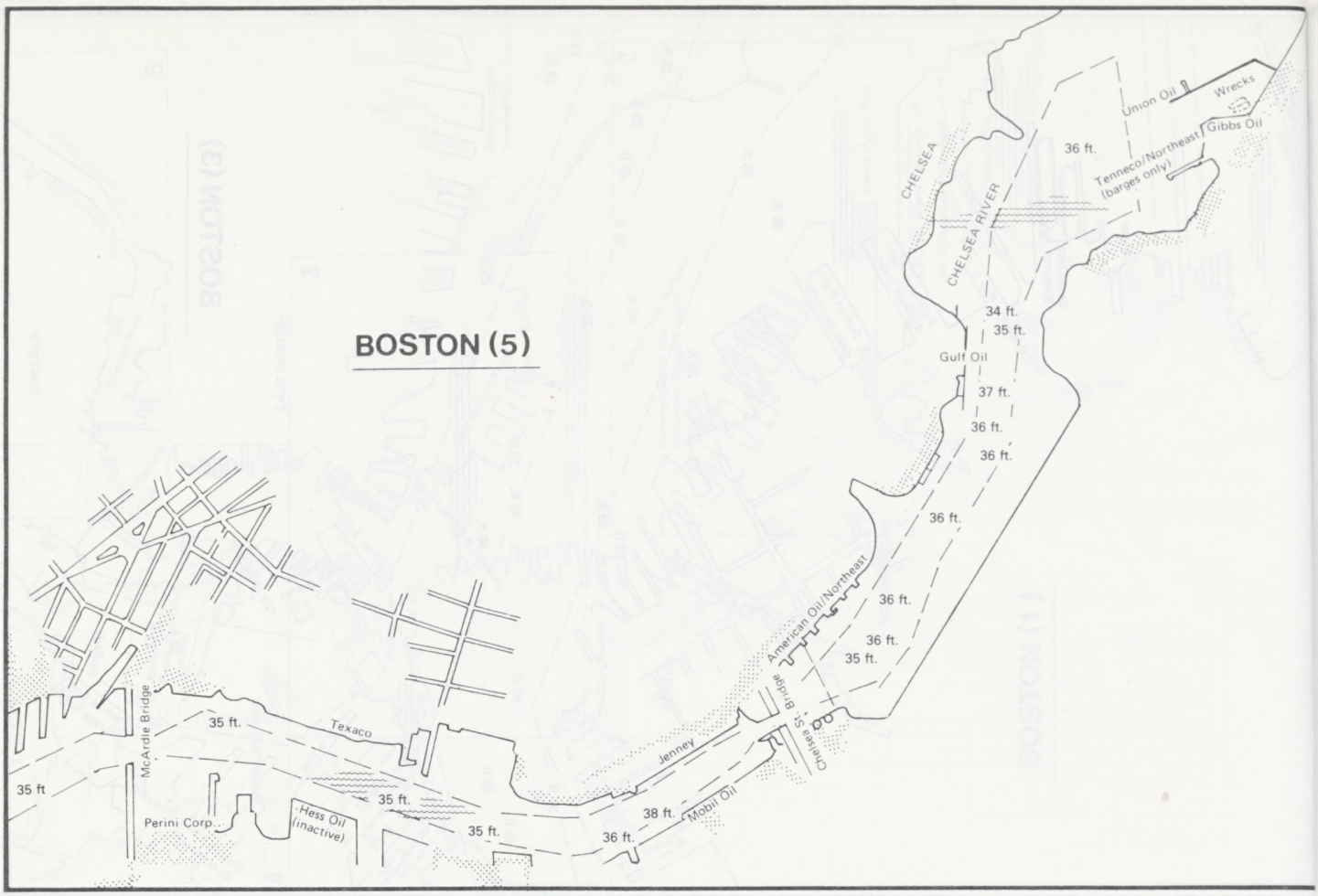

BOSTON (4)
Prolerized
Exxon USA
Allied Concrete
Cable Area
Munro Drydock
Metropolitan Petroleum
Mystic River Bridge
American (Domino) Sugar
Revere Sugar
Atlantic Cement
Pier 51
Schiavone Terminal
Massport Container Terminal
U.S. Gypsum
Fournier Marine
Pier 48
Pier 49
Mystic Pier
Little Mystic Channel
35ft Depth
Pier 11
Dry docks
Pier 10
Boston Towboat Wharf
General Ship & Engine
Bromfield Shipyard
29 ft.
37 ft.
35 ft.
36 ft.
40 ft.
42 ft.
41 ft.

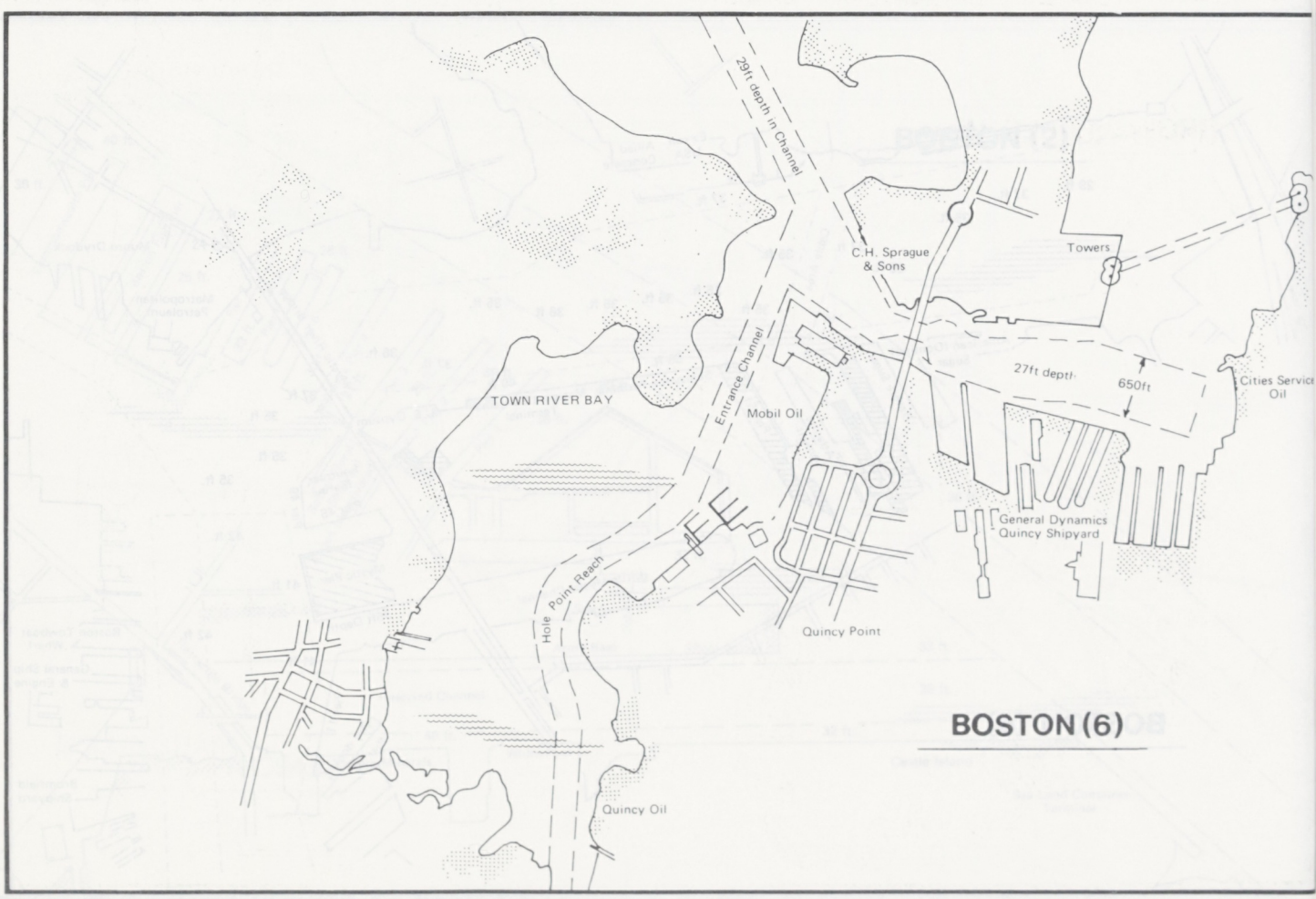

BOSTON (5)
CHELSEA
CHELSEA RIVER
Union Oil
Wrecks
Gibbs Oil
Tenneco/Northeast (barges only)
36 ft.
34 ft.
35 ft.
Gulf Oil
37 ft.
36 ft.
36 ft.
36 ft.
36 ft.
36 ft.
35 ft.
American Oil/Northeast
Chelsea St. Bridge
Jenney
Mobil Oil
38 ft.
36 ft.
35 ft.
Texaco
McArdle Bridge
35 ft
35 ft.
Perini Corp.
Hess Oil (inactive)
35 ft.

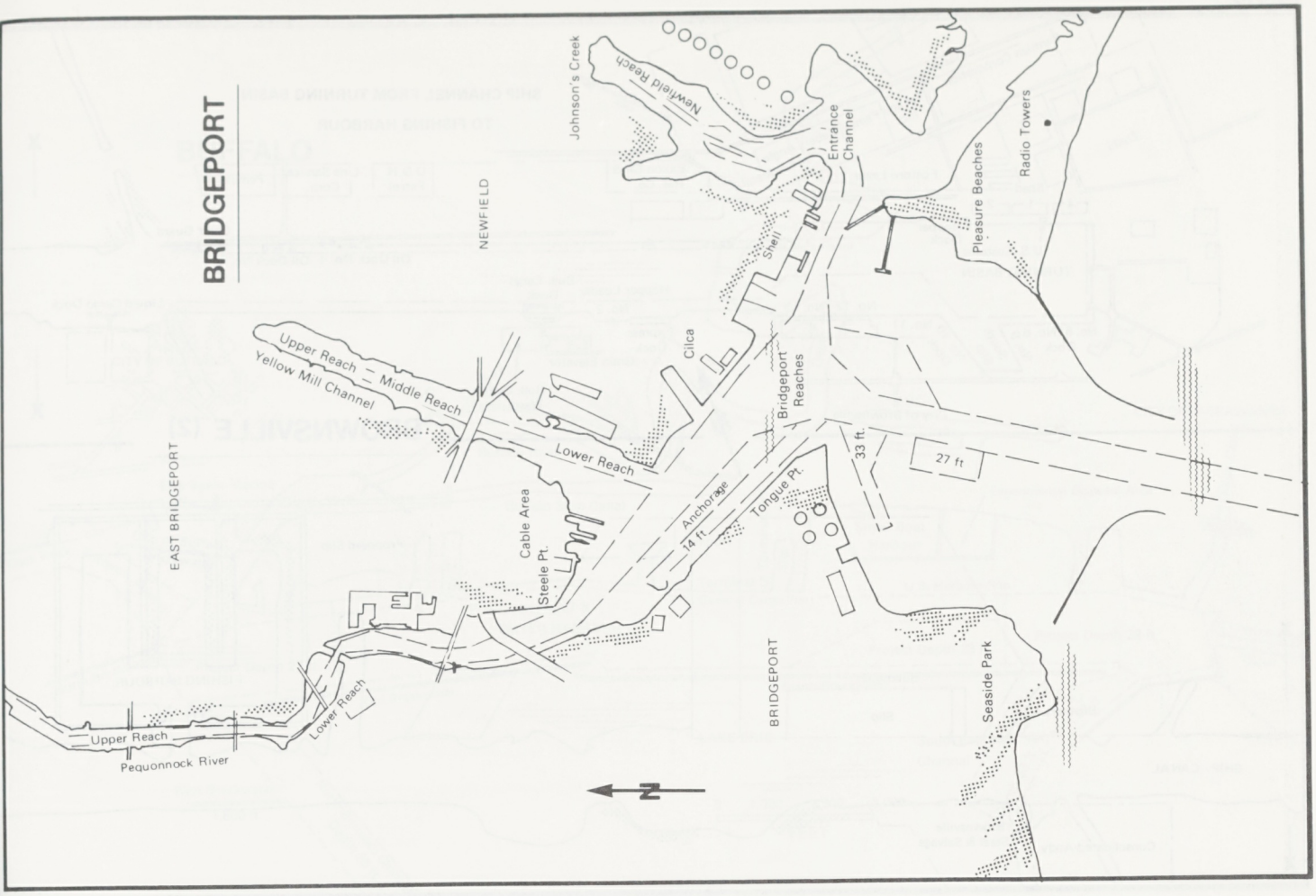

BOSTON (6)
29ft depth in Channel
C.H. Sprague & Sons
Towers
27ft deptl
650ft
Cities Service Oil
TOWN RIVER BAY
Entrance Channel
Mobil Oil
General Dynamics Quincy Shipyard
Hole Point Reach
Quincy Point
Quincy Oil

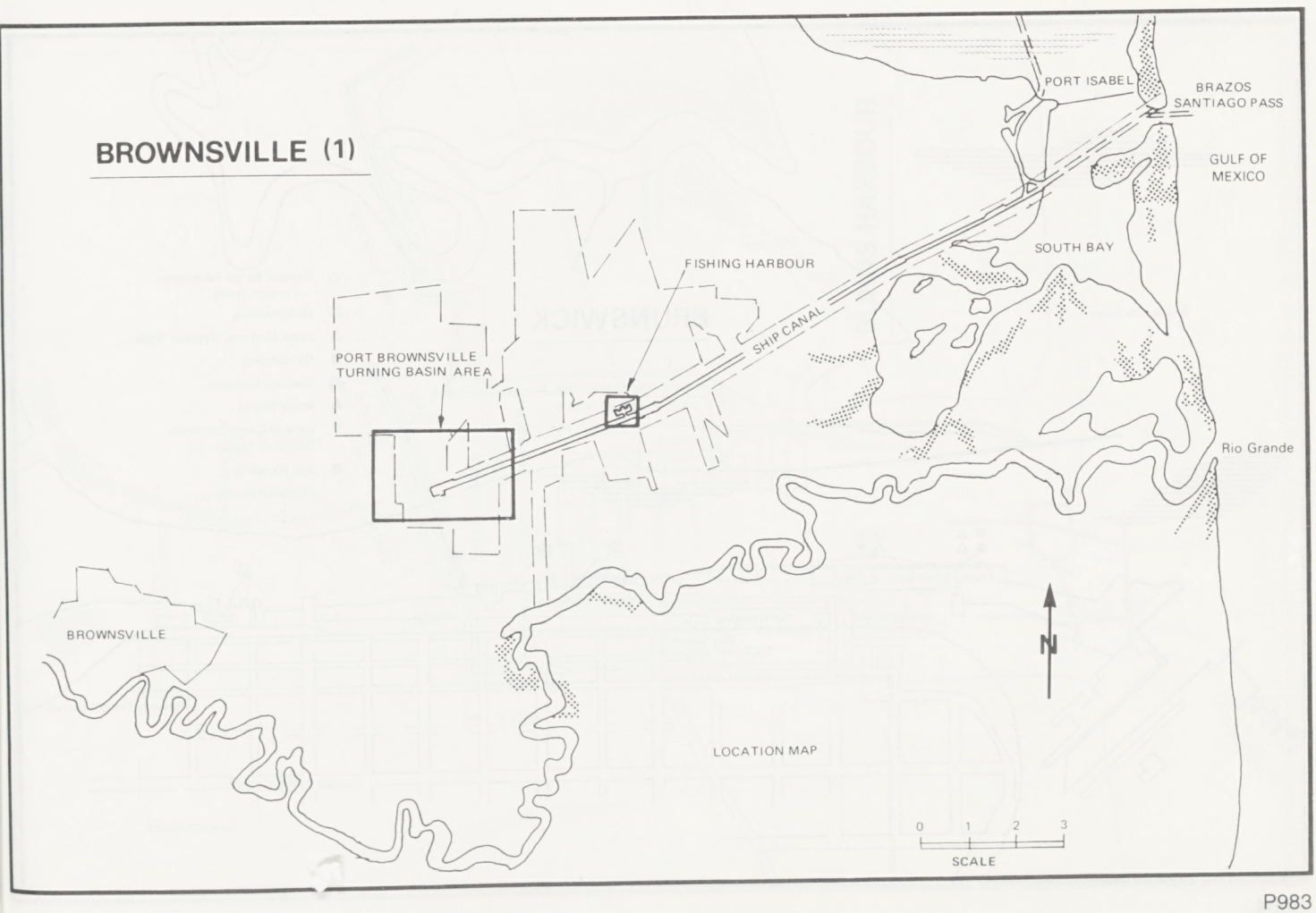

BRIDGEPORT
Johnson's Creek
Newfield Reach
Entrance Channel
Pleasure Beaches
Radio Towers
NEWFIELD
Shell
Upper Reach
Middle Reach
Yellow Mill Channel
Cilca
Bridgeport Reaches
Lower Reach
33 ft.
27 ft
EAST BRIDGEPORT
Cable Area
Steele Pt.
Anchorage
14 ft.
Tongue Pt.
BRIDGEPORT
Seaside Park
Upper Reach
Lower Reach
Pequonnock River
N

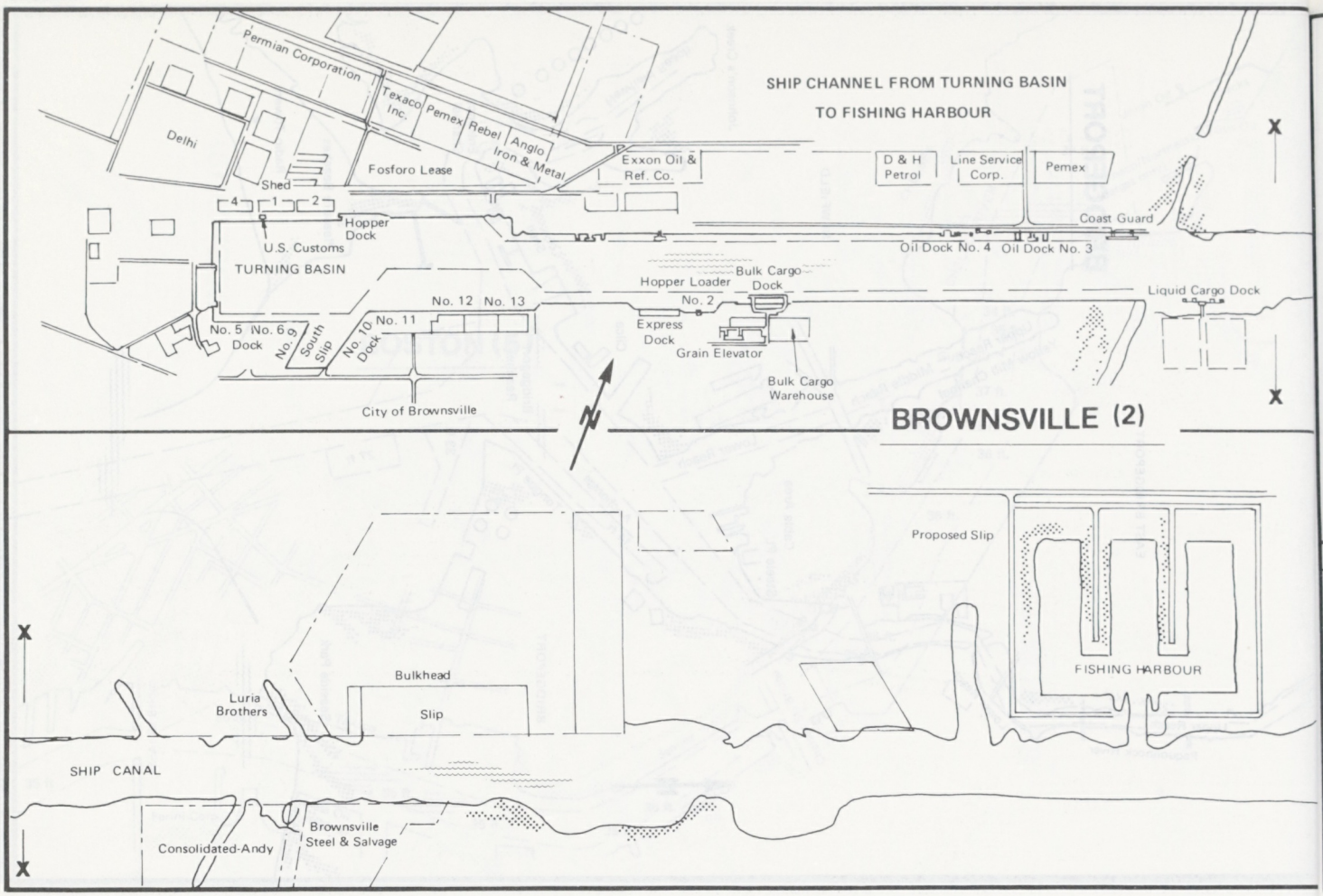

BROWNSVILLE (1)
PORT ISABEL
BRAZOS SANTIAGO PASS
GULF OF MEXICO
SOUTH BAY
FISHING HARBOUR
SHIP CANAL
PORT BROWNSVILLE TURNING BASIN AREA
Rio Grande
BROWNSVILLE
N
LOCATION MAP
0 1 2 3
SCALE

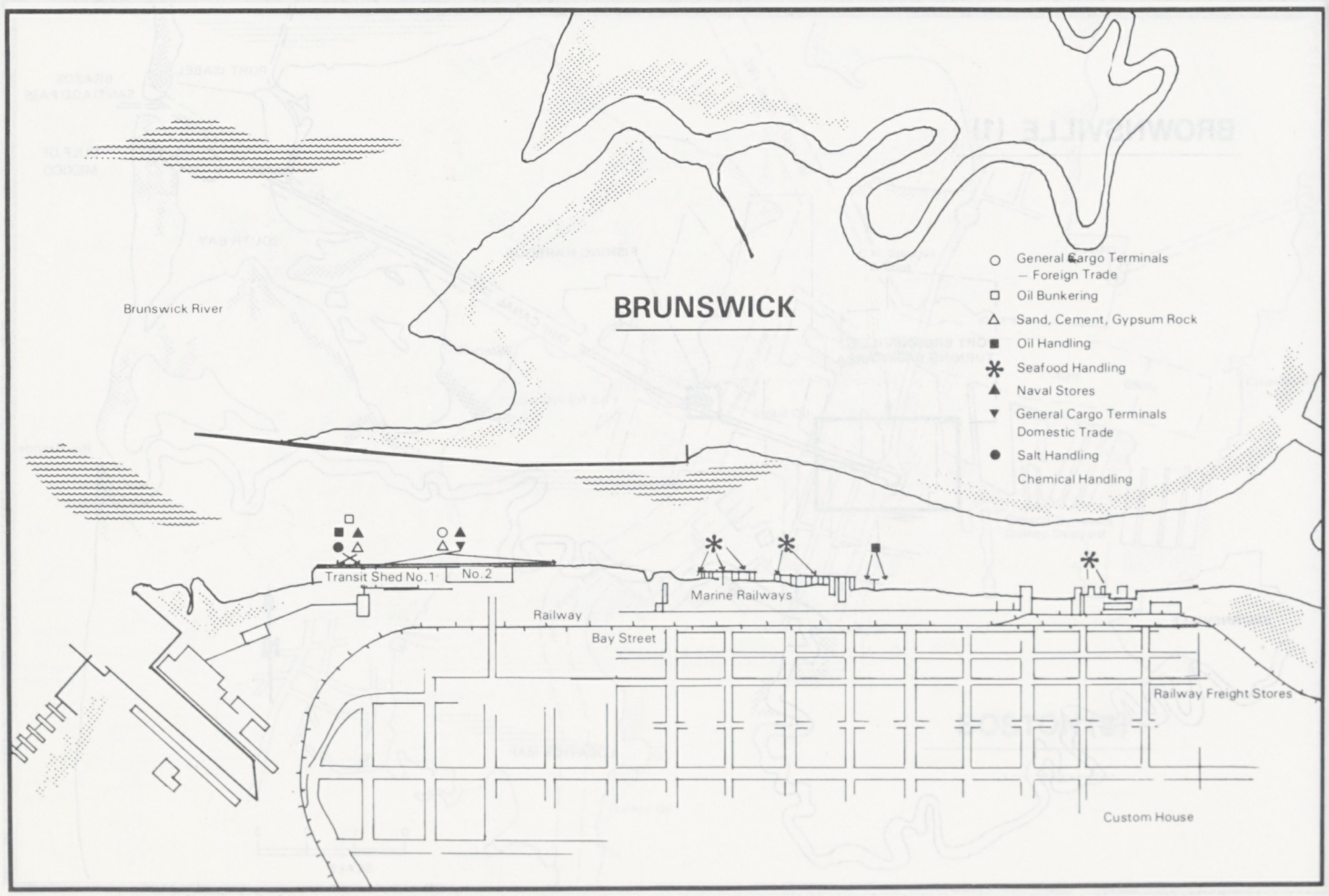

BOSTON (5)
Union Oil
Wrecks
Gibbs Oil
Tenneco/Northeast (barges only)
36 ft.
CHELSEA
CHELSEA RIVER
34 ft.
35 ft.
Gulf Oil
37 ft.
36 ft.
36 ft.
36 ft.
36 ft.
American Oil/Northeast
36 ft.
35 ft.
Chelsea St. Bridge
Jenney
Mobil Oil
38 ft.
36 ft.
35 ft.
35 ft.
Texaco
McArdle Bridge
35 ft
Perini Corp.
Hess Oil (inactive)
35 ft.

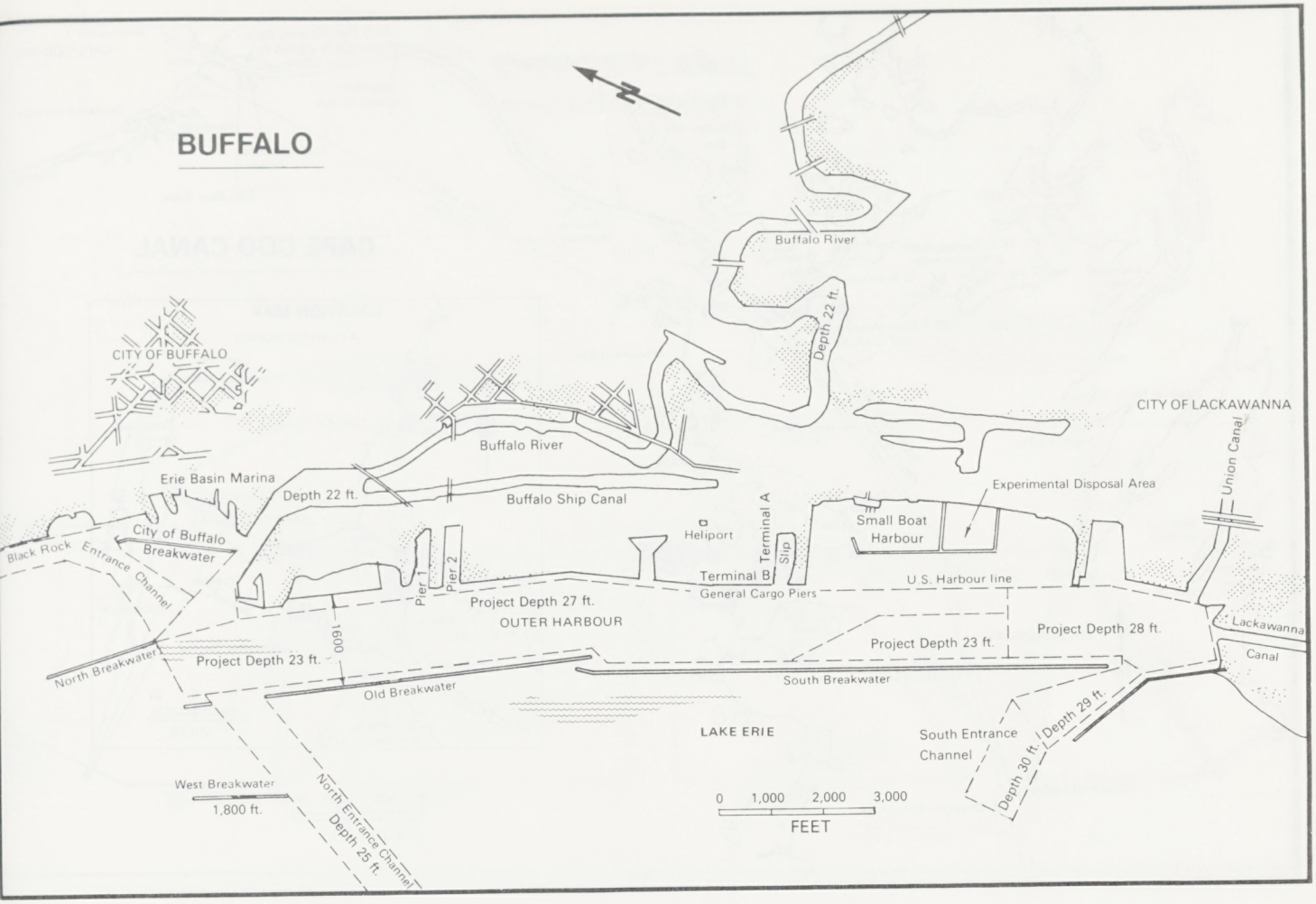

BOSTON (6)
29ft depth in Channel
C.H. Sprague & Sons
Towers
27ft deptl
650ft
Cities Service Oil
TOWN RIVER BAY
Entrance Channel
Mobil Oil
General Dynamics Quincy Shipyard
Hole Point Reach
Quincy Point
Quincy Oil

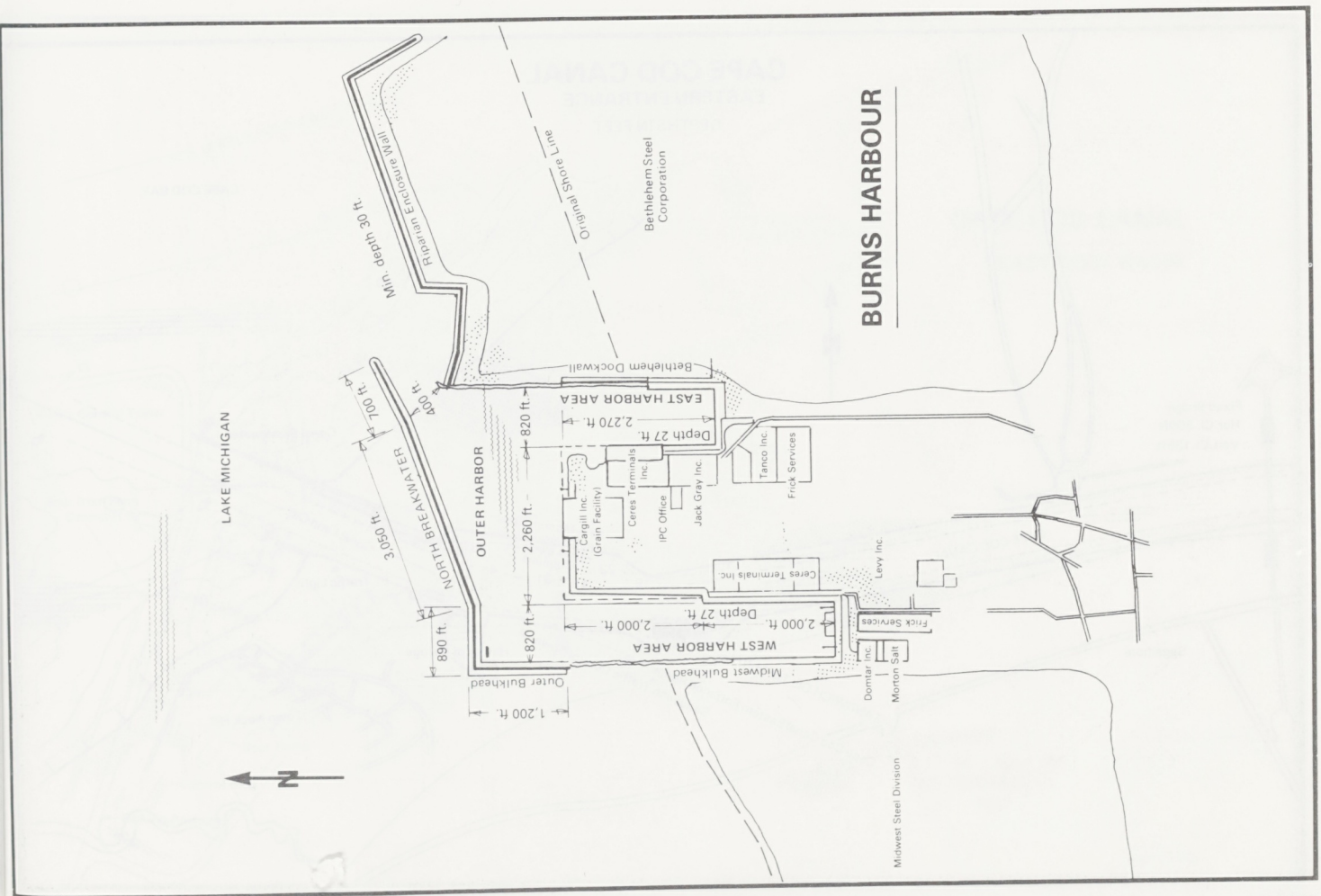

BRIDGEPORT
Johnson's Creek
Newfield Beach
Entrance Channel
Pleasure Beaches
Radio Towers
NEWFIELD
Shell
Cilca
Bridgeport Reaches
Upper Reach
Middle Reach
Yellow Mill Channel
Lower Reach
33 ft.
27 ft
EAST BRIDGEPORT
Cable Area
Steele Pt.
Anchorage
14 ft.
Tongue Pt.
BRIDGEPORT
Seaside Park
Upper Reach
Lower Reach
Pequonnock River
N

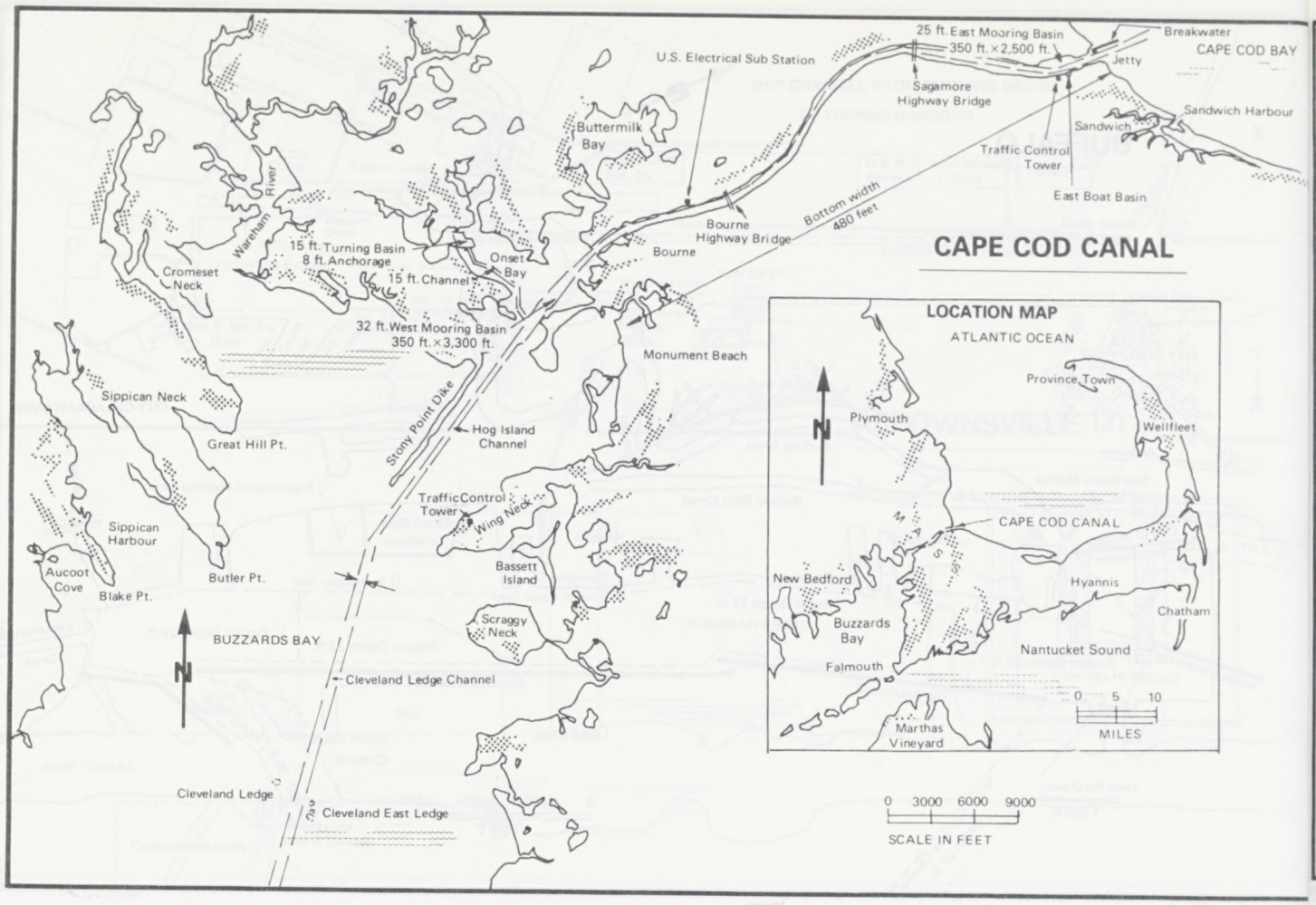

BROWNSVILLE (1)
PORT ISABEL
BRAZOS SANTIAGO PASS
GULF OF MEXICO
SOUTH BAY
FISHING HARBOUR
SHIP CANAL
PORT BROWNSVILLE TURNING BASIN AREA
Rio Grande
BROWNSVILLE
N
LOCATION MAP
0 1 2 3
SCALE

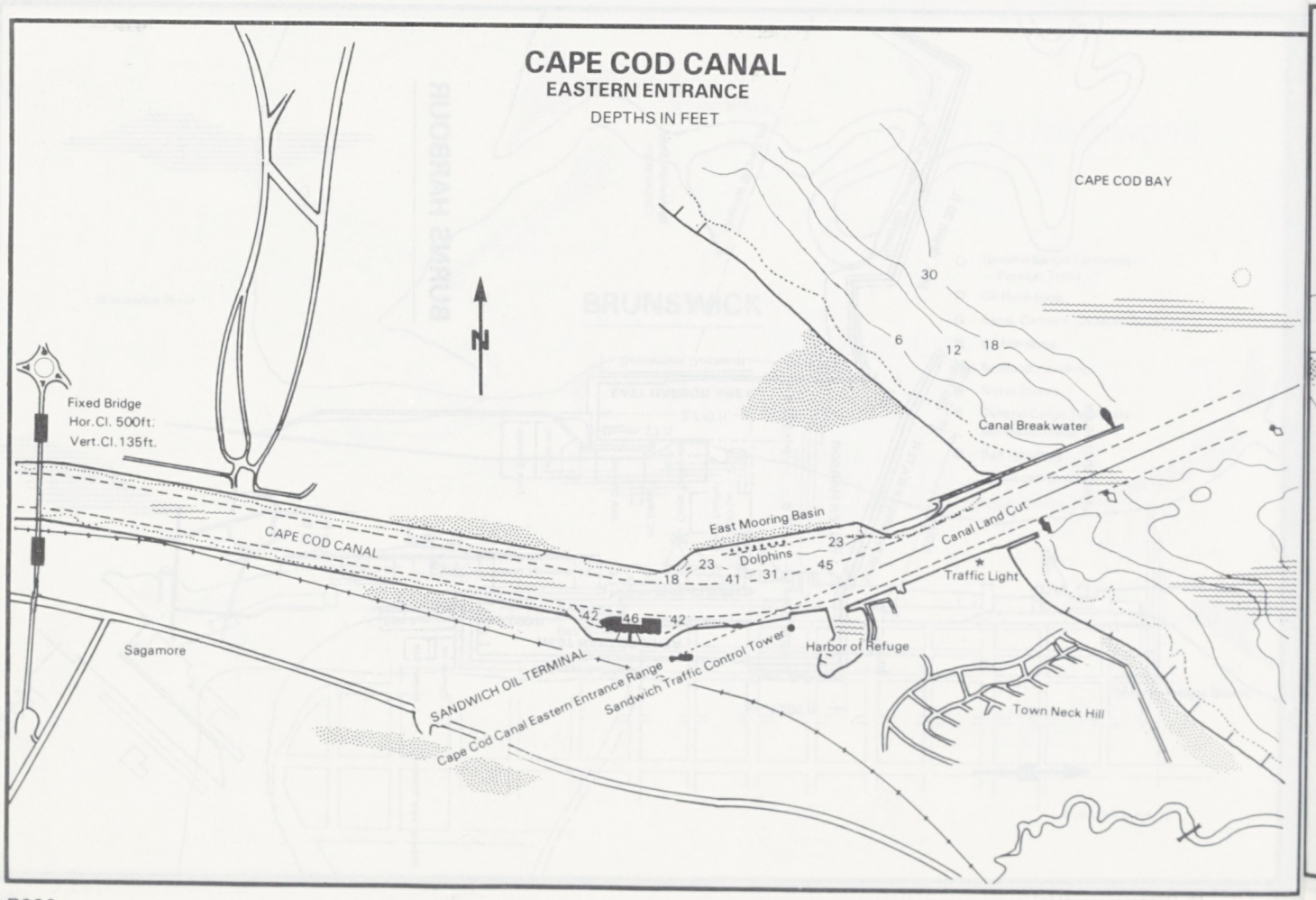

SHIP CHANNEL FROM TURNING BASIN
TO FISHING HARBOUR
Permian Corporation
Texaco Inc.
Pemex
Rebel
Anglo Iron & Metal
Delhi
Shed
Fosforo Lease
Exxon Oil & Ref. Co.
D & H Petrol
Line Service Corp.
Pemex
Coast Guard
Oil Dock No. 4
Oil Dock No. 3
4
1
2
Hopper Dock
U.S. Customs
TURNING BASIN
Hopper Loader No. 2
Bulk Cargo Dock
Liquid Cargo Dock
No. 12
No. 13
No. 11
No. 5 Dock
No. 6
No. 9
South Slip
No. 10 Dock
Express Dock
Grain Elevator
Bulk Cargo Warehouse
City of Brownsville
BROWNSVILLE (2)
Proposed Slip
FISHING HARBOUR
Bulkhead
Slip
Luria Brothers
SHIP CANAL
Brownsville Steel & Salvage
Consolidated-Andy


BRUNSWICK
Brunswick River
General Cargo Terminals — Foreign Trade
Oil Bunkering
Sand, Cement, Gypsum Rock
Oil Handling
Seafood Handling
Naval Stores
General Cargo Terminals Domestic Trade
Salt Handling
Chemical Handling
Transit Shed No. 1
No. 2
Marine Railways
Railway
Bay Street
Railway Freight Stores
Custom House


BUFFALO
N
Buffalo River
Depth 22 ft.
CITY OF BUFFALO
Buffalo River
CITY OF LACKAWANNA
Union Canal
Erie Basin Marina
Depth 22 ft.
Buffalo Ship Canal
Experimental Disposal Area
Heliport
Terminal A
Slip
Small Boat Harbour
City of Buffalo Breakwater
Black Rock Entrance Channel
Pier 1
Pier 2
Terminal B
General Cargo Piers
U.S. Harbour line
Project Depth 27 ft.
OUTER HARBOUR
Project Depth 28 ft.
Project Depth 23 ft.
Lackawanna Canal
North Breakwater
Project Depth 23 ft.
1000
Old Breakwater
South Breakwater
LAKE ERIE
South Entrance Channel
Depth 29 ft.
Depth 30 ft.
West Breakwater
1,800 ft.
North Entrance Channel
Depth 25 ft.
0 1,000 2,000 3,000
FEET

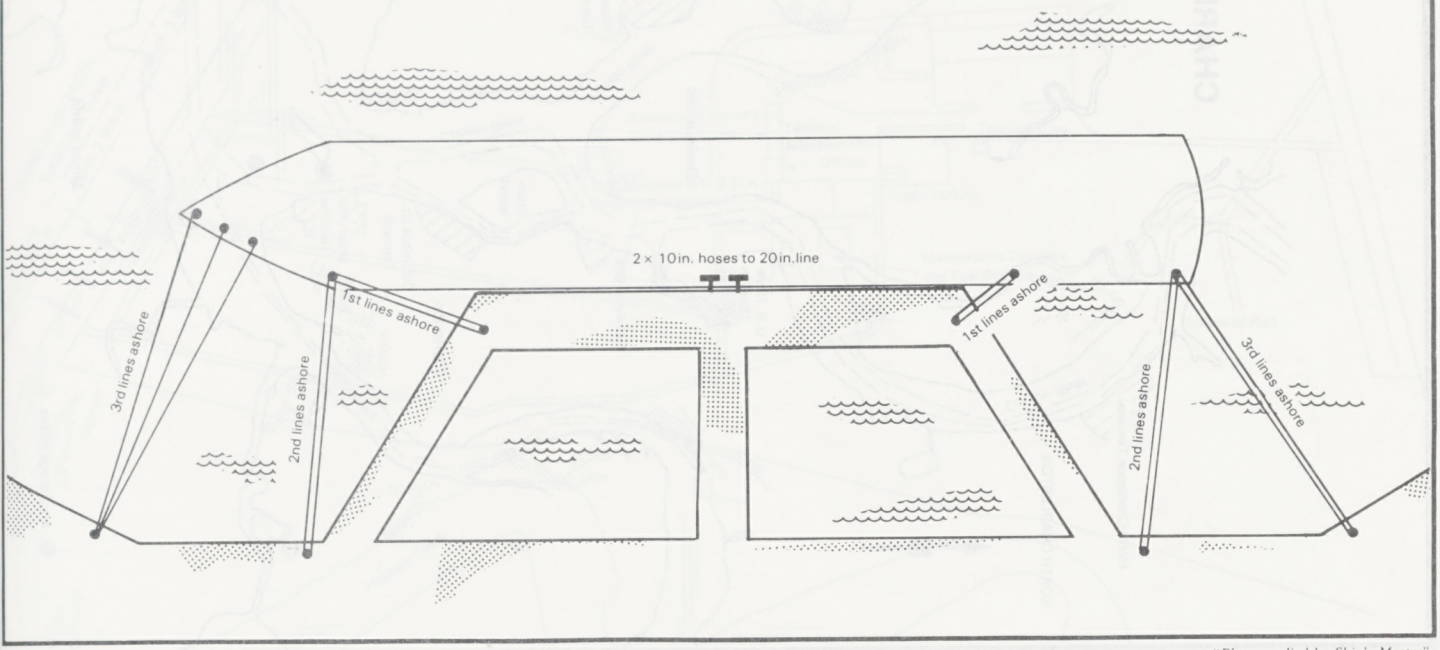

BURNS HARBOUR
N
Min. depth 30 ft.
Riparian Enclosure Wall
Original Shore Line
Bethlehem Steel Corporation
Bethlehem Dockwall
EAST HARBOR AREA
Depth 27 ft.
2,270 ft.
820 ft.
400 ft.
700 ft.
LAKE MICHIGAN
3,050 ft.
NORTH BREAKWATER
OUTER HARBOR
2,260 ft.
Cargill Inc (Grain Facility)
Ceres Terminals Inc
IPC Office
Jack Gray Inc
Tanco Inc
Frick Services
Ceres Terminals Inc
Levy Inc
Frick Services
WEST HARBOR AREA
Depth 27 ft.
2,000 ft.
2,000 ft.
820 ft.
890 ft.
Midwest Bulkhead
Outer Bulkhead
1,200 ft.
Domtar Inc
Morton Salt
Midwest Steel Division


CAPE COD CANAL
25 ft. East Mooring Basin
350 ft. × 2,500 ft.
Breakwater
CAPE COD BAY
Jetty
U.S. Electrical Sub Station
Sagamore Highway Bridge
Sandwich Harbour
Sandwich
Traffic Control Tower
East Boat Basin
Buttermilk Bay
Wareham River
Bourne Highway Bridge
Bottom width 480 feet
15 ft. Turning Basin
8 ft. Anchorage
Onset Bay
Bourne
Cromeset Neck
15 ft. Channel
32 ft. West Mooring Basin
350 ft. × 3,300 ft.
Monument Beach
Sippican Neck
Stony Point Dike
Hog Island Channel
Great Hill Pt.
Traffic Control Tower
Wing Neck
Sippican Harbour
Aucoot Cove
Blake Pt.
Butler Pt.
Bassett Island
Scraggy Neck
BUZZARDS BAY
Cleveland Ledge Channel
Cleveland Ledge
Cleveland East Ledge
LOCATION MAP
ATLANTIC OCEAN
Province Town
Plymouth
Wellfleet
CAPE COD CANAL
MASS.
New Bedford
Hyannis
Chatham
Buzzards Bay
Nantucket Sound
Falmouth
Marthas Vineyard
0 5 10
MILES
0 3000 6000 9000
SCALE IN FEET

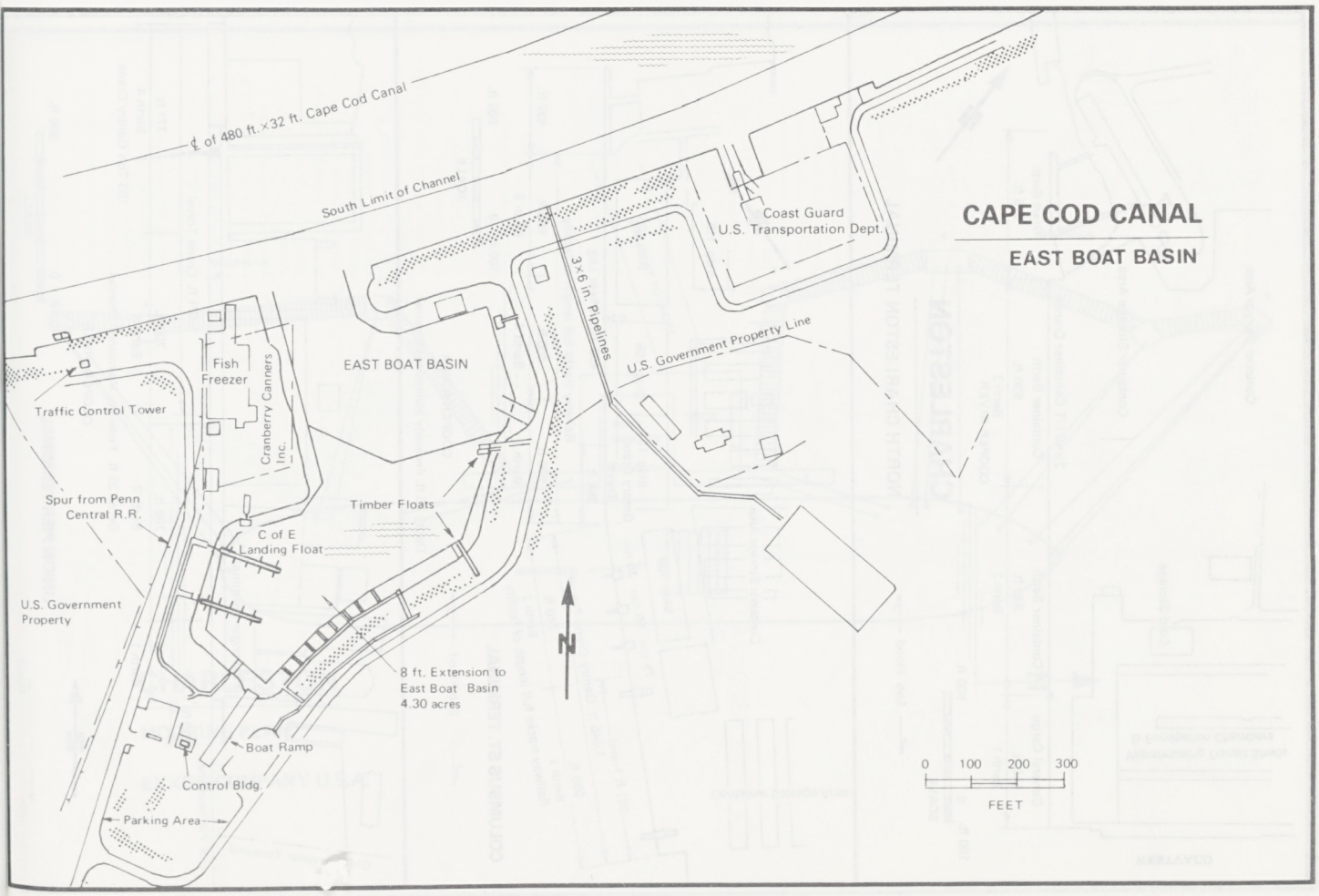

CAPE COD CANAL
EASTERN ENTRANCE
DEPTHS IN FEET
CAPE COD BAY
30
6
12
18
Fixed Bridge
Hor. Cl. 500ft.
Vert. Cl. 135ft.
Canal Breakwater
CAPE COD CANAL
East Mooring Basin
Canal Land Cut
23
Dolphins
23
18
41
31
45
Traffic Light
42
46
42
Sagamore
SANDWICH OIL TERMINAL
Harbor of Refuge
Cape Cod Canal Eastern Entrance Range
Sandwich Traffic Control Tower
Town Neck Hill

CAPE COD CANAL

SANDWICH OIL TERMINAL

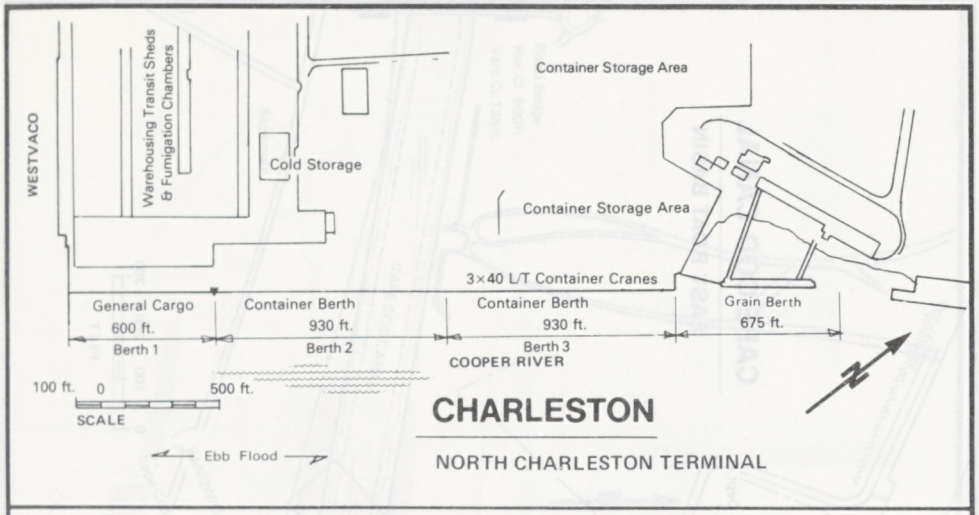


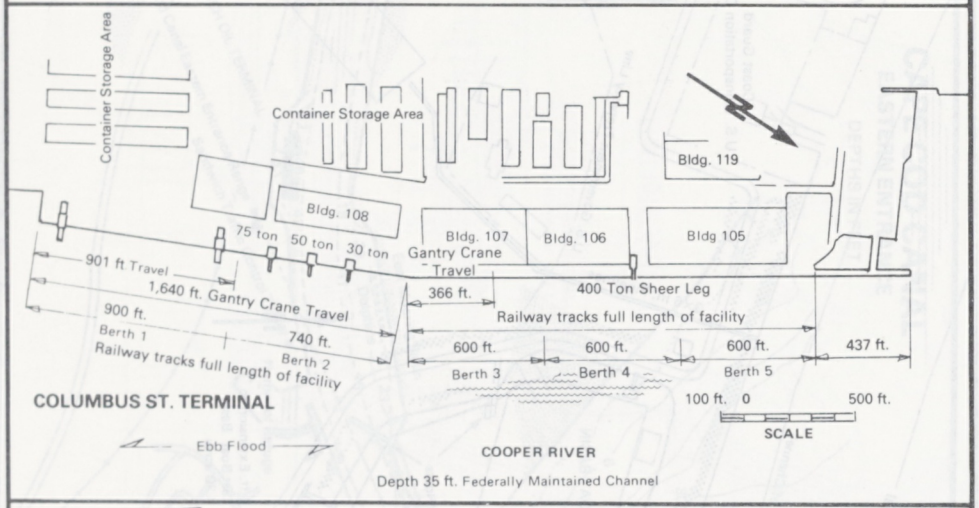
"Plan supplied by Ship's Master"

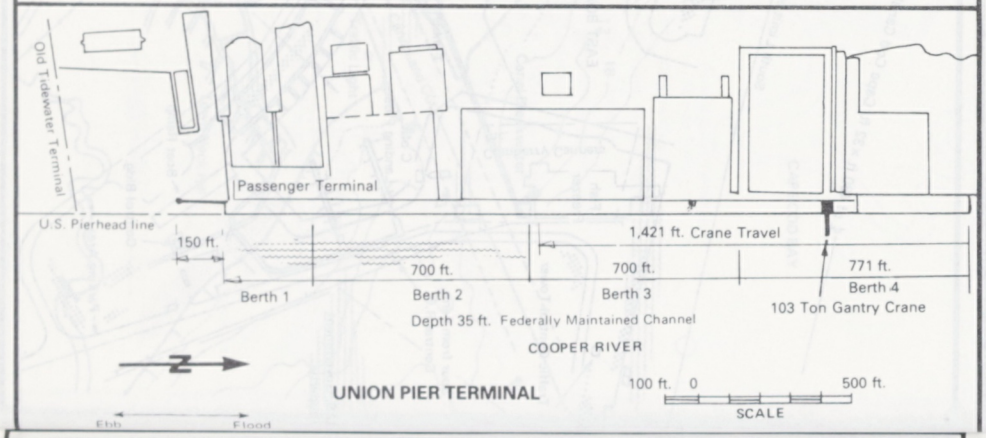


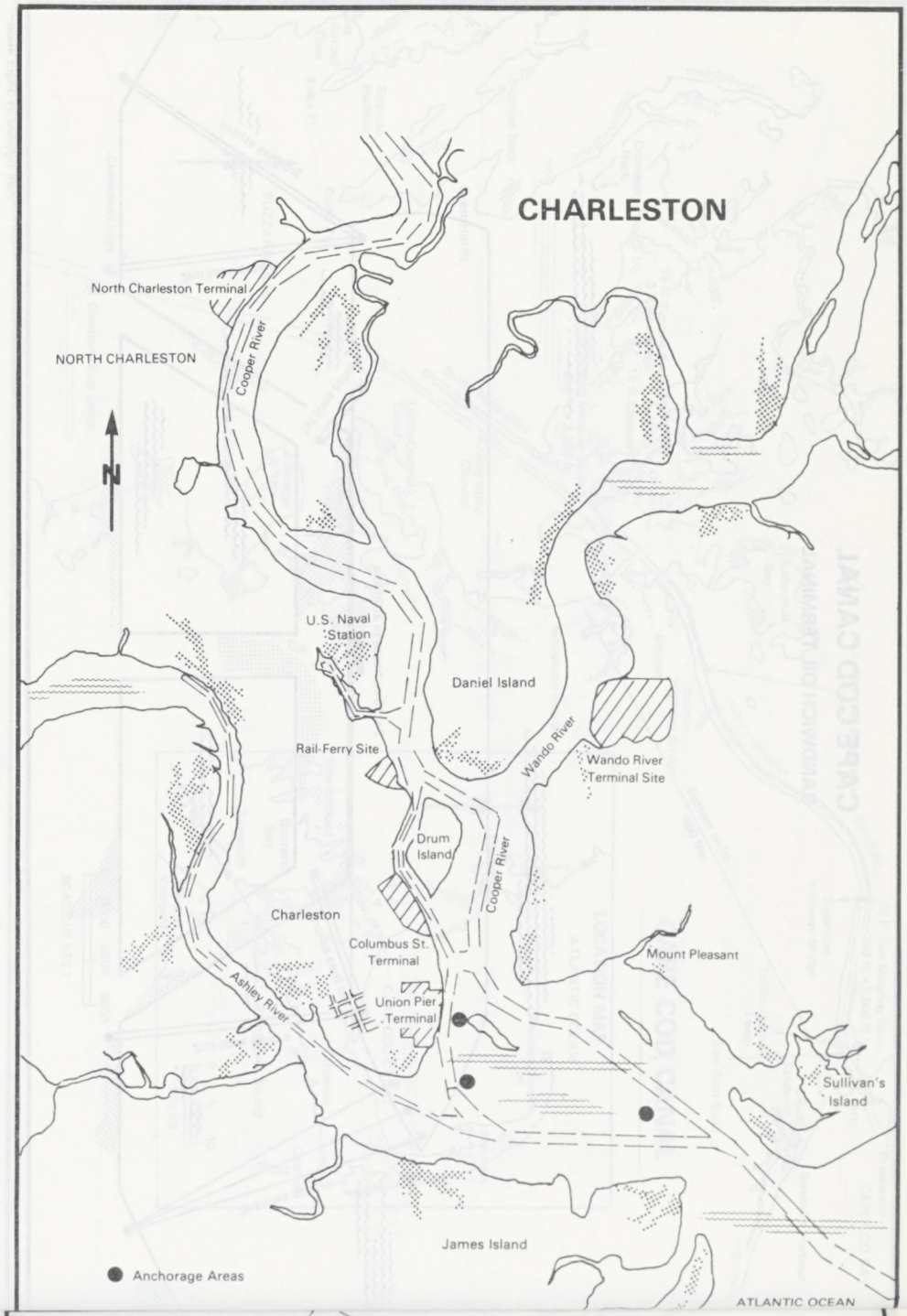
CAPE COD CANAL

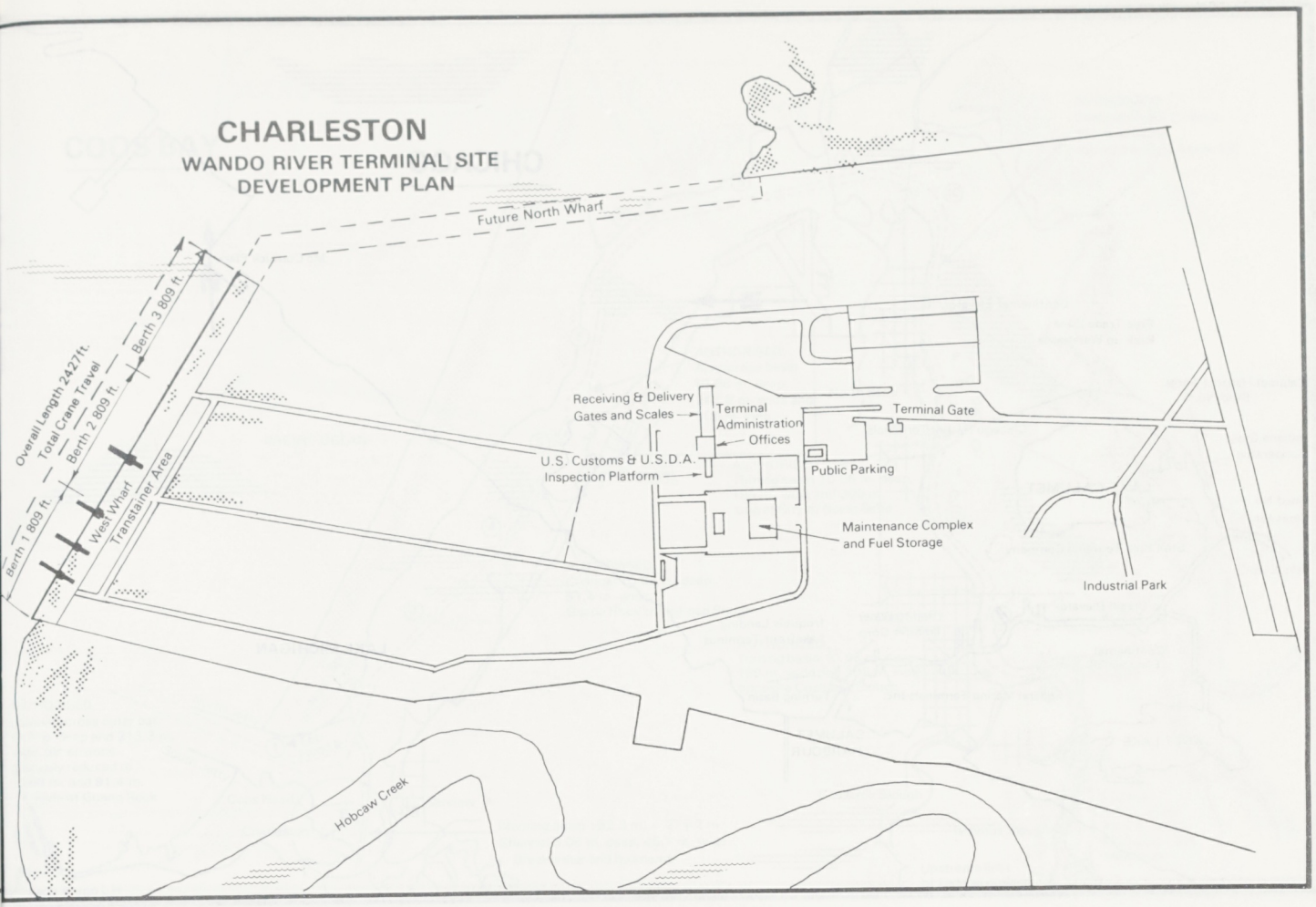
EAST BOAT BASIN

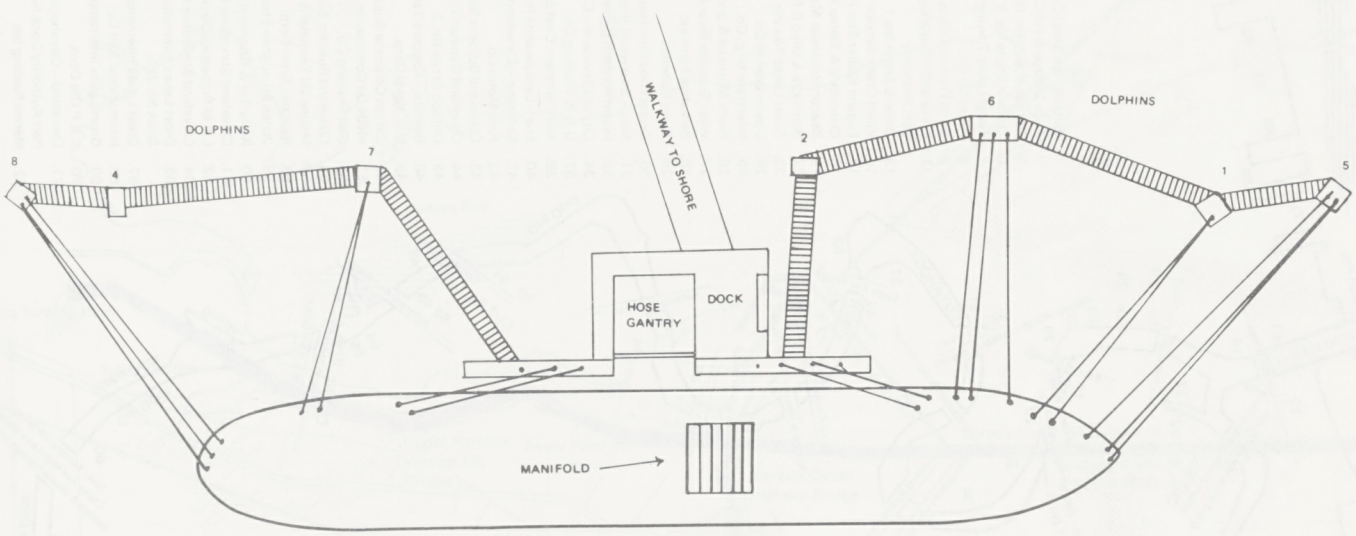

WESTVACO
Warehousing Transit Sheds & Fumigation Chambers
Cold Storage
Container Storage Area
Container Storage Area
3×40 L/T Container Cranes
General Cargo
600 ft.
Berth 1
Container Berth
930 ft.
Berth 2
Container Berth
930 ft.
Berth 3
Grain Berth
675 ft.
COOPER RIVER
100 ft. 0 500 ft.
SCALE
Ebb Flood
CHARLESTON
NORTH CHARLESTON TERMINAL


Container Storage Area
Container Storage Area
Bldg. 119
Bldg. 108
Bldg. 107
Bldg. 106
Bldg 105
75 ton 50 ton 30 ton
Gantry Crane Travel
901 ft Travel
1,640 ft. Gantry Crane Travel
900 ft.
Berth 1
740 ft.
Berth 2
Railway tracks full length of facility
366 ft.
400 Ton Sheer Leg
Railway tracks full length of facility
600 ft.
Berth 3
600 ft.
Berth 4
600 ft.
Berth 5
437 ft.
100 ft. 0 500 ft.
SCALE
COLUMBUS ST. TERMINAL
Ebb Flood
COOPER RIVER
Depth 35 ft. Federally Maintained Channel


Old Tidewater Terminal
Passenger Terminal
U.S. Pierhead line
150 ft.
Berth 1
700 ft.
Berth 2
1,421 ft. Crane Travel
700 ft.
Berth 3
771 ft.
Berth 4
103 Ton Gantry Crane
Depth 35 ft. Federally Maintained Channel
COOPER RIVER
UNION PIER TERMINAL
100 ft. 0 500 ft.
SCALE
Ebb
Flood


CHARLESTON
North Charleston Terminal
NORTH CHARLESTON
Cooper River
N
U.S. Naval Station
Daniel Island
Rail-Ferry Site
Wando River
Wando River Terminal Site
Drum Island
Cooper River
Charleston
Columbus St. Terminal
Mount Pleasant
Ashley River
Union Pier Terminal
Sullivan's Island
James Island
Anchorage Areas
ATLANTIC OCEAN

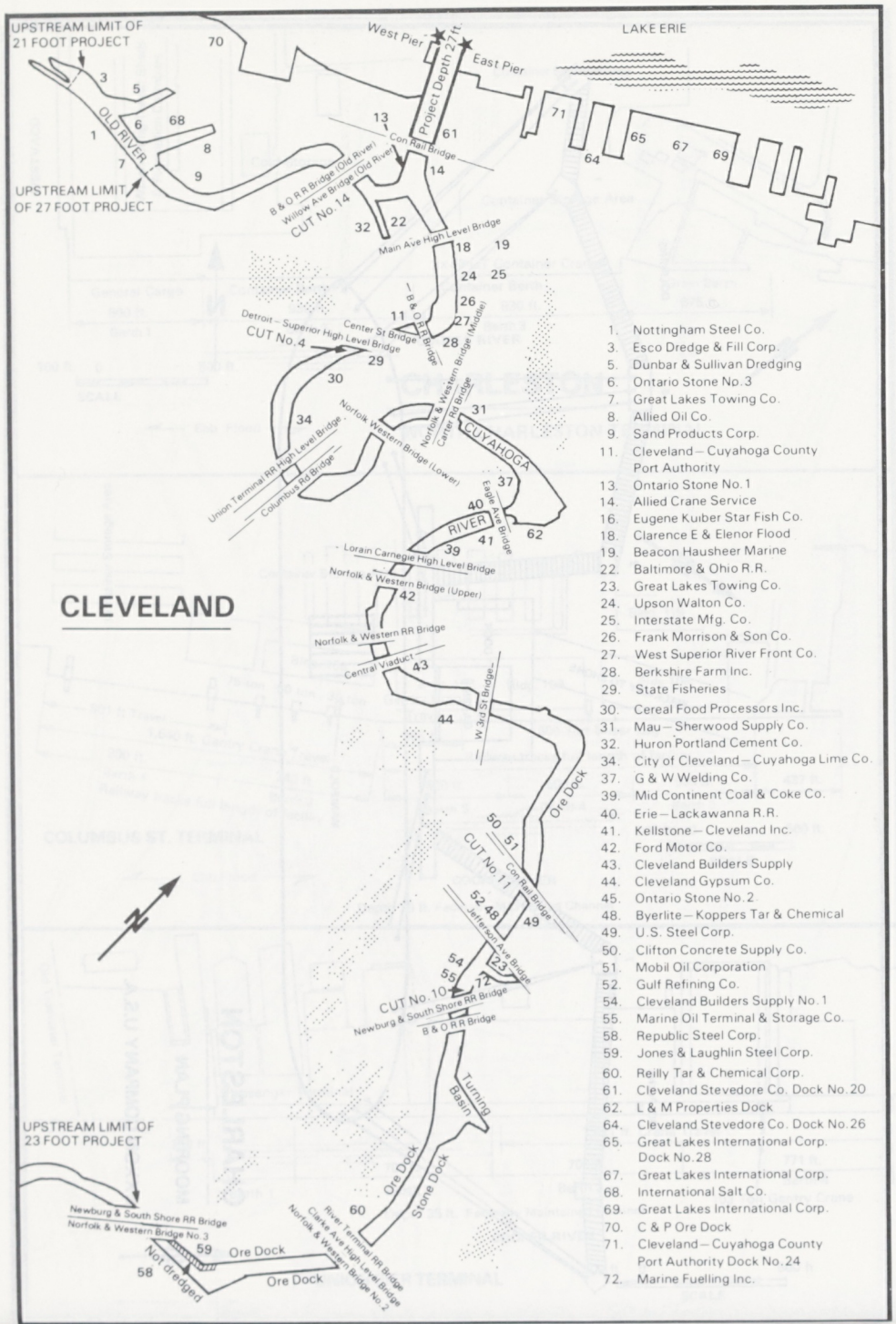




CHARLESTON

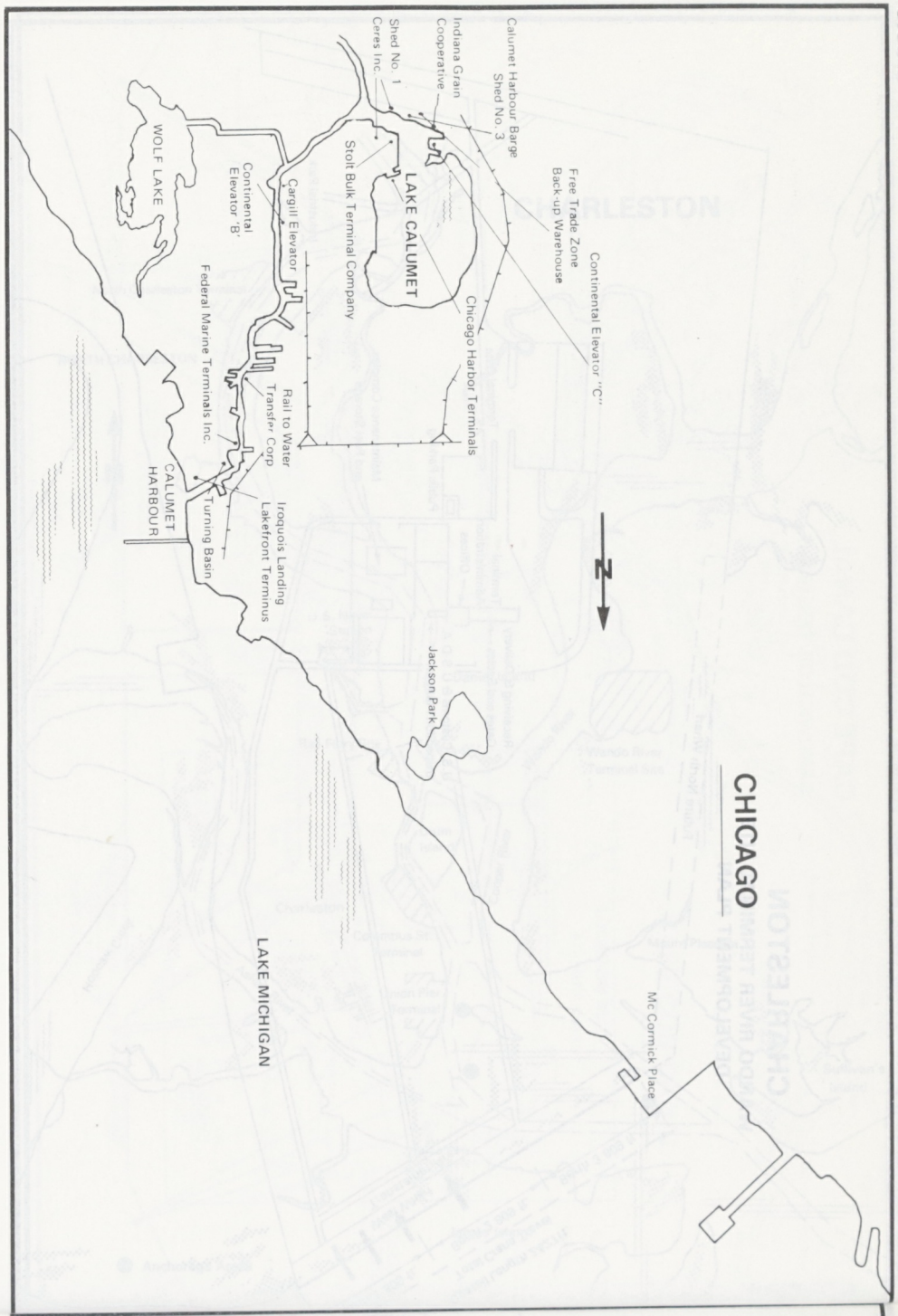
MOORING PLAN

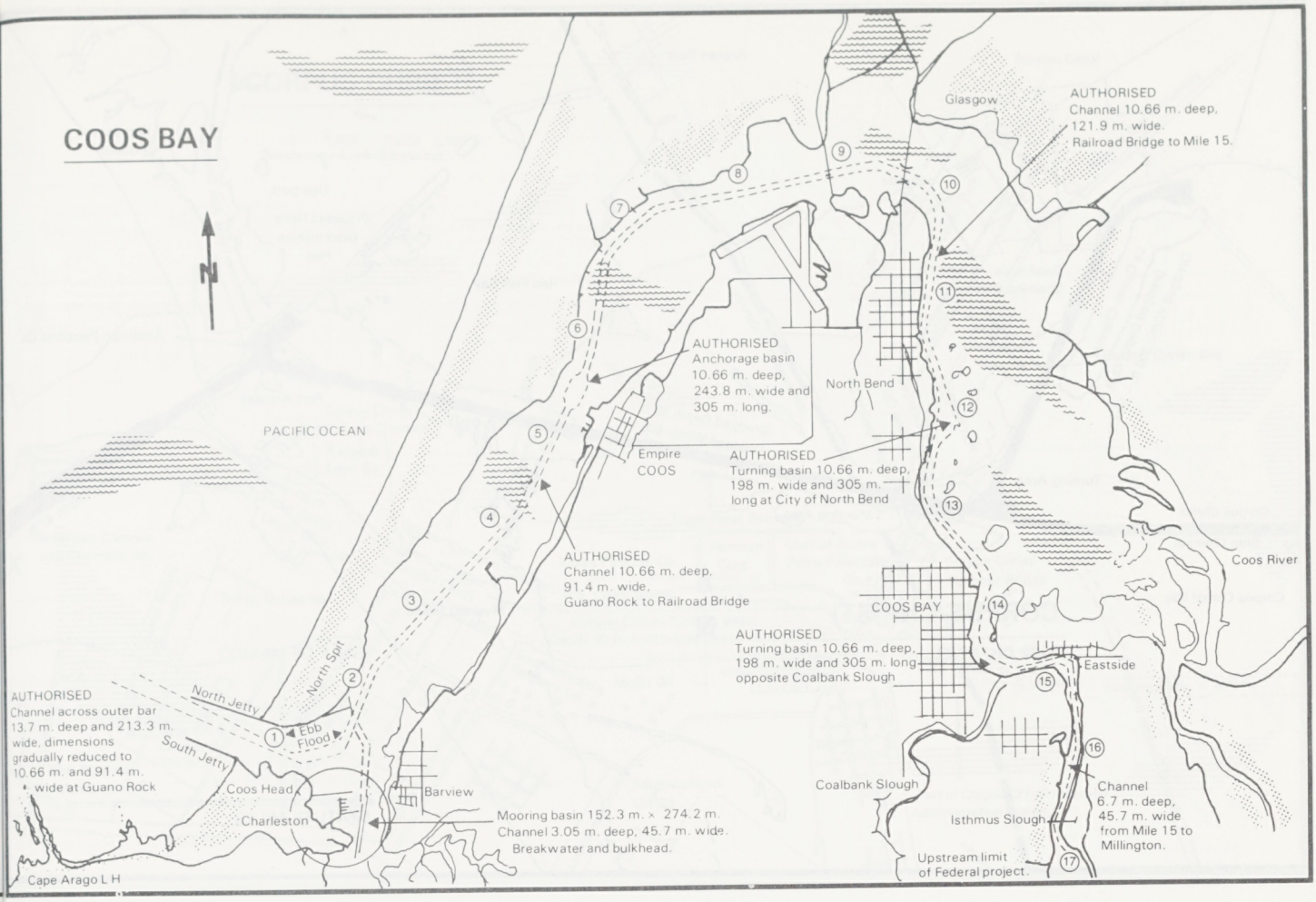
EXXON COMPANY U.S.A.

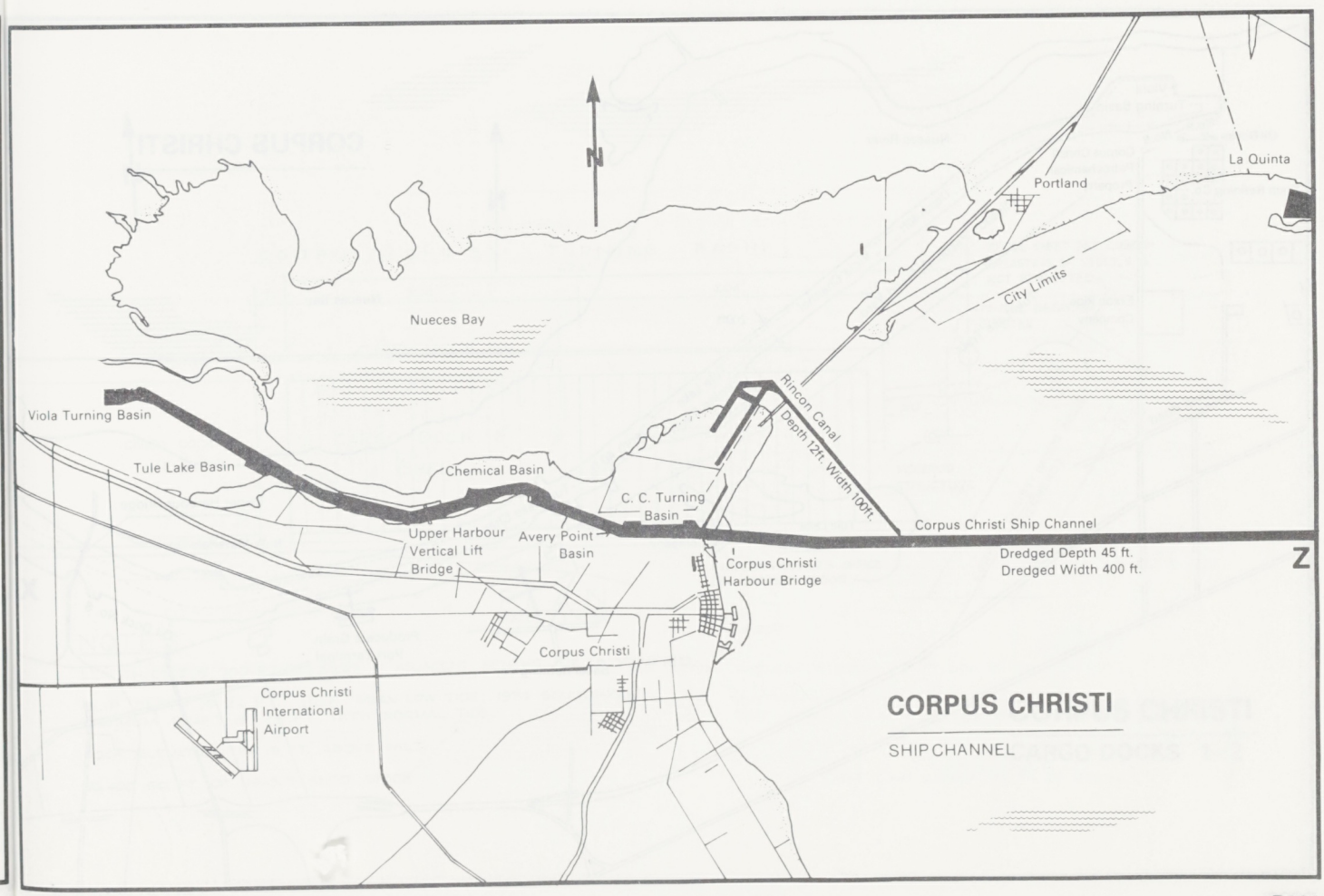


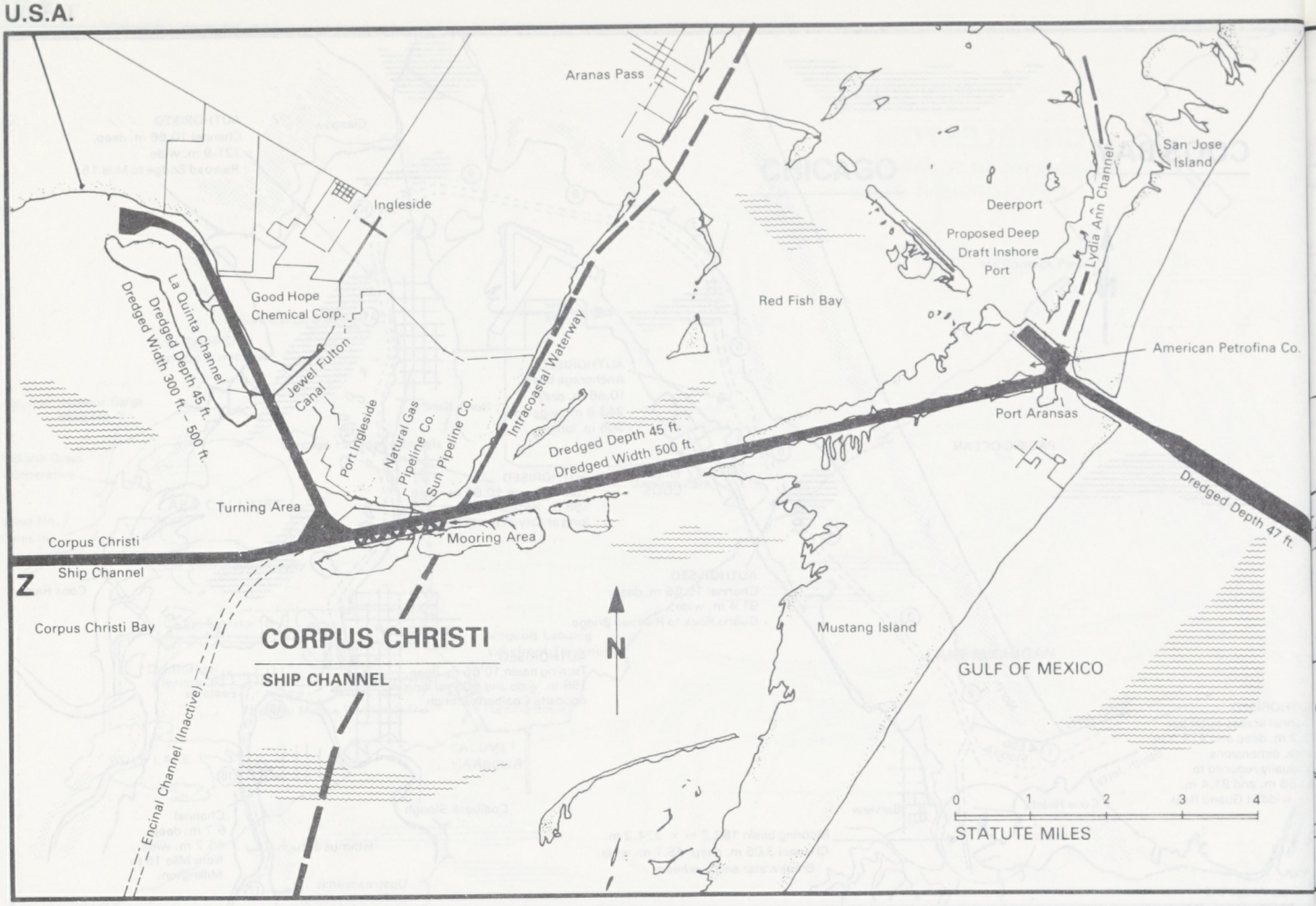
1. Nottingham Steel Co.
3. Esco Dredge & Fill Corp.
5. Dunbar & Sullivan Dredging
6. Ontario Stone No. 3
7. Great Lakes Towing Co.
8. Allied Oil Co.
9. Sand Products Corp.
11. Cleveland – Cuyahoga County Port Authority
13. Ontario Stone No. 1
14. Allied Crane Service
16. Eugene Kuiber Star Fish Co.
18. Clarence E & Elenor Flood
19. Beacon Hausheer Marine
22. Baltimore & Ohio R.R.
23. Great Lakes Towing Co.
24. Upson Walton Co.
25. Interstate Mfg. Co.
26. Frank Morrison & Son Co.
27. West Superior River Front Co.
28. Berkshire Farm Inc.
29. State Fisheries
30. Cereal Food Processors Inc.
31. Mau – Sherwood Supply Co.
32. Huron Portland Cement Co.
34. City of Cleveland – Cuyahoga Lime Co.
37. G & W Welding Co.
39. Mid Continent Coal & Coke Co.
40. Erie – Lackawanna R.R.
41. Kellstone – Cleveland Inc.
42. Ford Motor Co.
43. Cleveland Builders Supply
44. Cleveland Gypsum Co.
45. Ontario Stone No. 2
48. Byerlite – Koppers Tar & Chemical
49. U.S. Steel Corp.
50. Clifton Concrete Supply Co.
51. Mobil Oil Corporation
52. Gulf Refining Co.
54. Cleveland Builders Supply No. 1
55. Marine Oil Terminal & Storage Co.
58. Republic Steel Corp.
59. Jones & Laughlin Steel Corp.
60. Reilly Tar & Chemical Corp.
61. Cleveland Stevedore Co. Dock No. 20
62. L & M Properties Dock
64. Cleveland Stevedore Co. Dock No. 26
65. Great Lakes International Corp. Dock No. 28
67. Great Lakes International Corp.
68. International Salt Co.
69. Great Lakes International Corp.
70. C & P Ore Dock
71. Cleveland – Cuyahoga County Port Authority Dock No. 24
72. Marine Fuelling Inc.

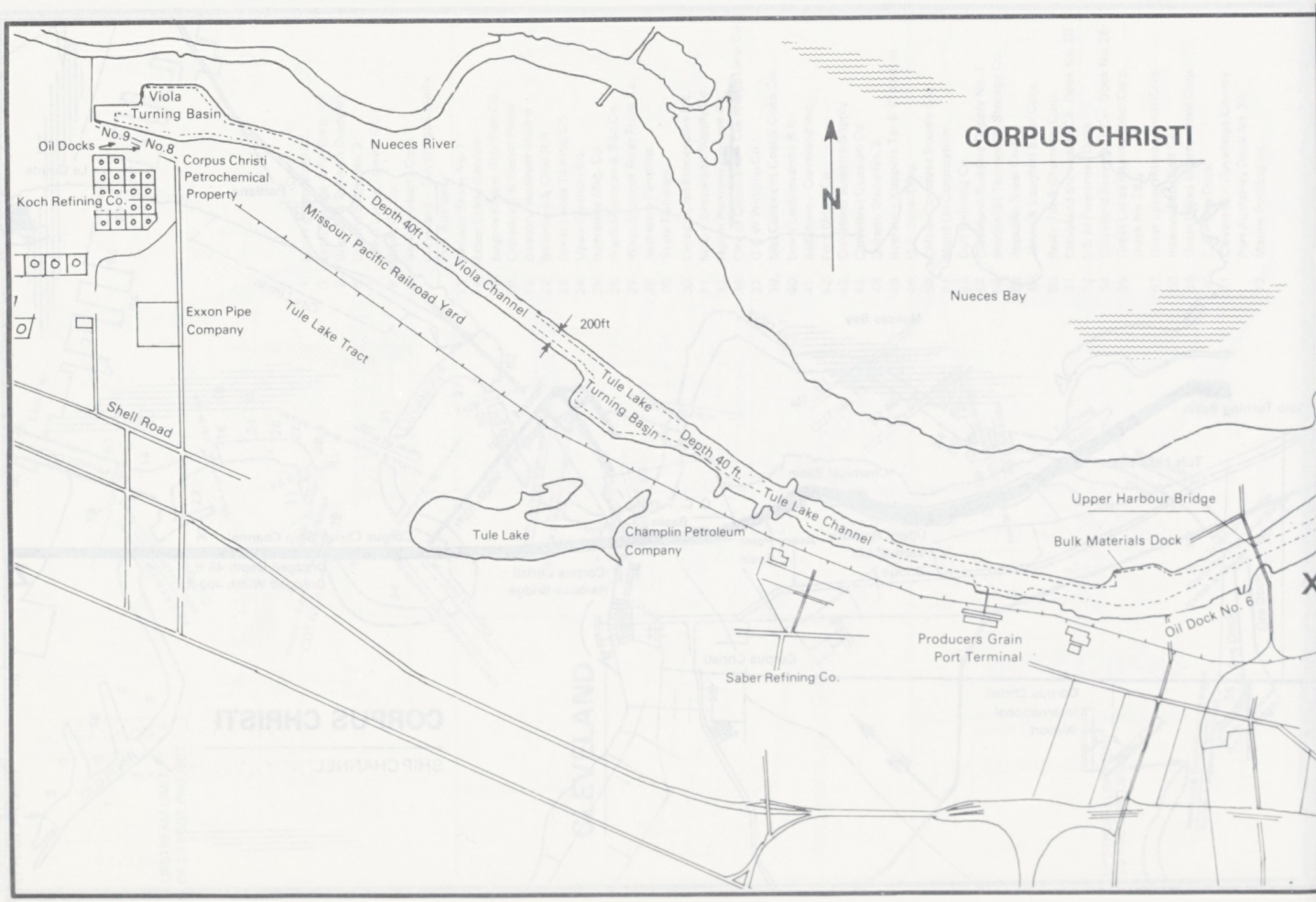
U.S.A.

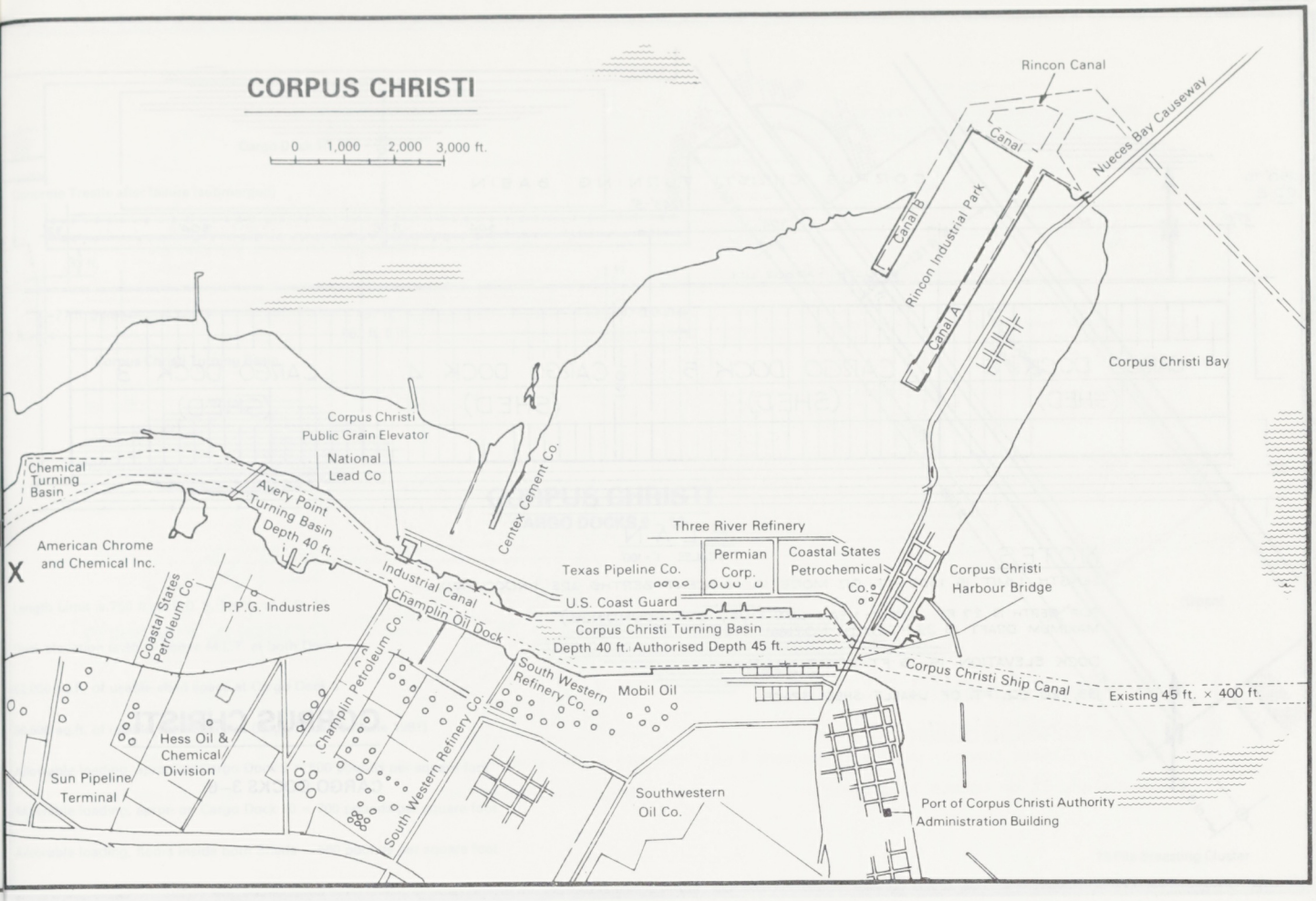


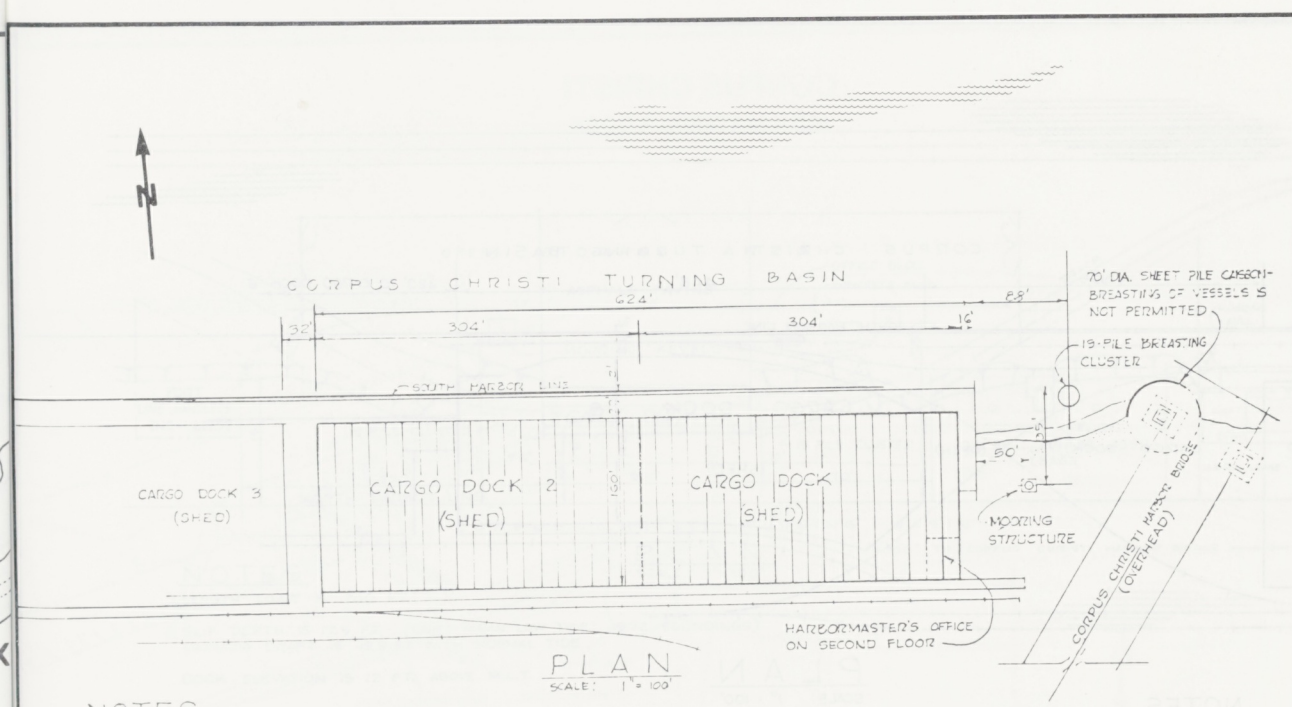

COOS BAY
N
PACIFIC OCEAN
Glasgow
AUTHORISED
Channel 10.66 m. deep,
121.9 m. wide.
Railroad Bridge to Mile 15.
AUTHORISED
Anchorage basin
10.66 m. deep,
243.8 m. wide and
305 m. long.
North Bend
Empire
COOS
AUTHORISED
Turning basin 10.66 m. deep,
198 m. wide and 305 m.
long at City of North Bend
AUTHORISED
Channel 10.66 m. deep,
91.4 m. wide,
Guano Rock to Railroad Bridge
Coos River
COOS BAY
AUTHORISED
Turning basin 10.66 m. deep,
198 m. wide and 305 m. long
opposite Coalbank Slough
Eastside
AUTHORISED
Channel across outer bar
13.7 m. deep and 213.3 m.
wide, dimensions
gradually reduced to
10.66 m. and 91.4 m.
wide at Guano Rock
North Jetty
South Jetty
North Spit
Ebb
Flood
Coos Head
Charleston
Barview
Mooring basin 152.3 m. × 274.2 m.
Channel 3.05 m. deep, 45.7 m. wide.
Breakwater and bulkhead.
Coalbank Slough
Isthmus Slough
Channel
6.7 m. deep,
45.7 m. wide
from Mile 15 to
Millington.
Upstream limit
of Federal project.
Cape Arago L H


N
La Quinta
Portland
City Limits
Nueces Bay
Rincon Canal
Depth 12ft. Width 100ft.
Viola Turning Basin
Tule Lake Basin
Chemical Basin
C. C. Turning
Basin
Upper Harbour
Vertical Lift
Bridge
Avery Point
Basin
Corpus Christi Ship Channel
Dredged Depth 45 ft.
Dredged Width 400 ft.
Corpus Christi
Harbour Bridge
Z
Corpus Christi
Corpus Christi
International
Airport
CORPUS CHRISTI
SHIP CHANNEL


Aranas Pass
San Jose Island
Ingleside
Deerport
Lydia Ann Channel
Proposed Deep Draft Inshore Port
Good Hope Chemical Corp.
La Quinta Channel
Dredged Depth 45 ft.
Dredged Width 300 ft. – 500 ft.
Jewel Fulton Canal
Red Fish Bay
American Petrofina Co.
Port Ingleside
Natural Gas Pipeline Co.
Sun Pipeline Co.
Intracoastal Waterway
Dredged Depth 45 ft.
Dredged Width 500 ft.
Port Aransas
Dredged Depth 47 ft.
Turning Area
Corpus Christi Ship Channel
Mooring Area
Z
Corpus Christi Bay
CORPUS CHRISTI
SHIP CHANNEL
N
Mustang Island
GULF OF MEXICO
Encinal Channel (Inactive)
0 1 2 3 4
STATUTE MILES


Viola Turning Basin
Oil Docks
No.9
No.8
Nueces River
Corpus Christi Petrochemical Property
Koch Refining Co.
CORPUS CHRISTI
N
Depth 40ft
Viola Channel
Missouri Pacific Railroad Yard
200ft
Exxon Pipe Company
Tule Lake Tract
Nueces Bay
Shell Road
Tule Lake Turning Basin
Depth 40 ft.
Tule Lake Channel
Upper Harbour Bridge
Bulk Materials Dock
Tule Lake
Champlin Petroleum Company
Oil Dock No. 6
X
Producers Grain Port Terminal
Saber Refining Co.





NOTES

LENGTH LIMIT IS 700 FT. OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

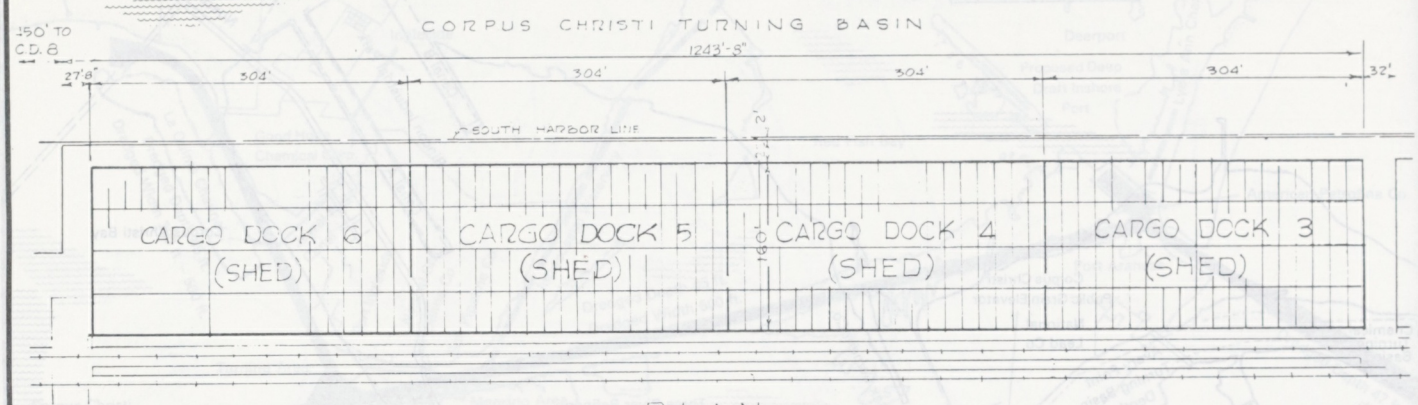
SLIP DEPTH IS 26 FT. (REF.: MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 28 FT. WITH NORMAL TIDE.

DOCK ELEVATION IS 15 FT. ABOVE MLT.

96,400 SQ. FT. OF USABLE SHED SPACE

CORPUS CHRISTI

CARGO DOCKS 1-2



PLAN
SCALE 1" = 100'

NOTES

LENGTH LIMIT IS 1300 FT. OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

SLIP DEPTH IS 27 FT. (REF.: MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 29 FT. WITH NORMAL TIDE.

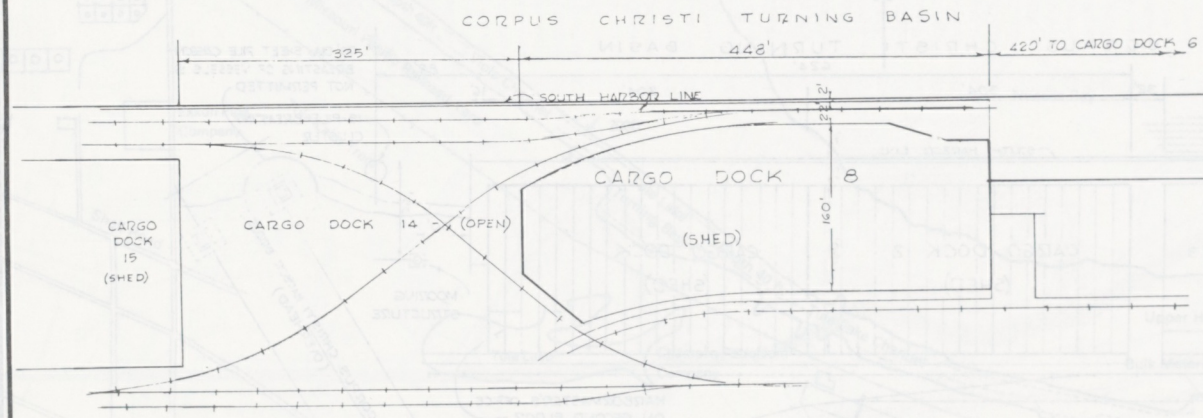
DOCK ELEVATION IS 15 FT. ABOVE M.L.T.

193,920 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCKS 3–6



PLAN
SCALE: 1" = 100'

NOTES

LENGTH LIMIT IS 600 FT., OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

SLIP DEPTH IS 26 FT. (REF.: MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 28 FT. WITH NORMAL TIDE.

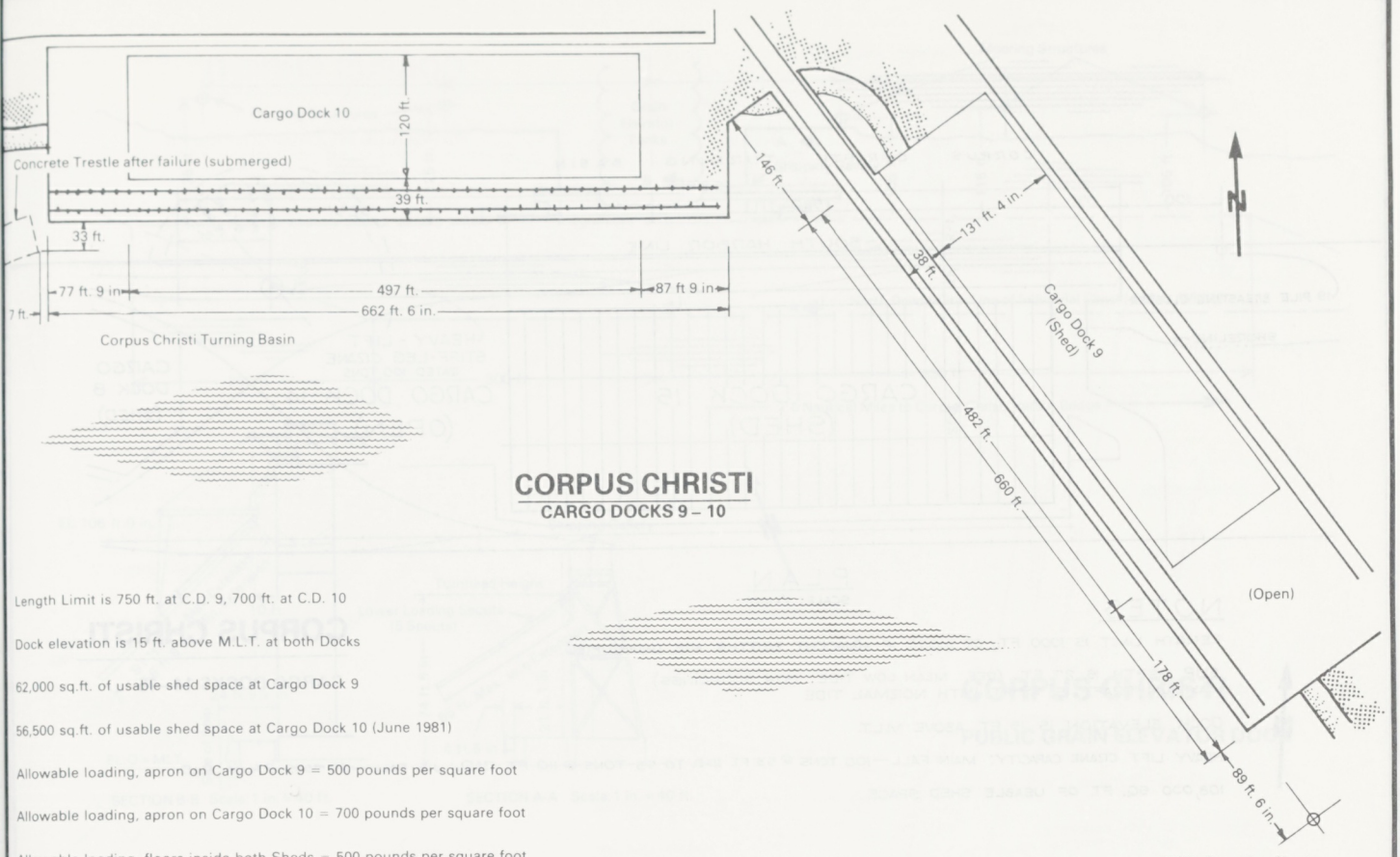
DOCK ELEVATION IS 15 FT. ABOVE M.L.T.

66,600 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCK 8



CORPUS CHRISTI

CARGO DOCKS 9 – 10

Length Limit is 750 ft. at C.D. 9, 700 ft. at C.D. 10

Dock elevation is 15 ft. above M.L.T. at both Docks

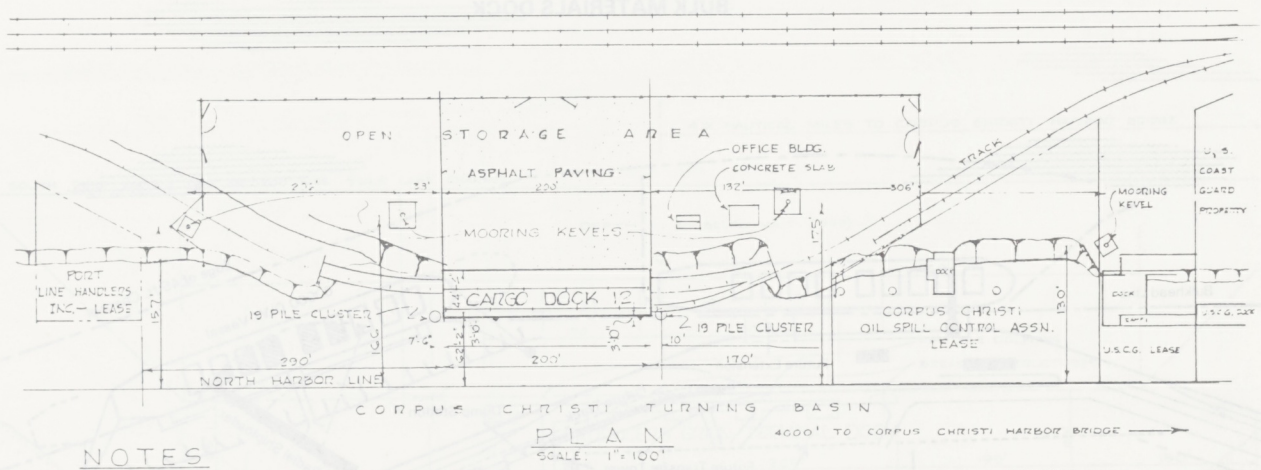
62,000 sq.ft. of usable shed space at Cargo Dock 9

56,500 sq.ft. of usable shed space at Cargo Dock 10 (June 1981)

Allowable loading, apron on Cargo Dock 9 = 500 pounds per square foot

Allowable loading, apron on Cargo Dock 10 = 700 pounds per square foot

Allowable loading, floors inside both Sheds = 500 pounds per square foot



PLAN

SCALE: 1" = 100'

NOTES

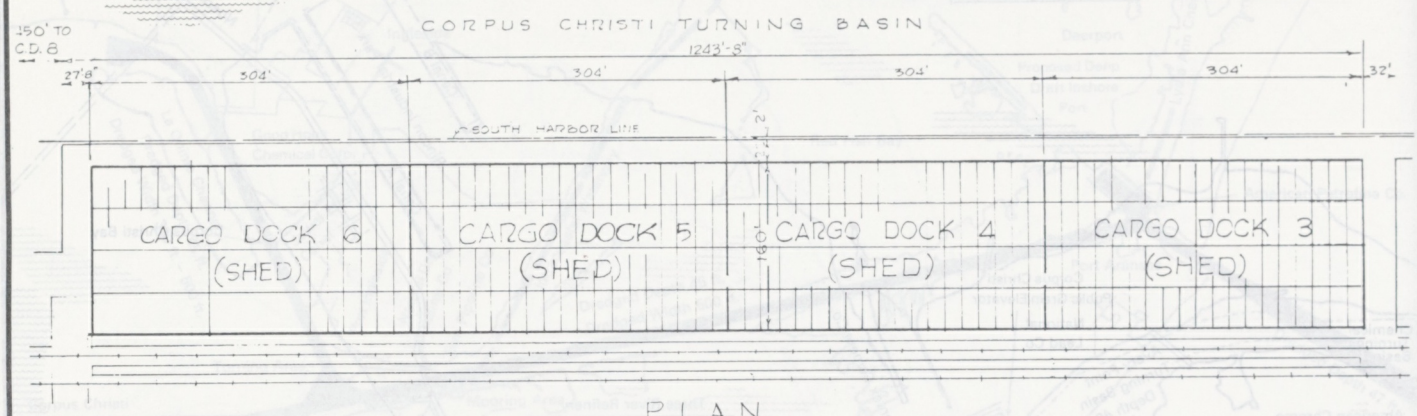
LENGTH LIMIT IS 700 FT.

SLIP DEPTH IS 17.5 FT. (REF.: MEAN LOW TIDE; 1972 SOUNDINGS)
MAXIMUM DRAFT IS 19.5 FT. WITH NORMAL TIDE.

DOCK ELEVATION IS 12 FT. ABOVE M.L.T.

CORPUS CHRISTI

CARGO DOCK 12



PLAN

SCALE 1" = 100'

NOTES

LENGTH LIMIT IS 1300 FT. OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

SLIP DEPTH IS 27 FT. (REF.: MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 29 FT. WITH NORMAL TIDE.

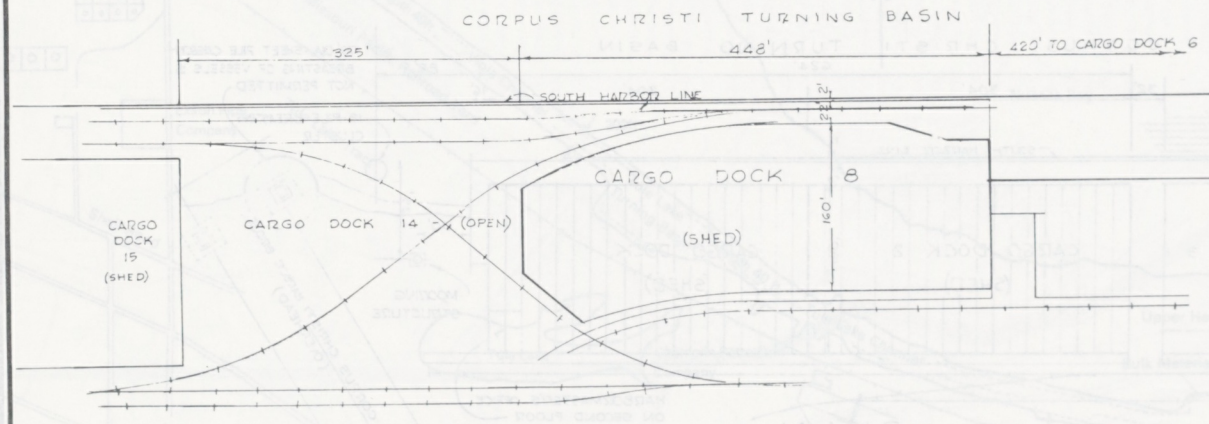
DOCK ELEVATION IS 15 FT. ABOVE M.L.T.

193,920 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCKS 3–6



PLAN

SCALE: 1" = 100'

NOTES

LENGTH LIMIT IS 600 FT., OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

SLIP DEPTH IS 26 FT. (REF.: MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 28 FT. WITH NORMAL TIDE.

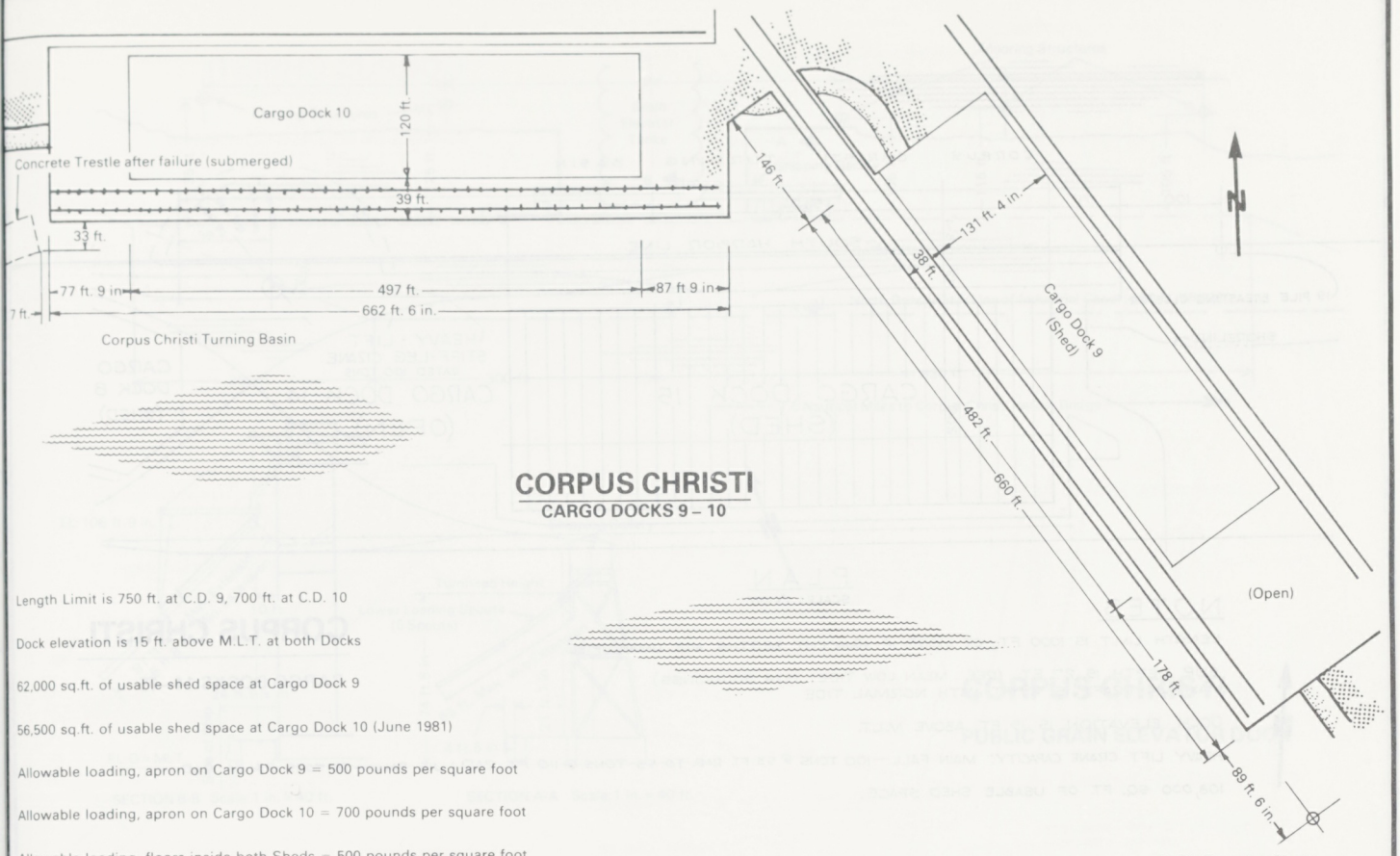
DOCK ELEVATION IS 15 FT. ABOVE M.L.T.

66,600 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCK 8



CORPUS CHRISTI

CARGO DOCKS 9 – 10

Length Limit is 750 ft. at C.D. 9, 700 ft. at C.D. 10

Dock elevation is 15 ft. above M.L.T. at both Docks

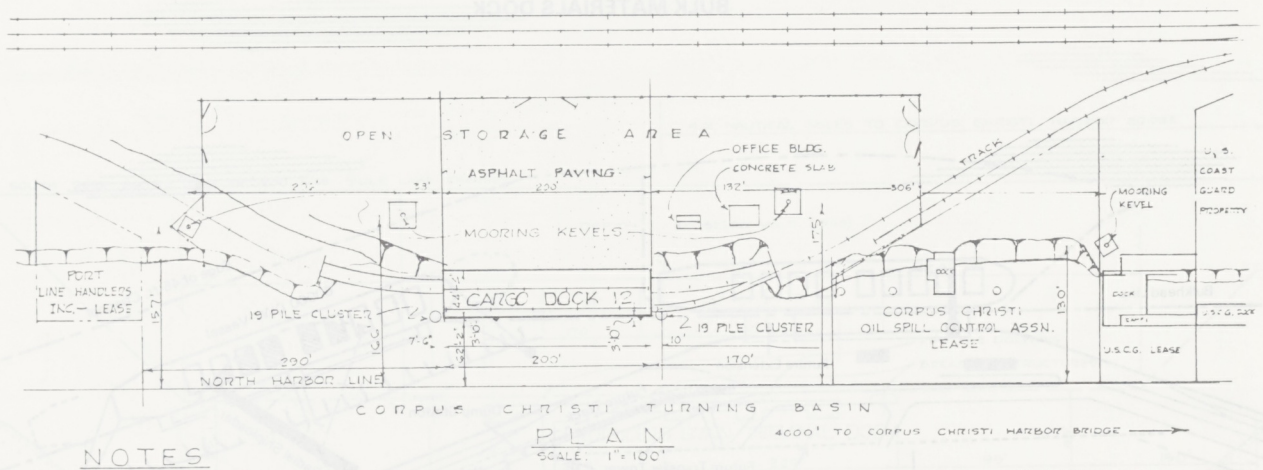
62,000 sq.ft. of usable shed space at Cargo Dock 9

56,500 sq.ft. of usable shed space at Cargo Dock 10 (June 1981)

Allowable loading, apron on Cargo Dock 9 = 500 pounds per square foot

Allowable loading, apron on Cargo Dock 10 = 700 pounds per square foot

Allowable loading, floors inside both Sheds = 500 pounds per square foot



PLAN

SCALE: 1" = 100'

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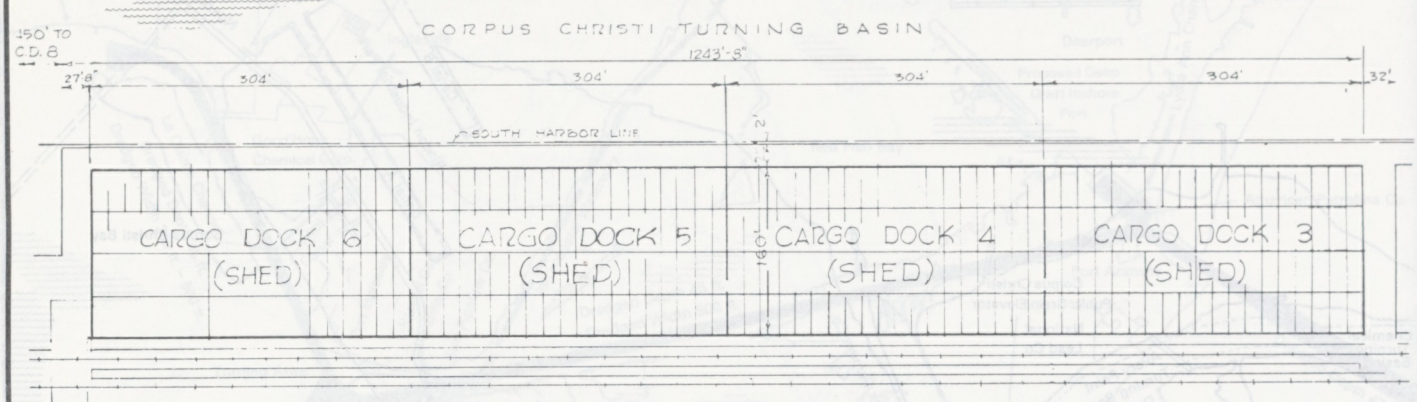
DOCK ELEVATION IS 12 FT. ABOVE M.L.T.

CORPUS CHRISTI

CARGO DOCK 12



PLAN

SCALE 1" = 100'

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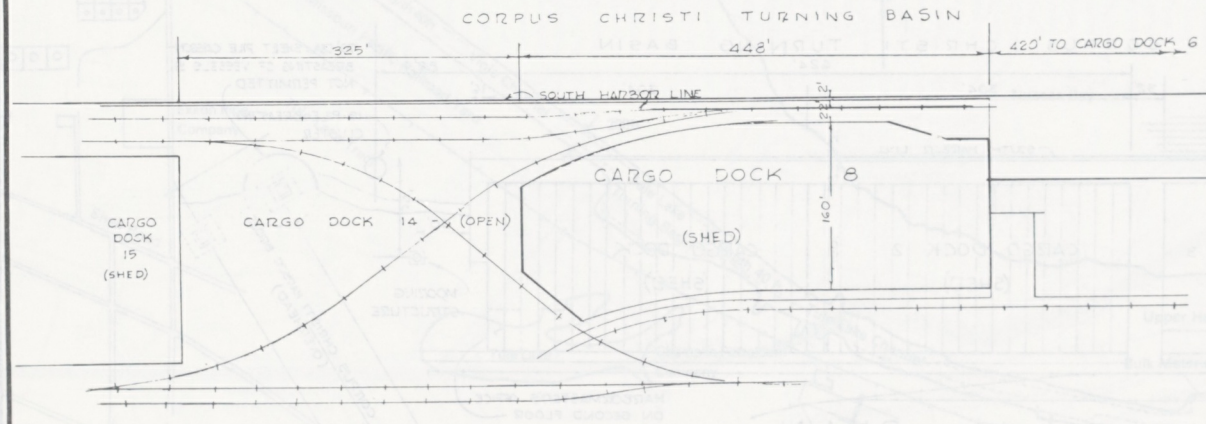
193,920 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCKS 3–6



PLAN

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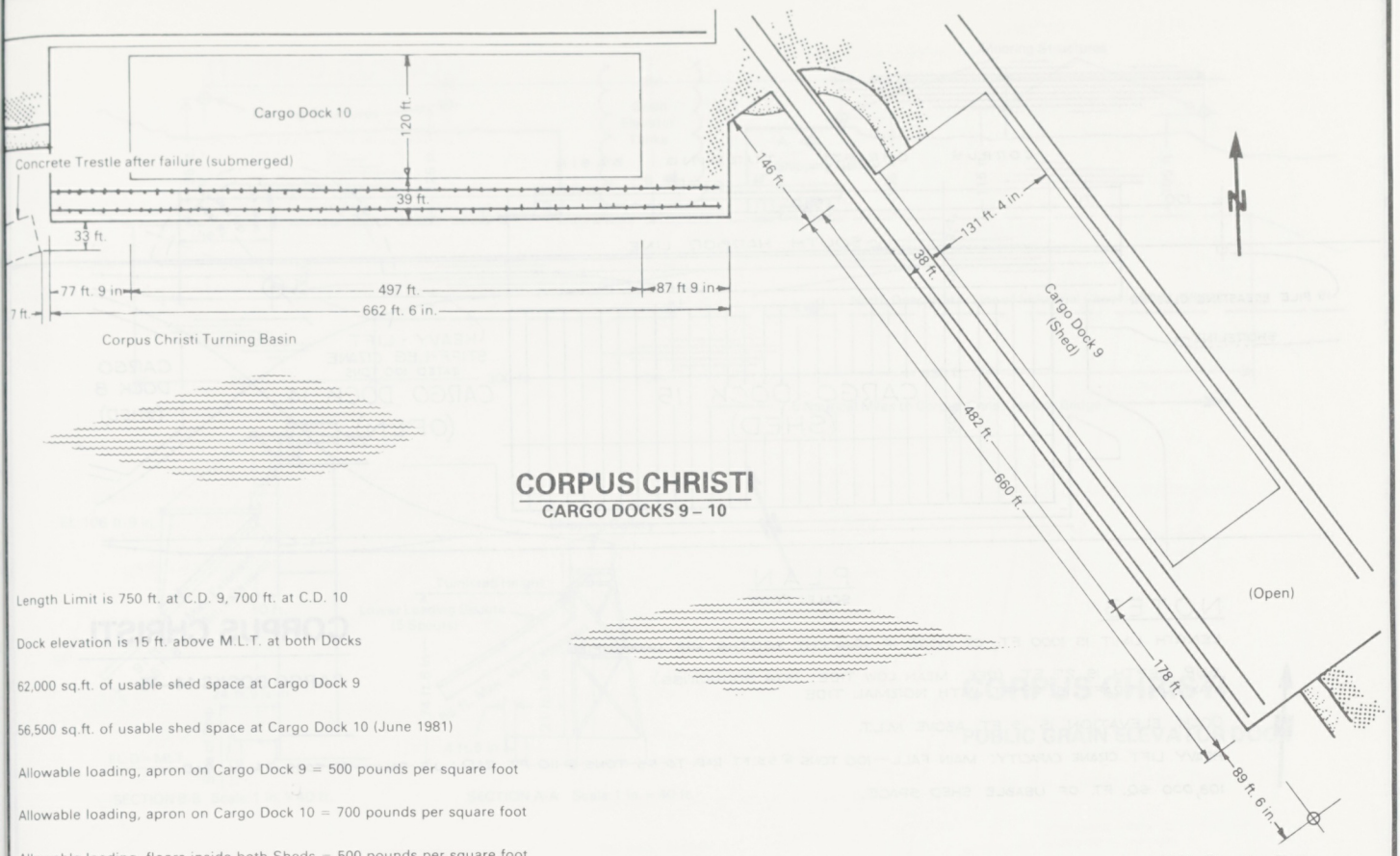
CORPUS CHRISTI

CARGO DOCK 8



CORPUS CHRISTI

CARGO DOCKS 9 – 10

Length Limit is 750 ft. at C.D. 9, 700 ft. at C.D. 10

Dock elevation is 15 ft. above M.L.T. at both Docks

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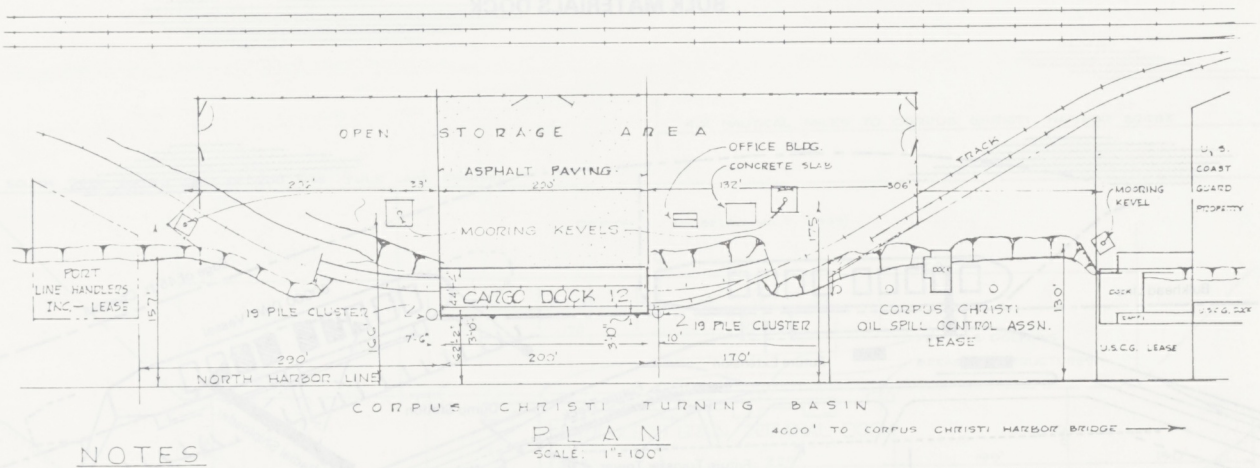

PLAN

SCALE: 1"=100'

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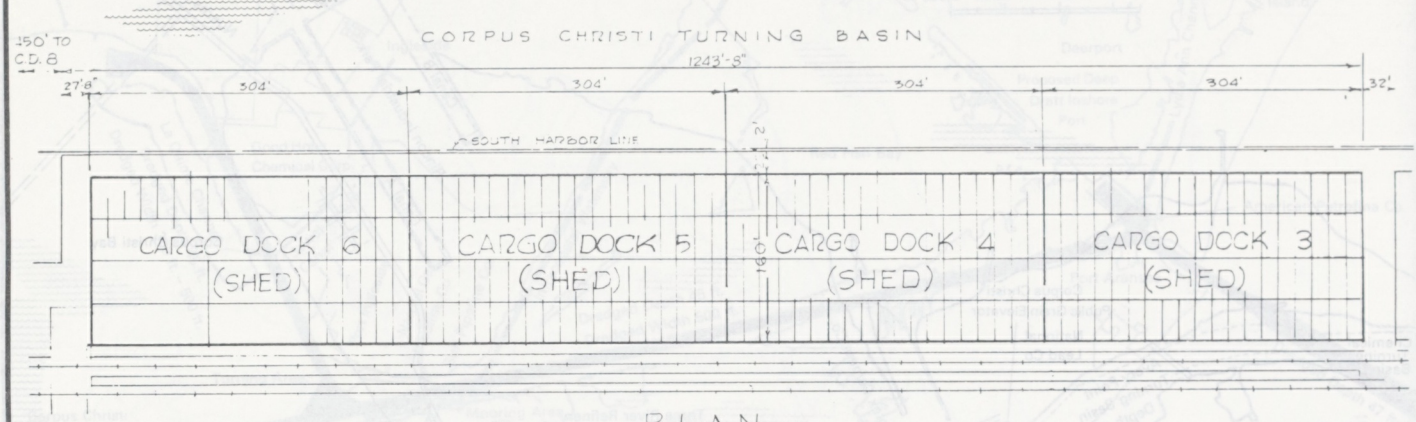
CORPUS CHRISTI

CARGO DOCK 12



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SCALE 1" = 100'

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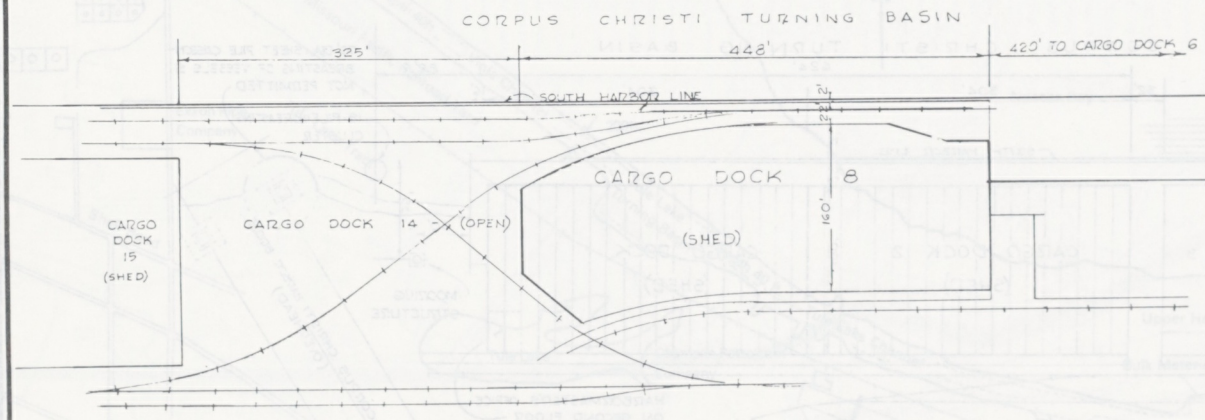
193,920 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCKS 3–6



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66,600 SQ. FT. OF USABLE SHED SPACE.

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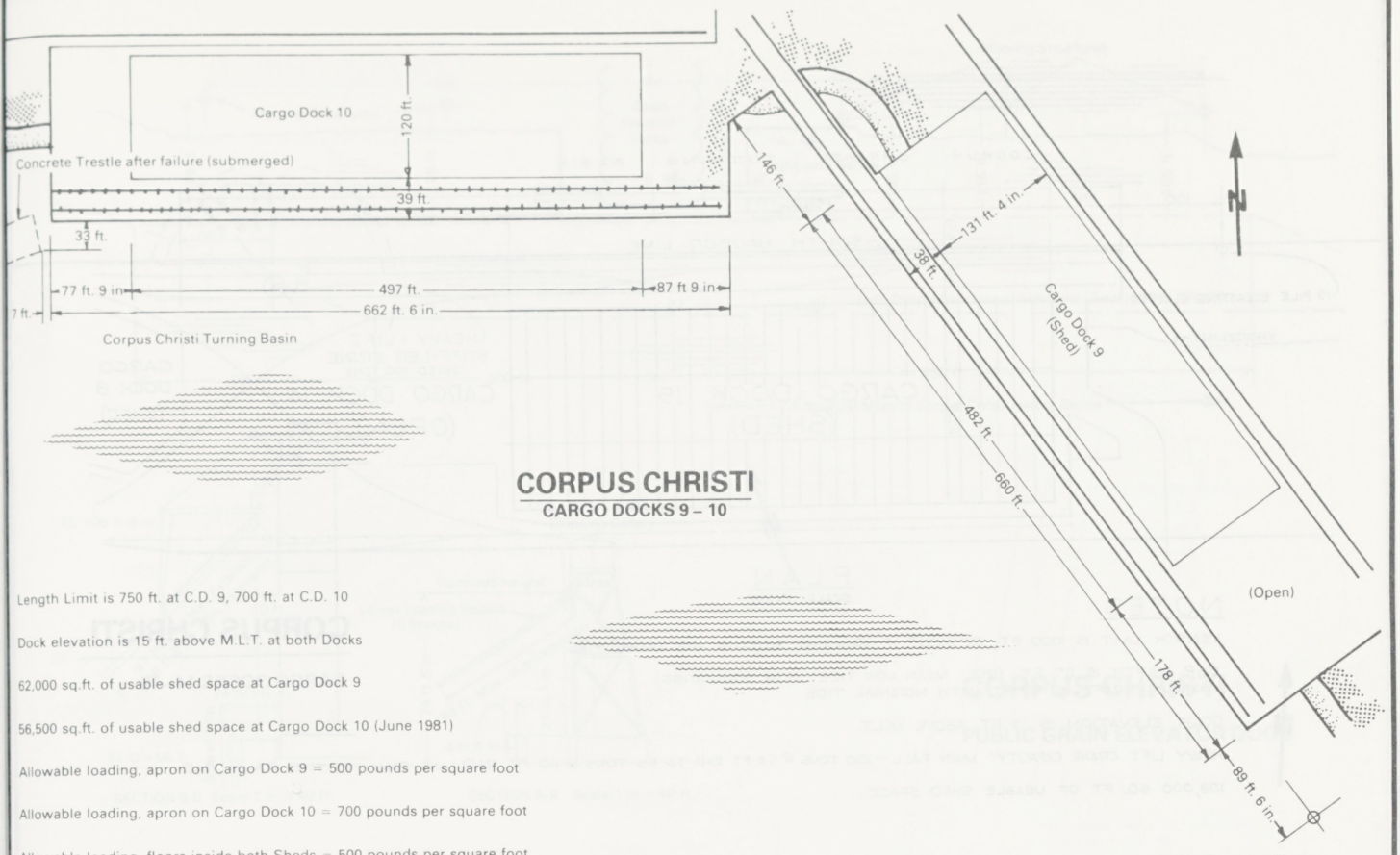
CORPUS CHRISTI

CARGO DOCK 8



CORPUS CHRISTI

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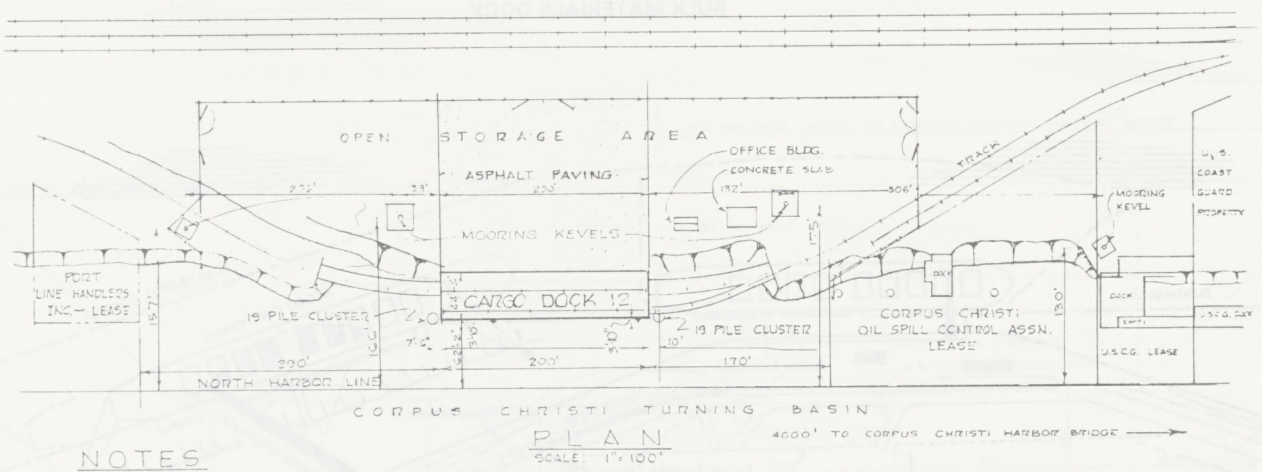

PLAN

SCALE: 1"=100'

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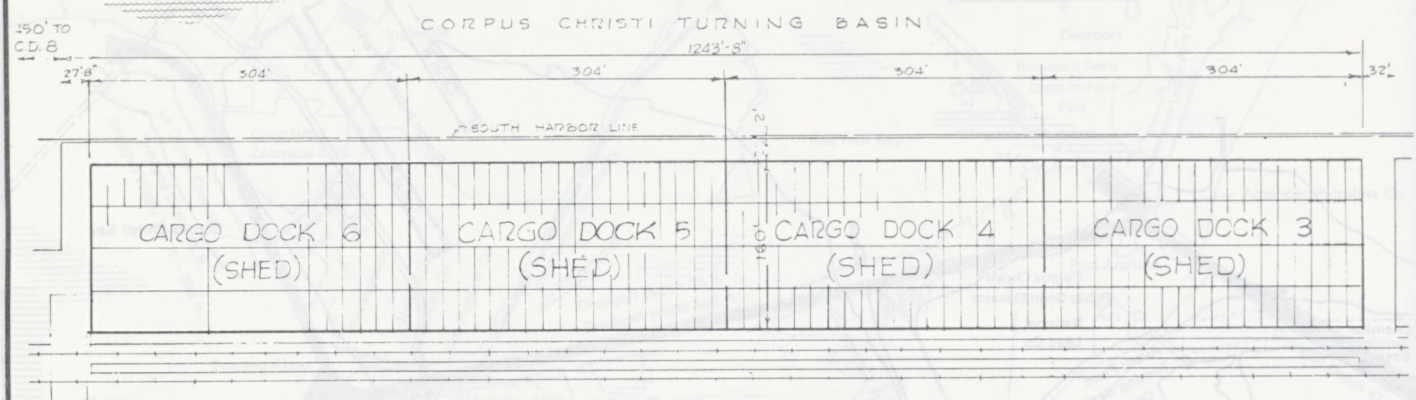
CORPUS CHRISTI

CARGO DOCK 12



PLAN
SCALE 1" = 100'

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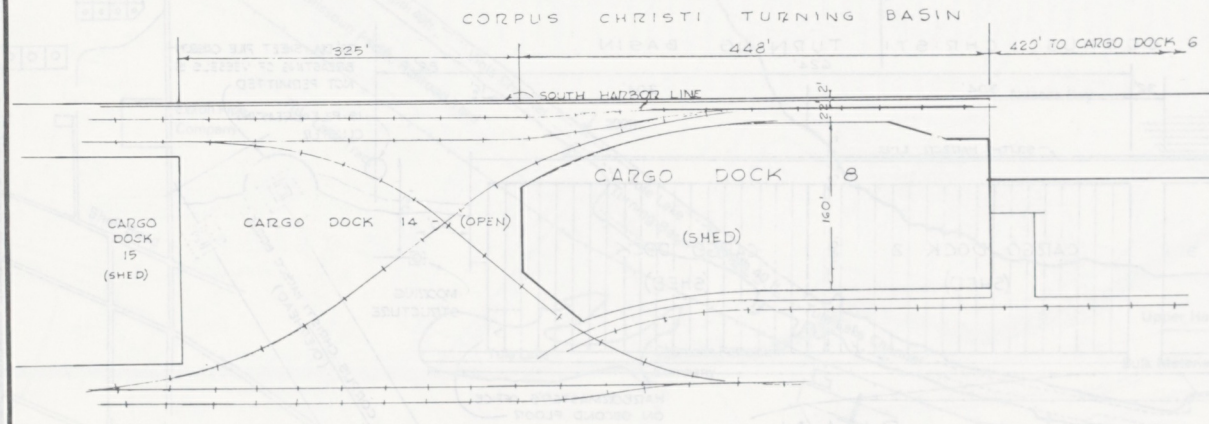
193,920 SQ. FT. OF USABLE SHED SPACE.

N

CORPUS CHRISTI

CARGO DOCKS 3–6



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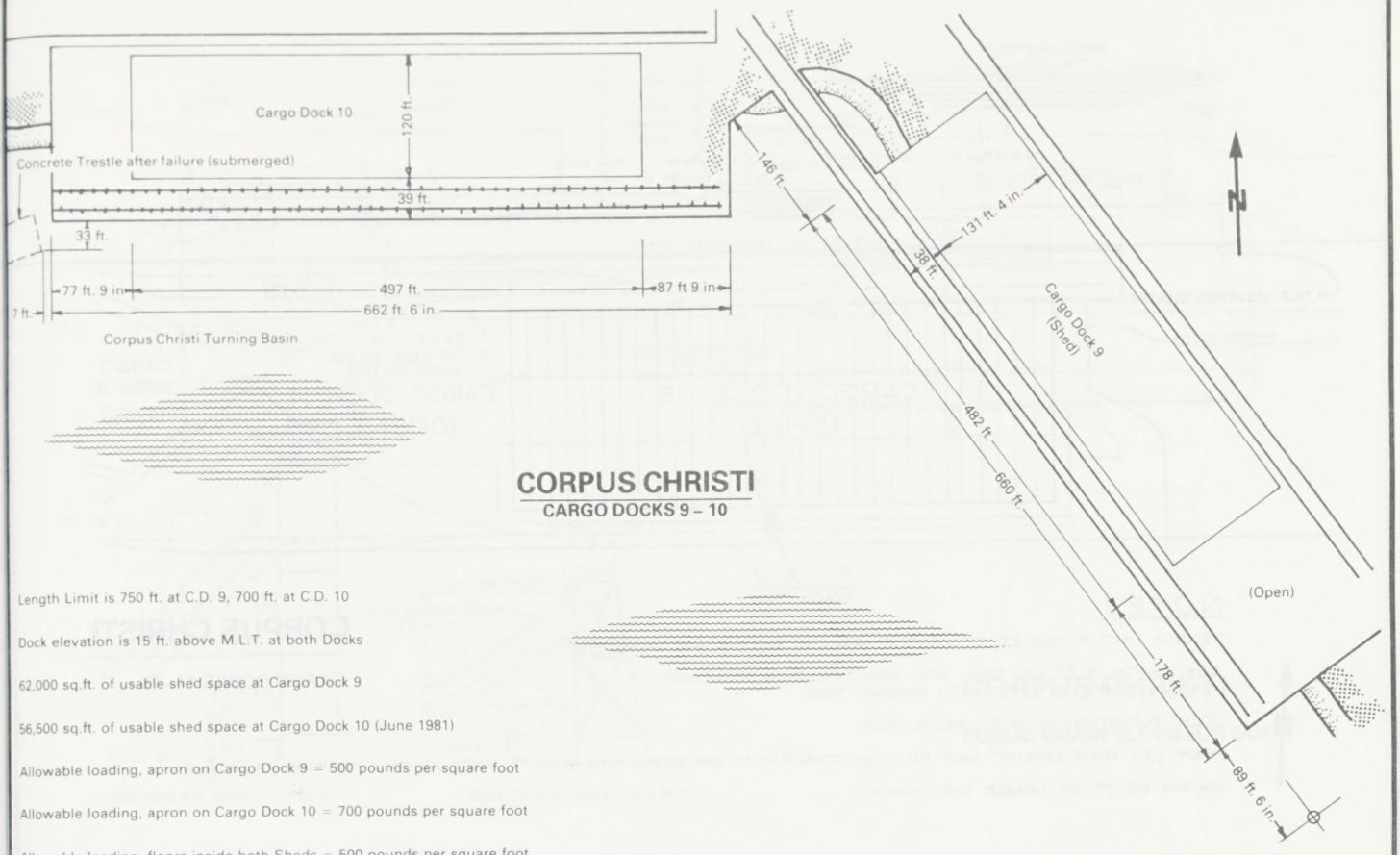
CORPUS CHRISTI

CARGO DOCK 8



CORPUS CHRISTI

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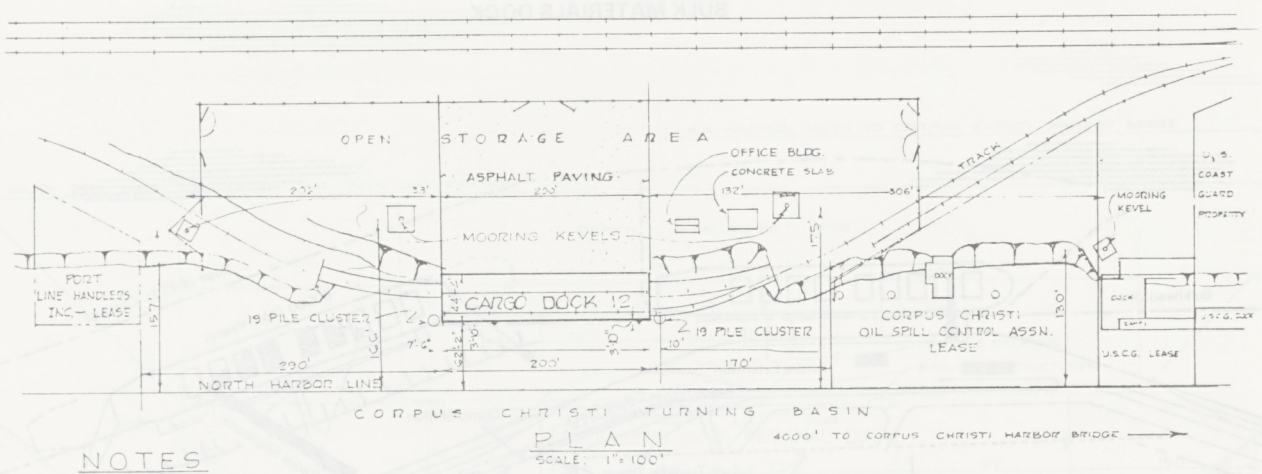

PLAN

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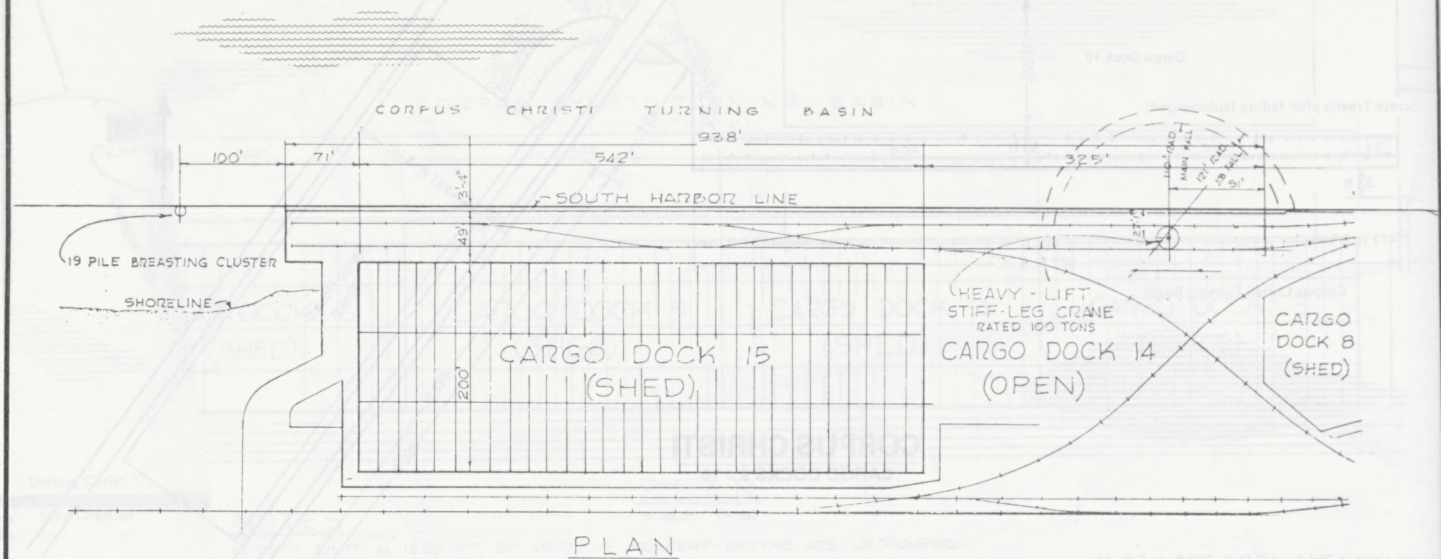
CORPUS CHRISTI

CARGO DOCK 12



PLAN
SCALE: 1"=100'

NOTES

LENGTH LIMIT IS 1000 FT., OR MORE IF ADJACENT BERTHS ARE UNOCCUPIED.

SLIP DEPTH IS 27 FT. (REF. MEAN LOW TIDE; 1974 SOUNDINGS)
MAXIMUM DRAFT IS 29 FT. WITH NORMAL TIDE

DOCK ELEVATION IS 15 FT. ABOVE M.L.T.

HEAVY LIFT CRANE CAPACITY: MAIN FALL—100 TONS @ 53 FT. RAD. TO 53 TONS @ 110 FT. RAD.; JIB FALL—25 TONS @ ANY RAD.

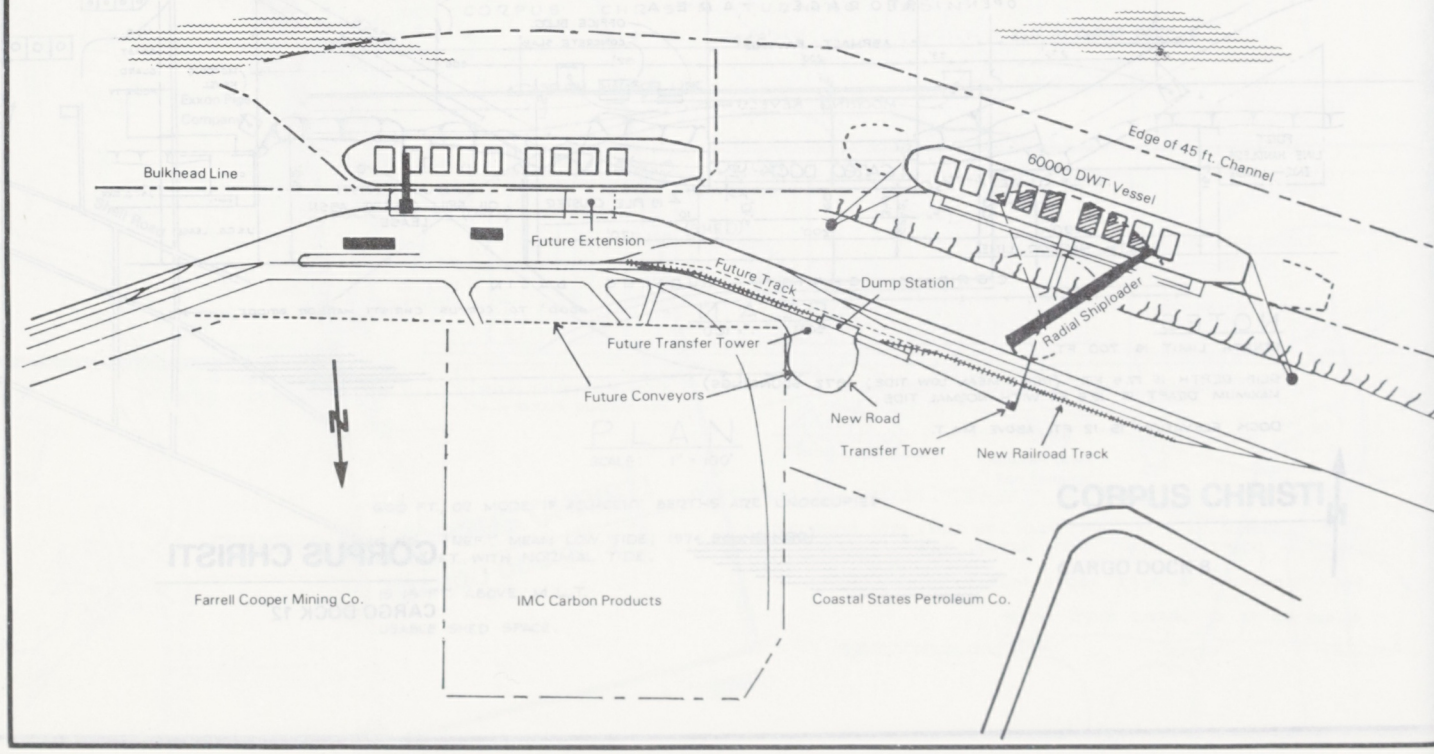
108,000 SQ. FT. OF USABLE SHED SPACE.

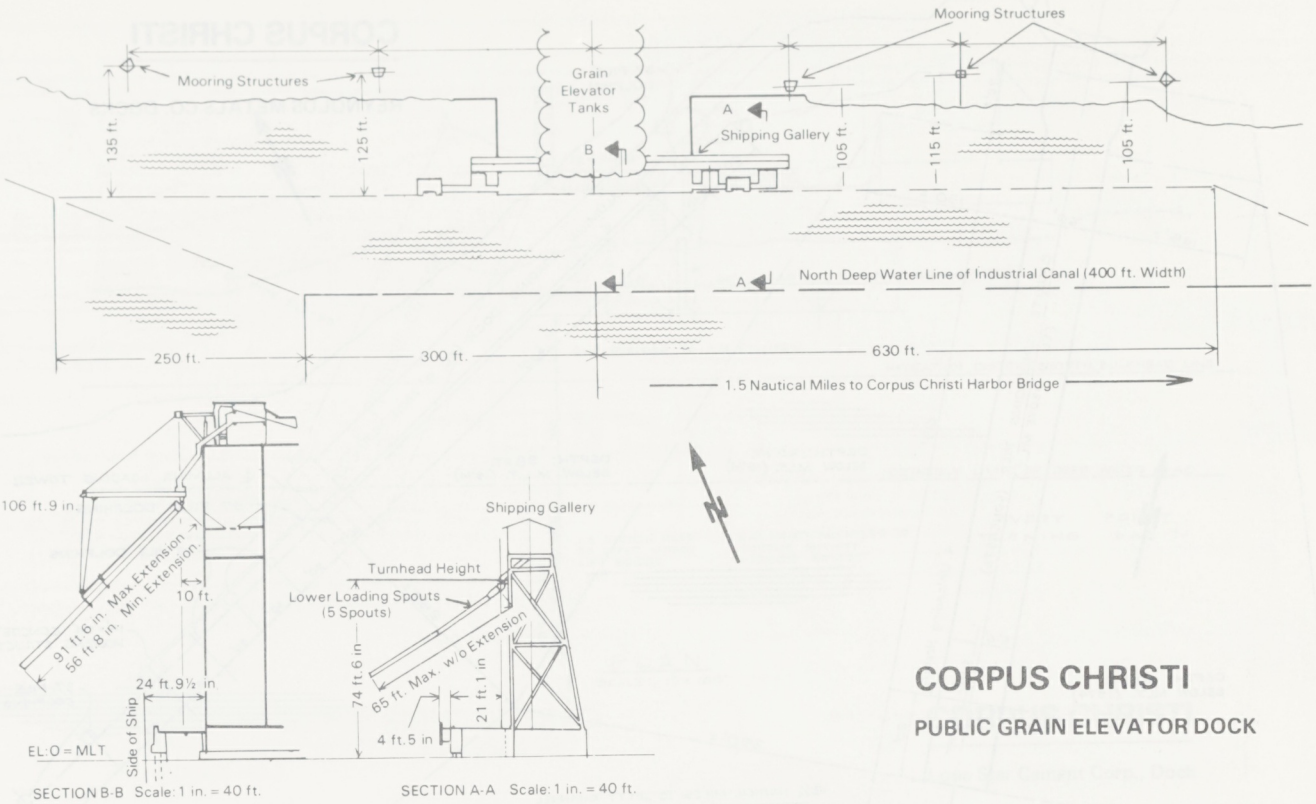
CORPUS CHRISTI

CARGO DOCKS 14–15

CORPUS CHRISTI

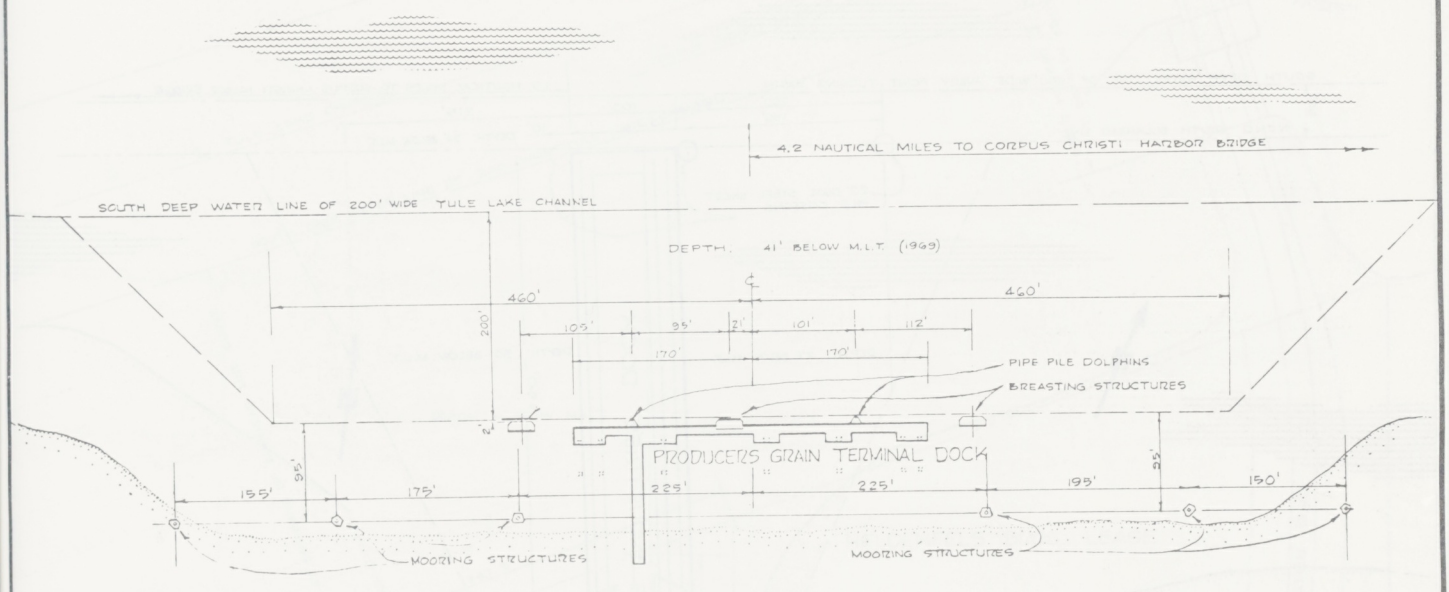
BULK MATERIALS DOCK





CORPUS CHRISTI

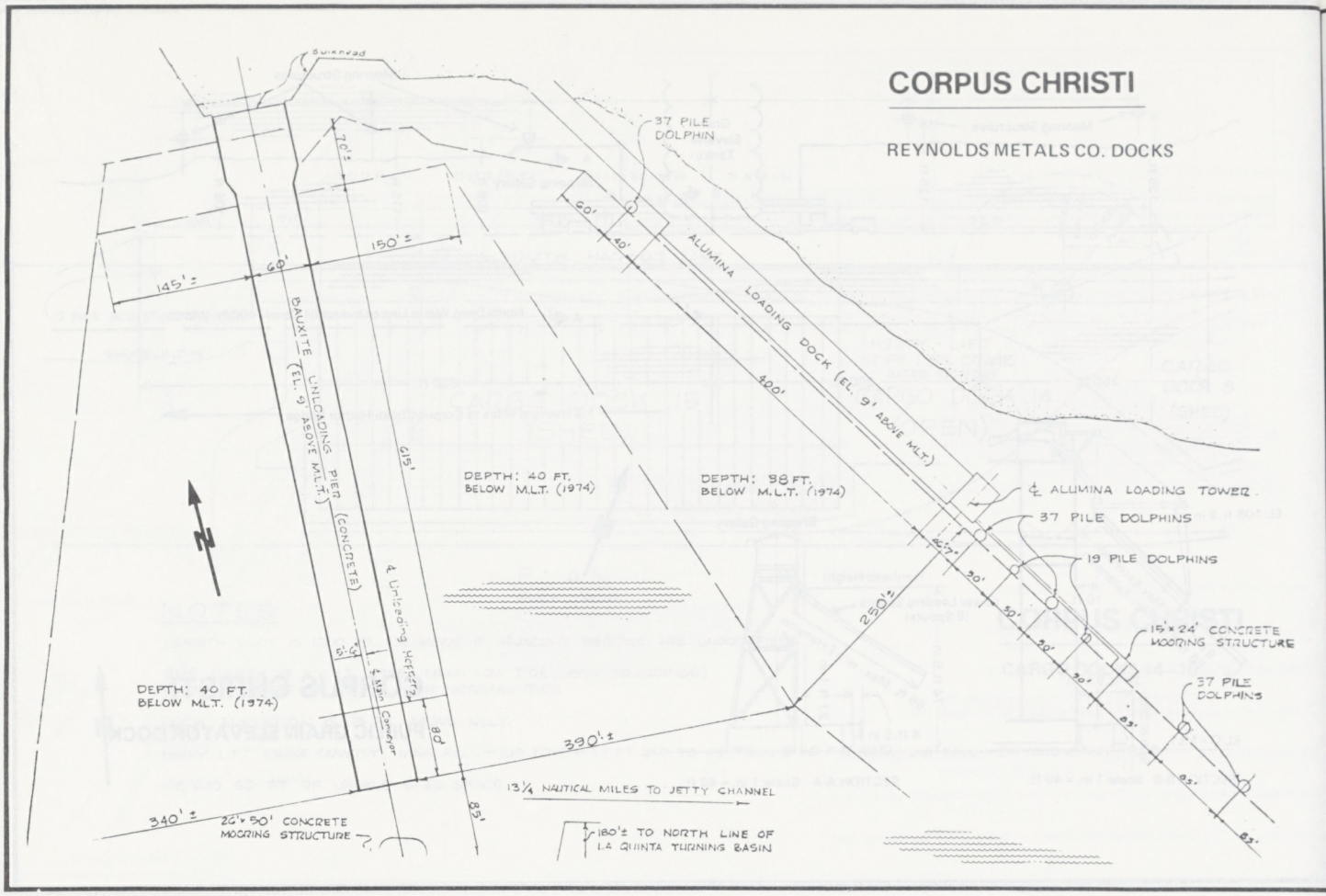
PUBLIC GRAIN ELEVATOR DOCK

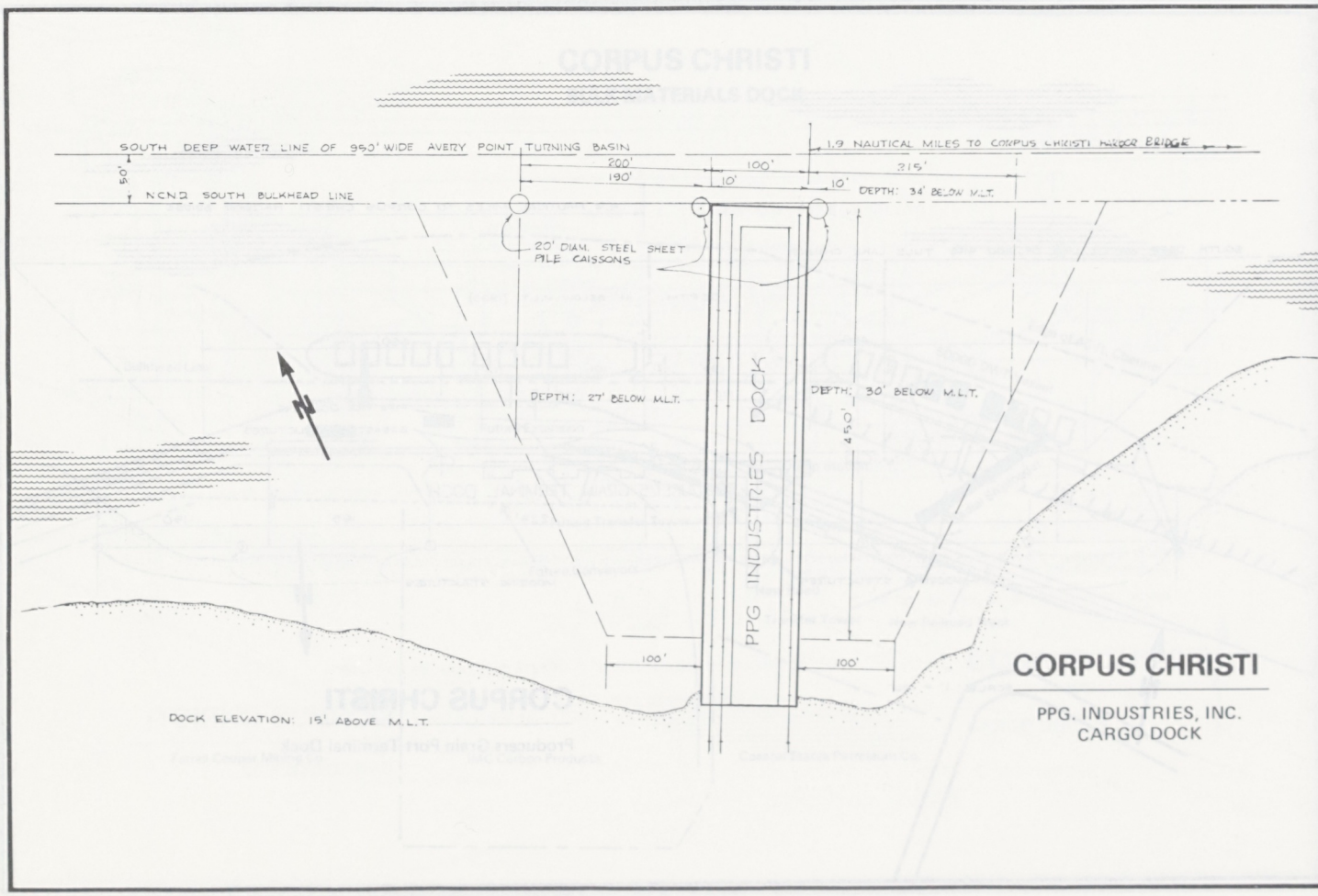


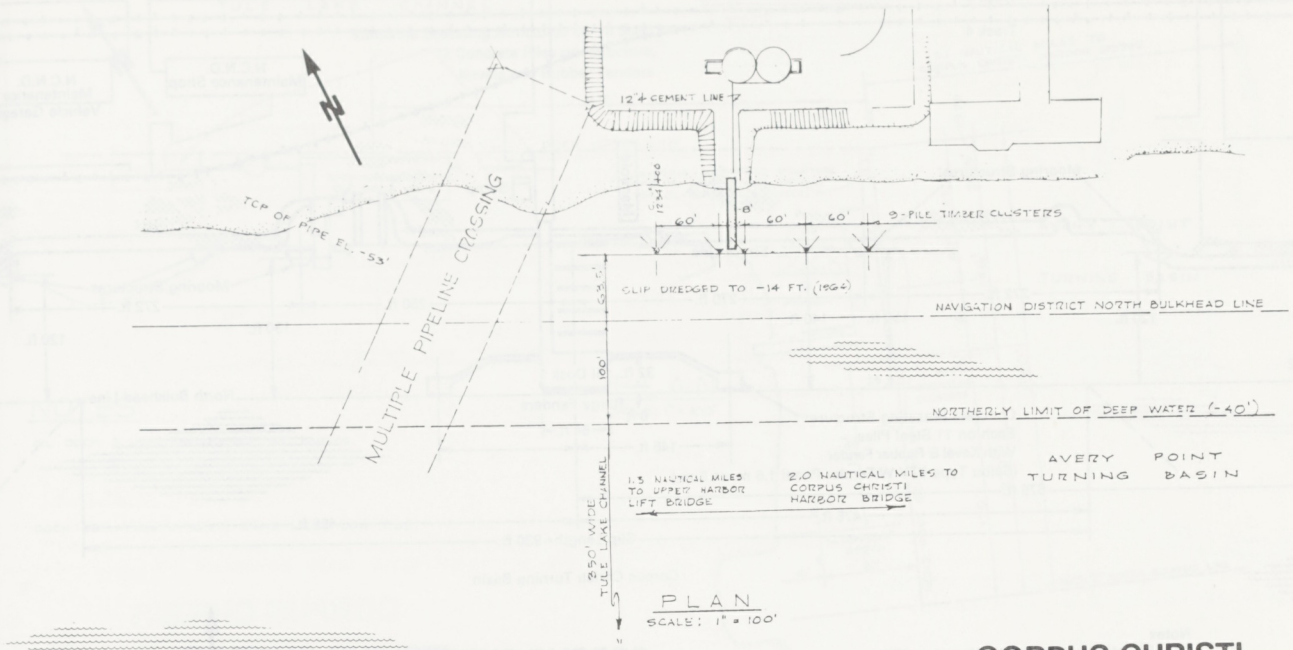
SCALE: 1" = 100'

CORPUS CHRISTI

Producers Grain Port Terminal Dock

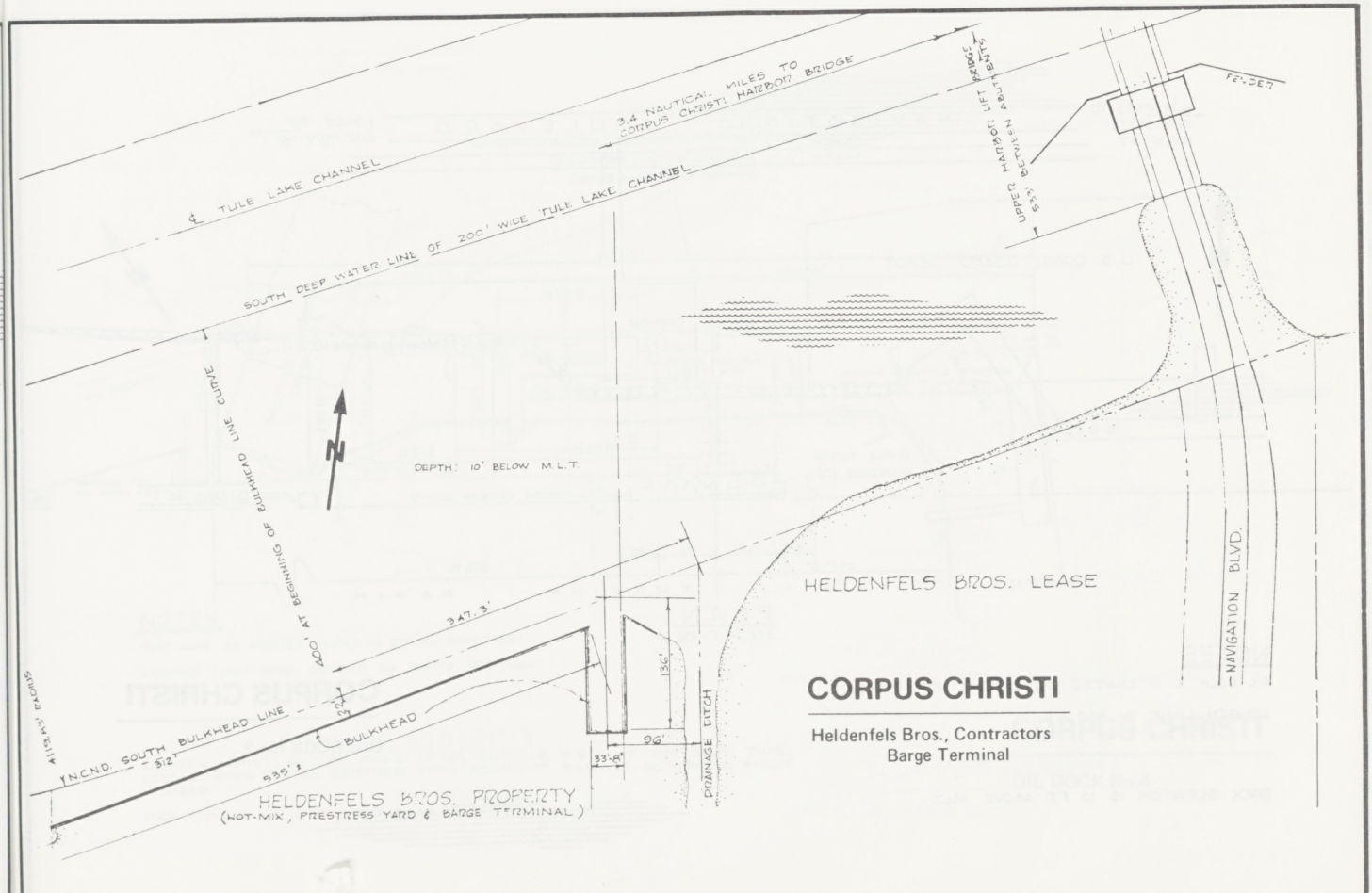

CORPUS CHRISTI
REYNOLDS METALS CO. DOCKS
37 PILE DOLPHIN
ALUMINA LOADING DOCK (EL. 9' ABOVE M.L.T.)
400'
BAUXITE UNLOADING PIER (CONCRETE) (EL. 9' ABOVE M.L.T.)
615'
DEPTH: 40 FT. BELOW M.L.T. (1974)
DEPTH: 98 FT. BELOW M.L.T. (1974)
℄ ALUMINA LOADING TOWER
37 PILE DOLPHINS
19 PILE DOLPHINS
15' x 24' CONCRETE MOORING STRUCTURE
37 PILE DOLPHINS
250'±
390'±
340'±
22' x 50' CONCRETE MOORING STRUCTURE
13¼ NAUTICAL MILES TO JETTY CHANNEL
180'± TO NORTH LINE OF LA QUINTA TURNING BASIN
N


SOUTH DEEP WATER LINE OF 950' WIDE AVERY POINT TURNING BASIN
1.9 NAUTICAL MILES TO CORPUS CHRISTI HARBOR BRIDGE
50'
NCNQ SOUTH BULKHEAD LINE
200'
190'
100'
10'
315'
DEPTH: 34' BELOW M.L.T.
20' DIAM. STEEL SHEET PILE CAISSONS
PPG INDUSTRIES DOCK
DEPTH: 27' BELOW M.L.T.
DEPTH: 30' BELOW M.L.T.
450'
100'
DOCK ELEVATION: 15' ABOVE M.L.T.
N
CORPUS CHRISTI
PPG. INDUSTRIES, INC.
CARGO DOCK



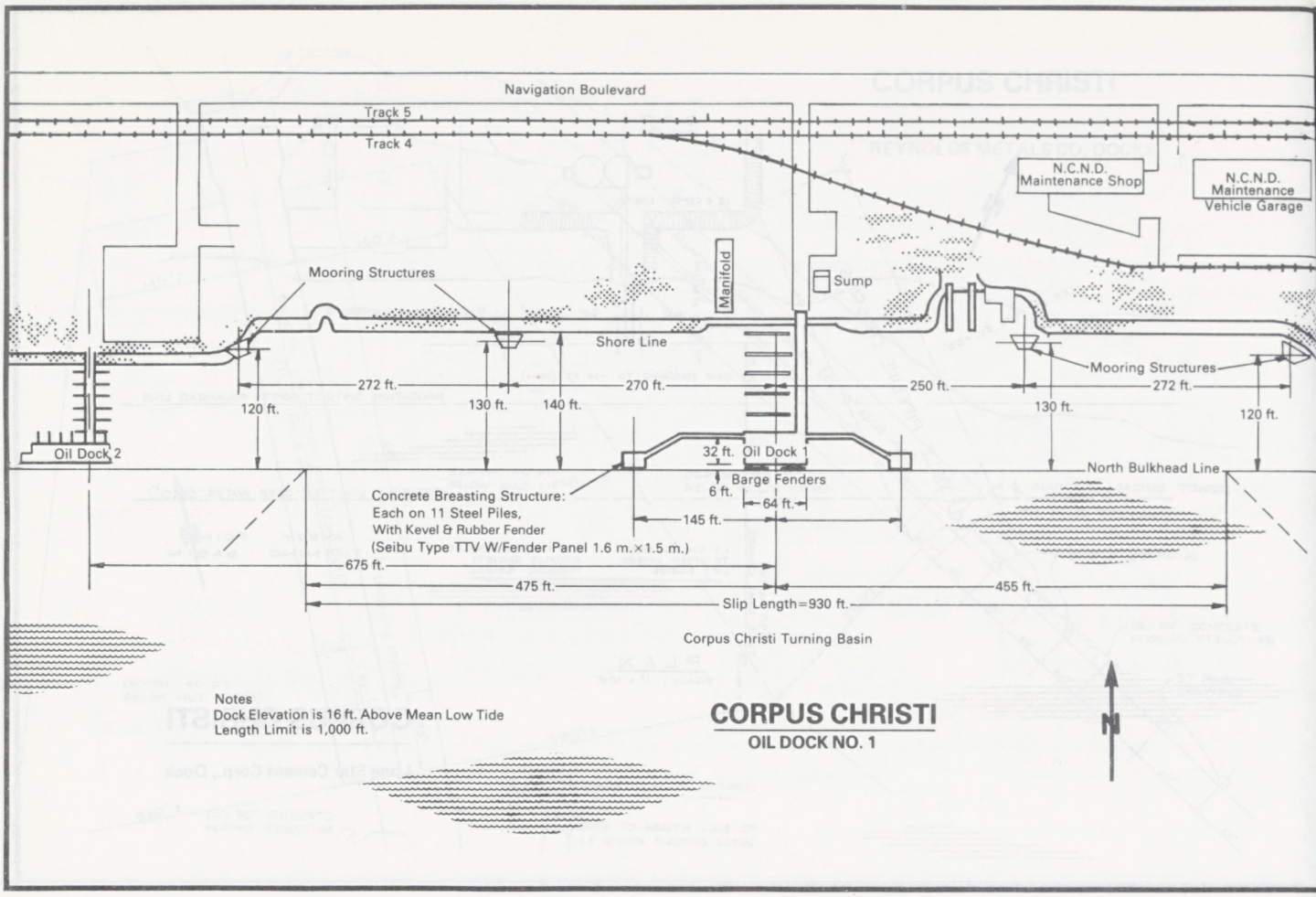
CORPUS CHRISTI

Lone Star Cement Corp., Dock



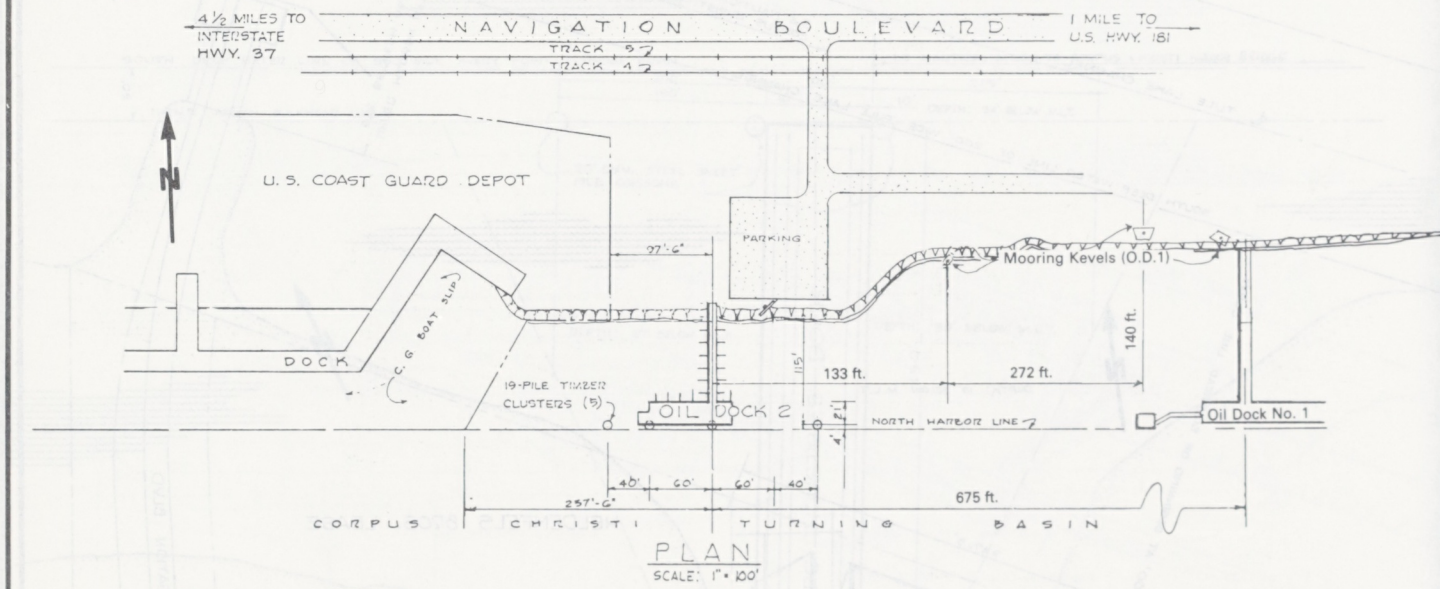
CORPUS CHRISTI

Heldenfels Bros., Contractors
Barge Terminal



Notes
Dock Elevation is 16 ft. Above Mean Low Tide
Length Limit is 1,000 ft.

CORPUS CHRISTI
OIL DOCK NO. 1

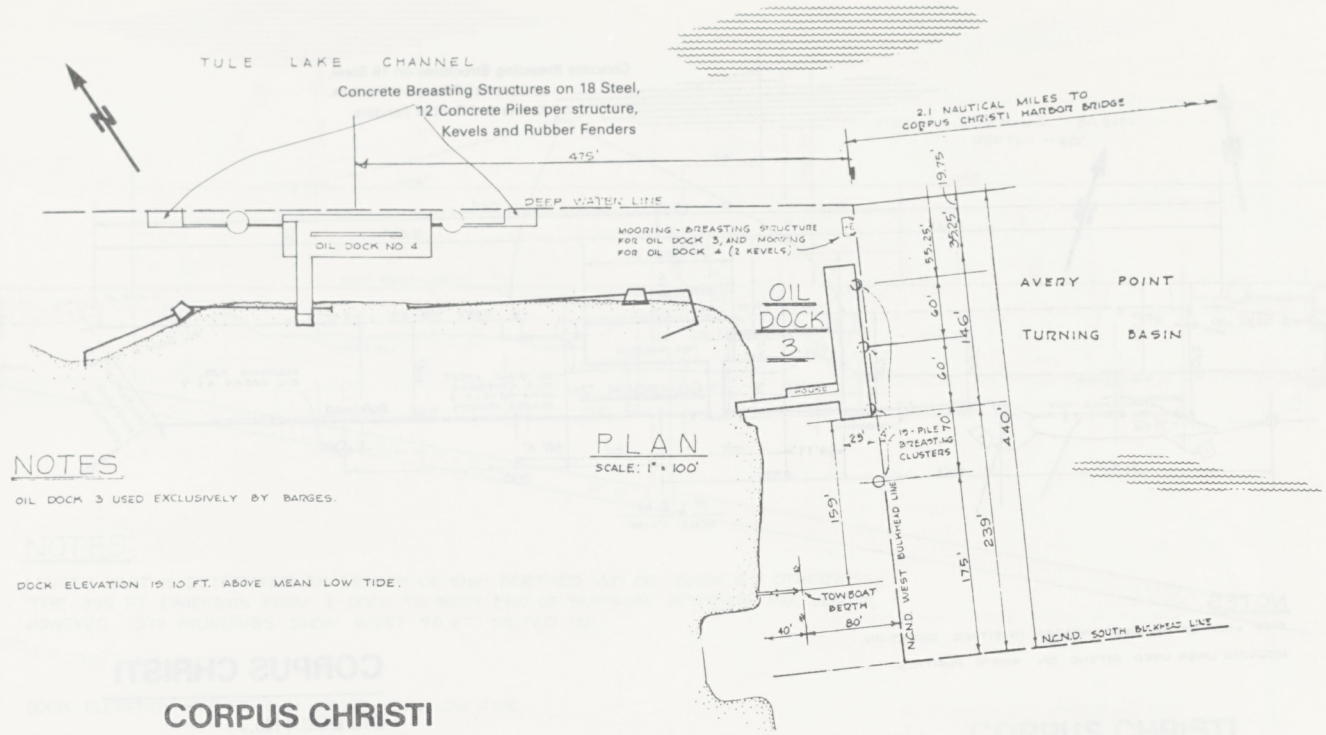


PLAN
SCALE: 1" = 100'

NOTES
OIL DOCK 2 IS LIMITED TO BARGE OPERATIONS.
LENGTH LIMIT IS 350 FT.

DOCK ELEVATION IS 10 FT. ABOVE MLT.

CORPUS CHRISTI
OIL DOCK No.2



PLAN
SCALE: 1" = 100'

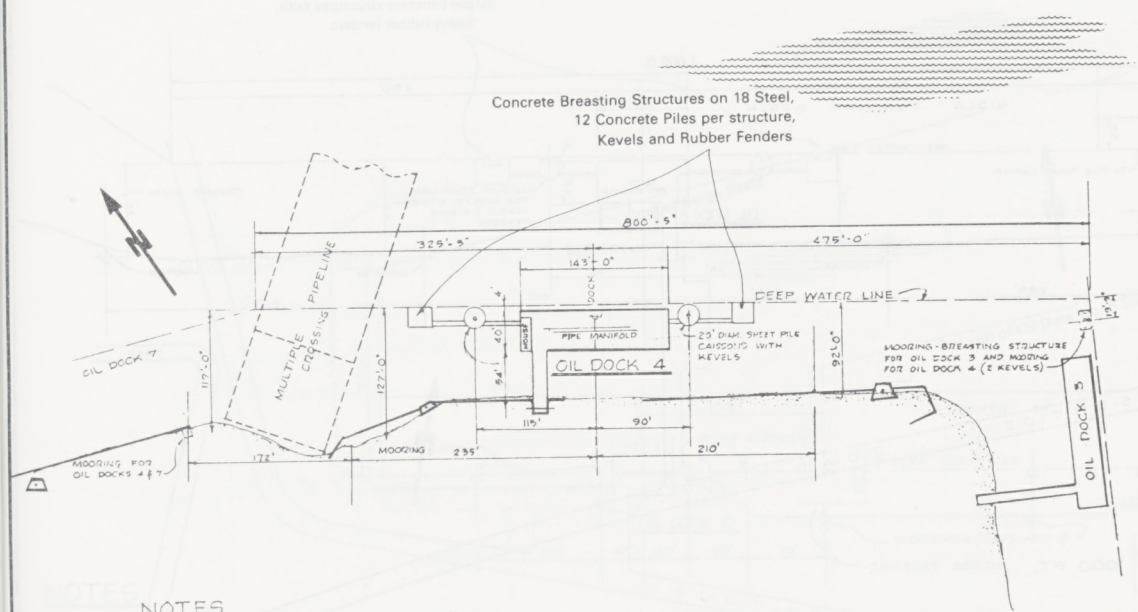
NOTES

OIL DOCK 3 USED EXCLUSIVELY BY BARGES.

DOCK ELEVATION IS 10 FT. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK NO.3



NOTES

SHIP MAY BE MOORED HEADED IN EITHER DIRECTION.

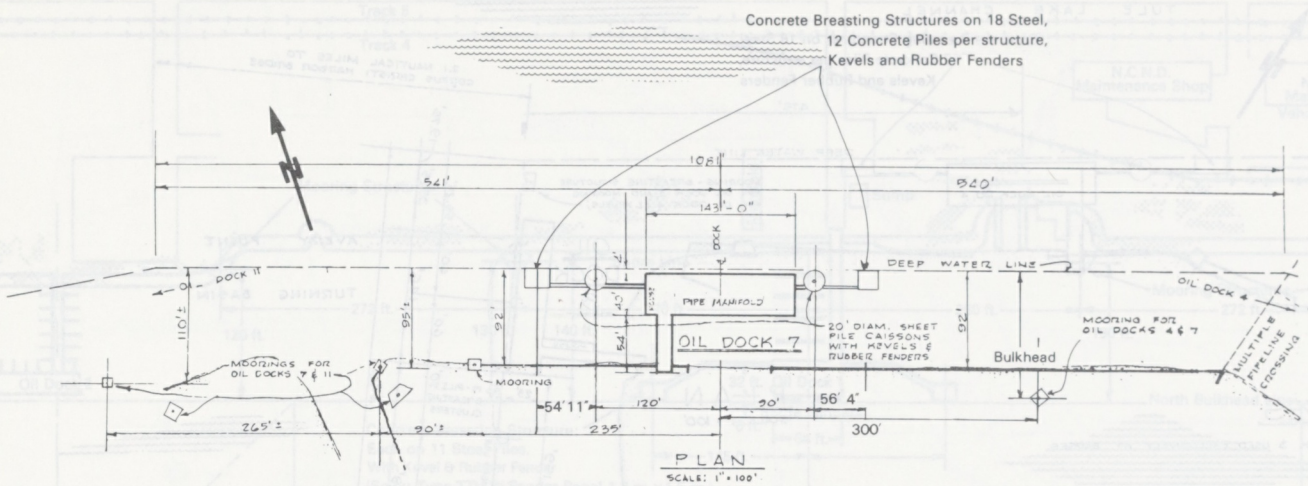
MOORING LINES USED DEPEND ON SHIP'S POSITION.

LENGTH LIMIT: 850 FT. SHIPS AT OIL DOCKS 4, 7 & 11 AT THE SAME TIME. LONGER SHIPS MAY BE BERTHED WHEN ADJACENT SLIP IS NOT BEING FULLY UTILIZED.

DOCK ELEVATION IS 16 FT. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK No.4



NOTES

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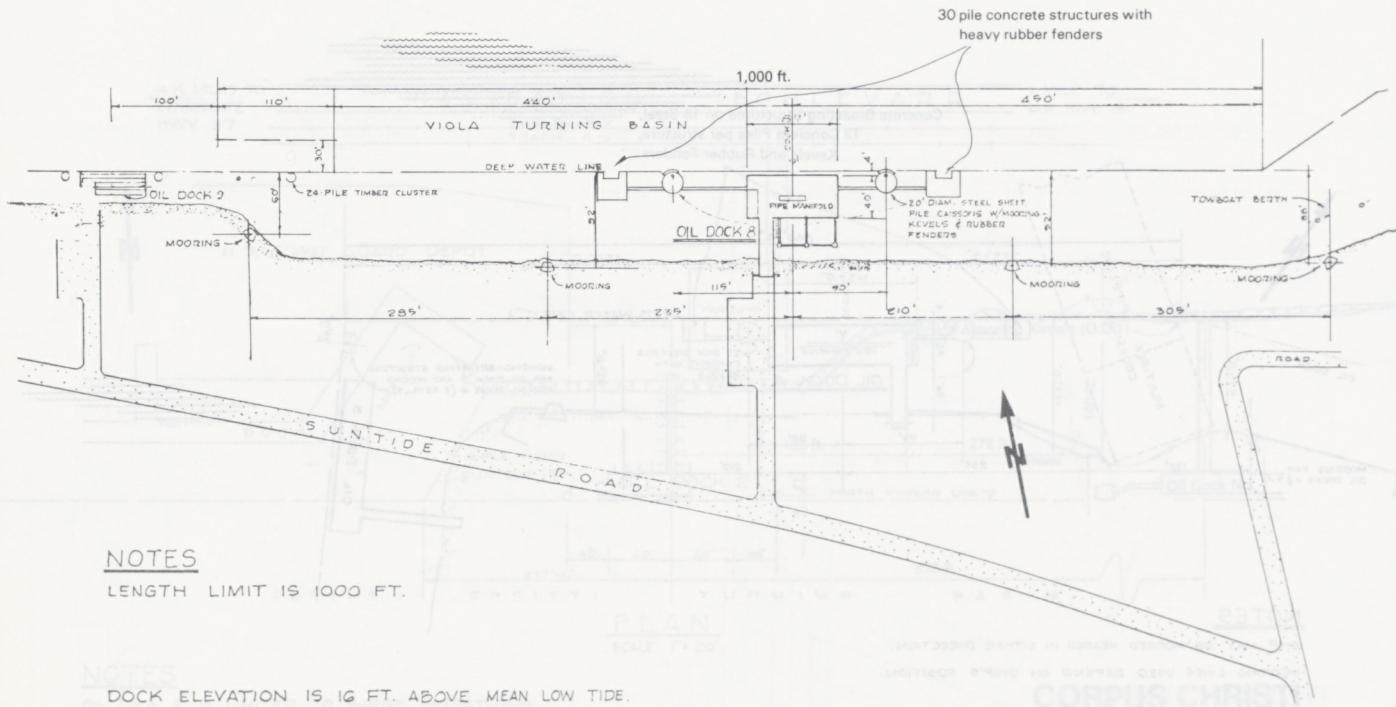
MOORING LINES USED DEPEND ON SHIP'S POSITION

LENGTH LIMIT: 850 FT. SHIPS AT OIL DOCKS 4, 7 & 11 AT THE SAME TIME. LONGER SHIPS MAY BE BERTHED WHEN ADJACENT SLIP IS NOT BEING FULLY UTILIZED.

DOCK ELEVATION IS 16 FT. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK No.7



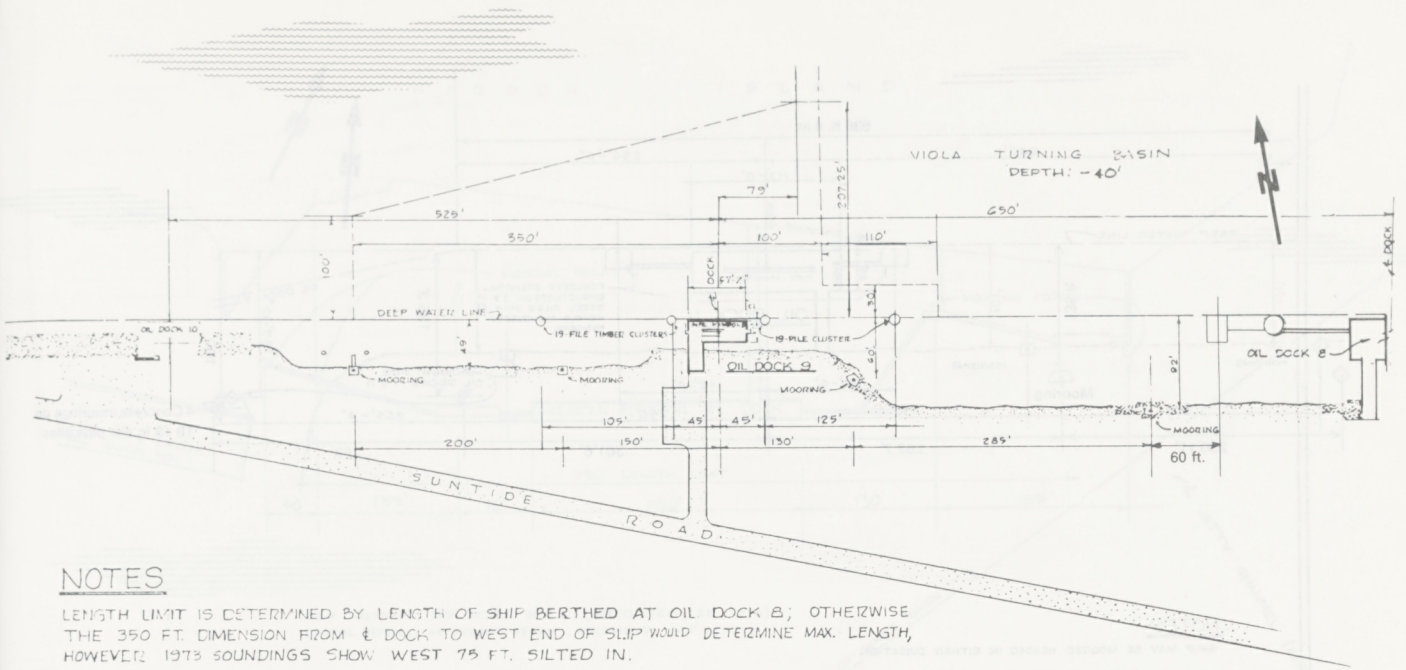
NOTES

LENGTH LIMIT IS 1000 FT.

DOCK ELEVATION IS 16 FT. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK No.8



NOTES

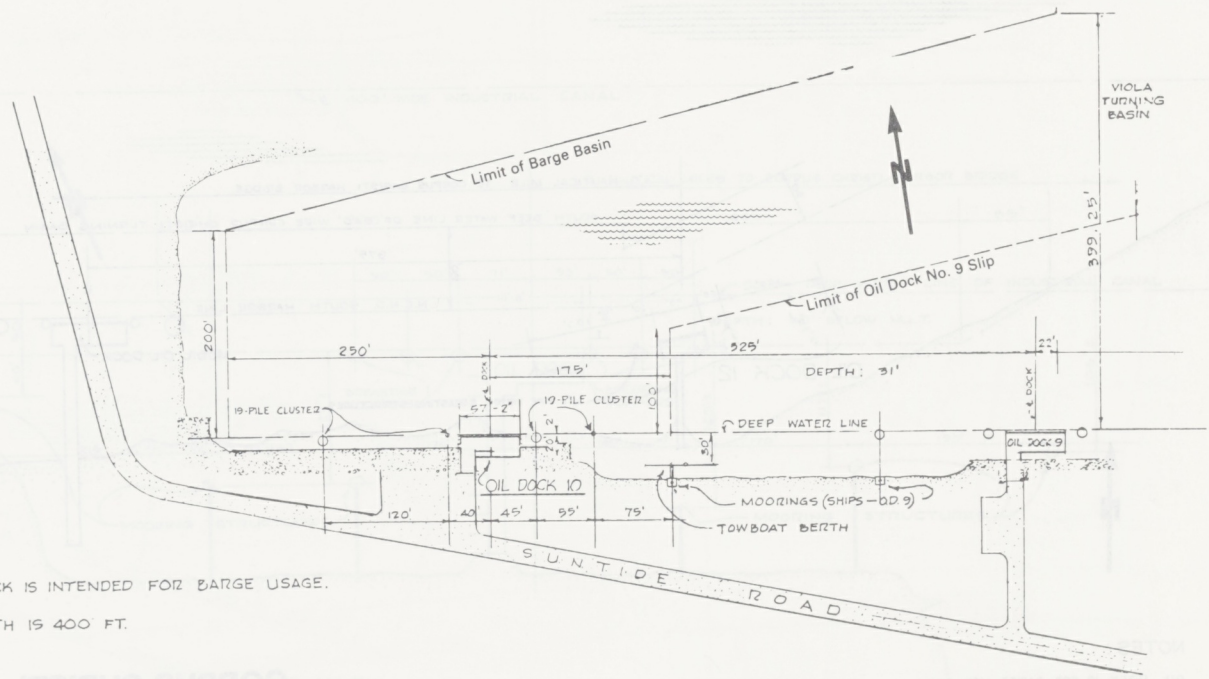
LENGTH LIMIT IS DETERMINED BY LENGTH OF SHIP BERTHED AT OIL DOCK 8; OTHERWISE THE 350 FT. DIMENSION FROM ℄ DOCK TO WEST END OF SLIP WOULD DETERMINE MAX. LENGTH, HOWEVER 1973 SOUNDINGS SHOW WEST 75 FT. SILTED IN.

DOCK ELEVATION IS 9 FT.-6 IN. ABOVE MEAN LOW TIDE.

Oil Dock 9 is intended for use by Barges and Small Tankers

CORPUS CHRISTI

OIL DOCK No.9



NOTES

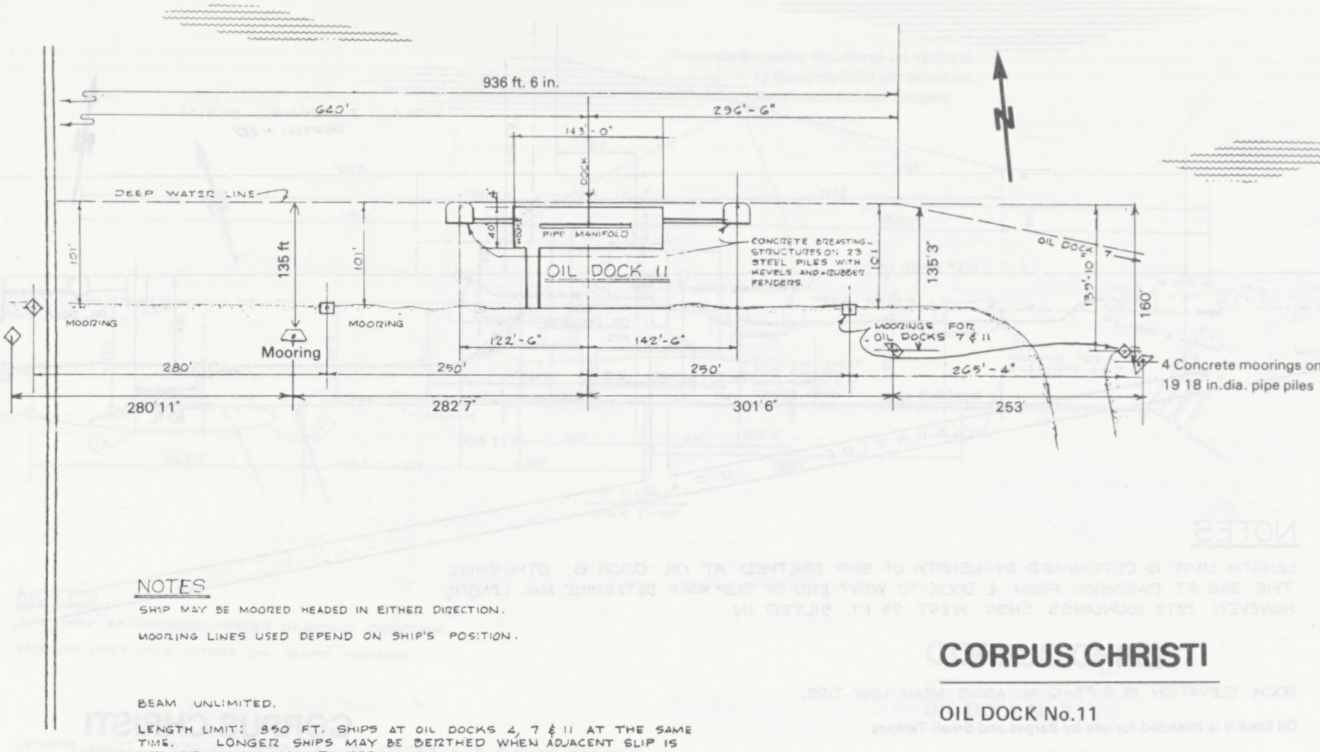
THIS OIL DOCK IS INTENDED FOR BARGE USAGE.

SLIP LENGTH IS 400 FT.

DOCK ELEVATION IS 9 FT, 6 IN. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK No.10



NOTES

SHIP MAY BE MOORED HEADED IN EITHER DIRECTION.

MOORING LINES USED DEPEND ON SHIP'S POSITION.

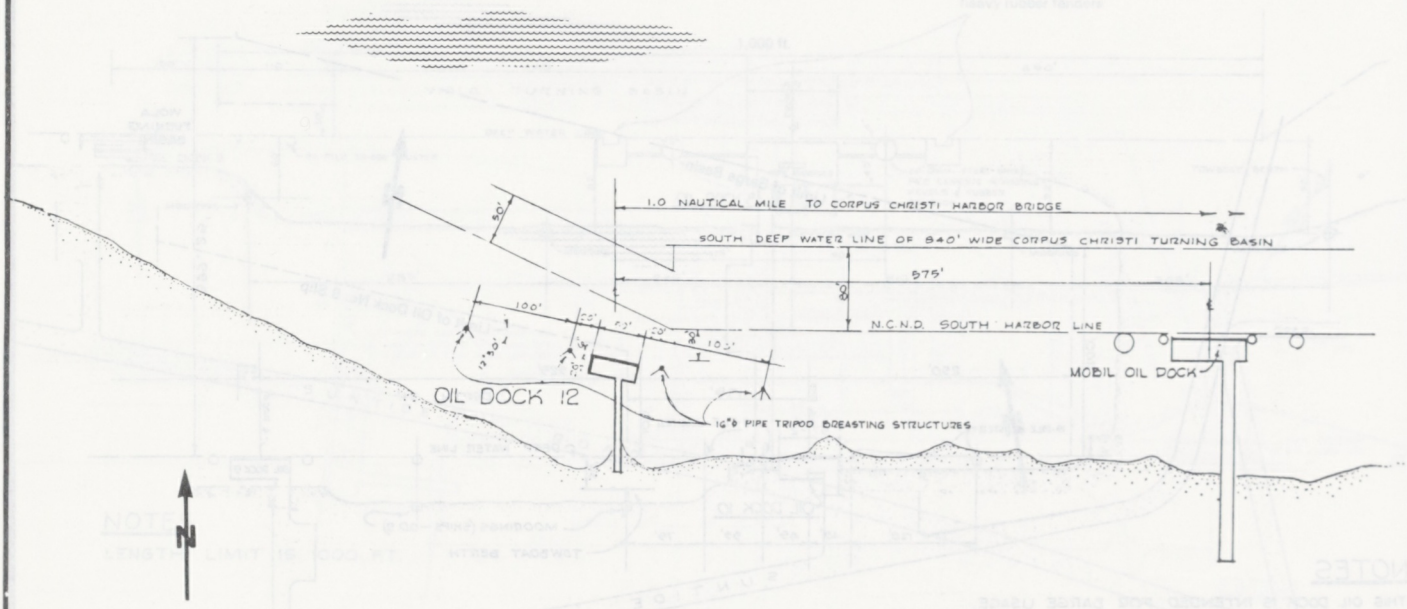
BEAM UNLIMITED.

LENGTH LIMIT: 850 FT. SHIPS AT OIL DOCKS 4, 7 & 11 AT THE SAME TIME. LONGER SHIPS MAY BE BERTHED WHEN ADJACENT SLIP IS NOT BEING FULLY UTILIZED.

DOCK ELEVATION IS 16 FT. ABOVE MEAN LOW TIDE.

CORPUS CHRISTI

OIL DOCK No.11



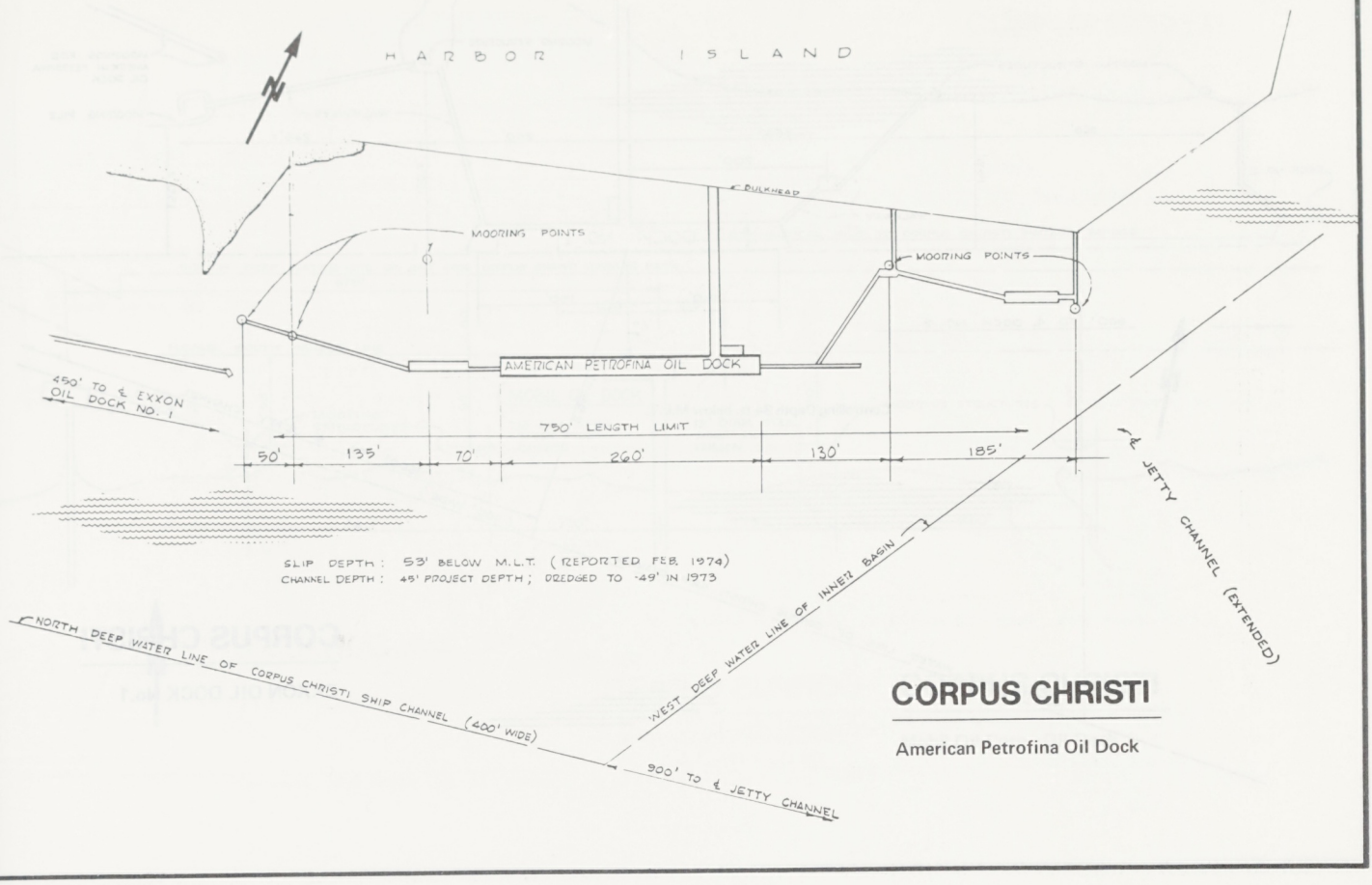
NOTES:

OIL DOCK 12 FOR BARGE USE ONLY.

DOCK ELEVATION IS 8 FT. ABOVE M.L.T.

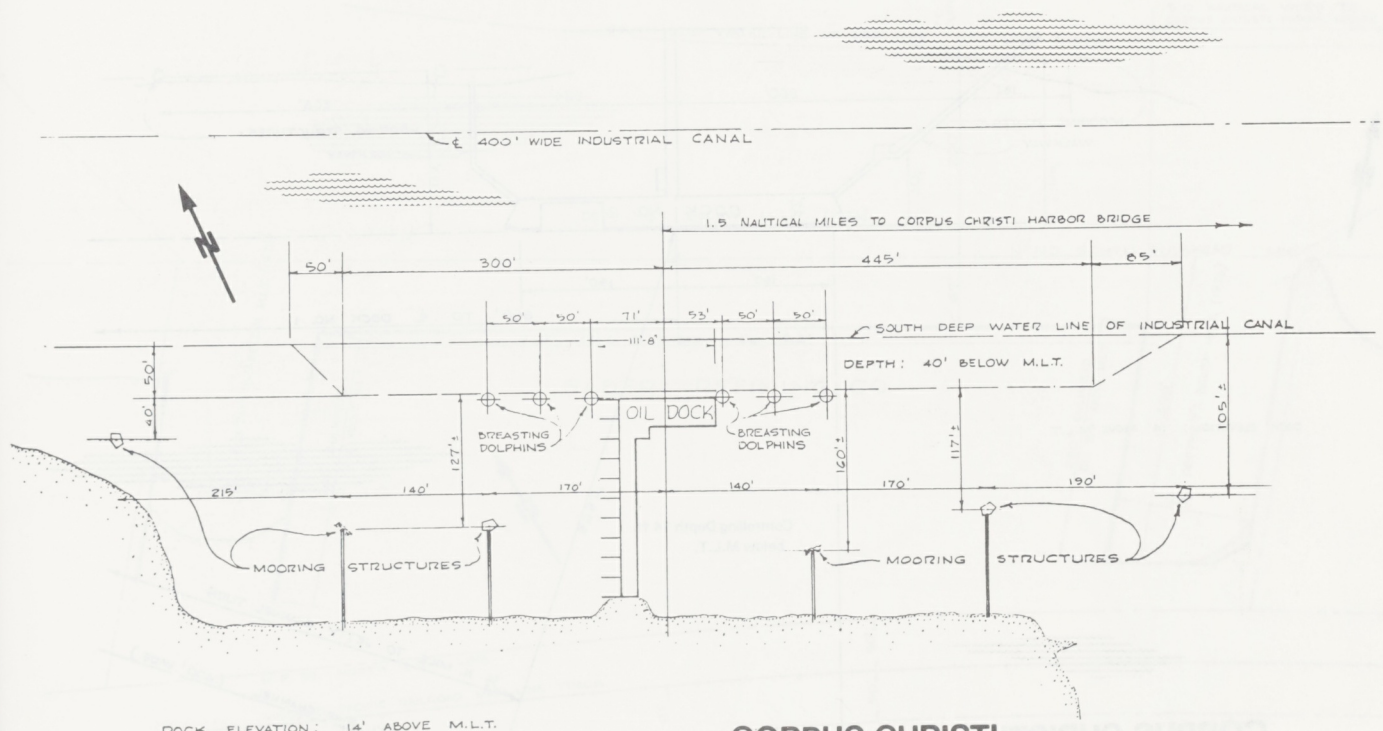
CORPUS CHRISTI

OIL DOCK No. 12



CORPUS CHRISTI

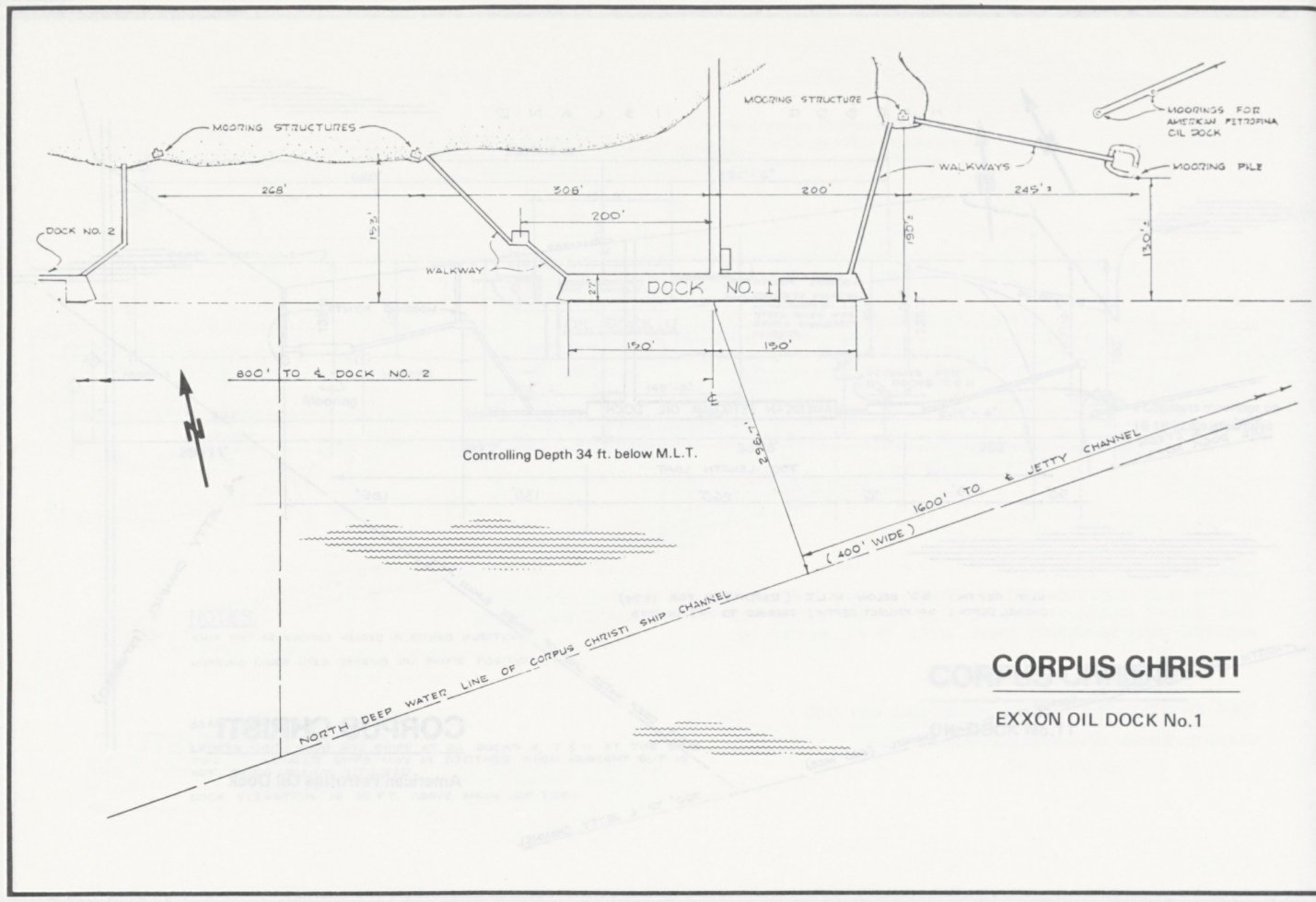
American Petrofina Oil Dock



DOCK ELEVATION : 14' ABOVE M.L.T.

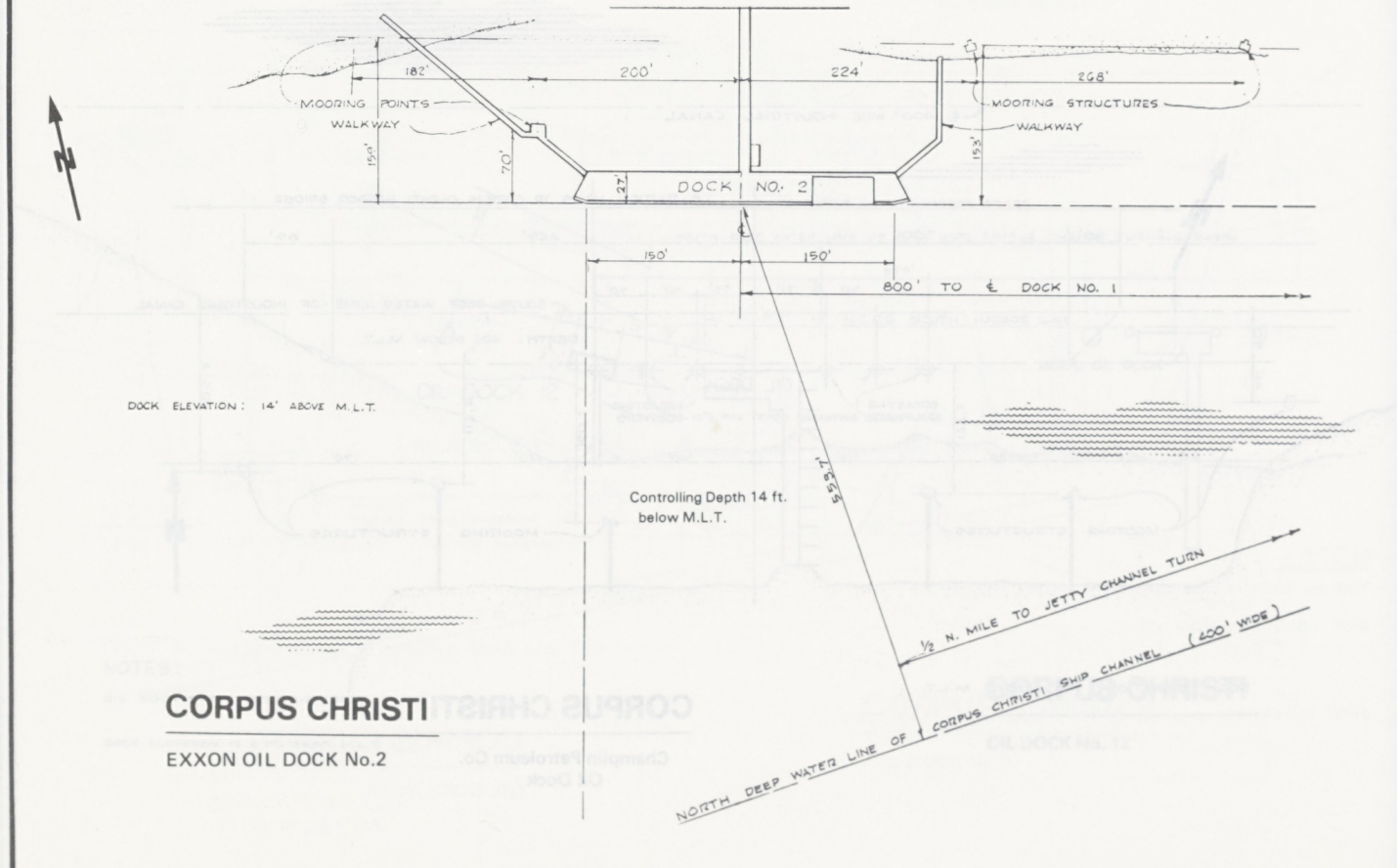
CORPUS CHRISTI

Champlin Petroleum Co.
Oil Dock



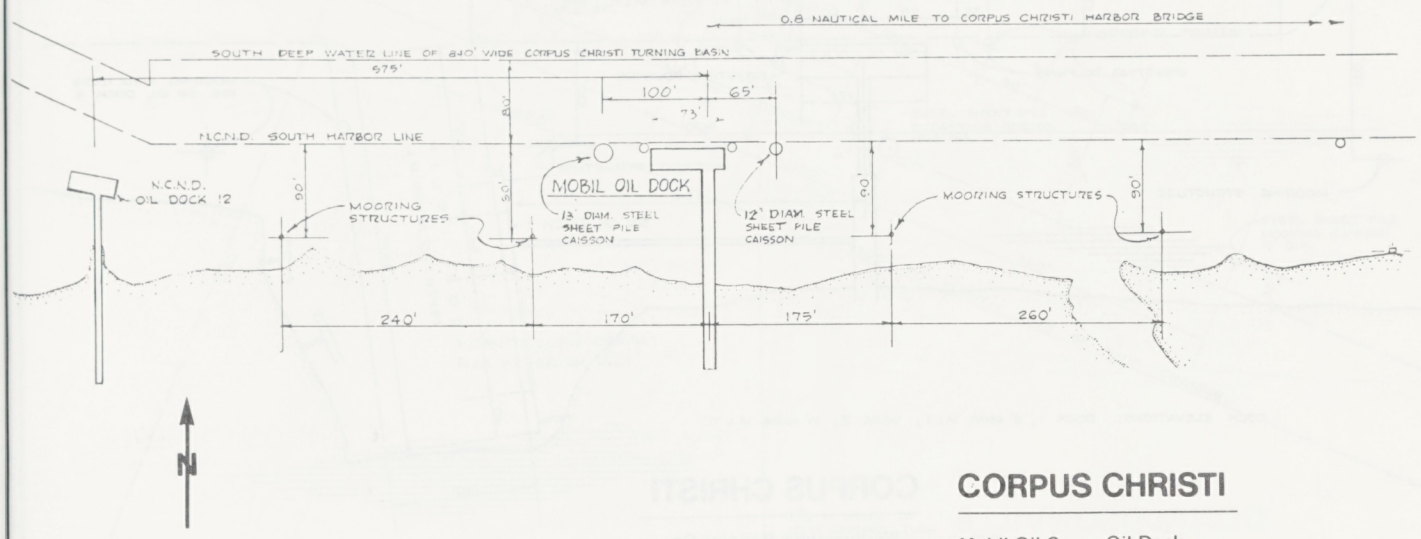
CORPUS CHRISTI

EXXON OIL DOCK No.1



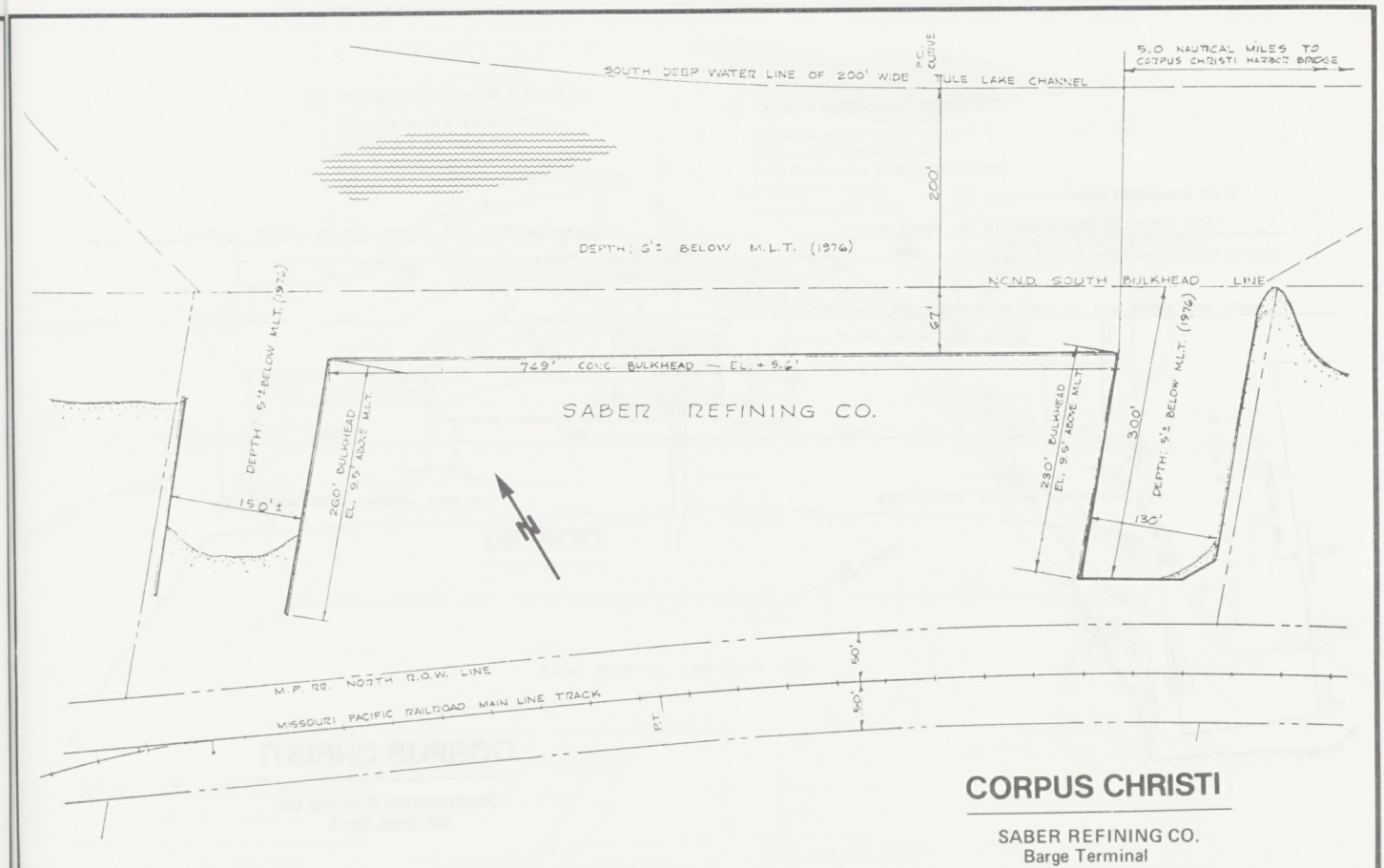
CORPUS CHRISTI

EXXON OIL DOCK No.2



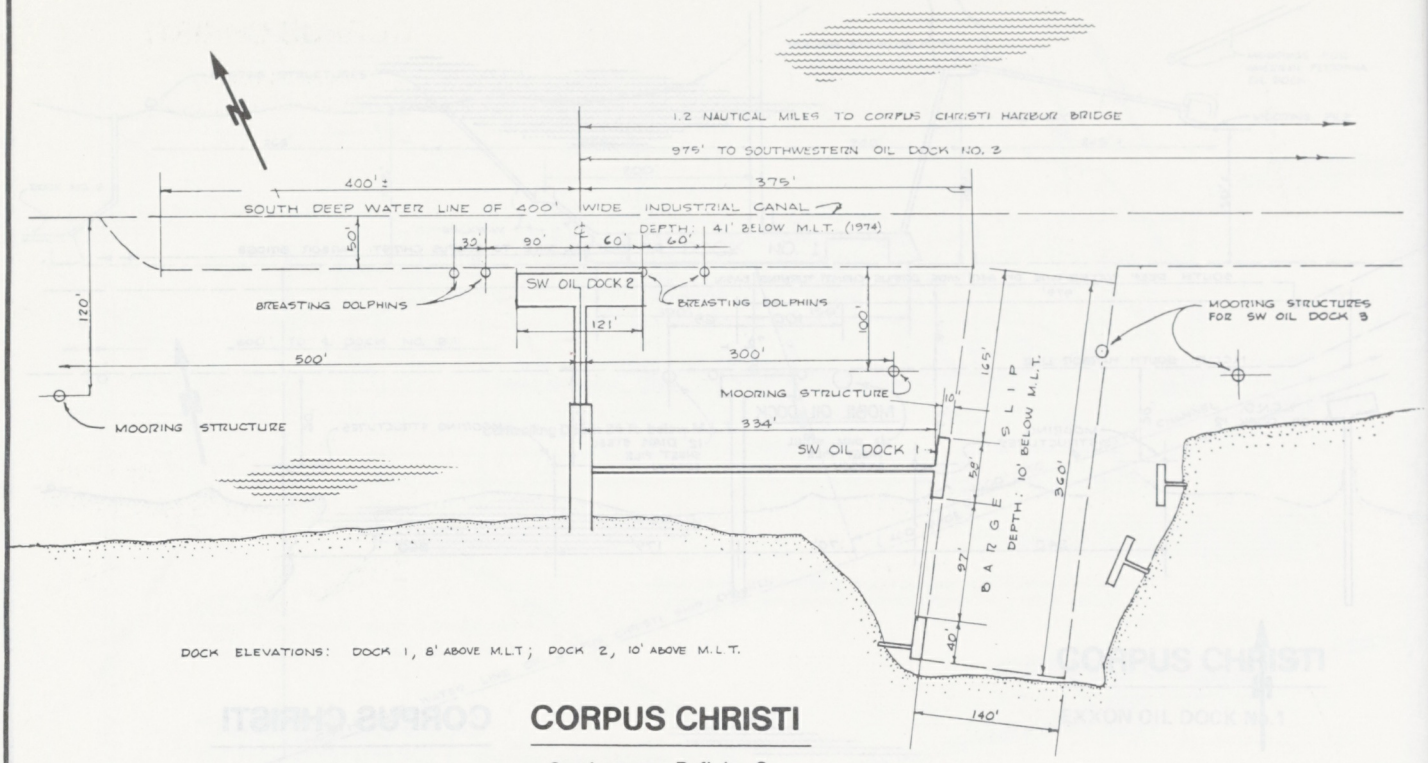
CORPUS CHRISTI

Mobil Oil Corp., Oil Dock



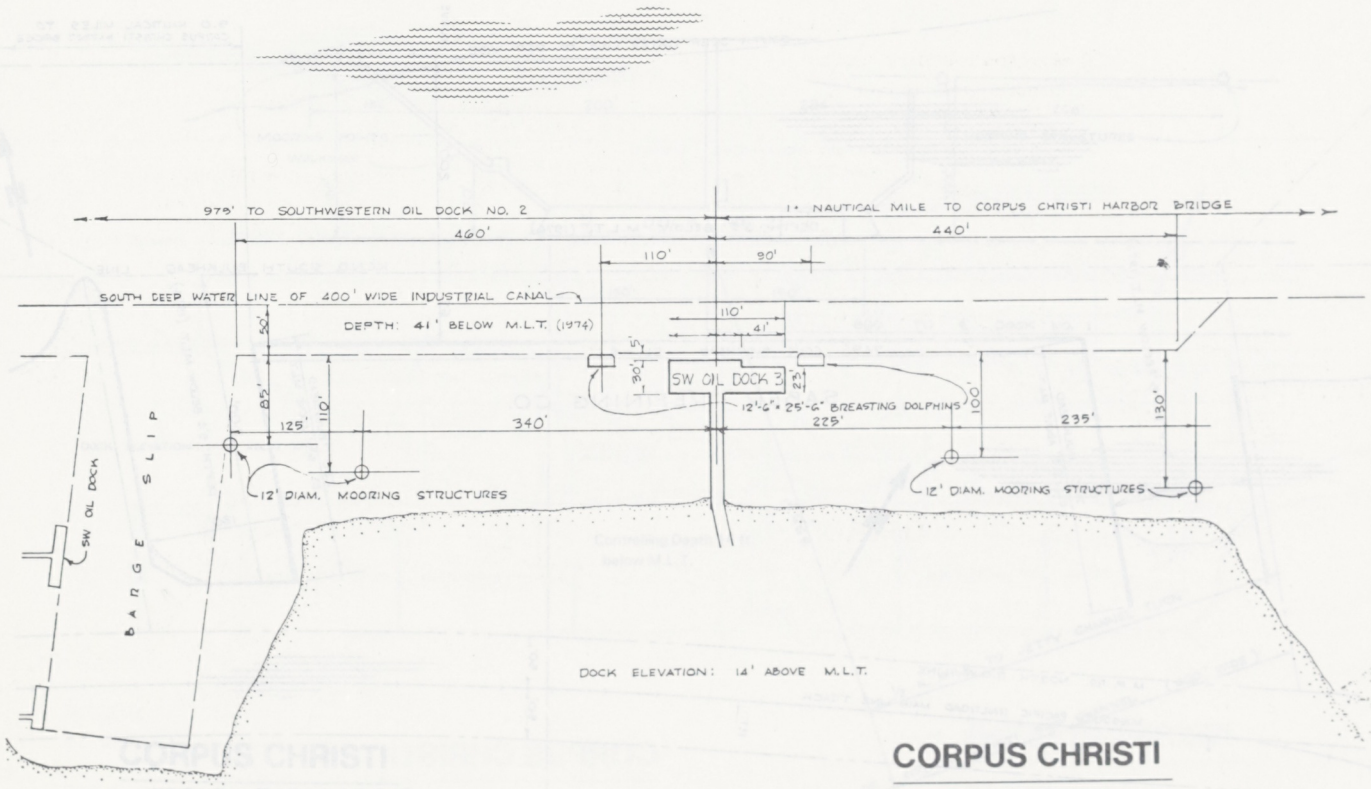
CORPUS CHRISTI

SABER REFINING CO.
Barge Terminal



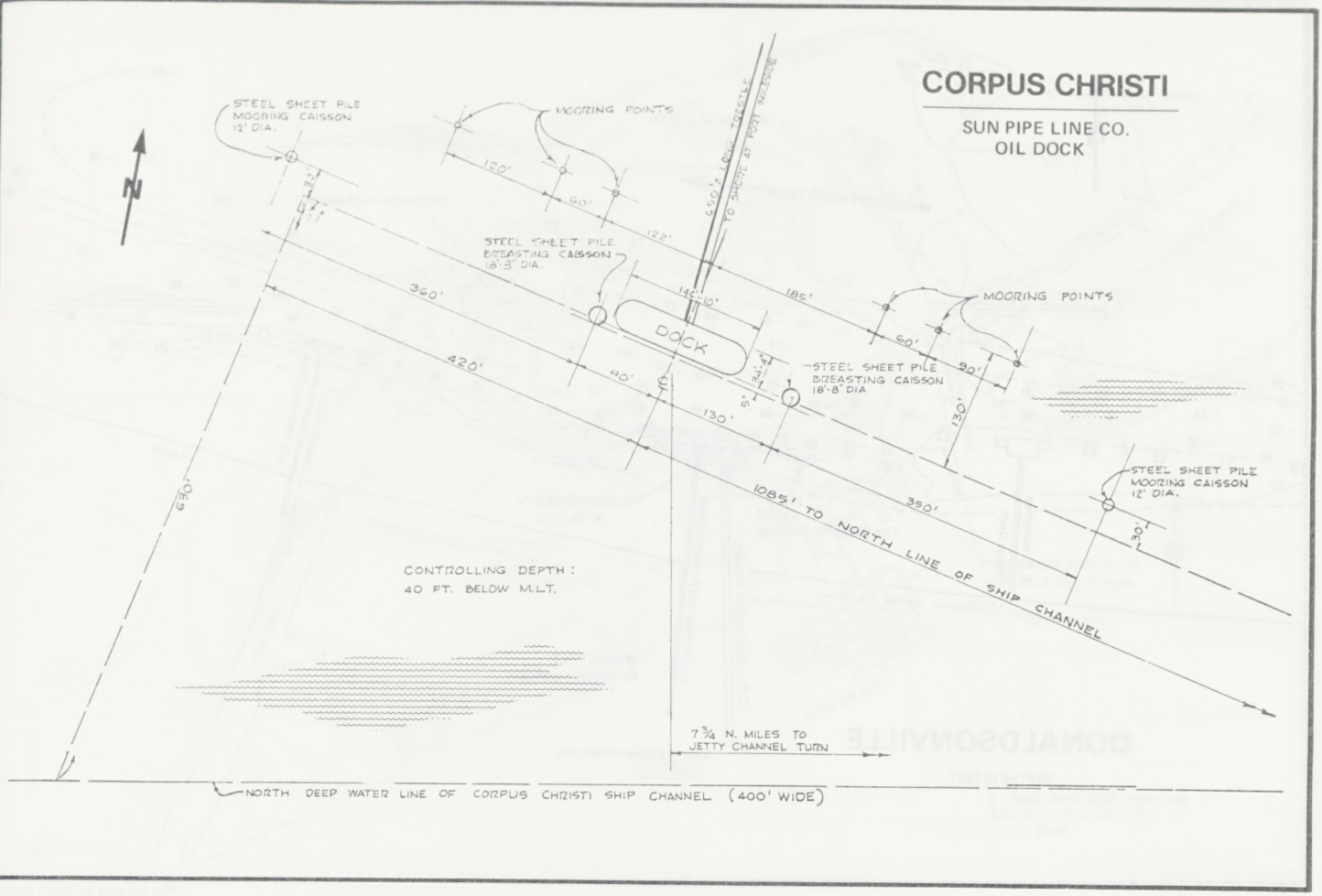
CORPUS CHRISTI

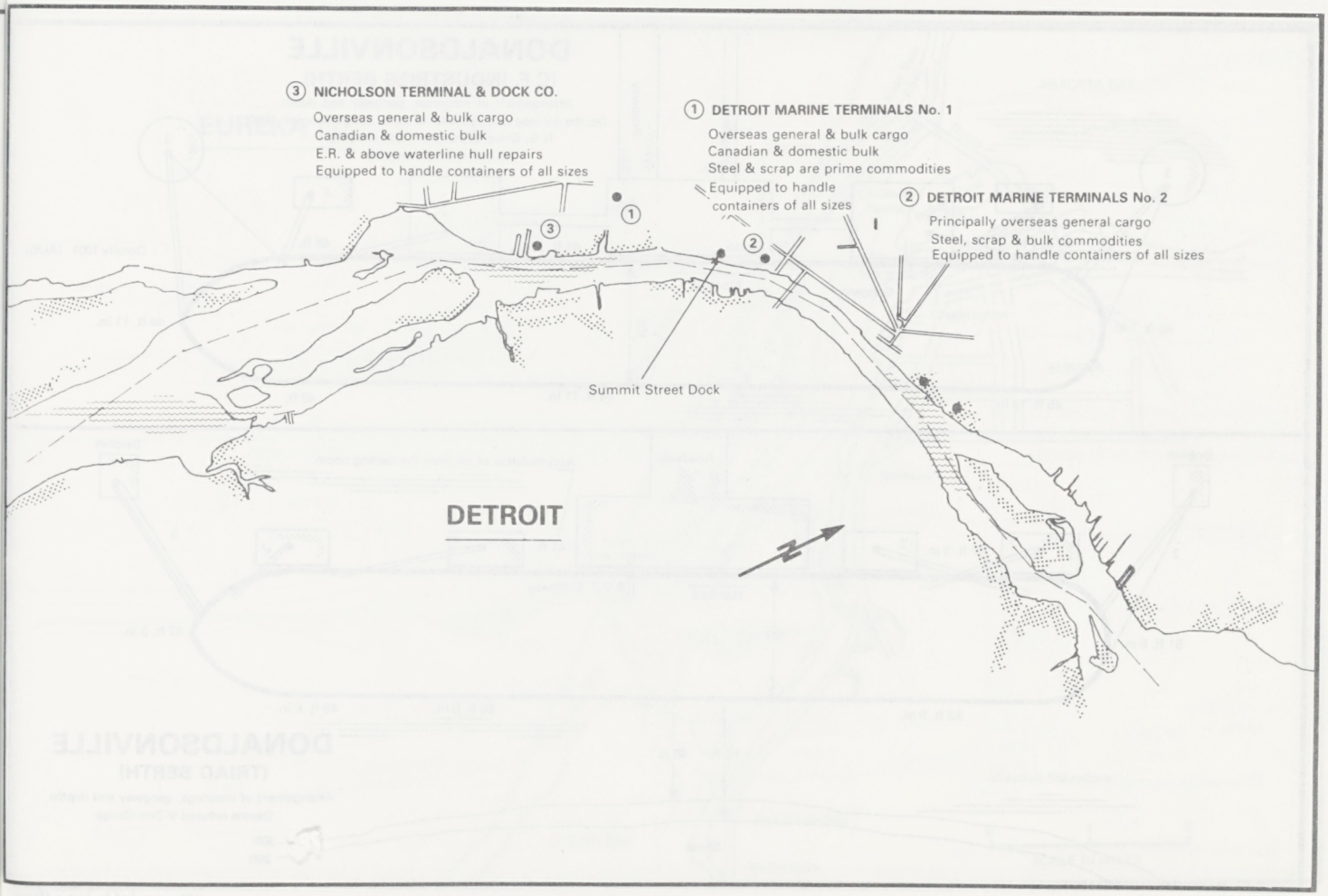
Southwestern Refining Co.
Oil Docks No.1 & 2

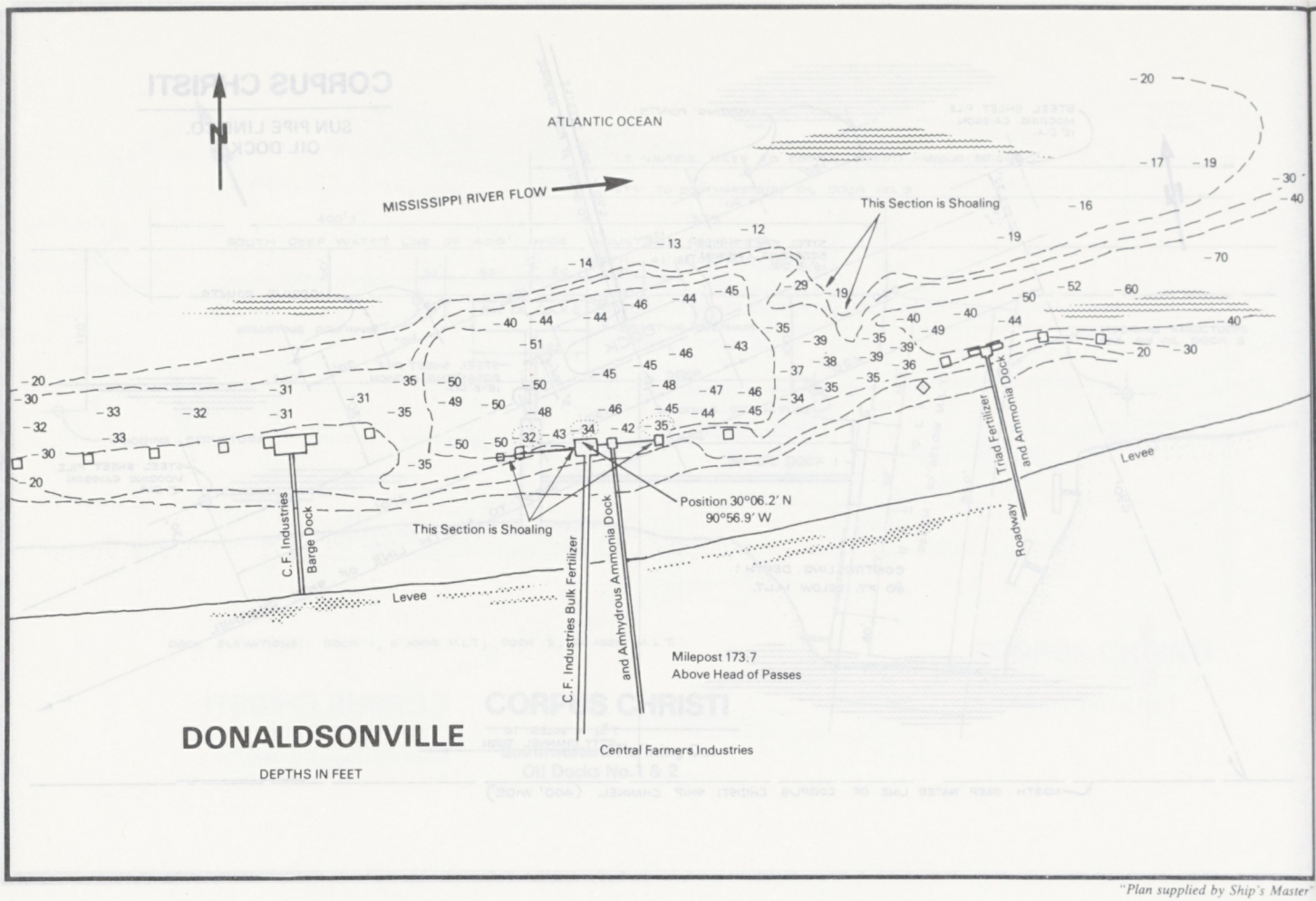


CORPUS CHRISTI

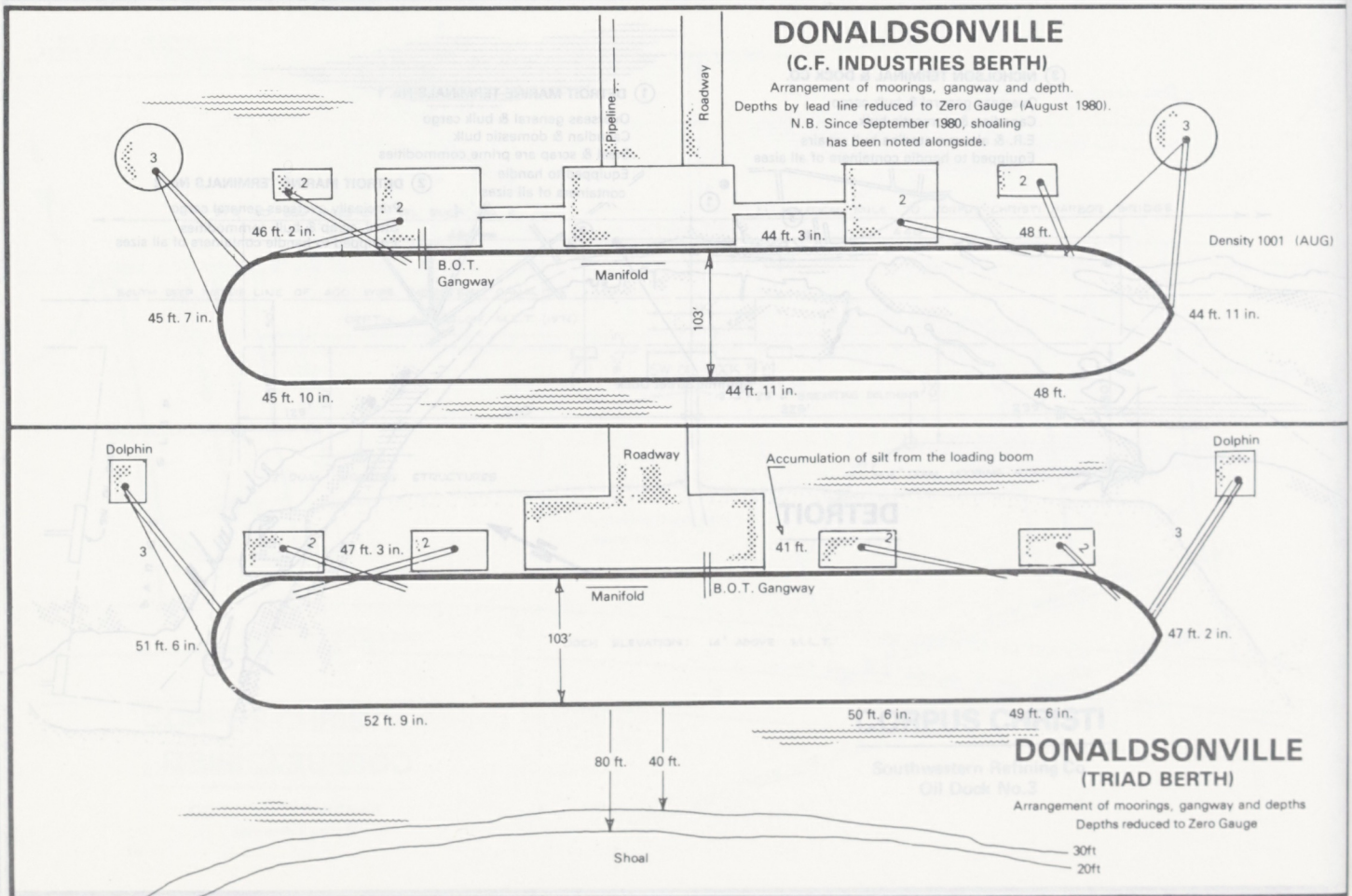
Southwestern Refining Co.
Oil Dock No.3


CORPUS CHRISTI
SUN PIPE LINE CO.
OIL DOCK
STEEL SHEET PILE MOORING CAISSON 12' DIA.
MOORING POINTS
120'
60'
122'
650' LONG TRESTLE TO SHORE AT POINT INGLESIDE
STEEL SHEET PILE BREASTING CAISSON 18'-8" DIA.
360'
420'
630'
DOCK
142'-10"
185'
MOORING POINTS
60'
90'
130'
STEEL SHEET PILE BREASTING CAISSON 18'-8" DIA
130'
350'
STEEL SHEET PILE MOORING CAISSON 12' DIA.
1085' TO NORTH LINE OF SHIP CHANNEL
CONTROLLING DEPTH: 40 FT. BELOW M.L.T.
7 3/4 N. MILES TO JETTY CHANNEL TURN
NORTH DEEP WATER LINE OF CORPUS CHRISTI SHIP CHANNEL (400' WIDE)

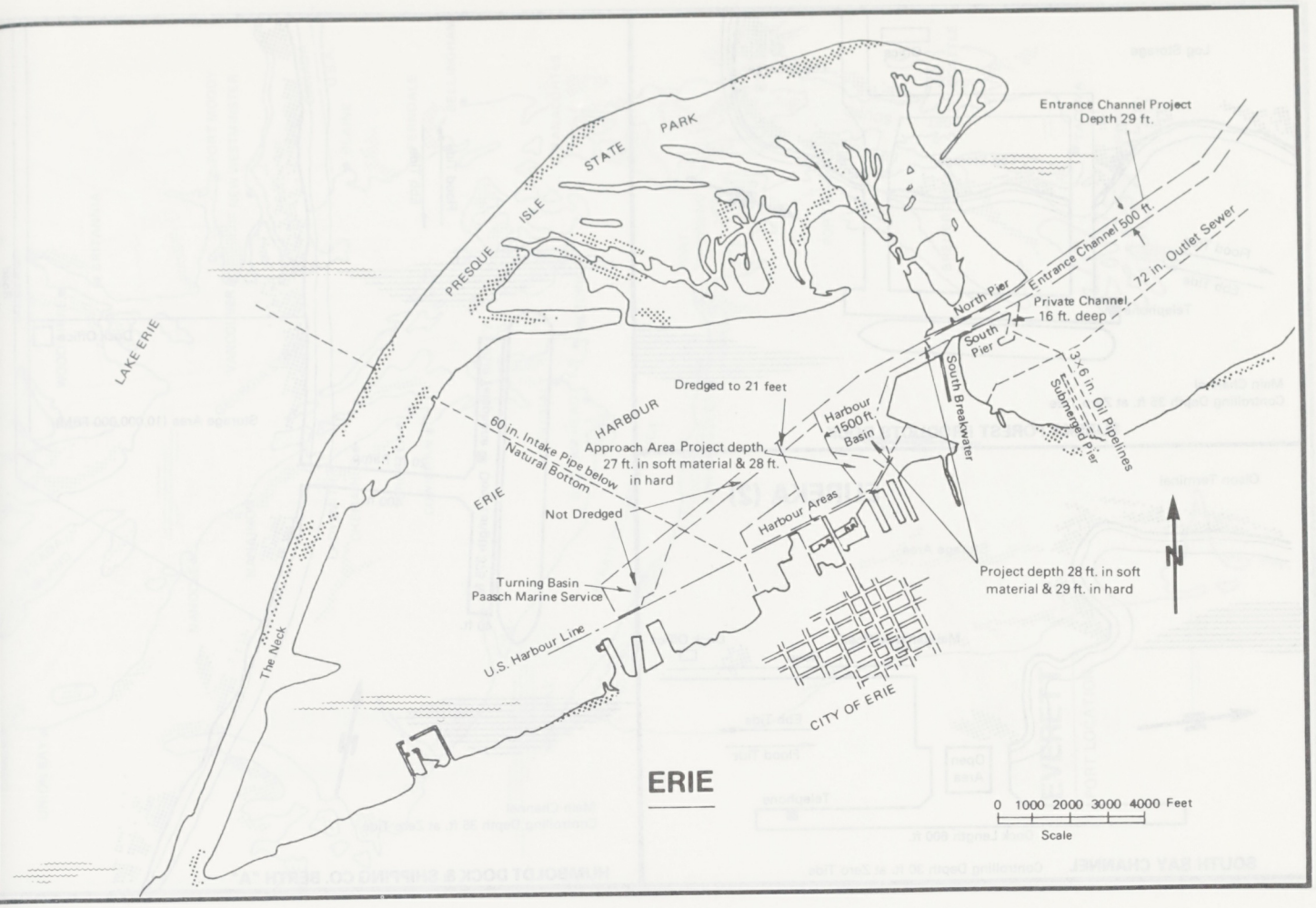

③ NICHOLSON TERMINAL & DOCK CO.
Overseas general & bulk cargo
Canadian & domestic bulk
E.R. & above waterline hull repairs
Equipped to handle containers of all sizes
① DETROIT MARINE TERMINALS No. 1
Overseas general & bulk cargo
Canadian & domestic bulk
Steel & scrap are prime commodities
Equipped to handle containers of all sizes
② DETROIT MARINE TERMINALS No. 2
Principally overseas general cargo
Steel, scrap & bulk commodities
Equipped to handle containers of all sizes
Summit Street Dock
DETROIT

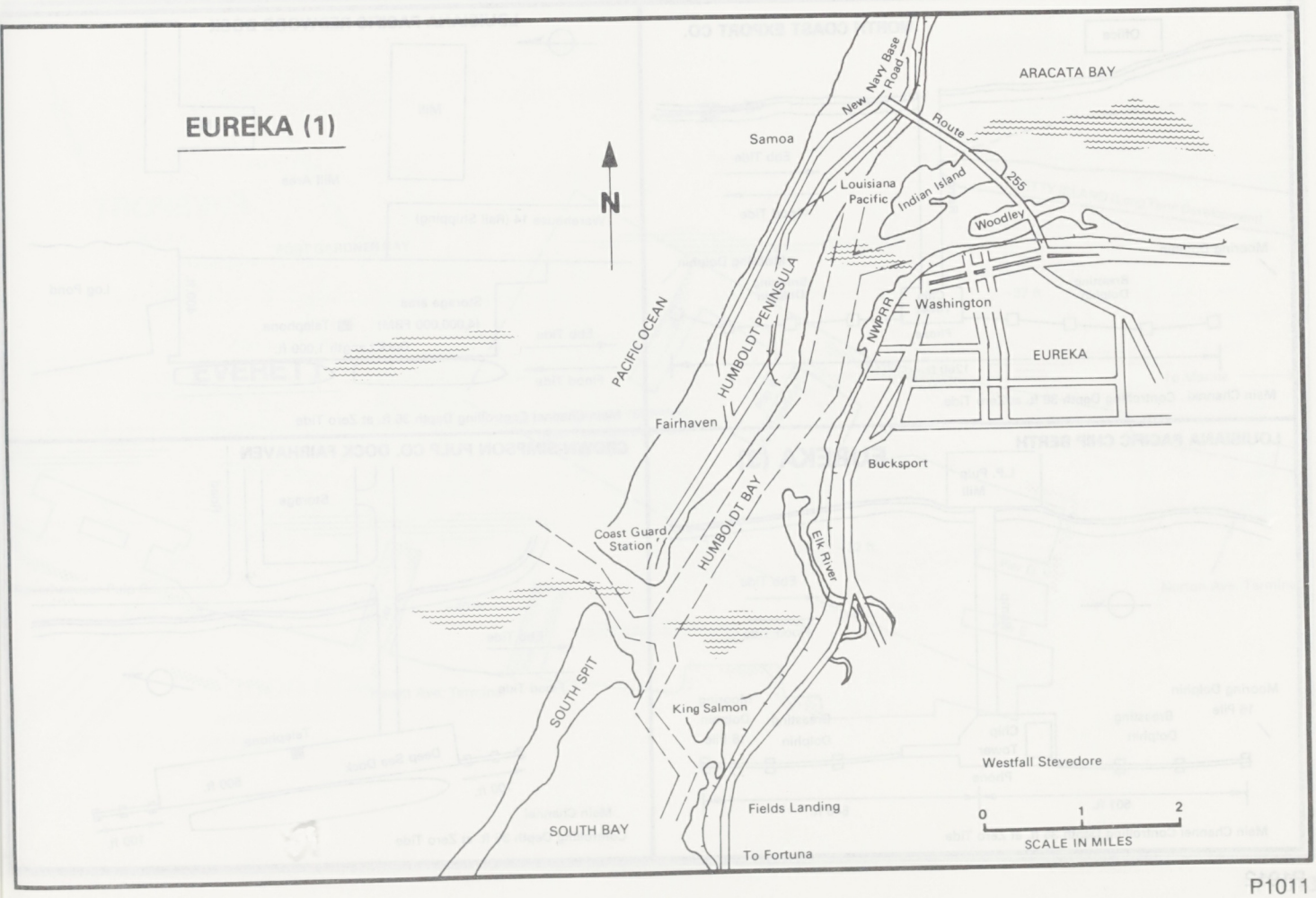


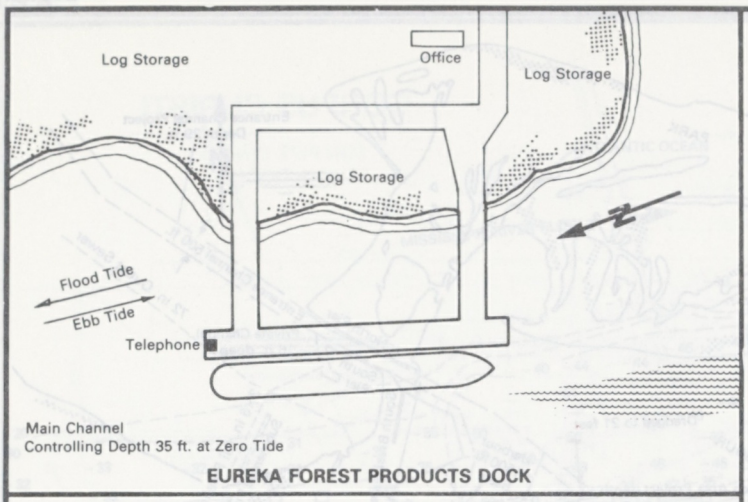
"Plan supplied by Ship's Master"



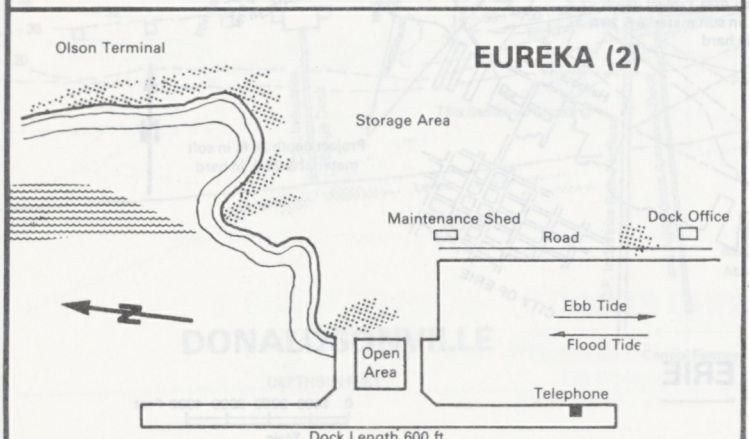
"Plan supplied by Ship's Master"


Entrance Channel Project Depth 29 ft.
Entrance Channel 500 ft.
72 in. Outlet Sewer
Private Channel, 16 ft. deep
North Pier
South Pier
South Breakwater
3 x 6 in. Oil Pipelines
Submerged Pier
Dredged to 21 feet
Harbour 1500 ft. Basin
HARBOUR
Approach Area Project depth 27 ft. in soft material & 28 ft. in hard
60 in. Intake Pipe below Natural Bottom
ERIE
Not Dredged
Harbour Areas
Turning Basin
Paasch Marine Service
U.S. Harbour Line
Project depth 28 ft. in soft material & 29 ft. in hard
CITY OF ERIE
The Neck
PRESQUE ISLE STATE PARK
LAKE ERIE
N
ERIE
0 1000 2000 3000 4000 Feet
Scale


EUREKA (1)
N
ARACATA BAY
New Navy Base Road
Samoa
Route 255
Louisiana Pacific
Indian Island
Woodley
Washington
NWPRR
EUREKA
PACIFIC OCEAN
HUMBOLDT PENINSULA
Fairhaven
Bucksport
HUMBOLDT BAY
Coast Guard Station
Elk River
SOUTH SPIT
King Salmon
Westfall Stevedore
Fields Landing
SOUTH BAY
To Fortuna
0 1 2
SCALE IN MILES

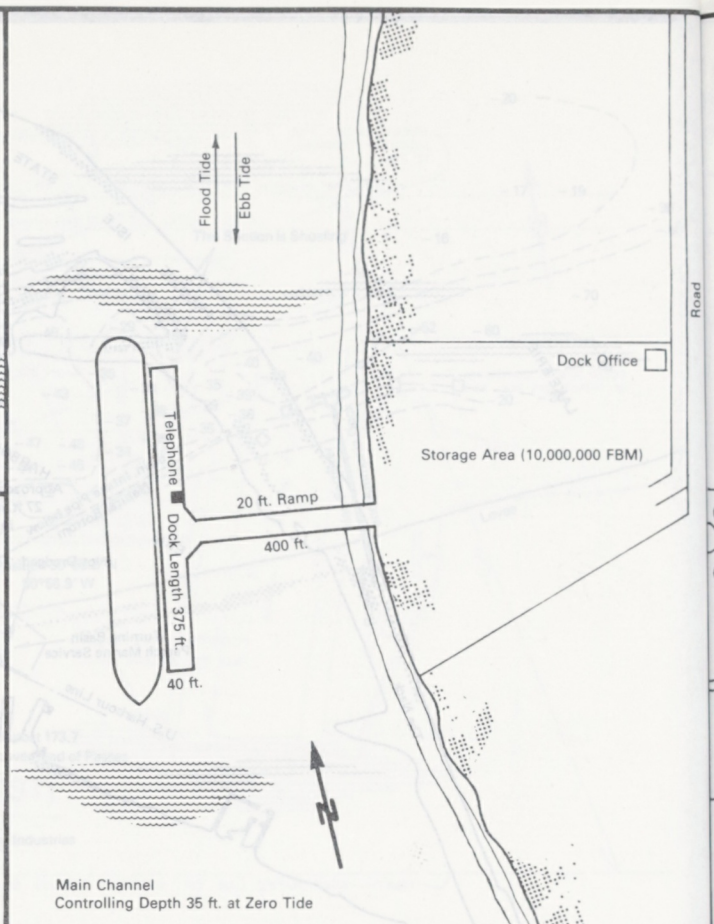


EUREKA FOREST PRODUCTS DOCK

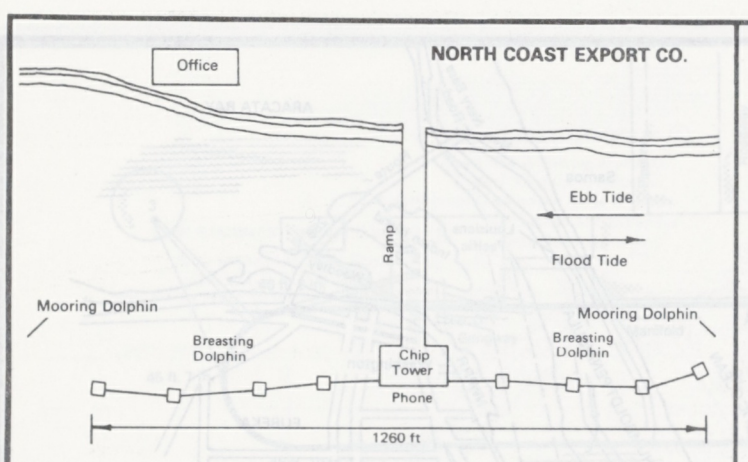


EUREKA (2)

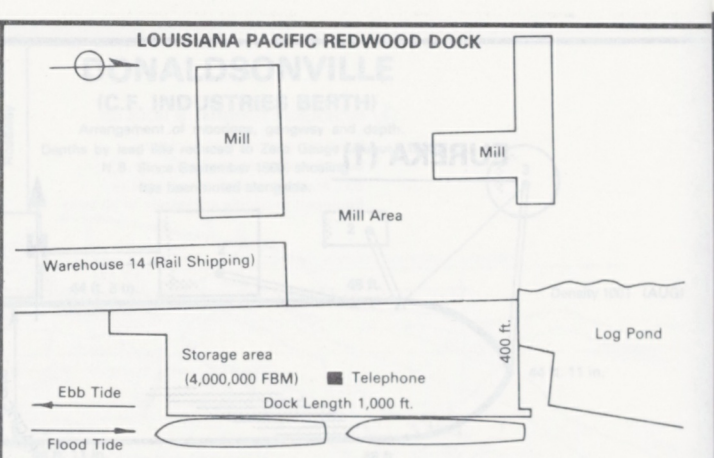
SOUTH BAY CHANNEL Controlling Depth 30 ft. at Zero Tide



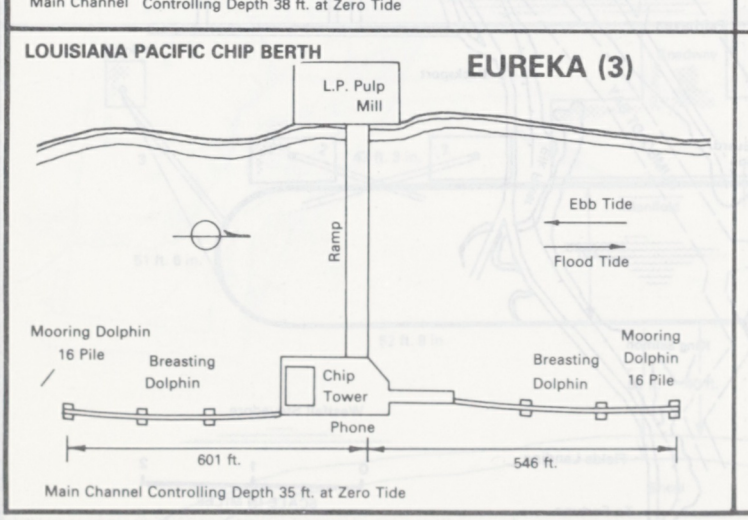
HUMBOLDT DOCK & SHIPPING CO. BERTH "A"



NORTH COAST EXPORT CO.

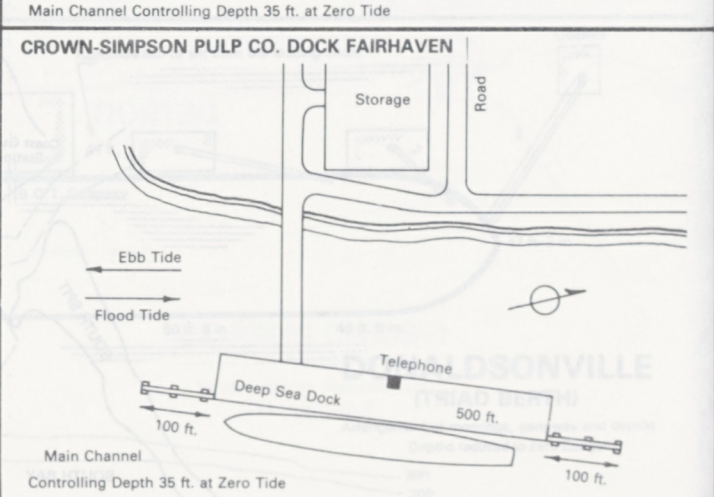


LOUISIANA PACIFIC REDWOOD DOCK

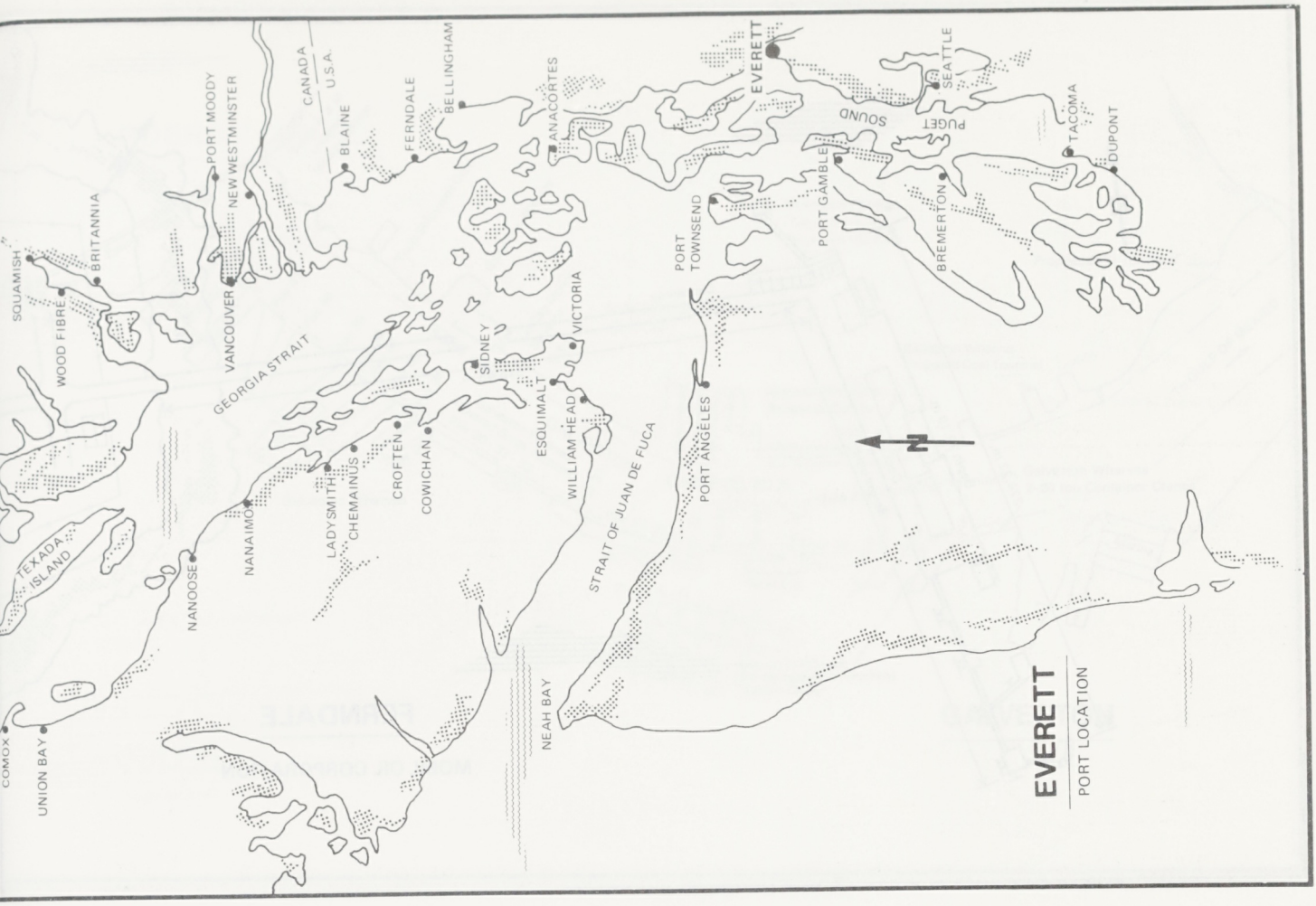


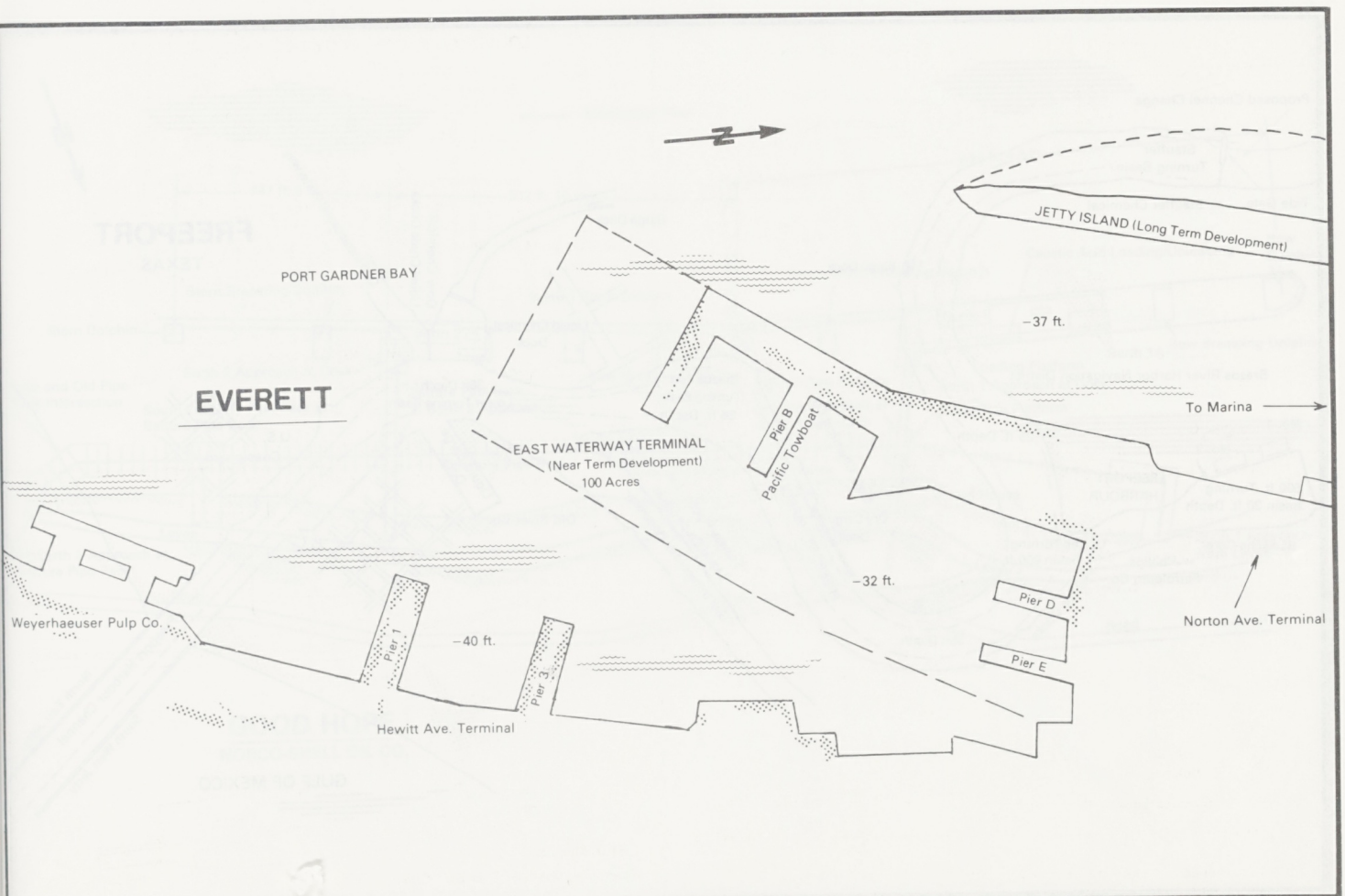
LOUISIANA PACIFIC CHIP BERTH

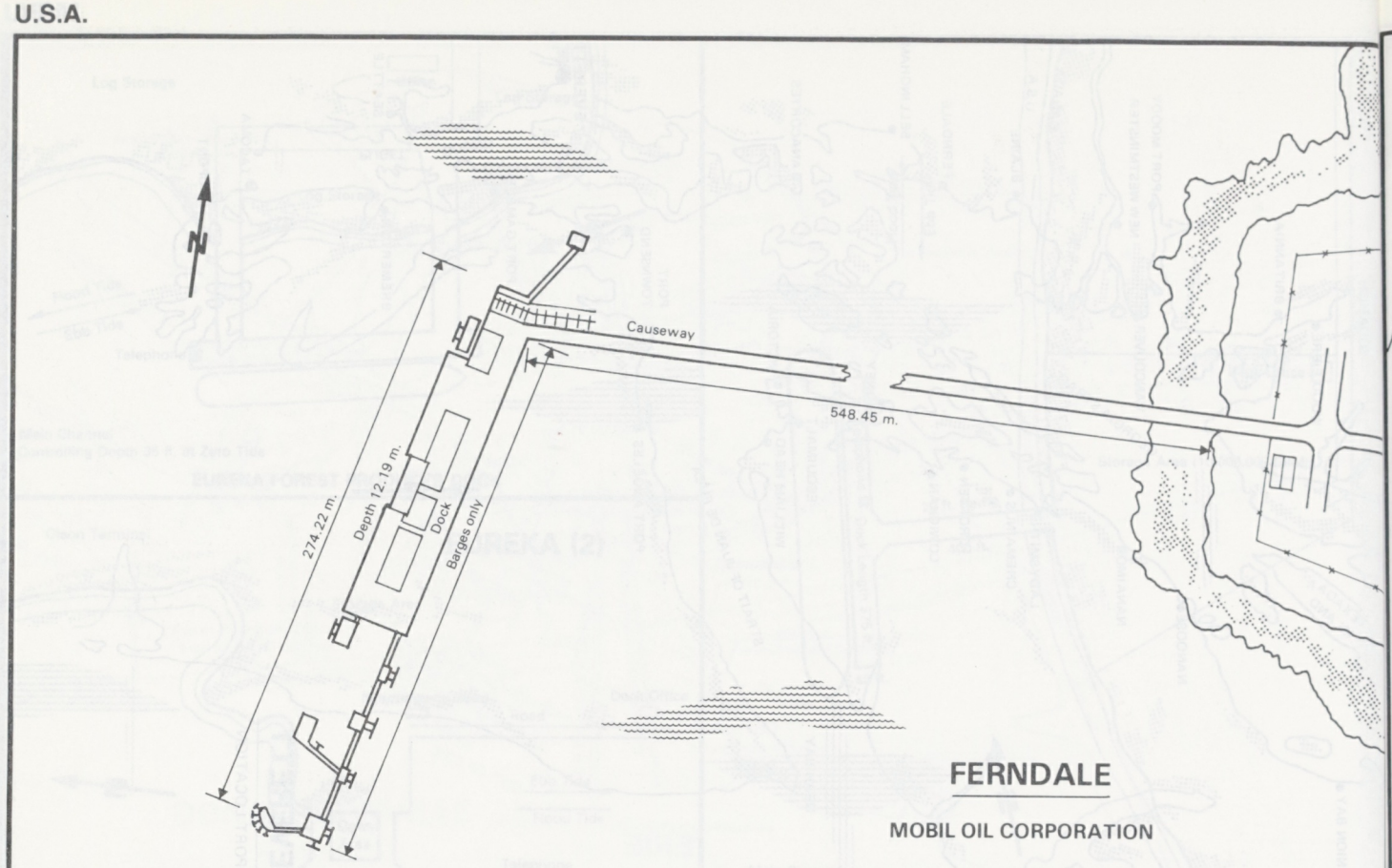
EUREKA (3)



CROWN-SIMPSON PULP CO. DOCK FAIRHAVEN

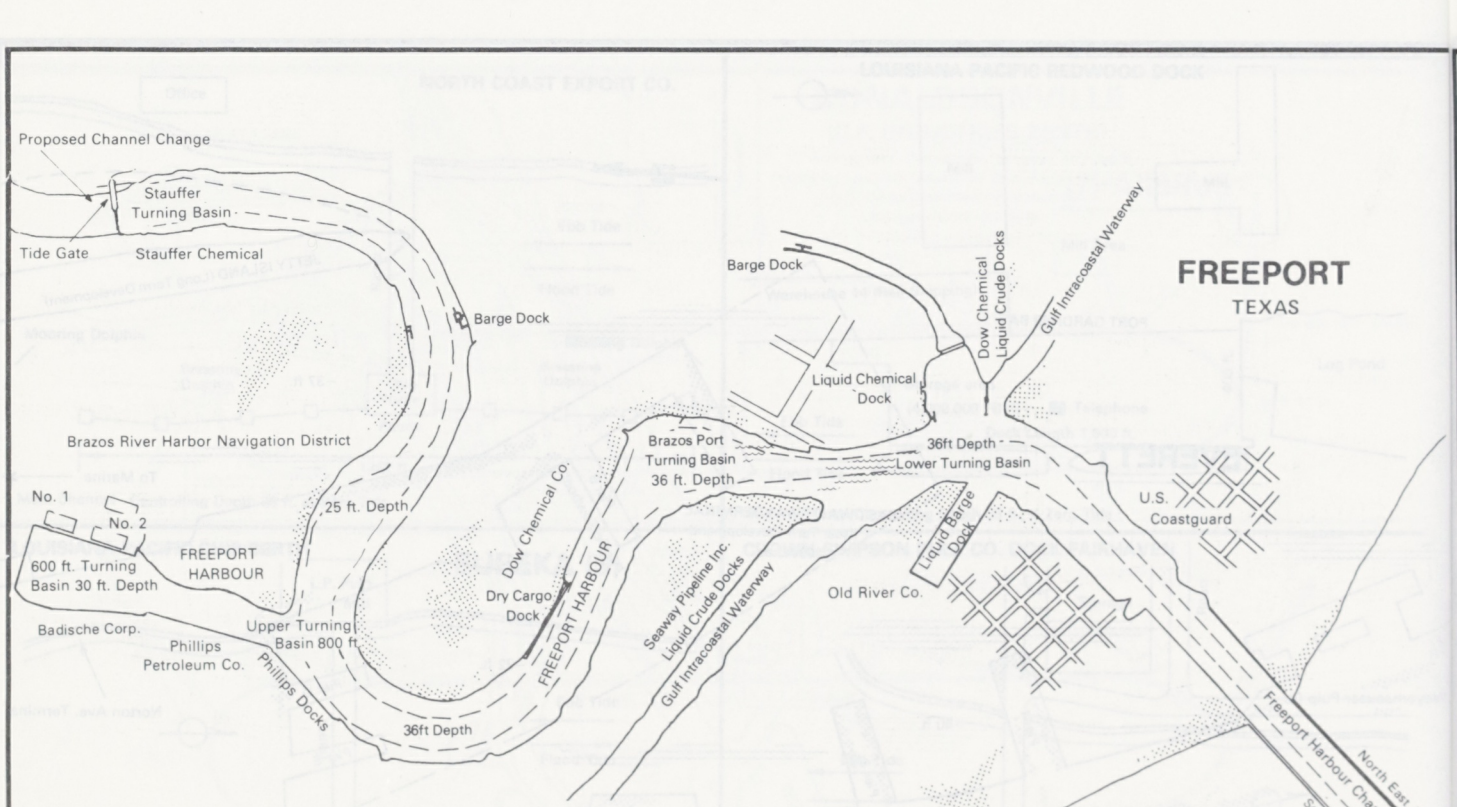

CANADA
U.S.A.
BLAINE
FERNDALE
BELLINGHAM
ANACORTES
EVERETT
SEATTLE
TACOMA
DUPONT
PUGET SOUND
PORT MOODY
NEW WESTMINSTER
VANCOUVER
SQUAMISH
BRITANNIA
WOOD FIBRE
GEORGIA STRAIT
SIDNEY
VICTORIA
PORT TOWNSEND
PORT GAMBLE
BREMERTON
ESQUIMALT
WILLIAM HEAD
STRAIT OF JUAN DE FUCA
PORT ANGELES
CROFTEN
COWICHAN
LADYSMITH
CHEMAINUS
NANAIMO
NANOOSE
TEXADA ISLAND
COMOX
UNION BAY
NEAH BAY
N
EVERETT
PORT LOCATION


N
PORT GARDNER BAY
JETTY ISLAND (Long Term Development)
-37 ft.
EVERETT
To Marina
EAST WATERWAY TERMINAL
(Near Term Development)
100 Acres
Pier B
Pacific Towboat
-32 ft.
Pier D
Pier E
Norton Ave. Terminal
Weyerhaeuser Pulp Co.
Pier 1
-40 ft.
Pier 3
Hewitt Ave. Terminal



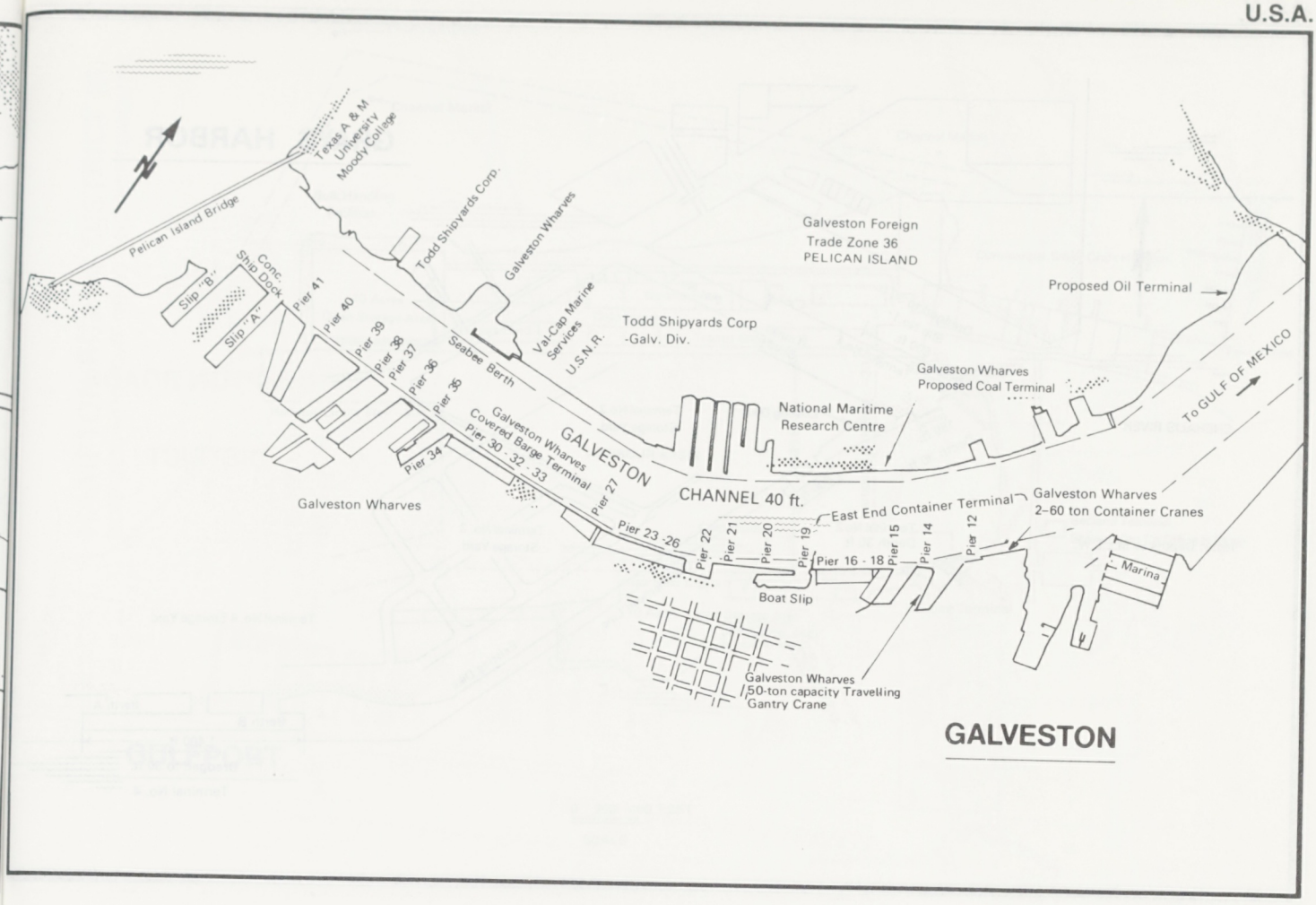
FERNDALE

MOBIL OIL CORPORATION

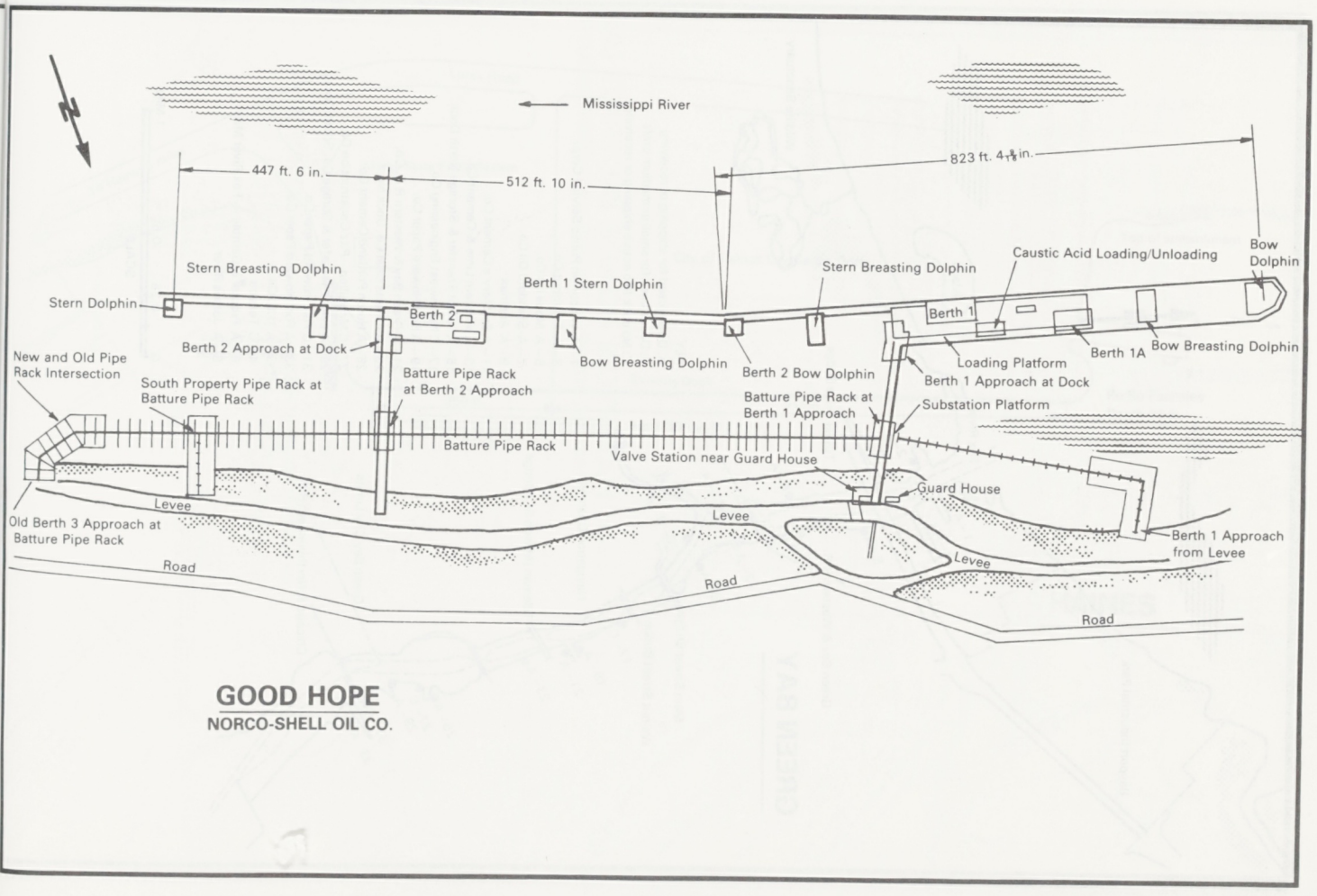


FREEPORT

TEXAS



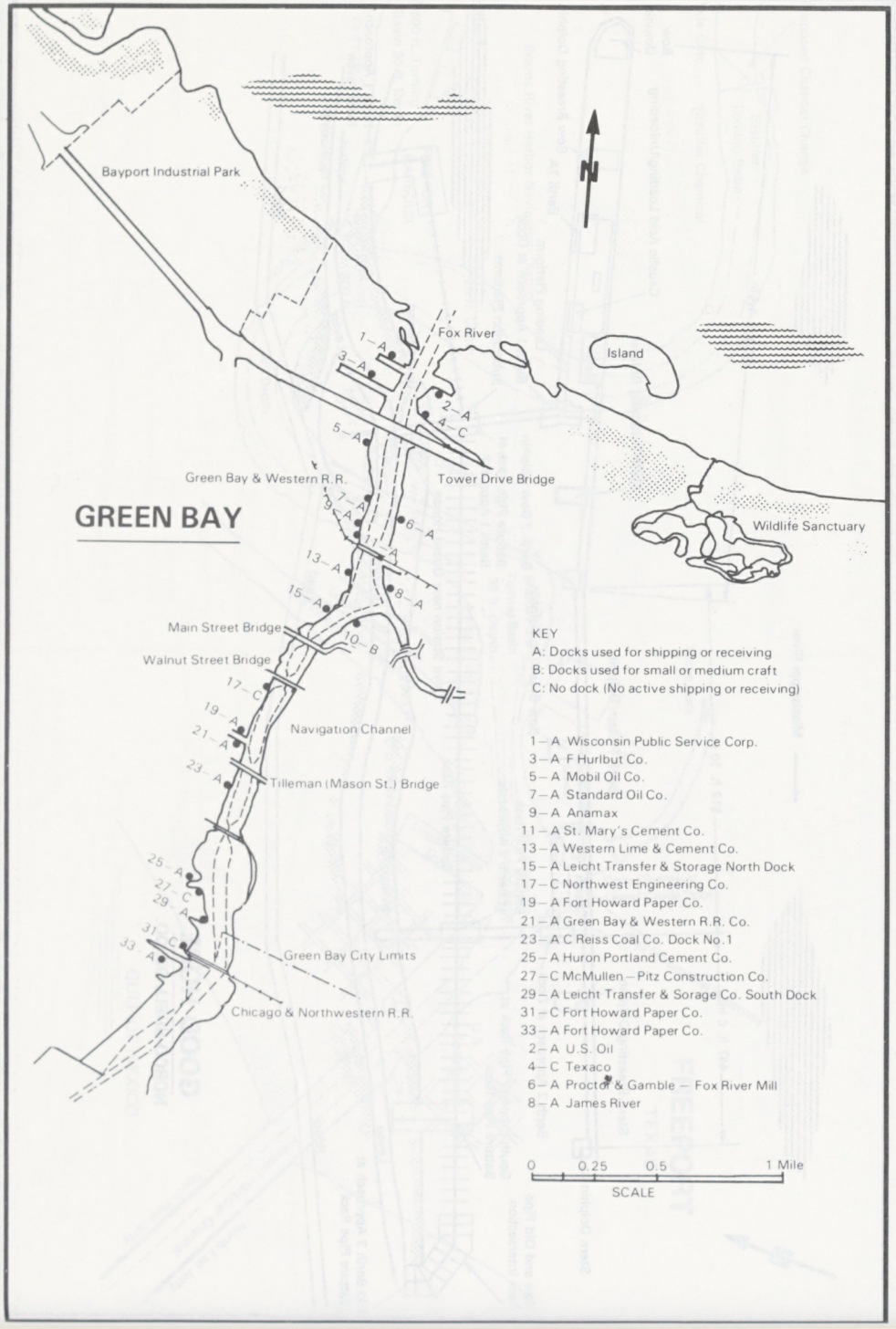
GALVESTON



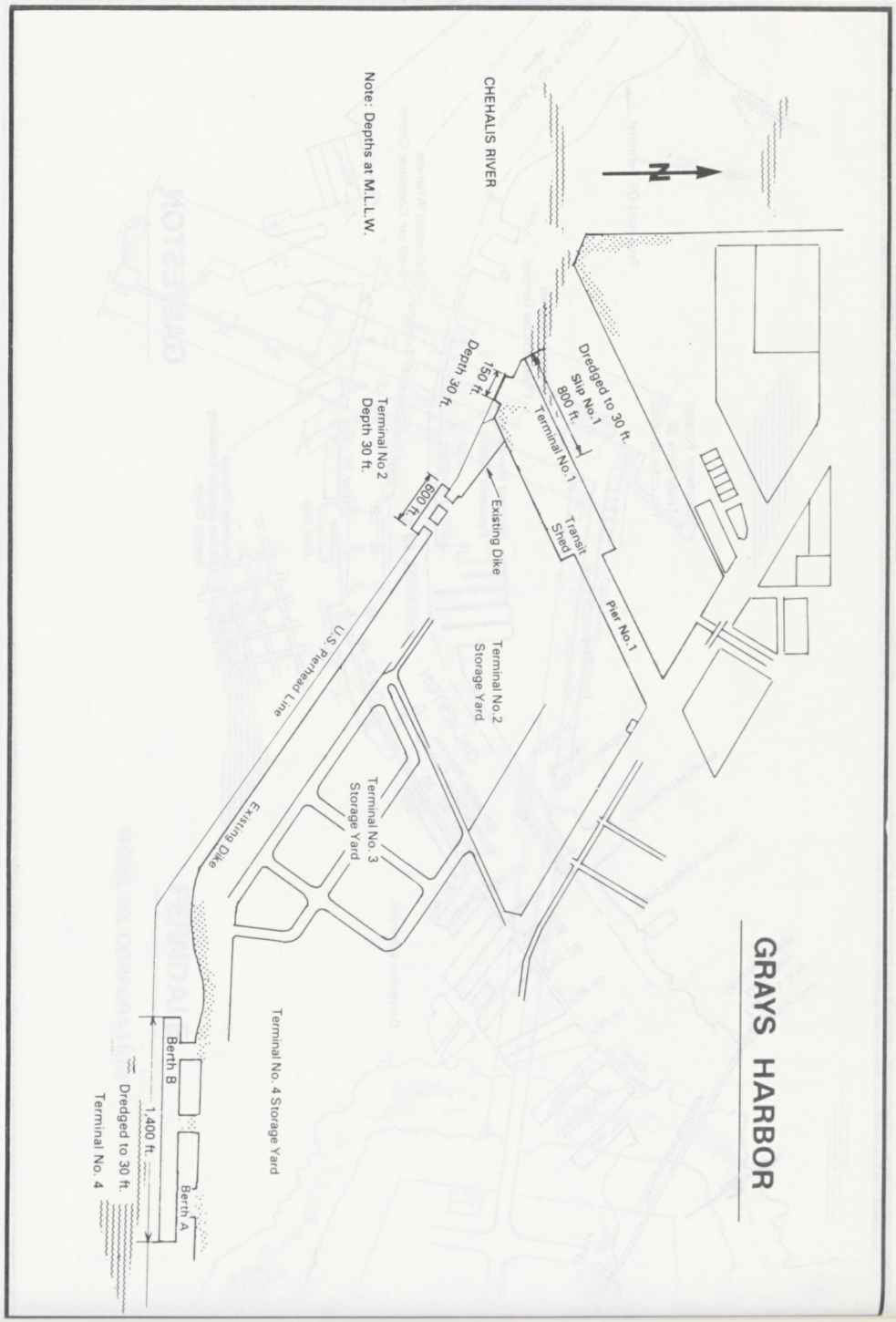
GOOD HOPE

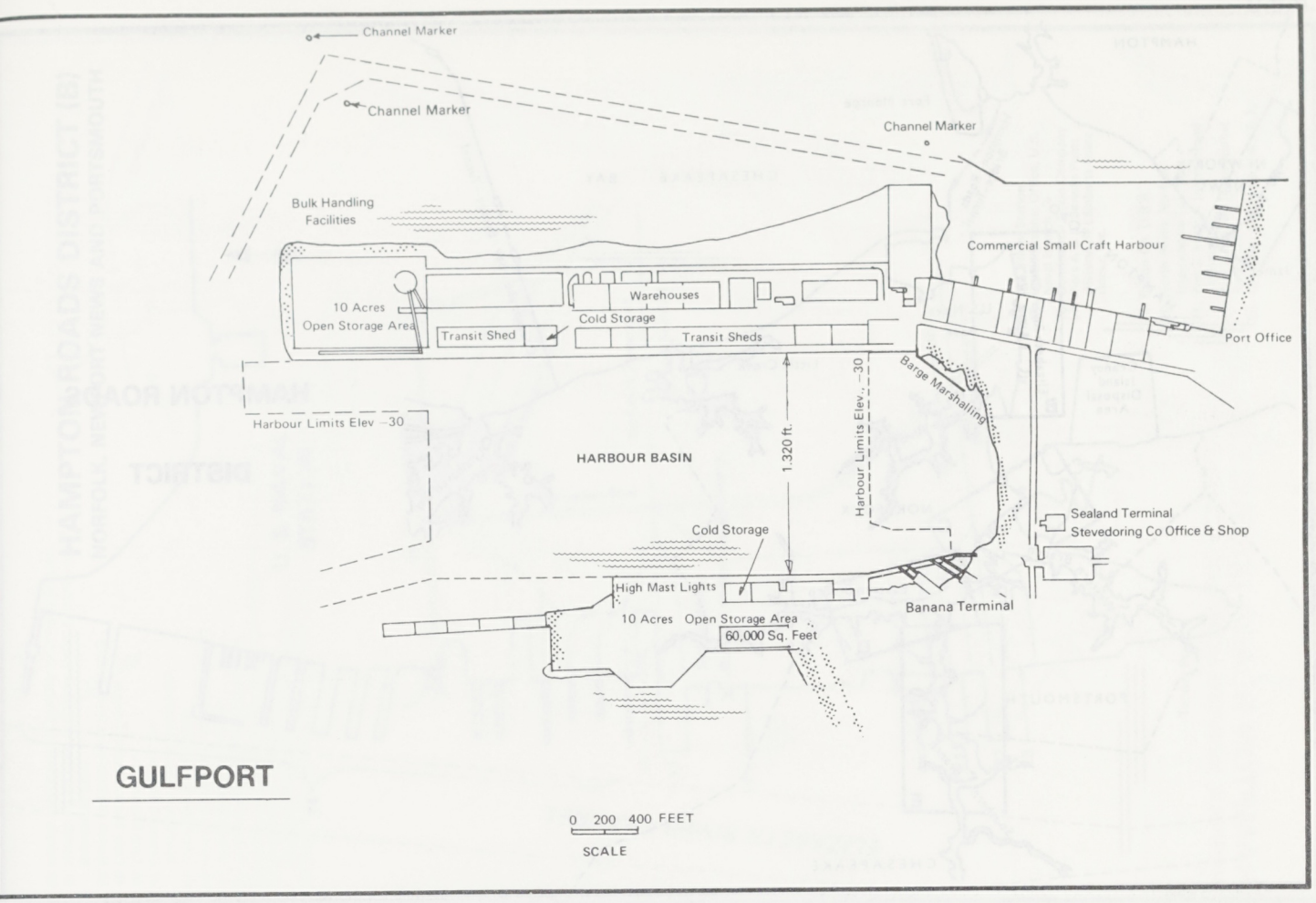
NORCO-SHELL OIL CO.

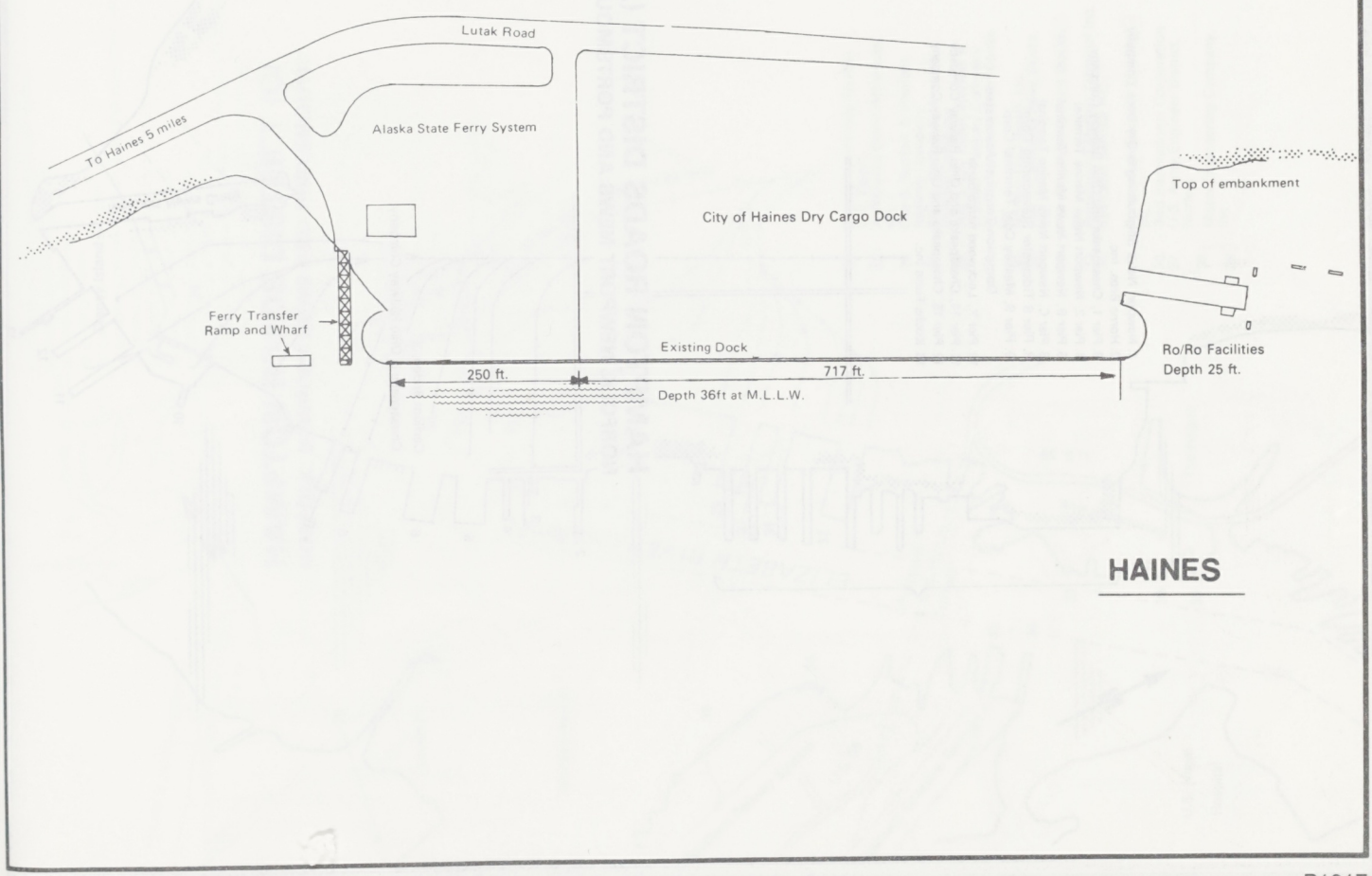
P1016

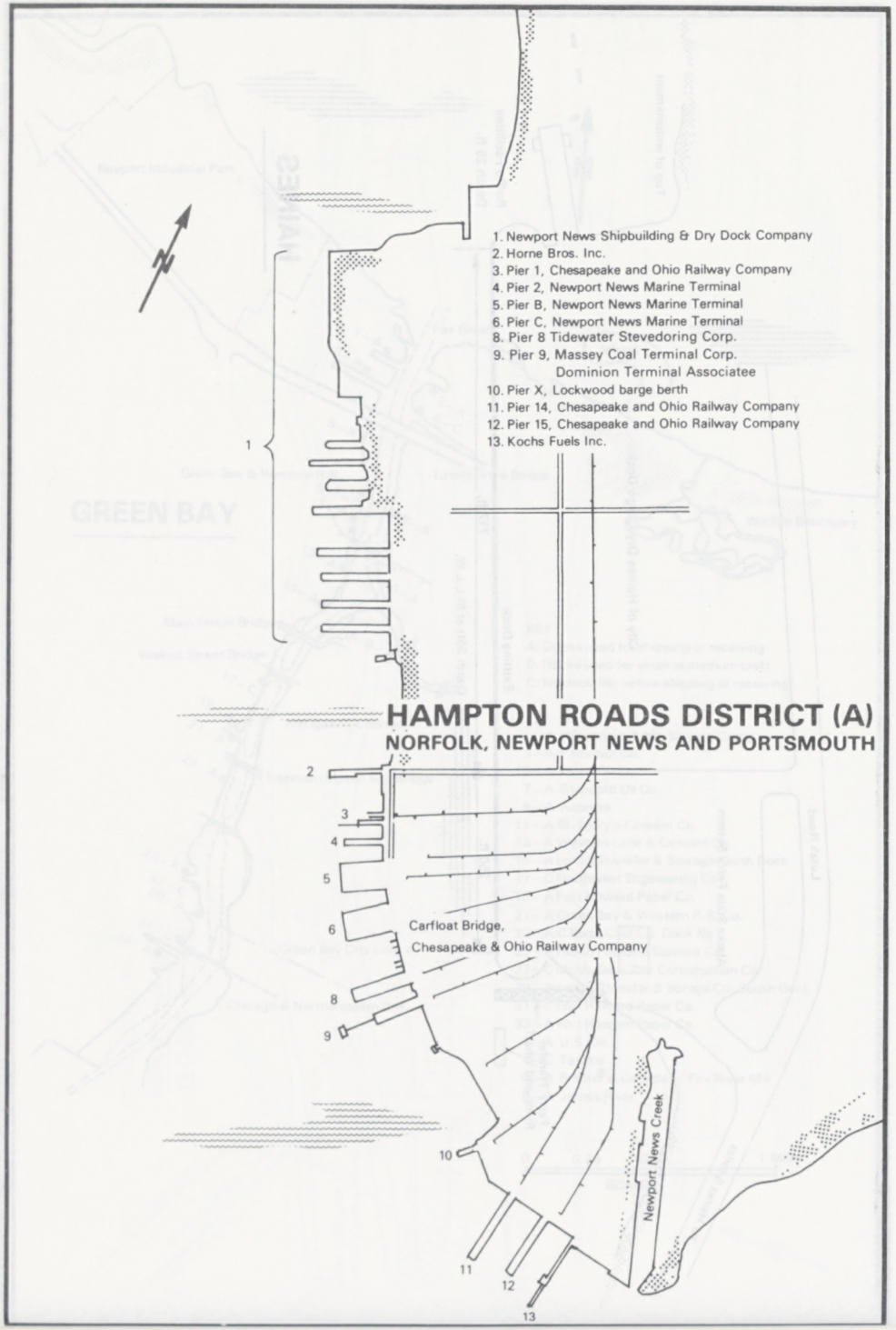

GREEN BAY
Bayport Industrial Park
Fox River
Island
Green Bay & Western R.R.
Tower Drive Bridge
Wildlife Sanctuary
Main Street Bridge
Walnut Street Bridge
Navigation Channel
Tilleman (Mason St.) Bridge
Green Bay City Limits
Chicago & Northwestern R.R.
N
KEY
A: Docks used for shipping or receiving
B: Docks used for small or medium craft
C: No dock (No active shipping or receiving)
1 — A Wisconsin Public Service Corp.
3 — A F Hurlbut Co.
5 — A Mobil Oil Co.
7 — A Standard Oil Co.
9 — A Anamax
11 — A St. Mary's Cement Co.
13 — A Western Lime & Cement Co.
15 — A Leicht Transfer & Storage North Dock
17 — C Northwest Engineering Co.
19 — A Fort Howard Paper Co.
21 — A Green Bay & Western R.R. Co.
23 — A C Reiss Coal Co. Dock No. 1
25 — A Huron Portland Cement Co.
27 — C McMullen — Pitz Construction Co.
29 — A Leicht Transfer & Sorage Co. South Dock
31 — C Fort Howard Paper Co.
33 — A Fort Howard Paper Co.
2 — A U.S. Oil
4 — C Texaco
6 — A Procter & Gamble — Fox River Mill
8 — A James River
0 0.25 0.5 1 Mile
SCALE

U.S.A.


GRAYS HARBOR
CHEHALIS RIVER
N
Note: Depths at M.L.L.W.
Dredged to 30 ft.
Slip No. 1
800 ft.
150 ft.
Depth 30 ft.
Terminal No. 1
Terminal No 2
Depth 30 ft.
600 ft.
Existing Dike
Transit Shed
Pier No. 1
U.S. Pierhead Line
Terminal No. 2
Storage Yard
Terminal No. 3
Storage Yard
Existing Dike
Terminal No. 4 Storage Yard
Berth B
1,400 ft.
Dredged to 30 ft.
Berth A
Terminal No. 4

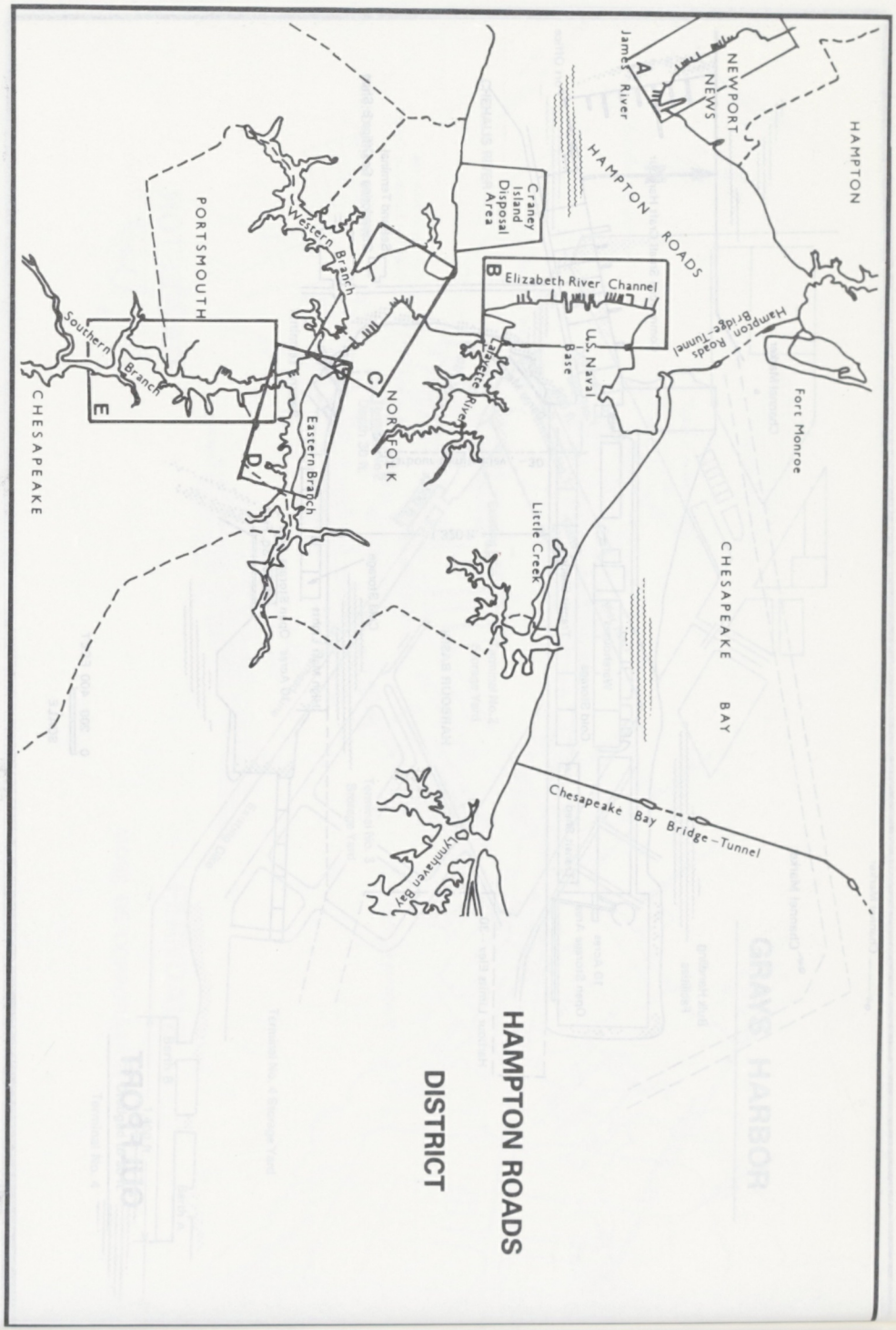

Channel Marker
Channel Marker
Channel Marker
Bulk Handling Facilities
Commercial Small Craft Harbour
10 Acres Open Storage Area
Warehouses
Cold Storage
Transit Shed
Transit Sheds
Port Office
Barge Marshalling
Harbour Limits Elev -30
HARBOUR BASIN
1,320 ft.
Harbour Limits Elev. -30
Sealand Terminal
Stevedoring Co Office & Shop
Cold Storage
High Mast Lights
Banana Terminal
10 Acres Open Storage Area
60,000 Sq. Feet
GULFPORT
0 200 400 FEET
SCALE

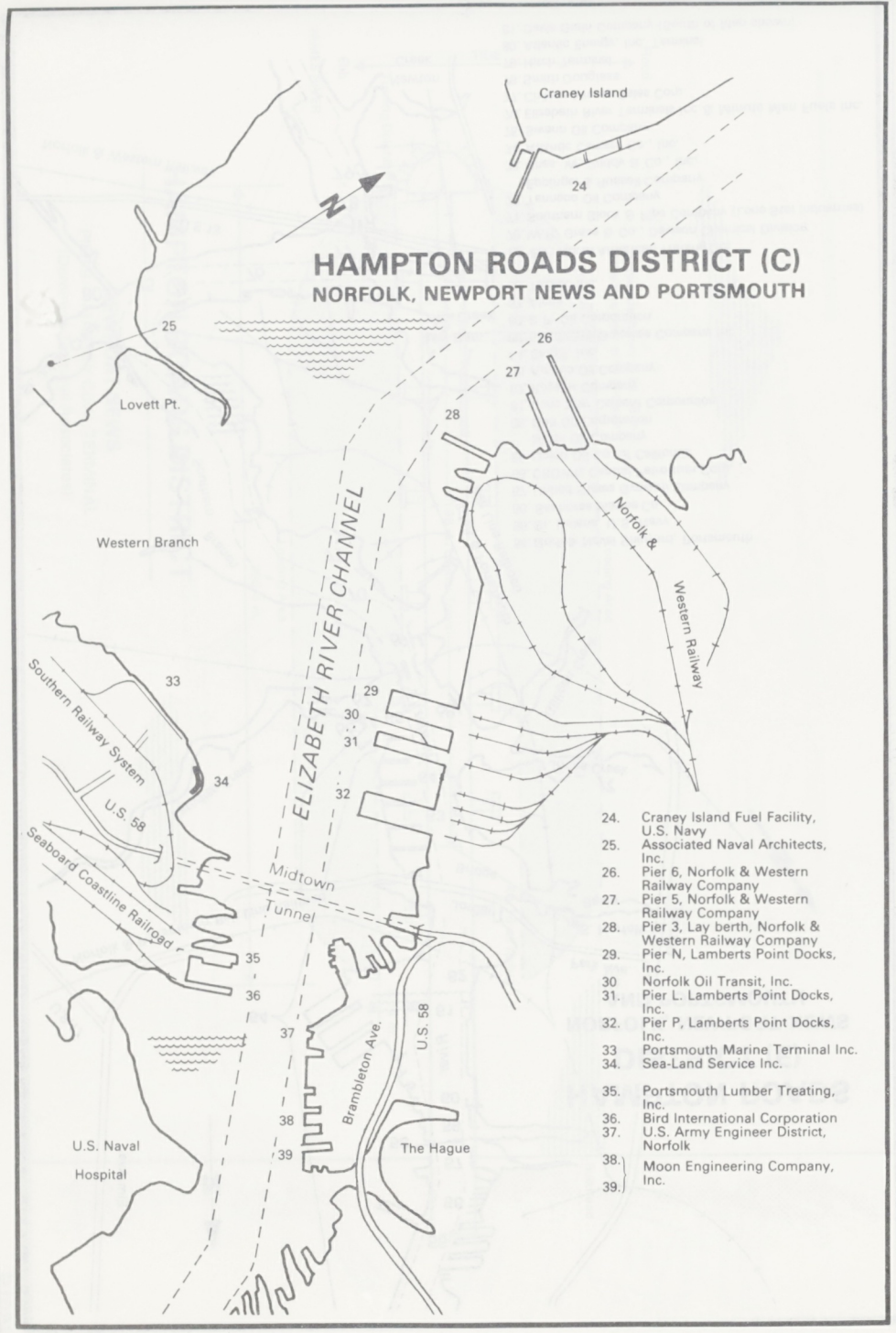

Lutak Road
To Haines 5 miles
Alaska State Ferry System
City of Haines Dry Cargo Dock
Top of embankment
Ferry Transfer Ramp and Wharf
Existing Dock
Ro/Ro Facilities Depth 25 ft.
250 ft.
717 ft.
Depth 36ft at M.L.L.W.
HAINES



HAMPTON ROADS DISTRICT (A)
NORFOLK, NEWPORT NEWS AND PORTSMOUTH

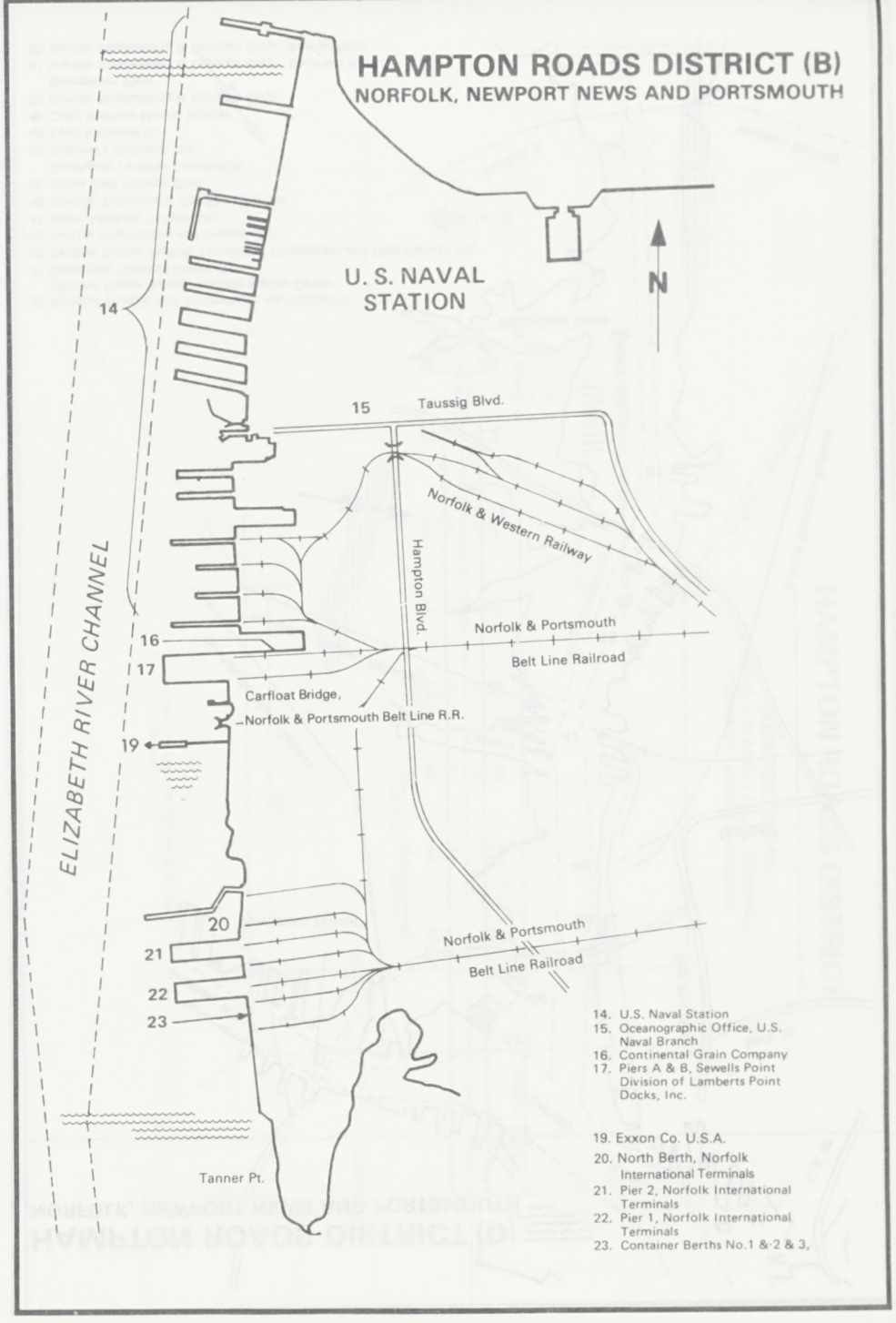
U.S.A.





HAMPTON ROADS DISTRICT (C)
NORFOLK, NEWPORT NEWS AND PORTSMOUTH

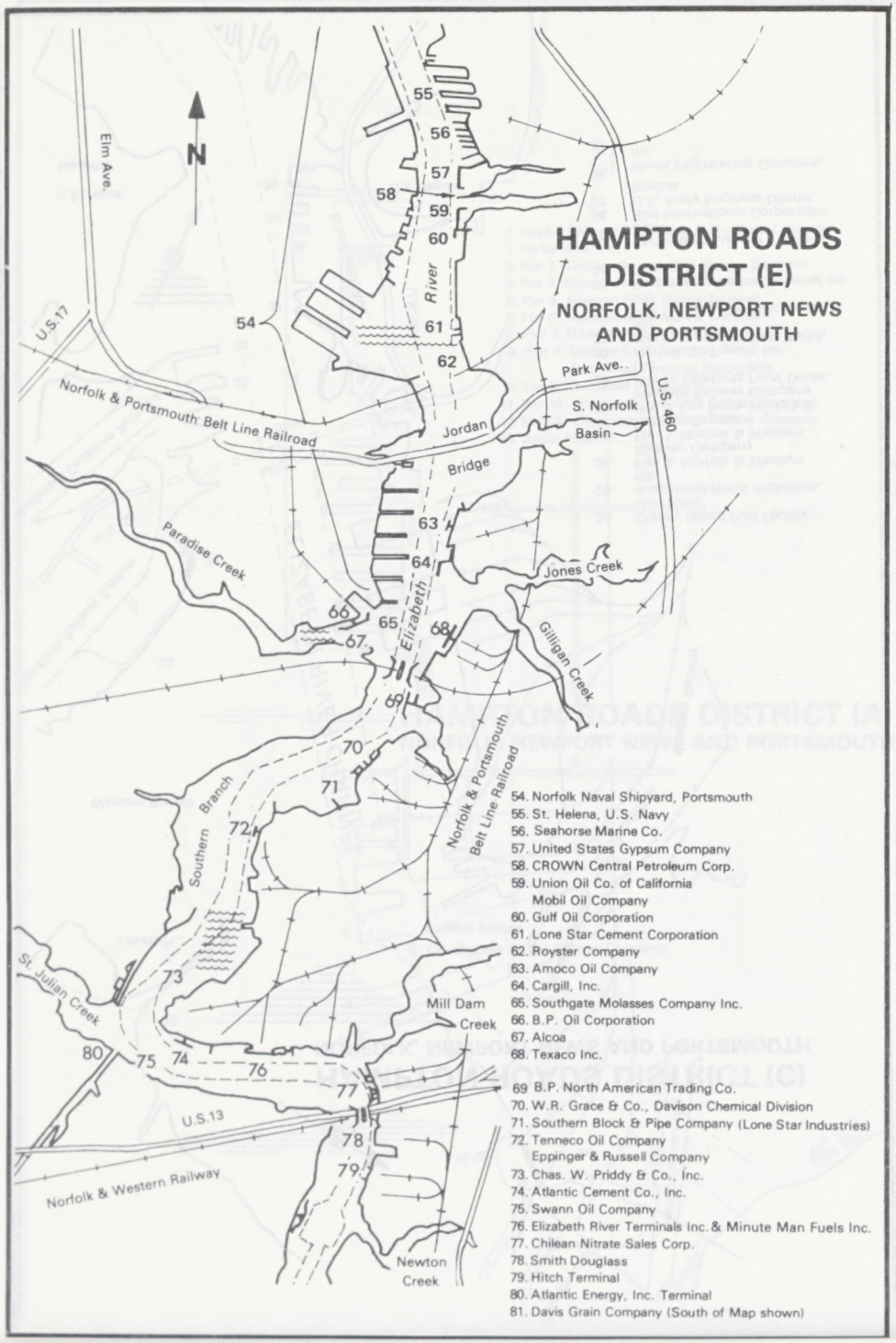
24. Craney Island Fuel Facility, U.S. Navy
25. Associated Naval Architects, Inc.
26. Pier 6, Norfolk & Western Railway Company
27. Pier 5, Norfolk & Western Railway Company
28. Pier 3, Lay berth, Norfolk & Western Railway Company
29. Pier N, Lamberts Point Docks, Inc.
30 Norfolk Oil Transit, Inc.
31. Pier L. Lamberts Point Docks, Inc.
32. Pier P, Lamberts Point Docks, Inc.
33 Portsmouth Marine Terminal Inc.
34. Sea-Land Service Inc.
35. Portsmouth Lumber Treating, Inc.
36. Bird International Corporation
37. U.S. Army Engineer District, Norfolk
38. Moon Engineering Company, Inc.
39.

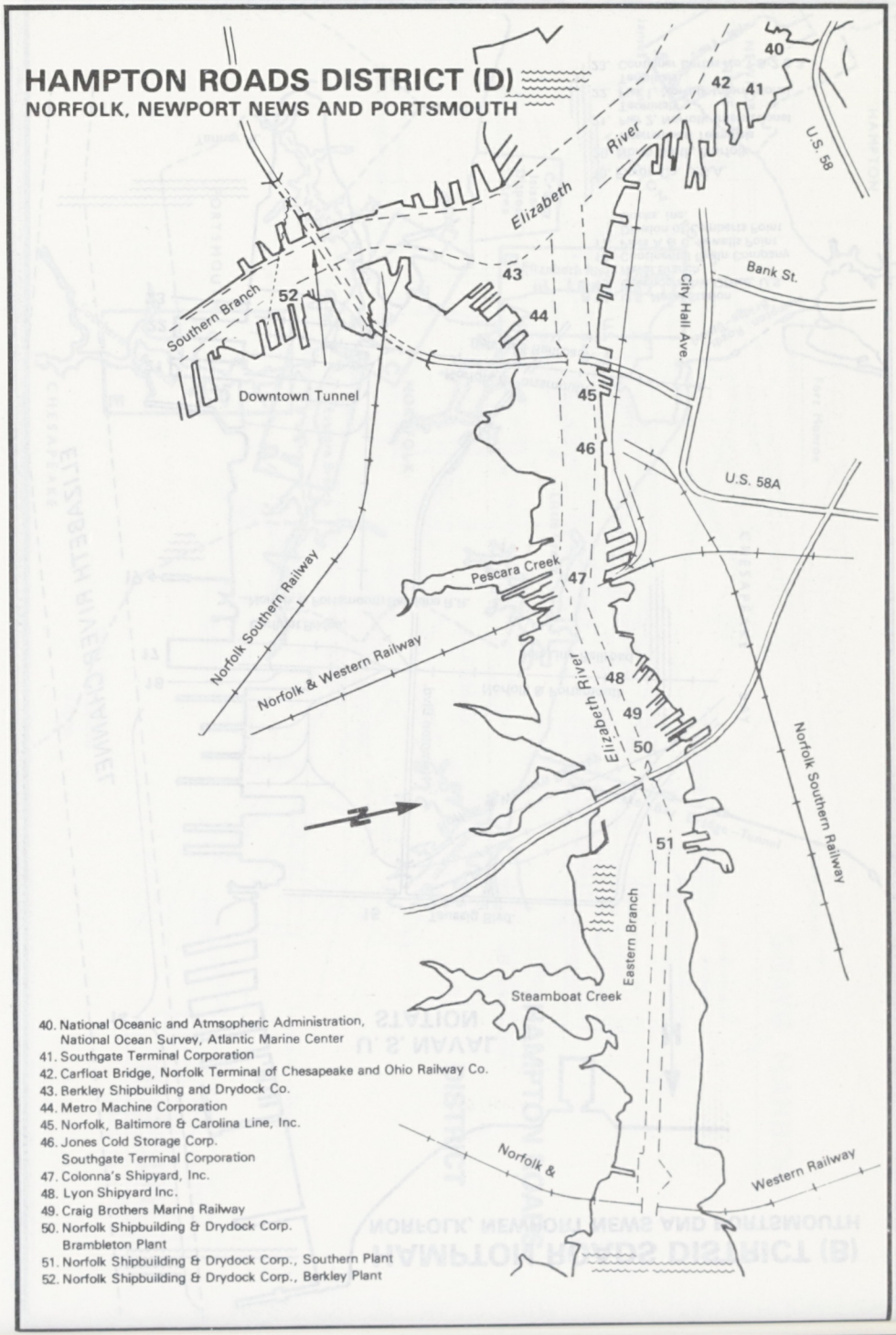


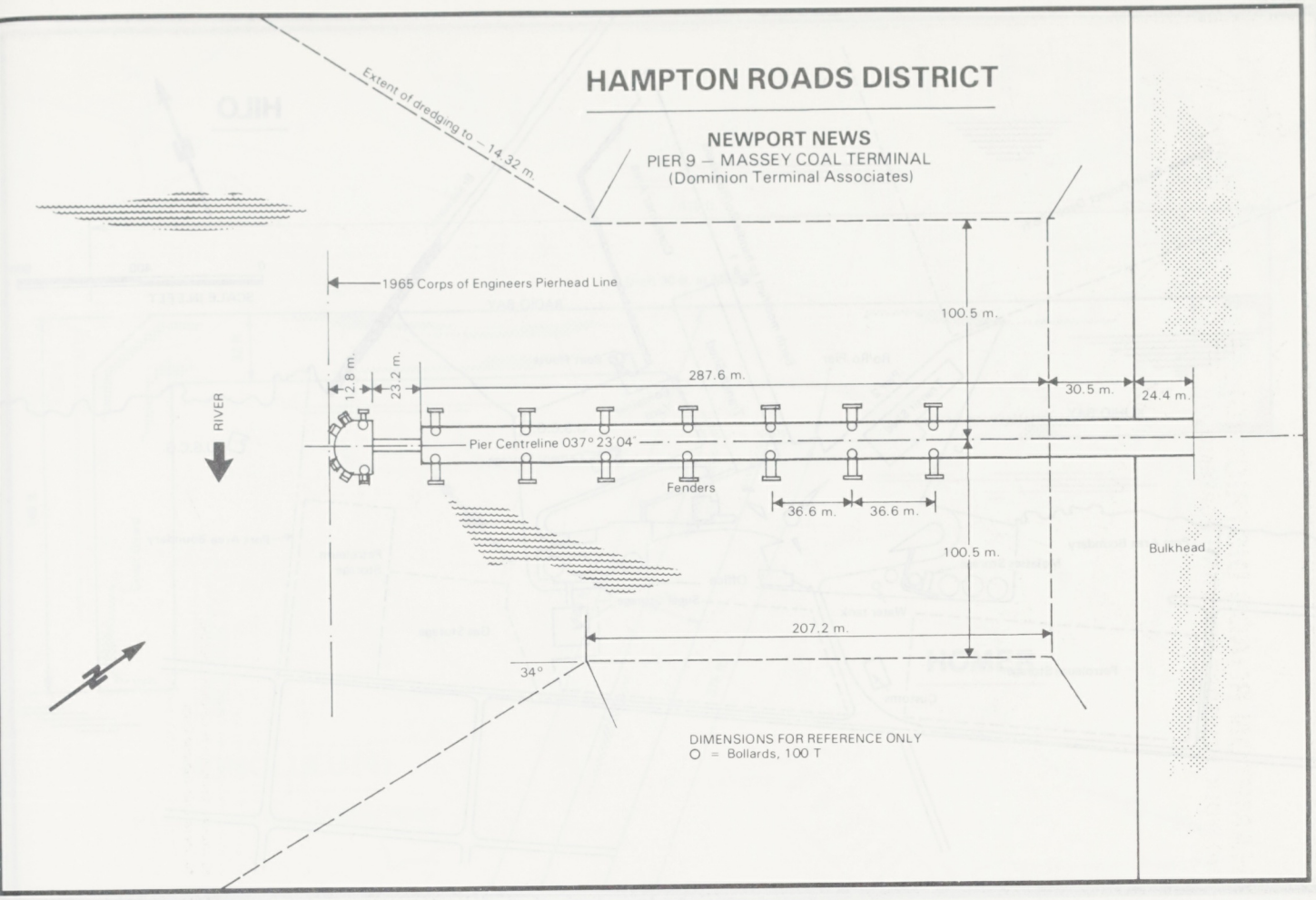
HAMPTON ROADS DISTRICT (B)
NORFOLK, NEWPORT NEWS AND PORTSMOUTH

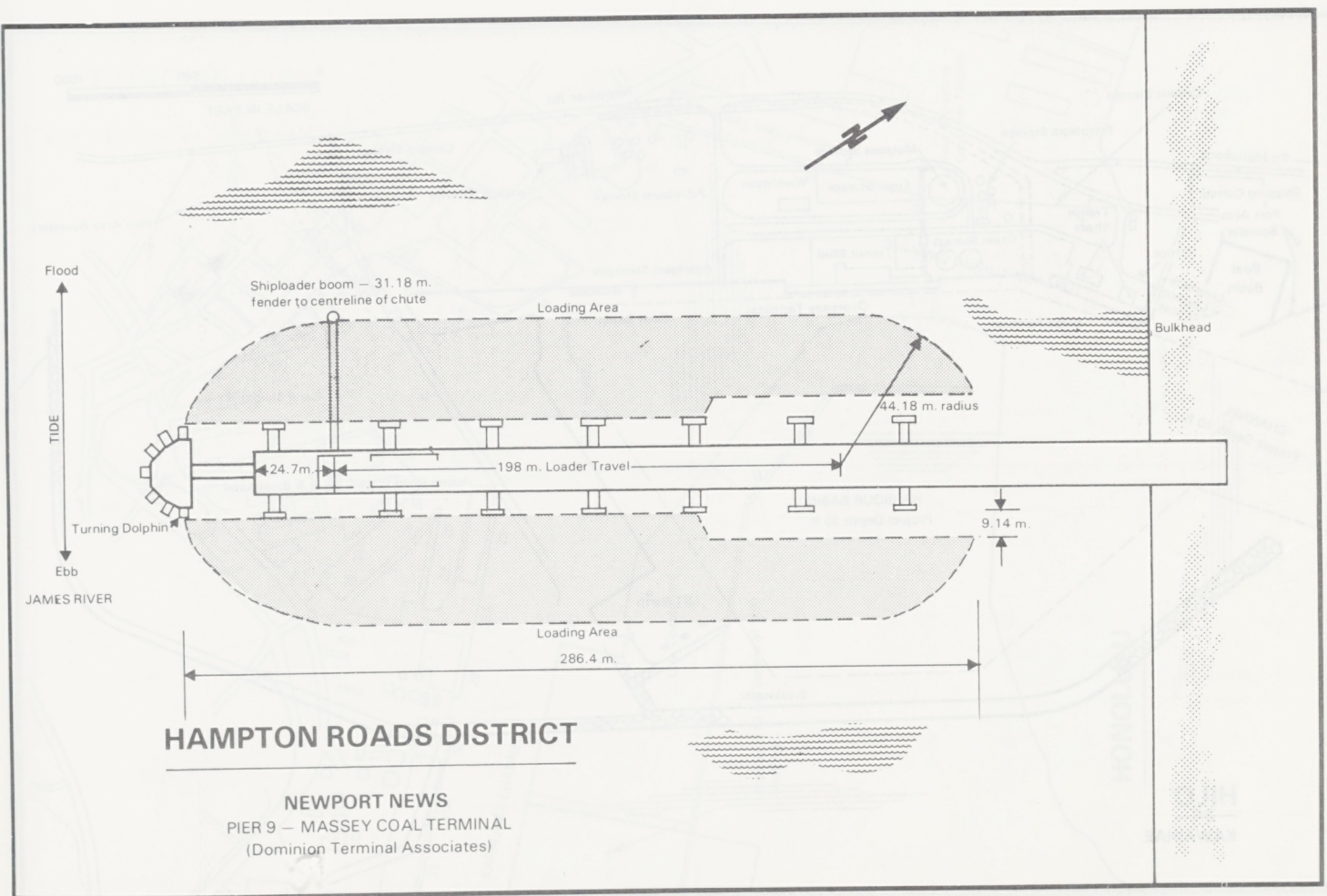
14. U.S. Naval Station
15. Oceanographic Office, U.S. Naval Branch
16. Continental Grain Company
17. Piers A & B, Sewells Point Division of Lamberts Point Docks, Inc.

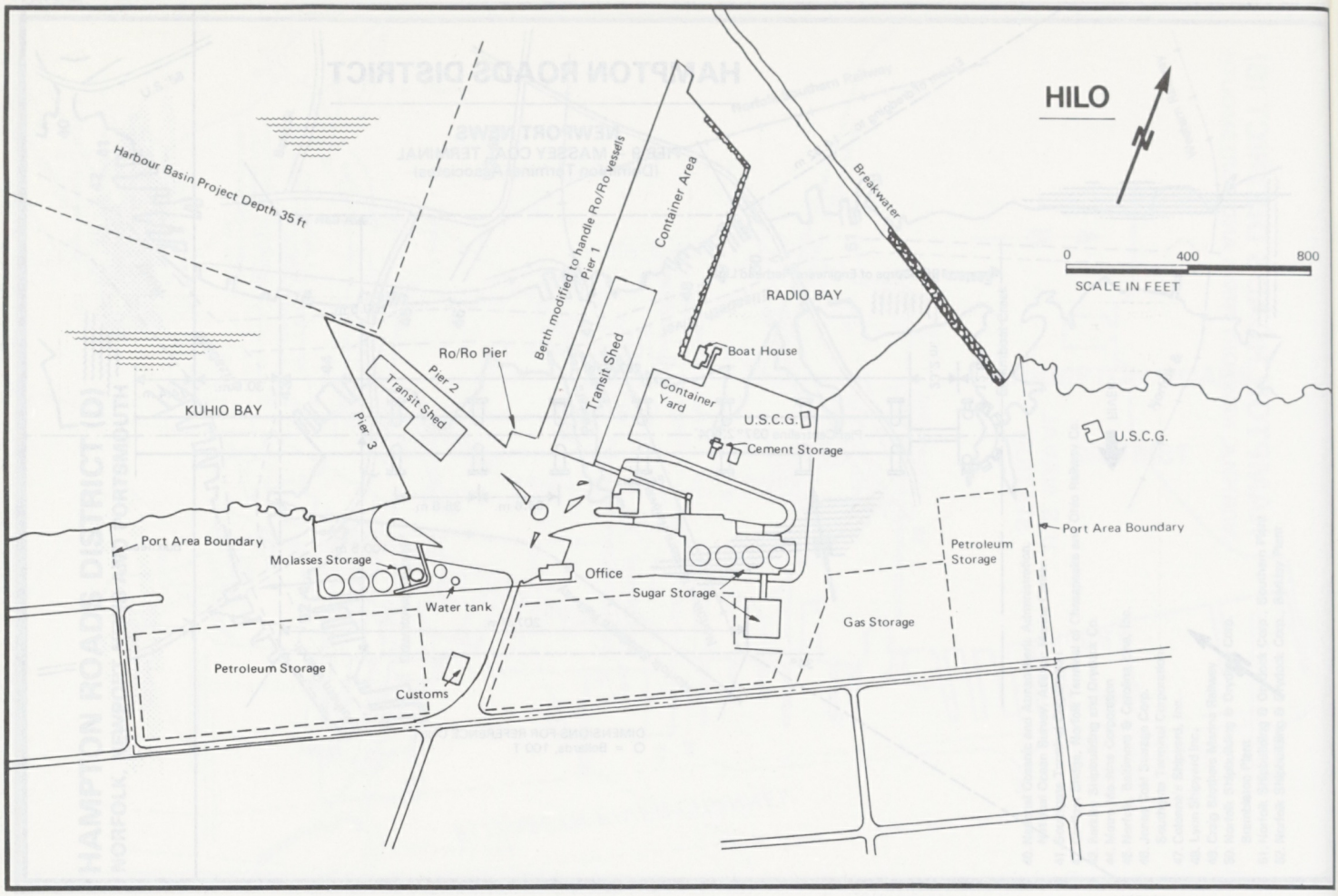
19. Exxon Co. U.S.A.
20. North Berth, Norfolk International Terminals
21. Pier 2, Norfolk International Terminals
22. Pier 1, Norfolk International Terminals
23. Container Berths No.1 & 2 & 3,

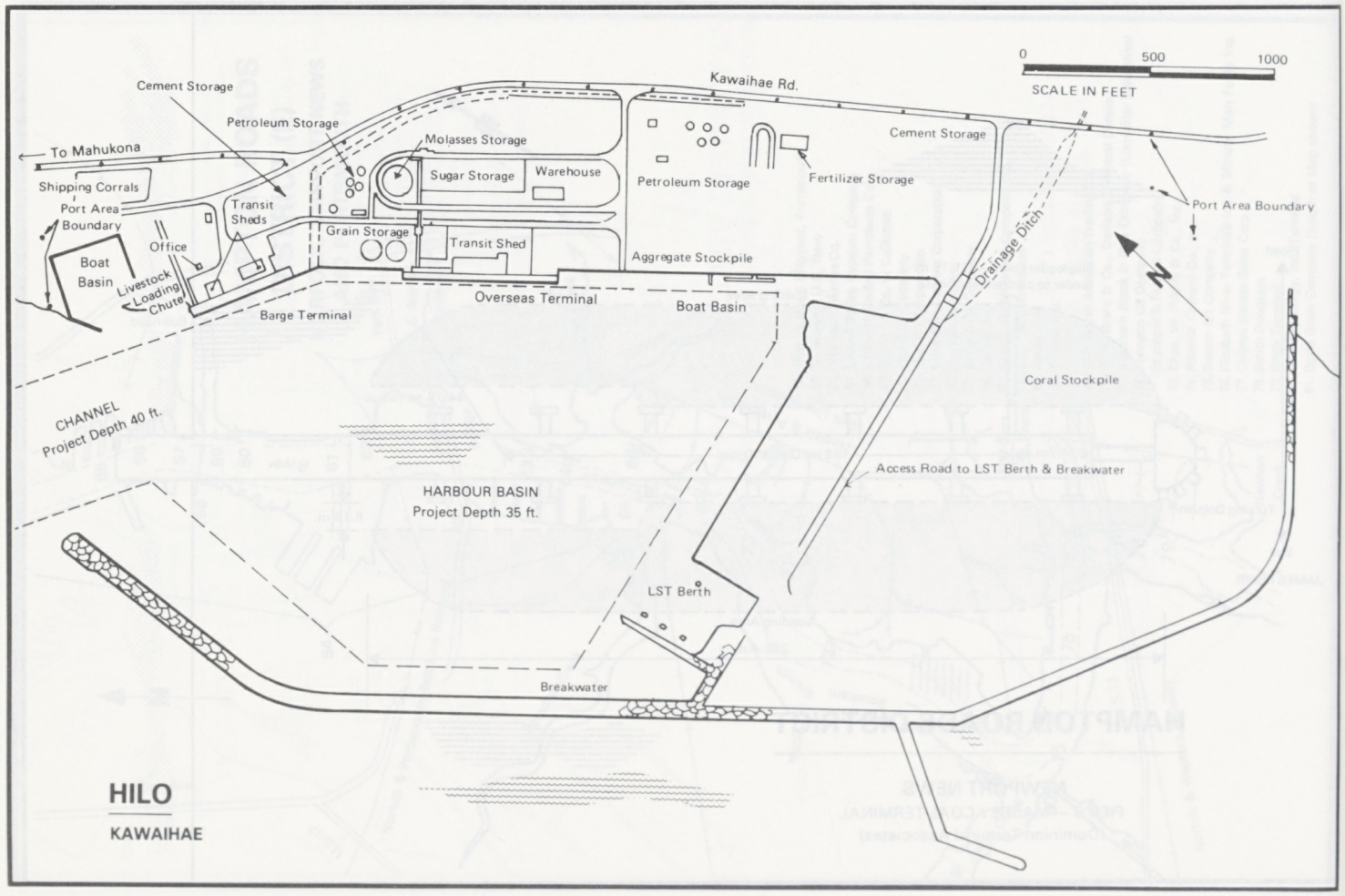

HAMPTON ROADS DISTRICT (E)
NORFOLK, NEWPORT NEWS AND PORTSMOUTH
N
Elm Ave.
U.S.17
Norfolk & Portsmouth Belt Line Railroad
Park Ave.
S. Norfolk
Basin
Jordan
Bridge
U.S. 460
Paradise Creek
Jones Creek
Gilligan Creek
Elizabeth River
Norfolk & Portsmouth Belt Line Railroad
Southern Branch
St. Julian Creek
Mill Dam Creek
U.S.13
Norfolk & Western Railway
Newton Creek
54. Norfolk Naval Shipyard, Portsmouth
55. St. Helena, U.S. Navy
56. Seahorse Marine Co.
57. United States Gypsum Company
58. CROWN Central Petroleum Corp.
59. Union Oil Co. of California
Mobil Oil Company
60. Gulf Oil Corporation
61. Lone Star Cement Corporation
62. Royster Company
63. Amoco Oil Company
64. Cargill, Inc.
65. Southgate Molasses Company Inc.
66. B.P. Oil Corporation
67. Alcoa
68. Texaco Inc.
69 B.P. North American Trading Co.
70. W.R. Grace & Co., Davison Chemical Division
71. Southern Block & Pipe Company (Lone Star Industries)
72. Tenneco Oil Company
Eppinger & Russell Company
73. Chas. W. Priddy & Co., Inc.
74. Atlantic Cement Co., Inc.
75. Swann Oil Company
76. Elizabeth River Terminals Inc. & Minute Man Fuels Inc.
77. Chilean Nitrate Sales Corp.
78. Smith Douglass
79. Hitch Terminal
80. Atlantic Energy, Inc. Terminal
81. Davis Grain Company (South of Map shown)

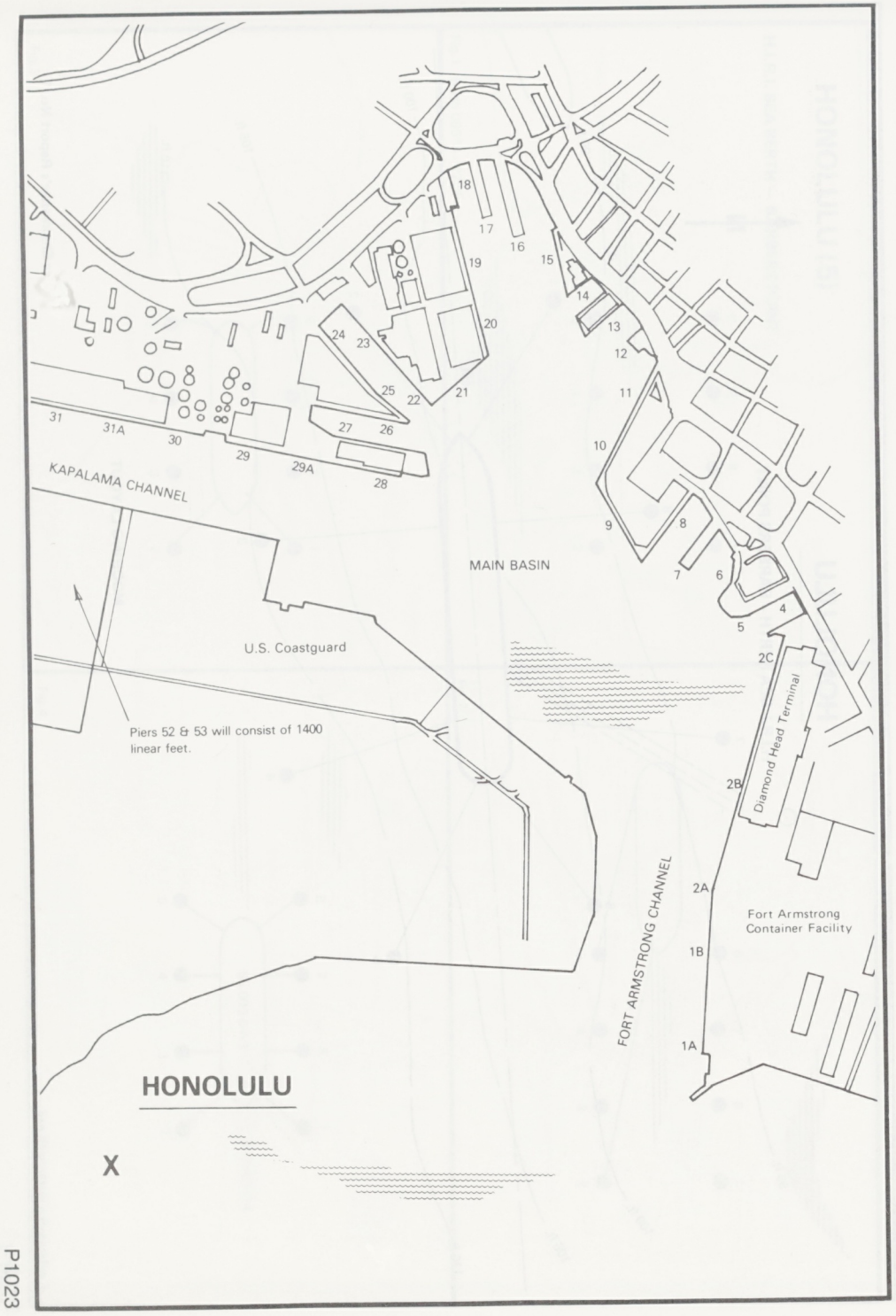

HAMPTON ROADS DISTRICT (D)
NORFOLK, NEWPORT NEWS AND PORTSMOUTH
U.S.A.
Elizabeth River
U.S. 58
Southern Branch
Downtown Tunnel
City Hall Ave.
Bank St.
U.S. 58A
Norfolk Southern Railway
Norfolk & Western Railway
Pescara Creek
Elizabeth River
Eastern Branch
Steamboat Creek
Norfolk Southern Railway
Norfolk & Western Railway
40. National Oceanic and Atmsopheric Administration, National Ocean Survey, Atlantic Marine Center
41. Southgate Terminal Corporation
42. Carfloat Bridge, Norfolk Terminal of Chesapeake and Ohio Railway Co.
43. Berkley Shipbuilding and Drydock Co.
44. Metro Machine Corporation
45. Norfolk, Baltimore & Carolina Line, Inc.
46. Jones Cold Storage Corp.
Southgate Terminal Corporation
47. Colonna's Shipyard, Inc.
48. Lyon Shipyard Inc.
49. Craig Brothers Marine Railway
50. Norfolk Shipbuilding & Drydock Corp.
Brambleton Plant
51. Norfolk Shipbuilding & Drydock Corp., Southern Plant
52. Norfolk Shipbuilding & Drydock Corp., Berkley Plant

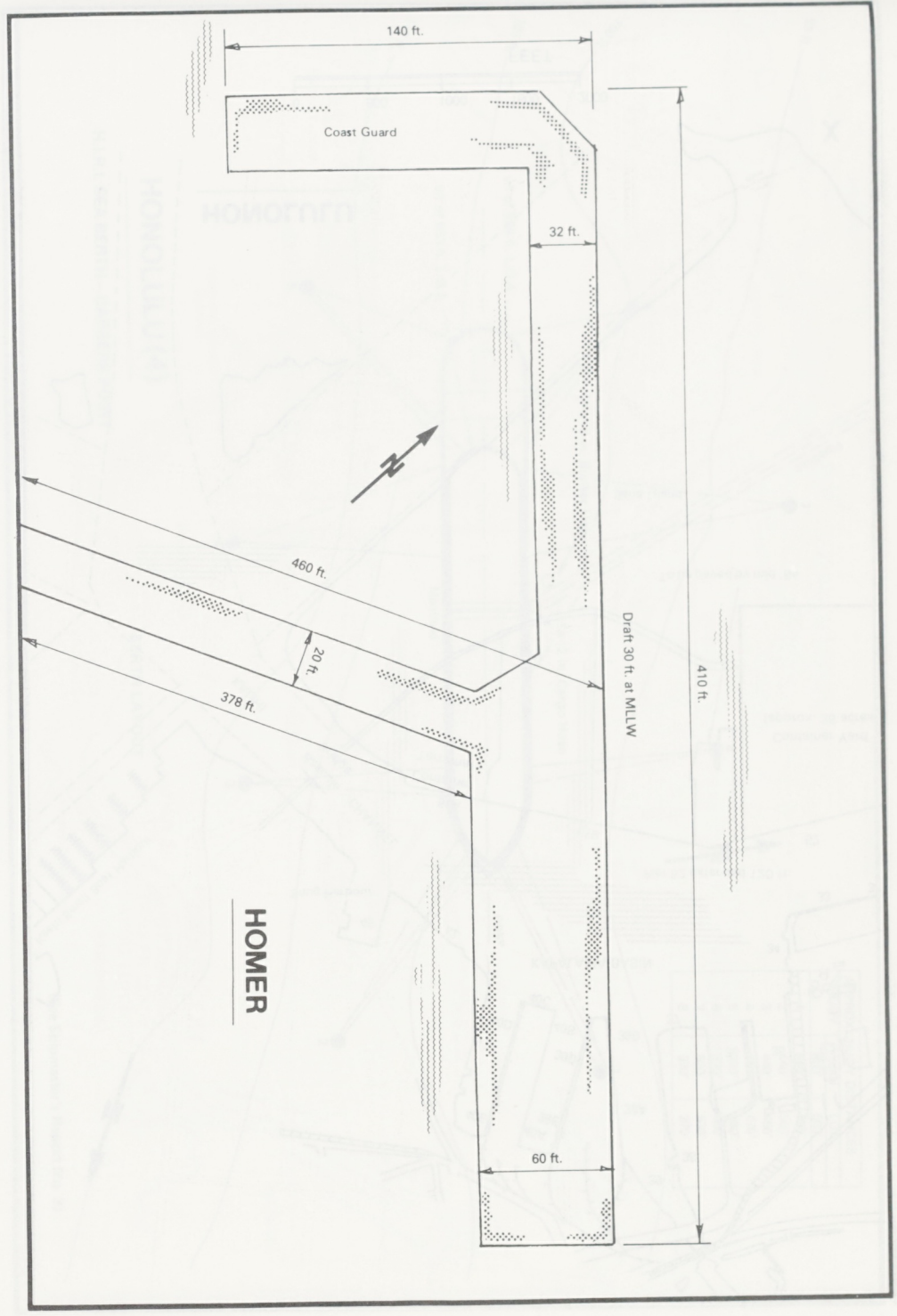

HAMPTON ROADS DISTRICT
NEWPORT NEWS
PIER 9 — MASSEY COAL TERMINAL
(Dominion Terminal Associates)
Extent of dredging to – 14.32 m.
1965 Corps of Engineers Pierhead Line
100.5 m.
12.8 m.
23.2 m.
287.6 m.
30.5 m.
24.4 m.
RIVER
Pier Centreline 037° 23' 04"
Fenders
36.6 m.
36.6 m.
100.5 m.
Bulkhead
207.2 m.
34°
DIMENSIONS FOR REFERENCE ONLY
○ = Bollards, 100 T


Flood
TIDE
Ebb
JAMES RIVER
Shiploader boom — 31.18 m.
fender to centreline of chute
Loading Area
Bulkhead
44.18 m. radius
24.7m.
198 m. Loader Travel
Turning Dolphin
9.14 m.
Loading Area
286.4 m.
HAMPTON ROADS DISTRICT
NEWPORT NEWS
PIER 9 — MASSEY COAL TERMINAL
(Dominion Terminal Associates)


HILO
N
0
400
800
SCALE IN FEET
Harbour Basin Project Depth 35 ft
Berth modified to handle Ro/Ro vessels
Pier 1
Container Area
Breakwater
RADIO BAY
Boat House
Container Yard
U.S.C.G.
Cement Storage
U.S.C.G.
Ro/Ro Pier
Pier 2
Transit Shed
Transit Shed
KUHIO BAY
Pier 3
Port Area Boundary
Molasses Storage
Office
Sugar Storage
Water tank
Petroleum Storage
Gas Storage
Petroleum Storage
Port Area Boundary
Customs

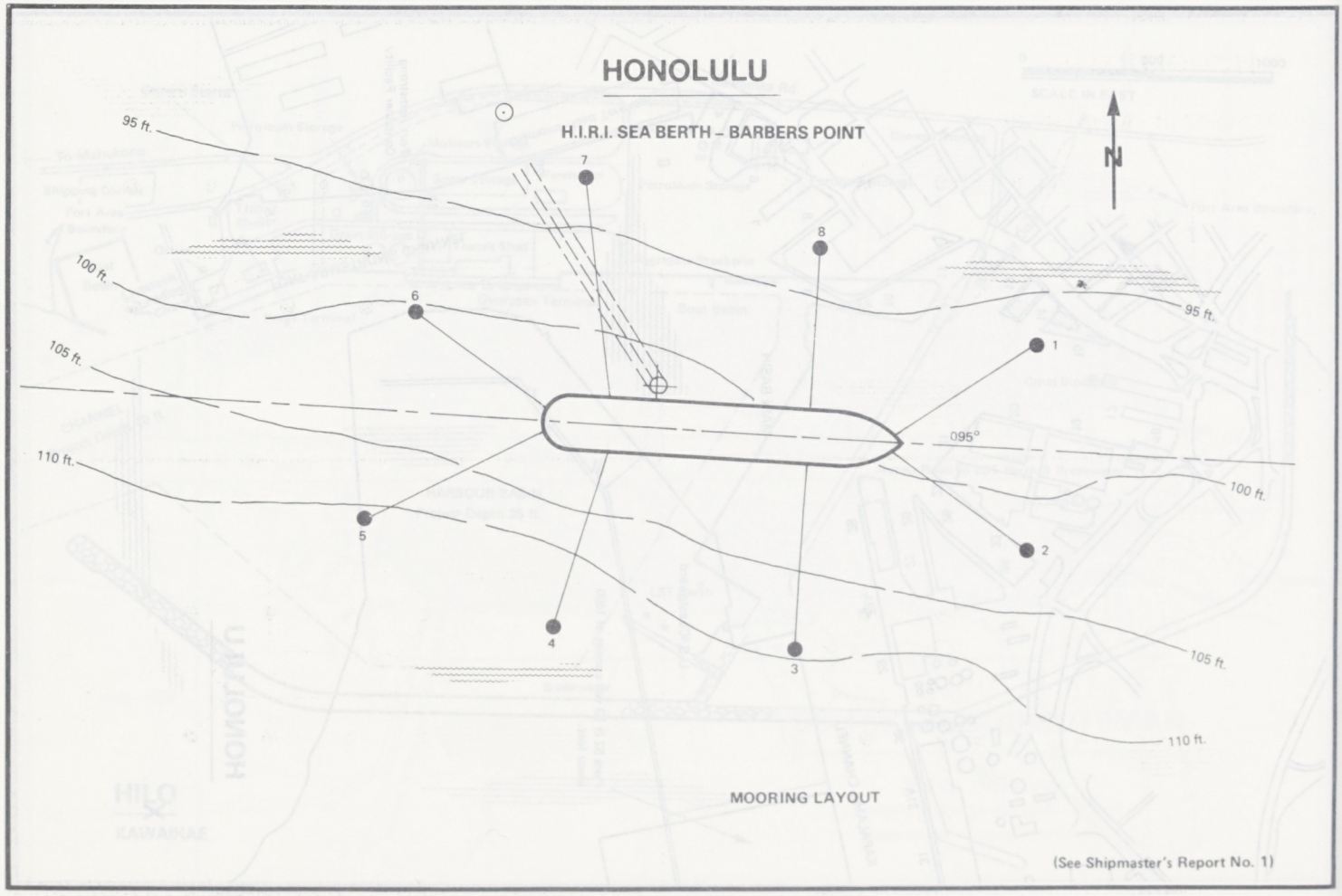

0
500
1000
SCALE IN FEET
Kawaihae Rd.
Cement Storage
Petroleum Storage
To Mahukona
Molasses Storage
Sugar Storage
Warehouse
Cement Storage
Petroleum Storage
Fertilizer Storage
Shipping Corrals
Port Area Boundary
Transit Sheds
Grain Storage
Transit Shed
Aggregate Stockpile
Port Area Boundary
Boat Basin
Office
Livestock Loading Chute
Barge Terminal
Overseas Terminal
Boat Basin
Drainage Ditch
N
Coral Stockpile
CHANNEL
Project Depth 40 ft.
Access Road to LST Berth & Breakwater
HARBOUR BASIN
Project Depth 35 ft.
LST Berth
Breakwater
HILO
KAWAIHAE

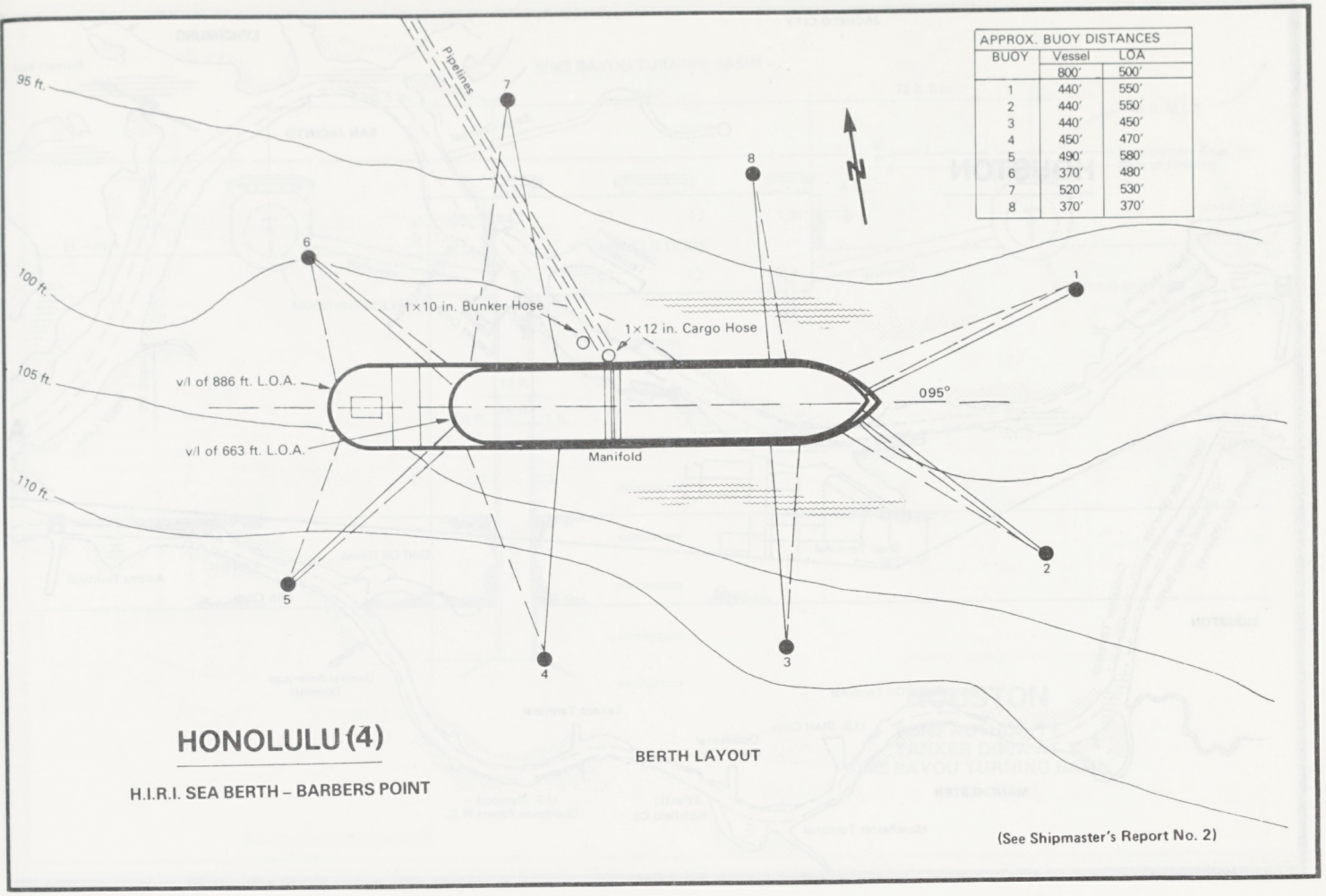

KAPALAMA CHANNEL
MAIN BASIN
U.S. Coastguard
Piers 52 & 53 will consist of 1400 linear feet.
FORT ARMSTRONG CHANNEL
Diamond Head Terminal
Fort Armstrong Container Facility
HONOLULU
X
31
31A
30
29
29A
28
27
26
25
22
21
24
23
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
2C
2B
2A
1B
1A


140 ft.
Coast Guard
32 ft.
460 ft.
20 ft.
378 ft.
Draft 30 ft. at MLLW
410 ft.
60 ft.
HOMER
U.S.A.

P1023

Container Yard
(approx. 36 acres)
To be paved by mid '84
Pier 52 extended 120 ft.
Sand Island
KAPALAMA BASIN
Container Terminal
CHANNEL
Bascule Bridge
Snug Harbour
Keehi Small Boat Harbour
KALIHI
HONOLULU
FEET
0
500
1000
1500
2000
N


HONOLULU
H.I.R.I. SEA BERTH – BARBERS POINT
95 ft.
100 ft.
105 ft.
110 ft.
095°
N
MOORING LAYOUT
(See Shipmaster's Report No. 1)



HONOLULU (4)

H.I.R.I. SEA BERTH – BARBERS POINT

BERTH LAYOUT

(See Shipmaster's Report No. 2)

HONOLULU (5)

H.I.R.I. SEA BERTH — BARBERS POINT

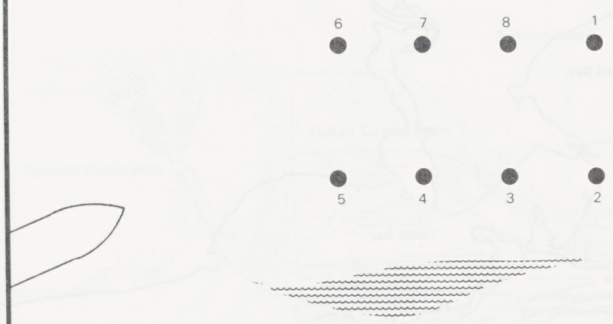


Fig. 1 Berth 095° — 275°

Fig. 2

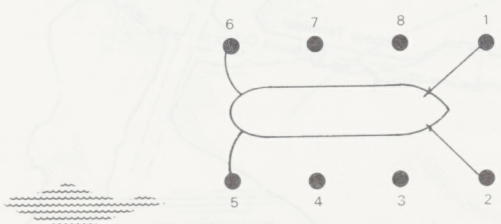


Fig. 3

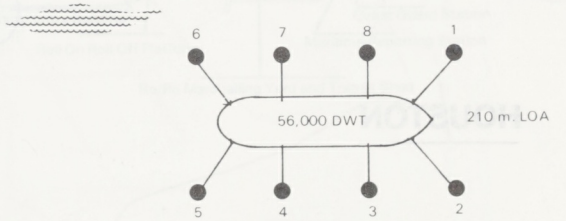
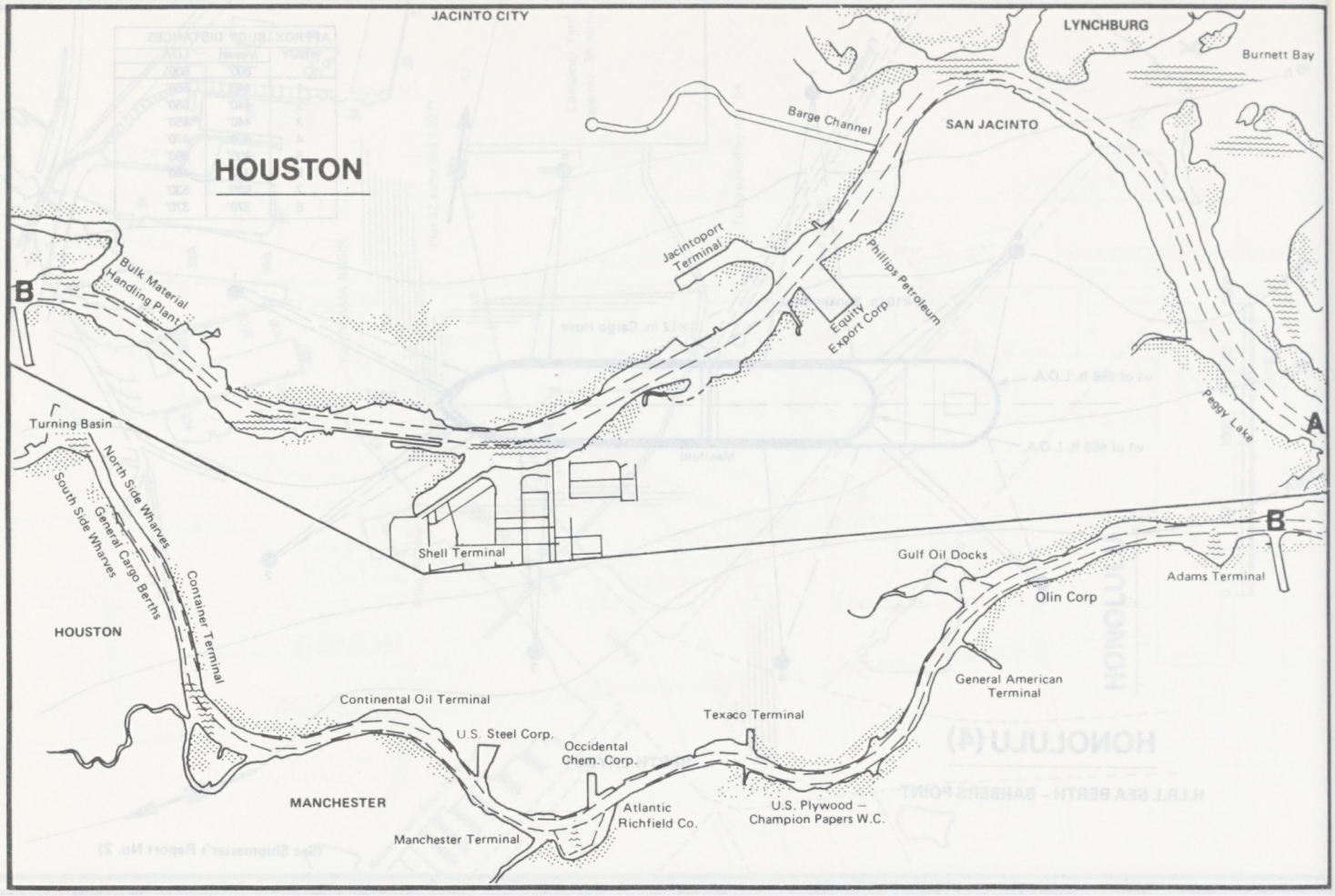
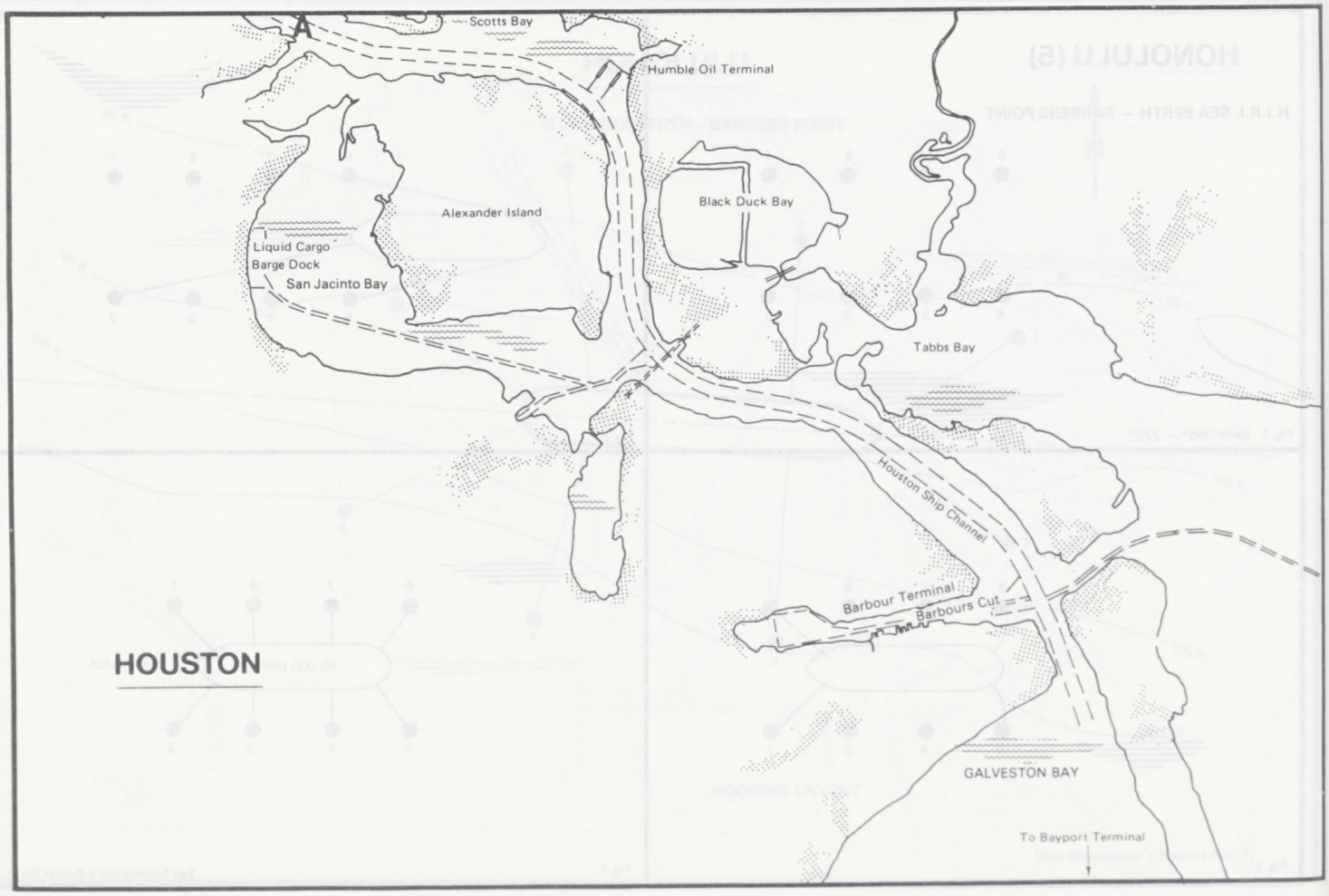


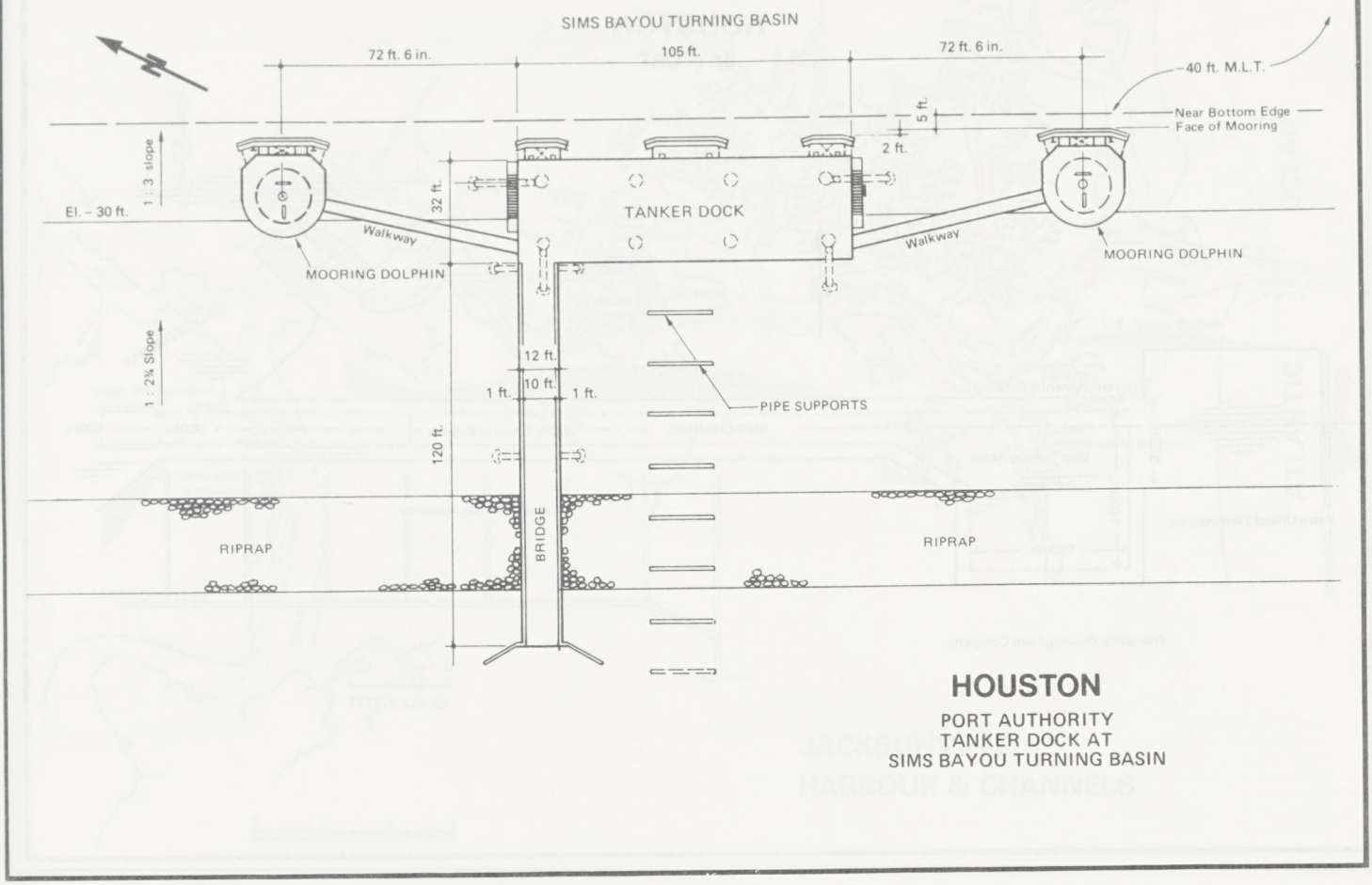
Fig. 4

See Shipmaster's Report No. 3

U.S.A.

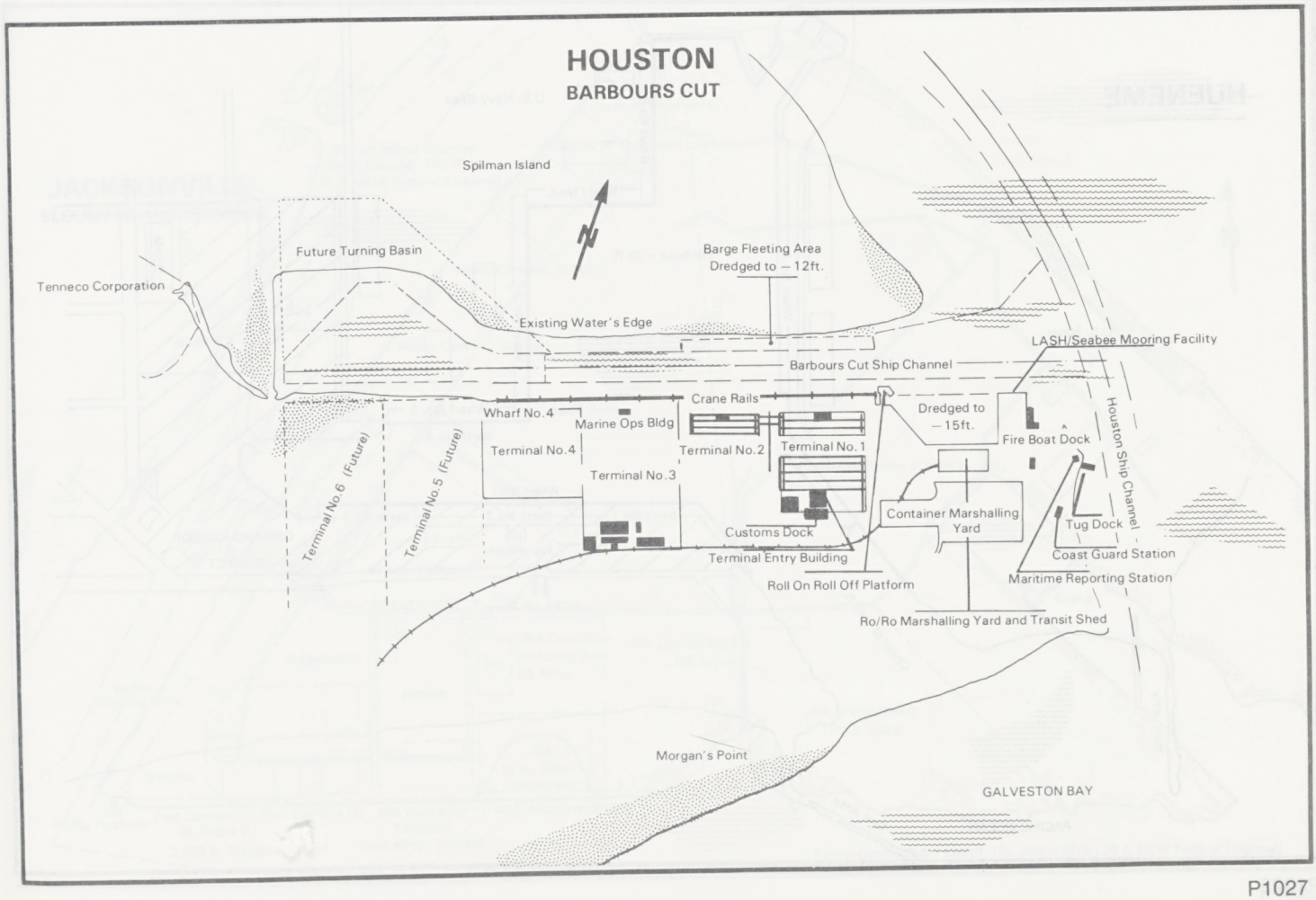

JACINTO CITY
LYNCHBURG
Burnett Bay
Barge Channel
SAN JACINTO
HOUSTON
Jacintoport Terminal
Phillips Petroleum
Equity Export Corp
Bulk Material Handling Plant
B
A
Peggy Lake
Turning Basin
North Side Wharves
South Side Wharves
General Cargo Berths
Container Terminal
Shell Terminal
Gulf Oil Docks
Adams Terminal
Olin Corp
HOUSTON
General American Terminal
Continental Oil Terminal
Texaco Terminal
U.S. Steel Corp.
Occidental Chem. Corp.
MANCHESTER
Atlantic Richfield Co.
U.S. Plywood – Champion Papers W.C.
Manchester Terminal

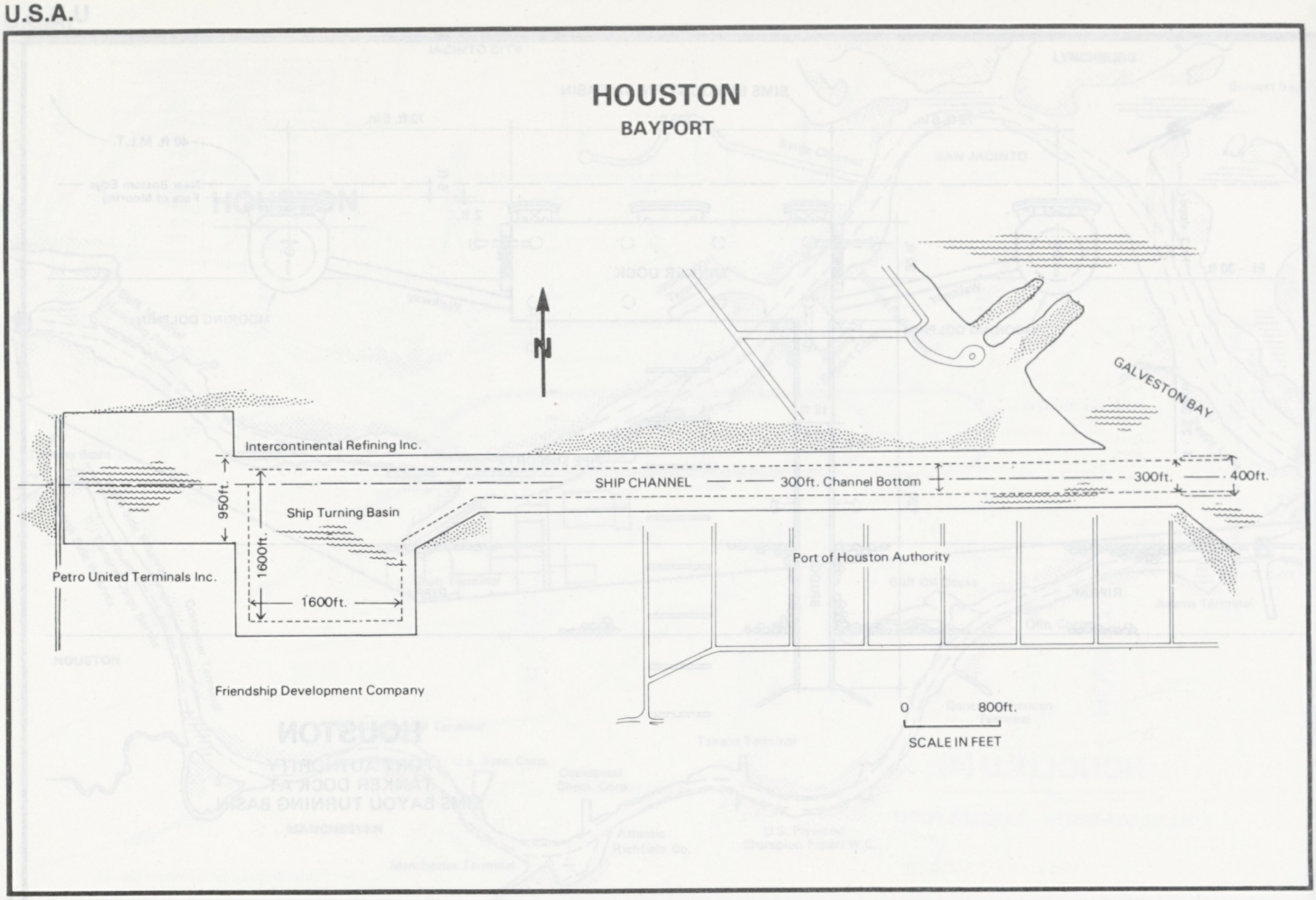

A
Scotts Bay
Humble Oil Terminal
Alexander Island
Black Duck Bay
Liquid Cargo Barge Dock
San Jacinto Bay
Tabbs Bay
Houston Ship Channel
Barbour Terminal
Barbours Cut
HOUSTON
GALVESTON BAY
To Bayport Terminal

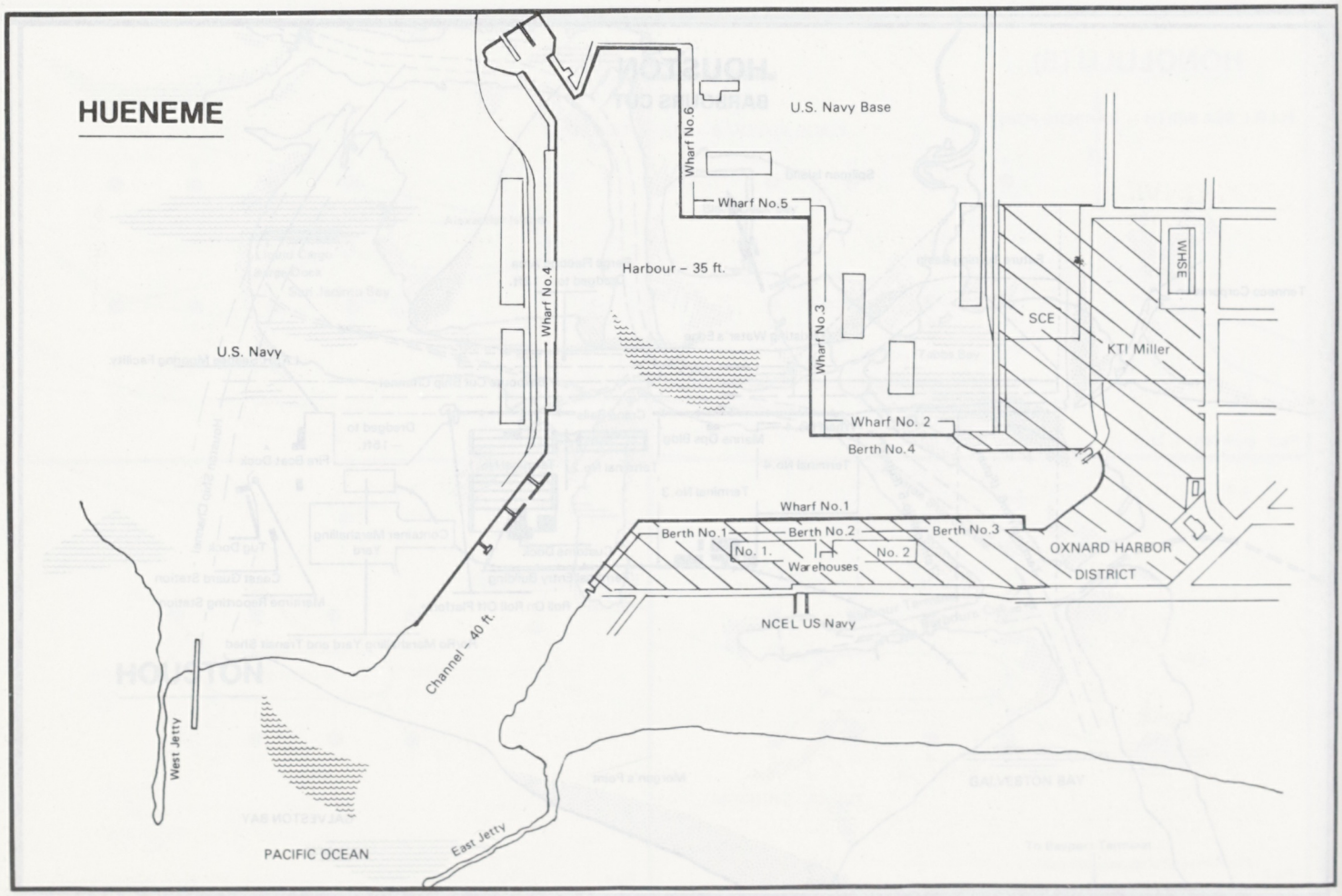


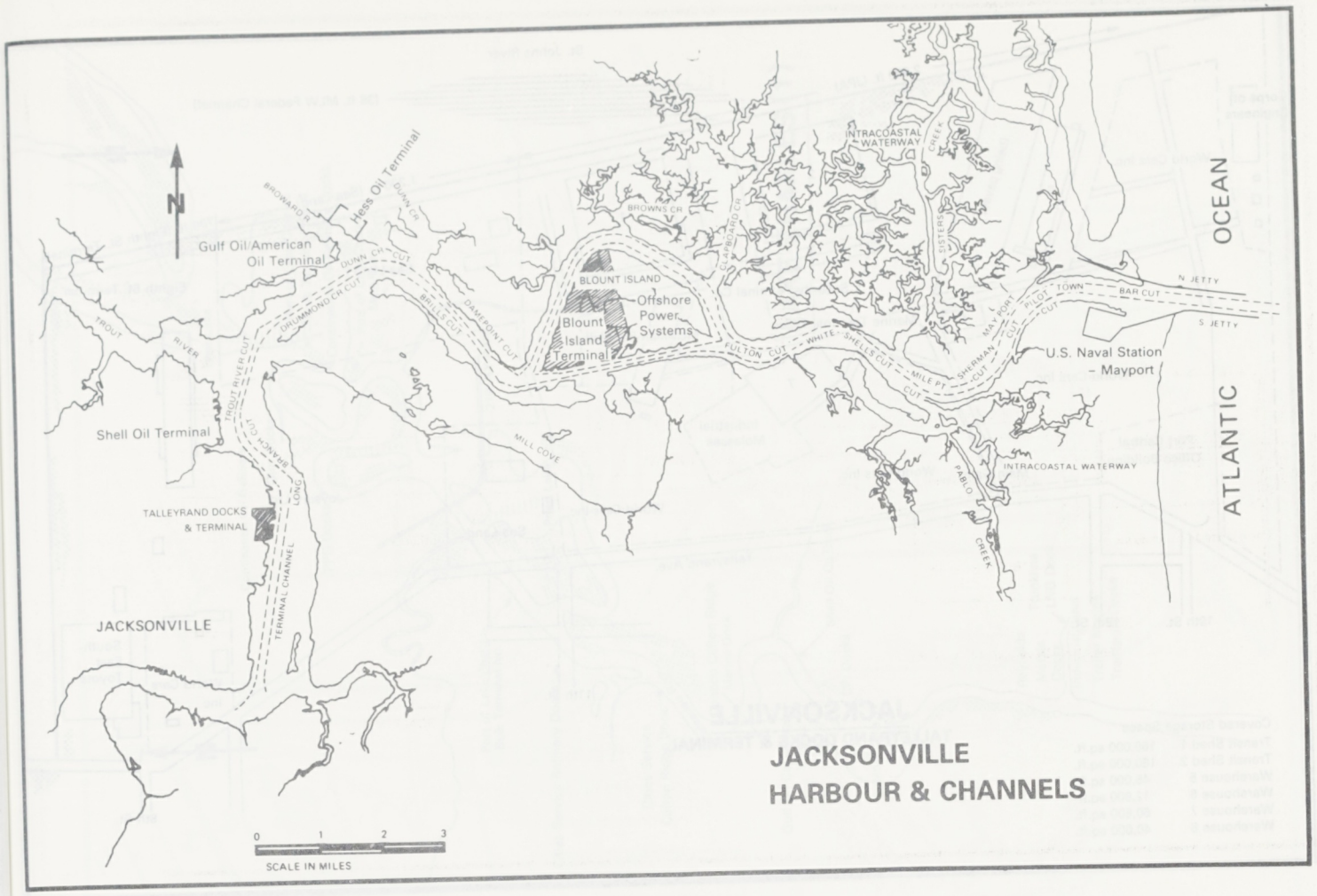
HOUSTON

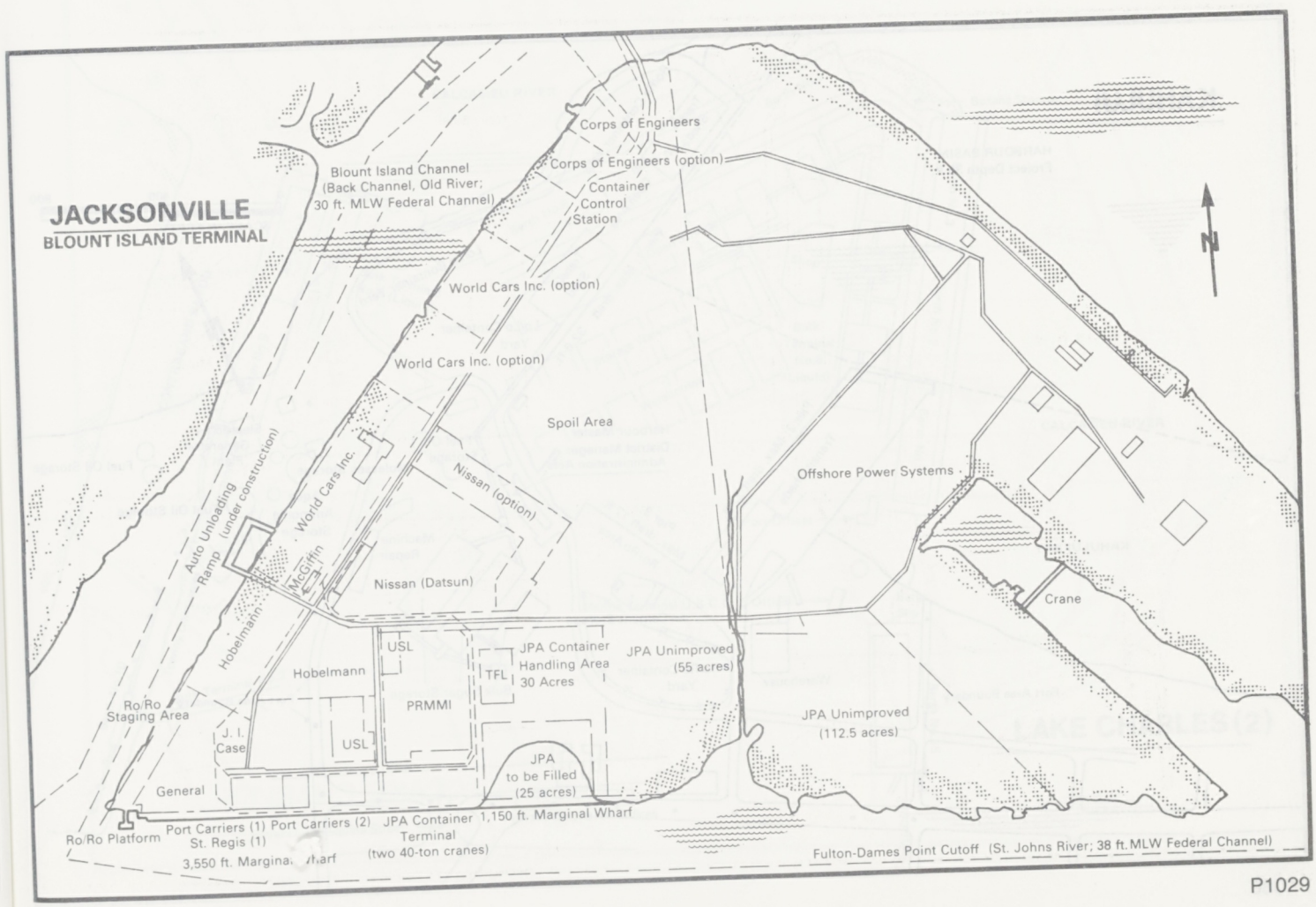
PORT AUTHORITY
TANKER DOCK AT
SIMS BAYOU TURNING BASIN



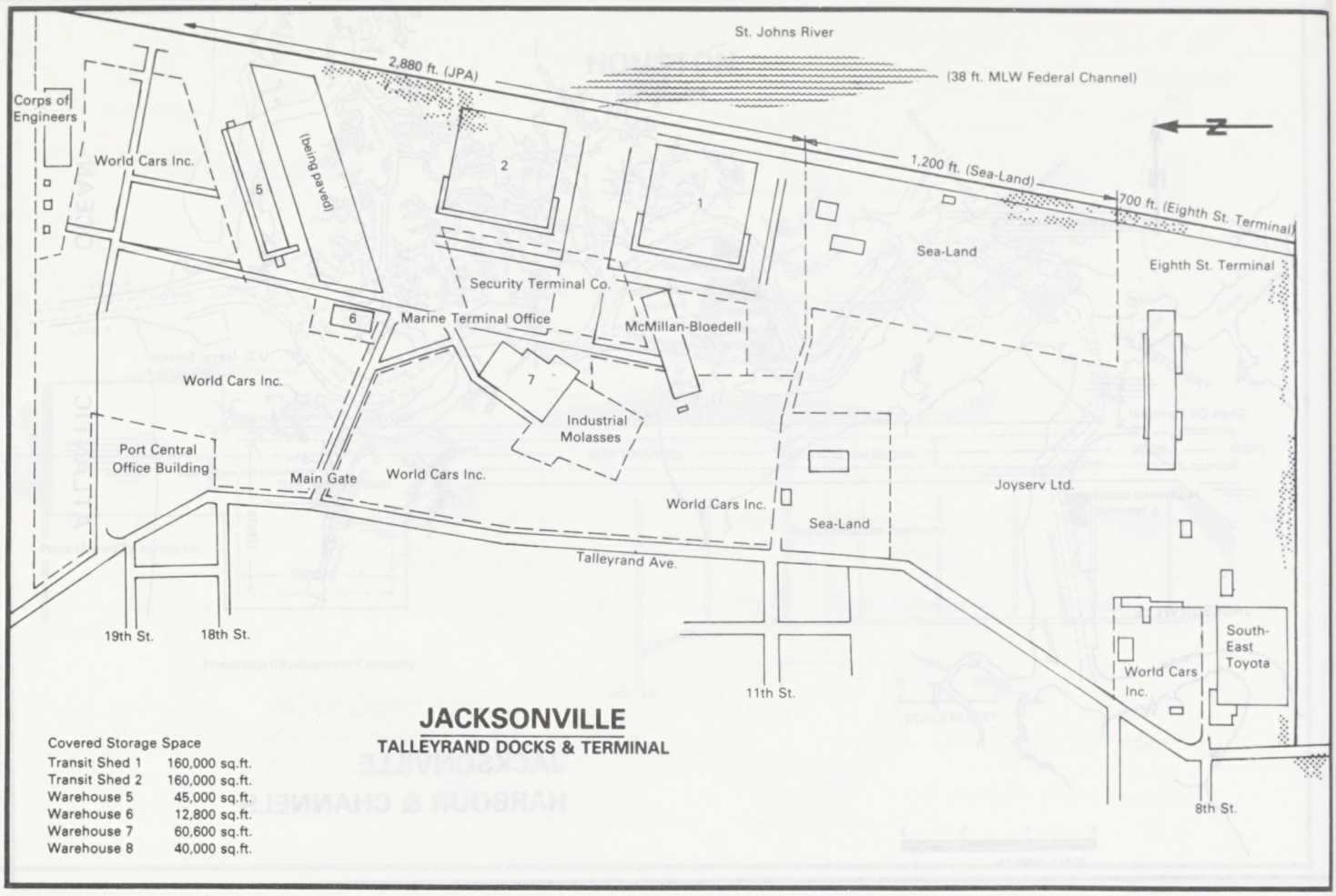

HOUSTON
BAYPORT
N
GALVESTON BAY
Intercontinental Refining Inc.
SHIP CHANNEL
300ft. Channel Bottom
300ft.
400ft.
950ft.
1600ft.
Ship Turning Basin
Petro United Terminals Inc.
1600ft.
Port of Houston Authority
Friendship Development Company
0
800ft.
SCALE IN FEET


HUENEME
U.S. Navy Base
Wharf No.6
Wharf No.5
Harbour – 35 ft.
Wharf No.4
Wharf No.3
WHSE
SCE
KTI Miller
U.S. Navy
Wharf No. 2
Berth No.4
Wharf No.1
Berth No.1
Berth No.2
Berth No.3
No. 1.
No. 2
Warehouses
OXNARD HARBOR
DISTRICT
NCEL US Navy
Channel – 40 ft.
West Jetty
PACIFIC OCEAN
East Jetty


N
Gulf Oil/American Oil Terminal
Hess Oil Terminal
BROWARD R.
DUNN CH.
DRUMMOND CH CUT
BRILLS CUT
DAMPOINT CUT
BROWNS CR.
BLOUNT ISLAND
Offshore Power Systems
Blount Island Terminal
FULTON CUT
WHITE SHELLS CUT
MILE PT CUT
SHERMAN CUT
MAY PORT CUT
PILOT TOWN
BAR CUT
N JETTY
S JETTY
OCEAN
ATLANTIC
INTRACOASTAL WATERWAY
CREEK
SISTERS
CLAPBOARD CR
U.S. Naval Station - Mayport
TROUT RIVER
TROUT RIVER CUT
DRANCH CUT
LONG
TERMINAL CHANNEL
Shell Oil Terminal
MILL COVE
TALLEYRAND DOCKS & TERMINAL
JACKSONVILLE
PABLO CREEK
JACKSONVILLE HARBOUR & CHANNELS
0 1 2 3
SCALE IN MILES


JACKSONVILLE
BLOUNT ISLAND TERMINAL
N
Blount Island Channel (Back Channel, Old River; 30 ft. MLW Federal Channel)
Corps of Engineers
Corps of Engineers (option)
Container Control Station
World Cars Inc. (option)
World Cars Inc. (option)
Spoil Area
Nissan (option)
Auto Unloading Ramp (under construction)
World Cars Inc.
McGriff
Hobelmann
Nissan (Datsun)
Offshore Power Systems
Crane
USL
Hobelmann
TFL
JPA Container Handling Area 30 Acres
JPA Unimproved (55 acres)
Ro/Ro Staging Area
PRMMI
J. I. Case
USL
JPA Unimproved (112.5 acres)
JPA to be Filled (25 acres)
General
Ro/Ro Platform
Port Carriers (1) Port Carriers (2) St. Regis (1)
3,550 ft. Marginal Wharf
JPA Container Terminal (two 40-ton cranes)
1,150 ft. Marginal Wharf
Fulton-Dames Point Cutoff (St. Johns River; 38 ft. MLW Federal Channel)

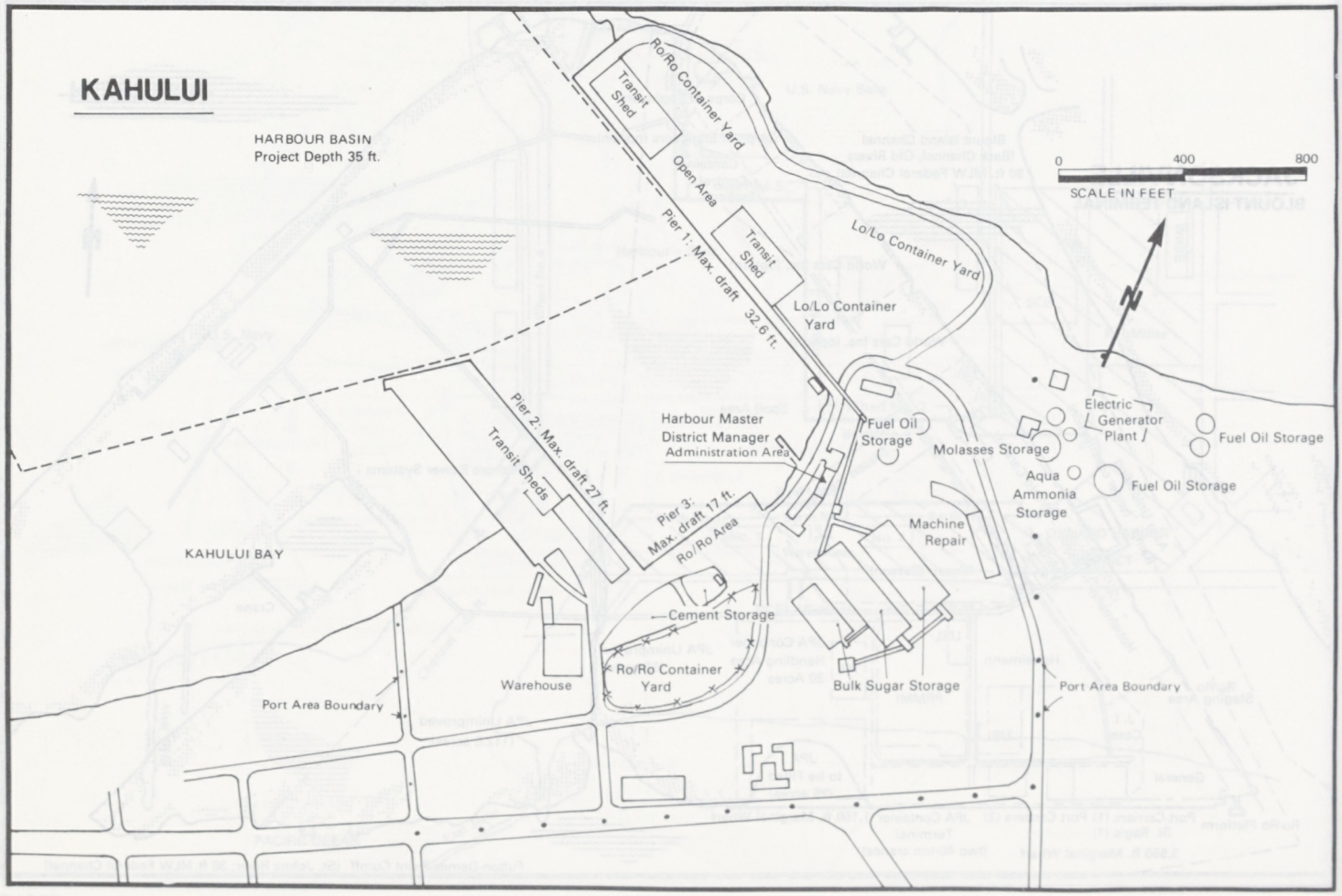
P1029

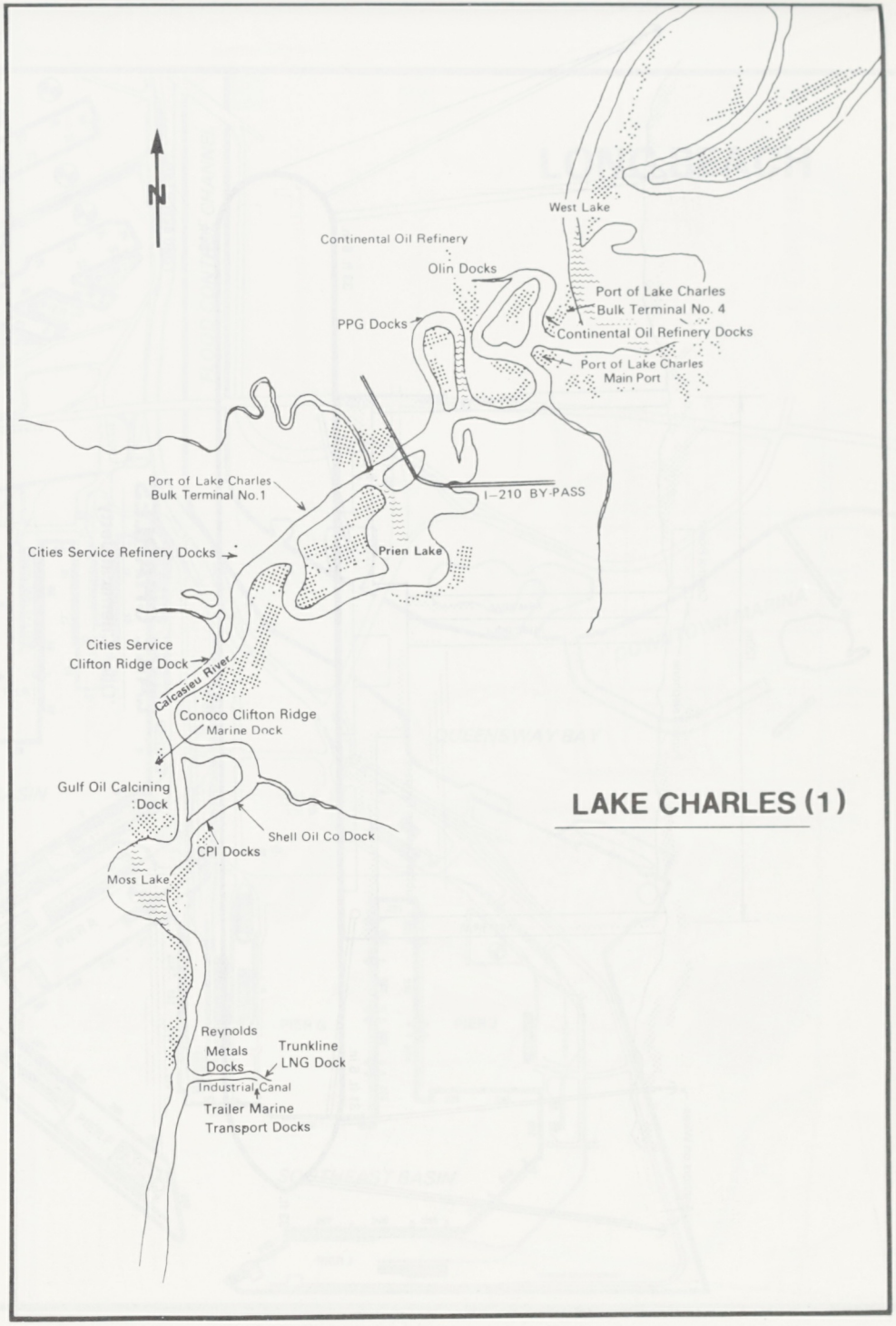


JACKSONVILLE

TALLEYRAND DOCKS & TERMINAL

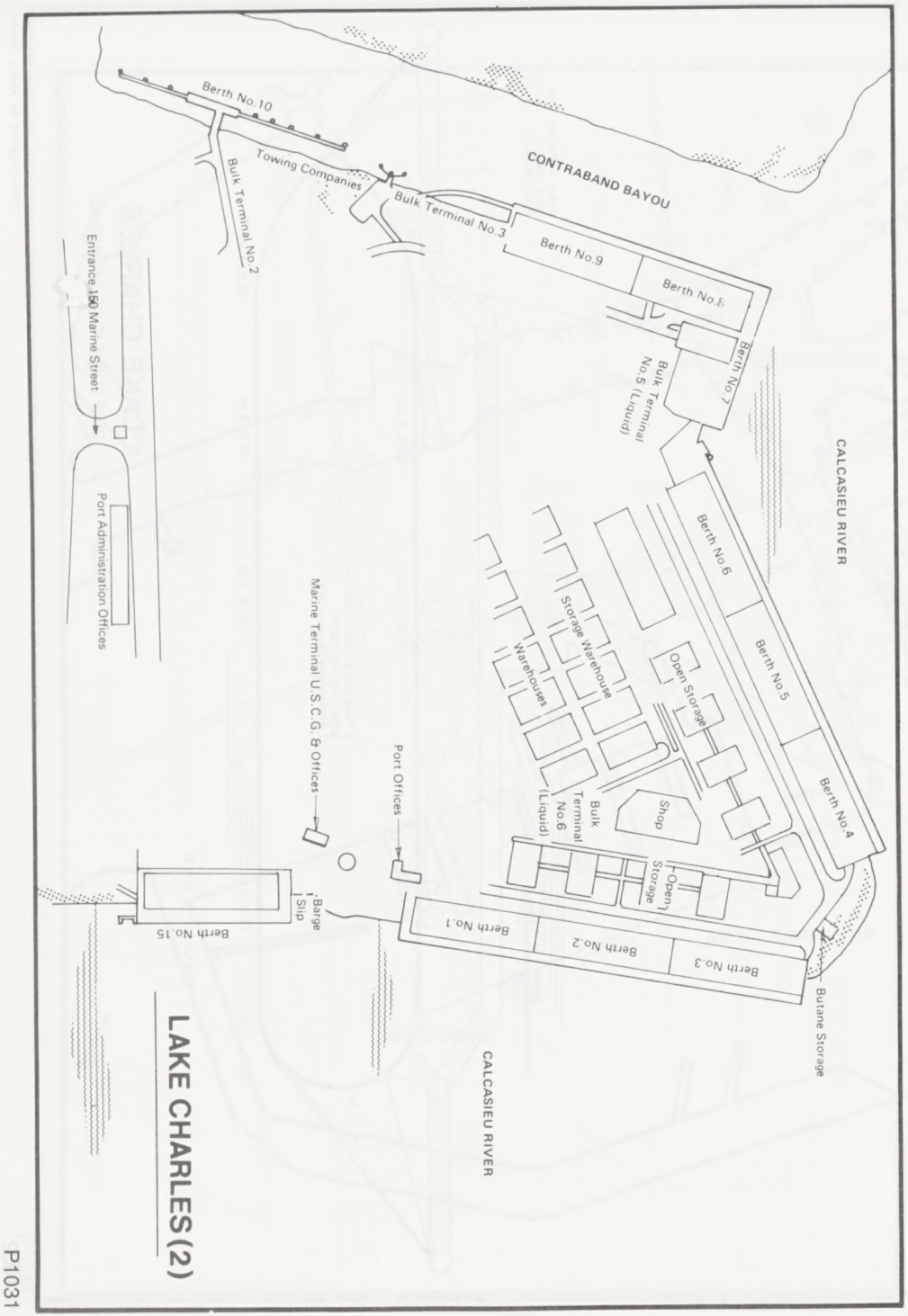
Covered Storage Space	
Transit Shed 1	160,000 sq.ft.
Transit Shed 2	160,000 sq.ft.
Warehouse 5	45,000 sq.ft.
Warehouse 6	12,800 sq.ft.
Warehouse 7	60,600 sq.ft.
Warehouse 8	40,000 sq.ft.





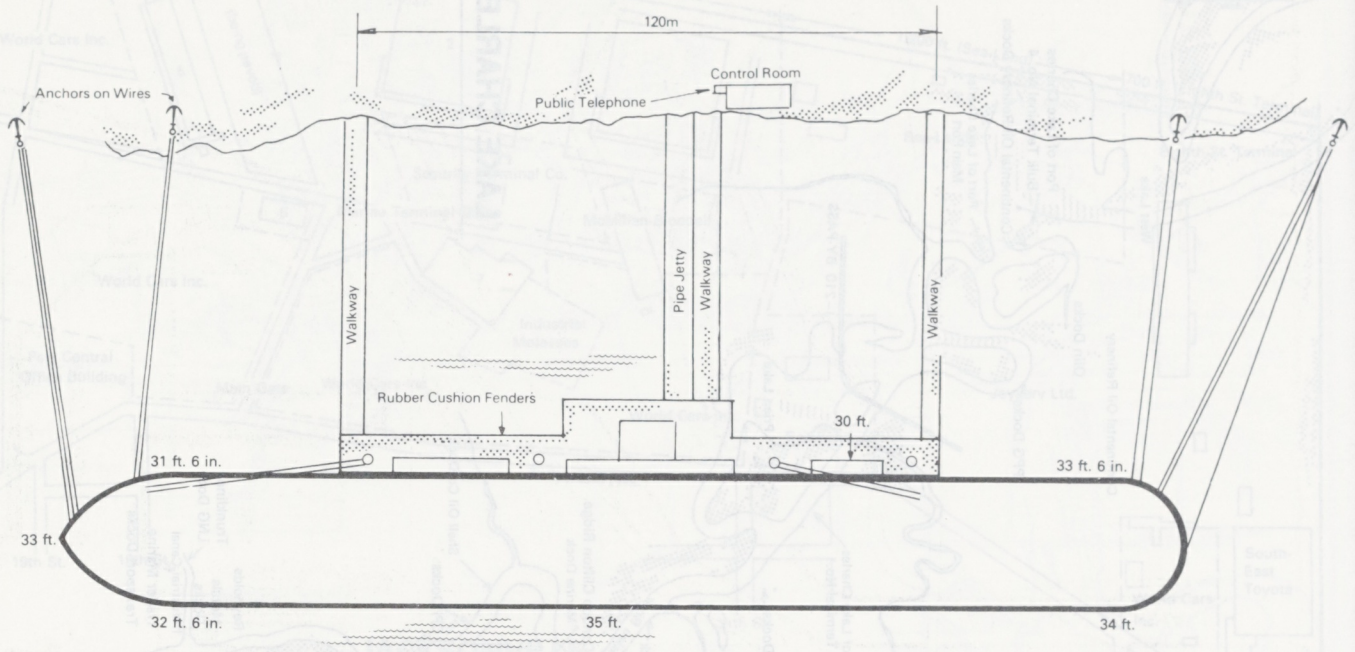
LAKE CHARLES (1)

U.S.A.



LAKE CHARLES (2)

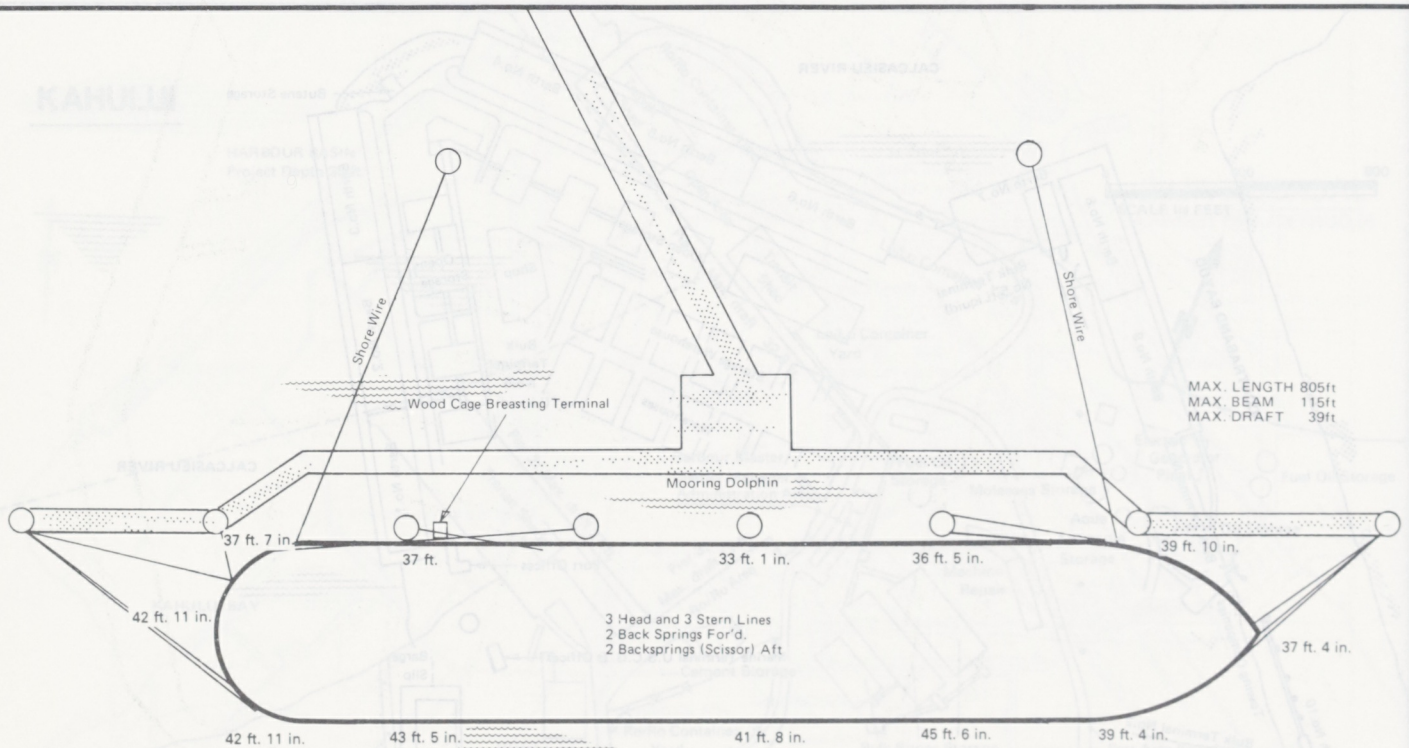
P1031



LAKE CHARLES

'Olin' Chemical Jetty

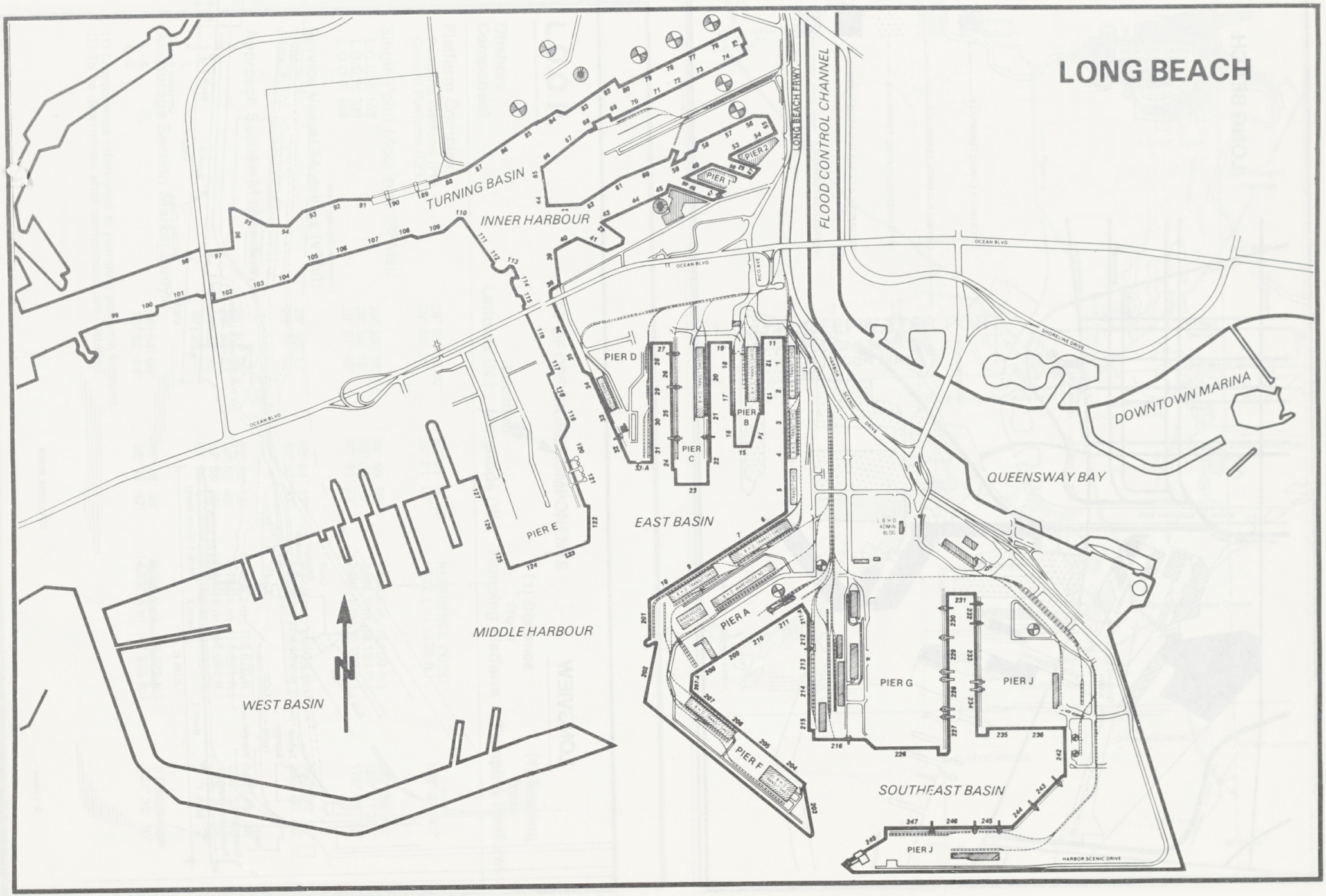
"Plan supplied by Ship's Master"



LAKE CHARLES

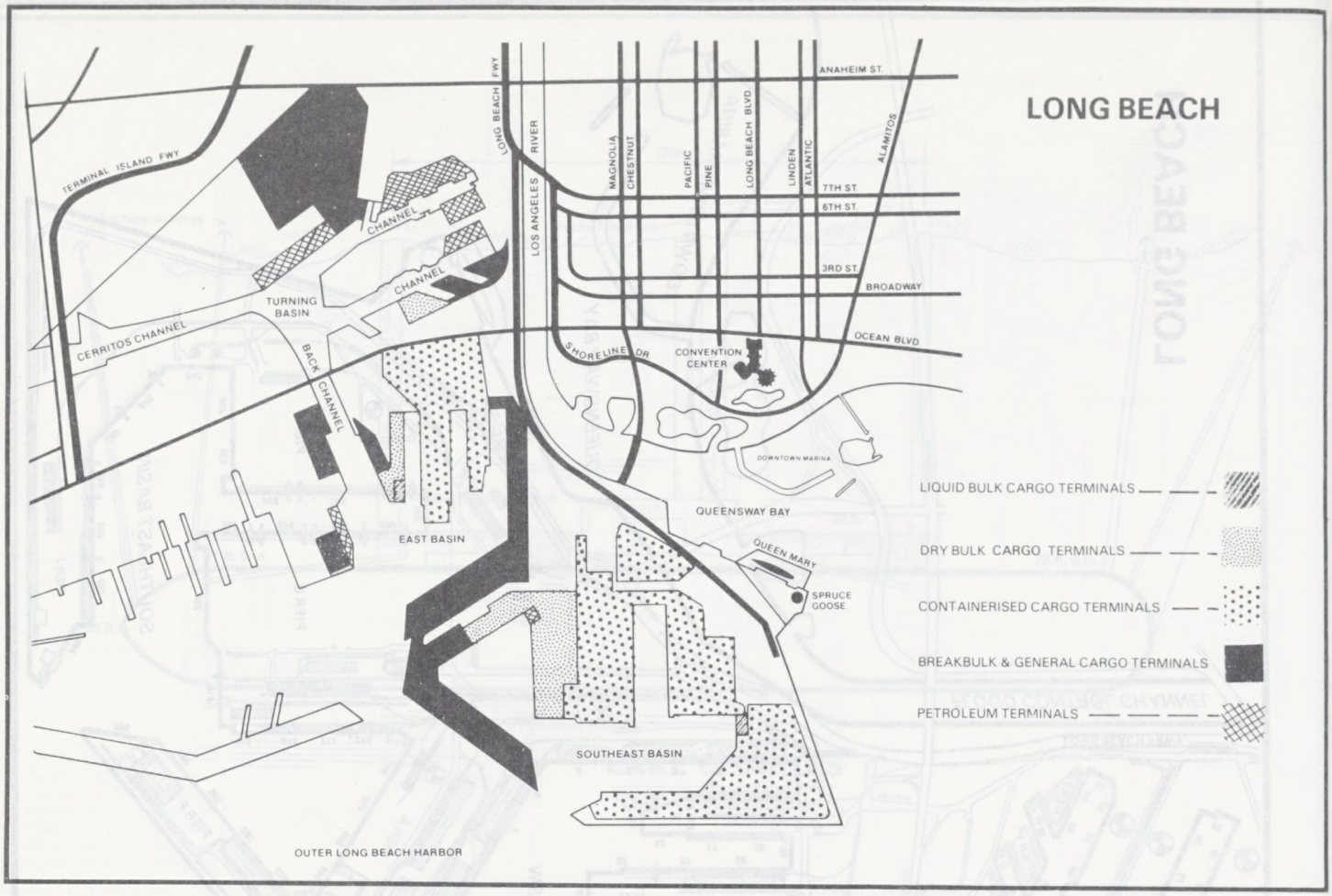
CLIFTON RIDGE TERMINAL

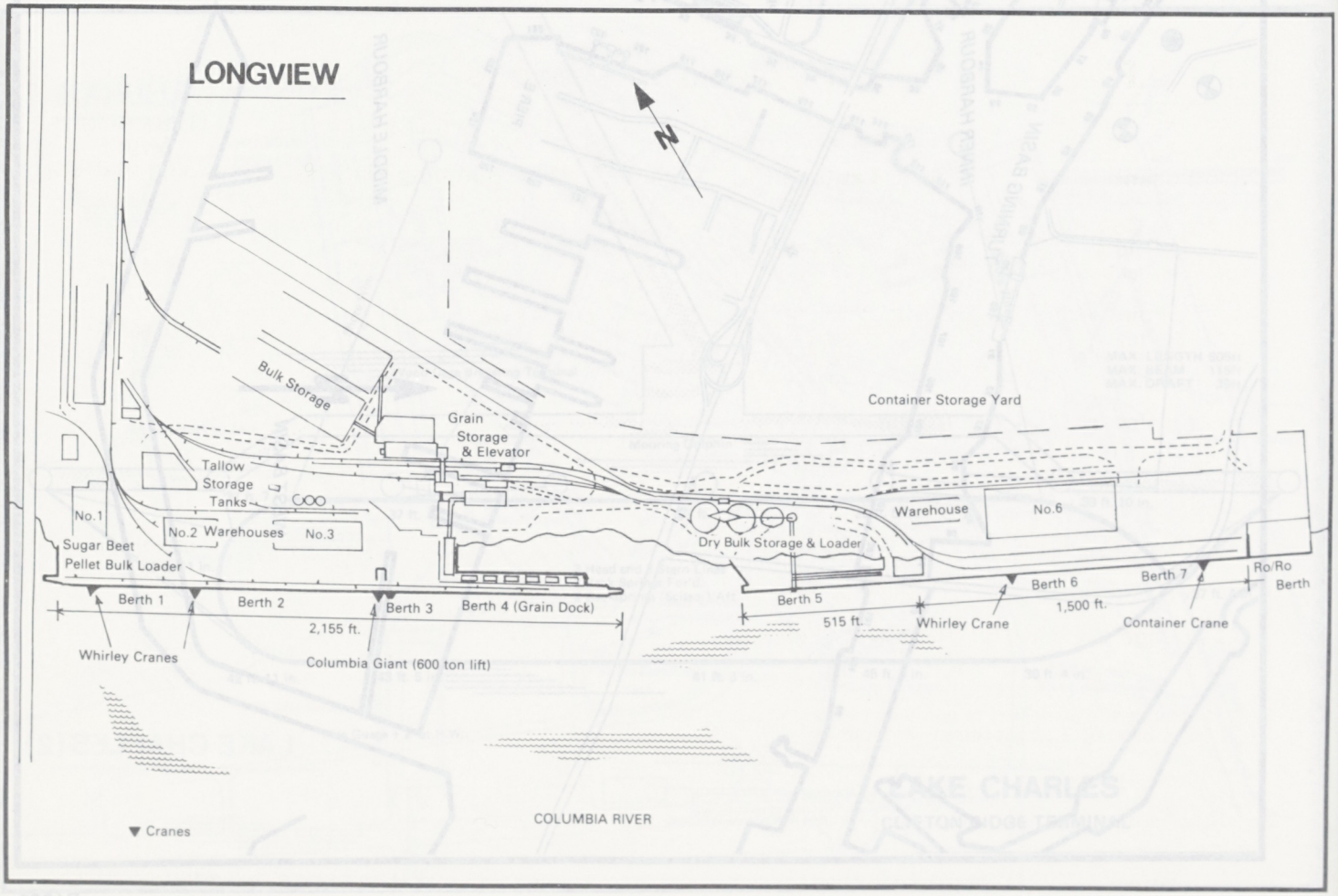
"Plan supplied by Ship's Master"

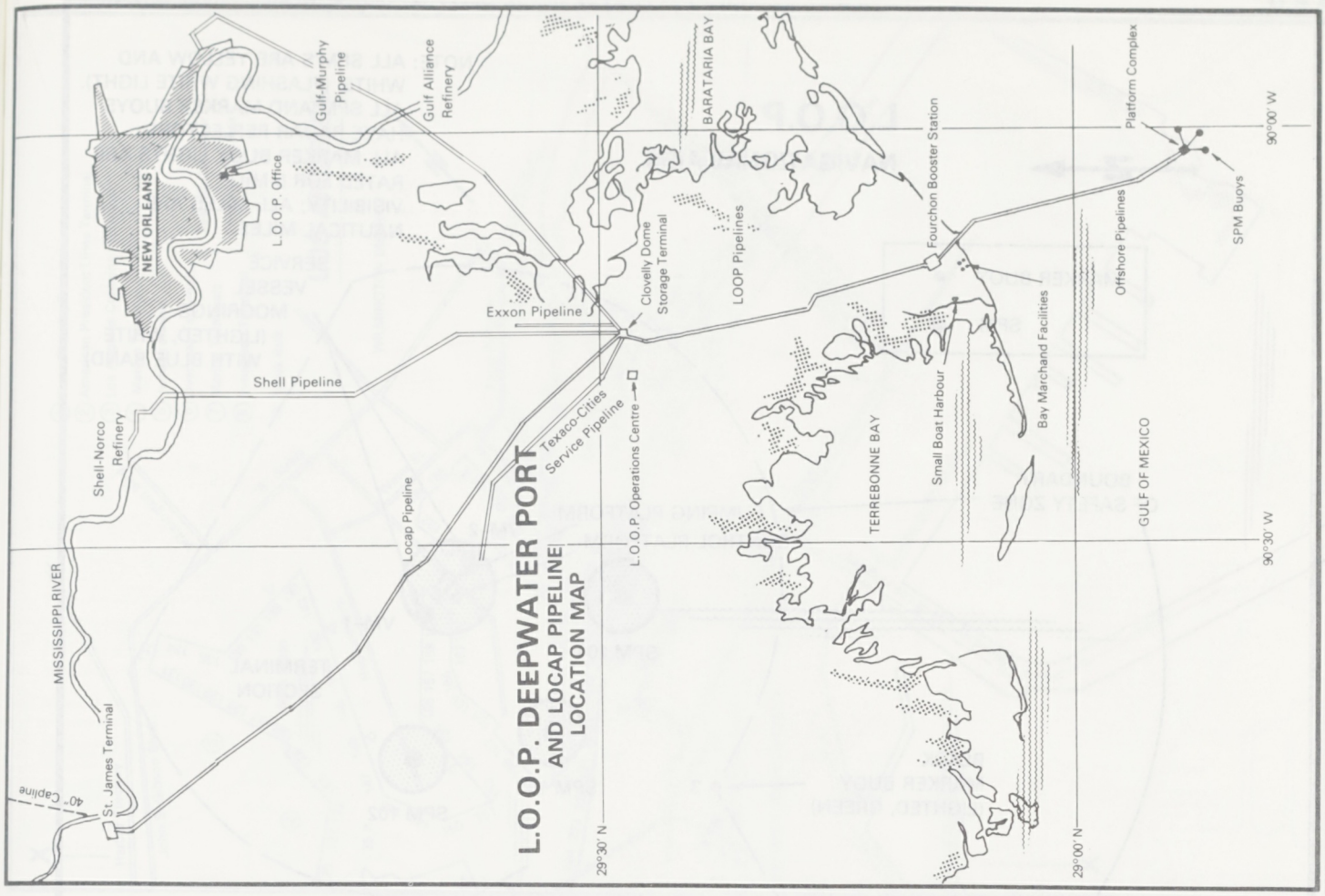

LONG BEACH
FLOOD CONTROL CHANNEL
LONG BEACH FWY.
TURNING BASIN
INNER HARBOUR
PIER 2
PIER 1
OCEAN BLVD
PICO AVE
PIER D
PIER B
PIER C
EAST BASIN
PIER E
MIDDLE HARBOUR
WEST BASIN
N
SHORELINE DRIVE
HARBOR SCENIC DRIVE
DOWNTOWN MARINA
QUEENSWAY BAY
L B H D ADMIN. BLDG.
PIER A
PIER G
PIER J
PIER F
SOUTHEAST BASIN
PIER J
HARBOR SCENIC DRIVE

P1033

U.S.A.


LONG BEACH
ANAHEIM ST
LONG BEACH FWY
LOS ANGELES RIVER
MAGNOLIA
CHESTNUT
PACIFIC
PINE
LONG BEACH BLVD
LINDEN
ATLANTIC
ALAMITOS
7TH ST
6TH ST
3RD ST
BROADWAY
OCEAN BLVD
TERMINAL ISLAND FWY
CHANNEL
CHANNEL
TURNING BASIN
CERRITOS CHANNEL
BACK CHANNEL
SHORELINE DR
CONVENTION CENTER
DOWNTOWN MARINA
QUEENSWAY BAY
EAST BASIN
QUEEN MARY
SPRUCE GOOSE
SOUTHEAST BASIN
OUTER LONG BEACH HARBOR
LIQUID BULK CARGO TERMINALS
DRY BULK CARGO TERMINALS
CONTAINERISED CARGO TERMINALS
BREAKBULK & GENERAL CARGO TERMINALS
PETROLEUM TERMINALS


LONGVIEW
N
Bulk Storage
Grain Storage & Elevator
Container Storage Yard
Tallow Storage Tanks
No.1
No.2 Warehouses No.3
Sugar Beet Pellet Bulk Loader
Warehouse
No.6
Dry Bulk Storage & Loader
Berth 1
Berth 2
Berth 3
Berth 4 (Grain Dock)
2,155 ft.
Whirley Cranes
Columbia Giant (600 ton lift)
Berth 5
515 ft.
Whirley Crane
Berth 6
1,500 ft.
Berth 7
Container Crane
Ro/Ro Berth
▼ Cranes
COLUMBIA RIVER

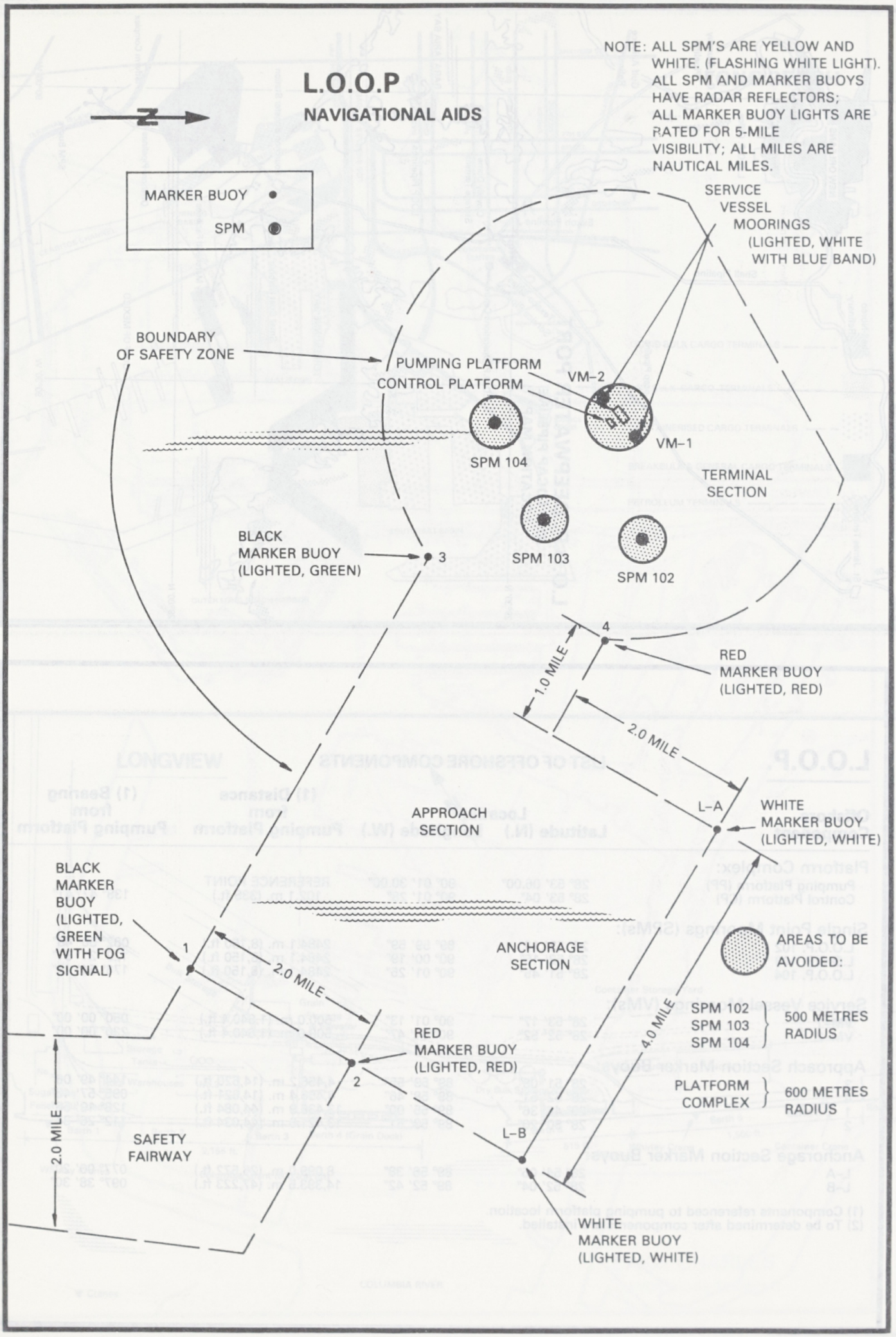


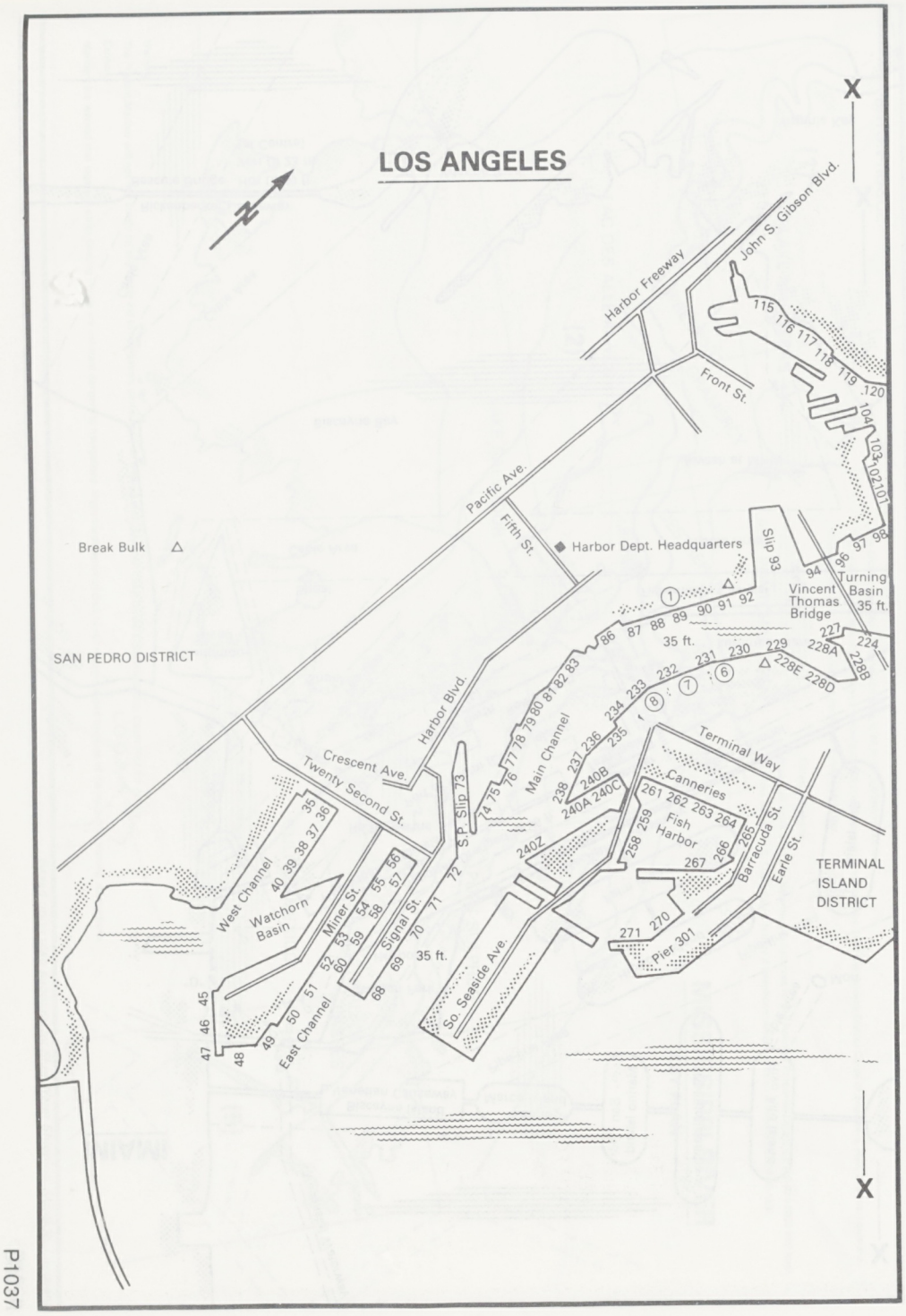
L.O.O.P.

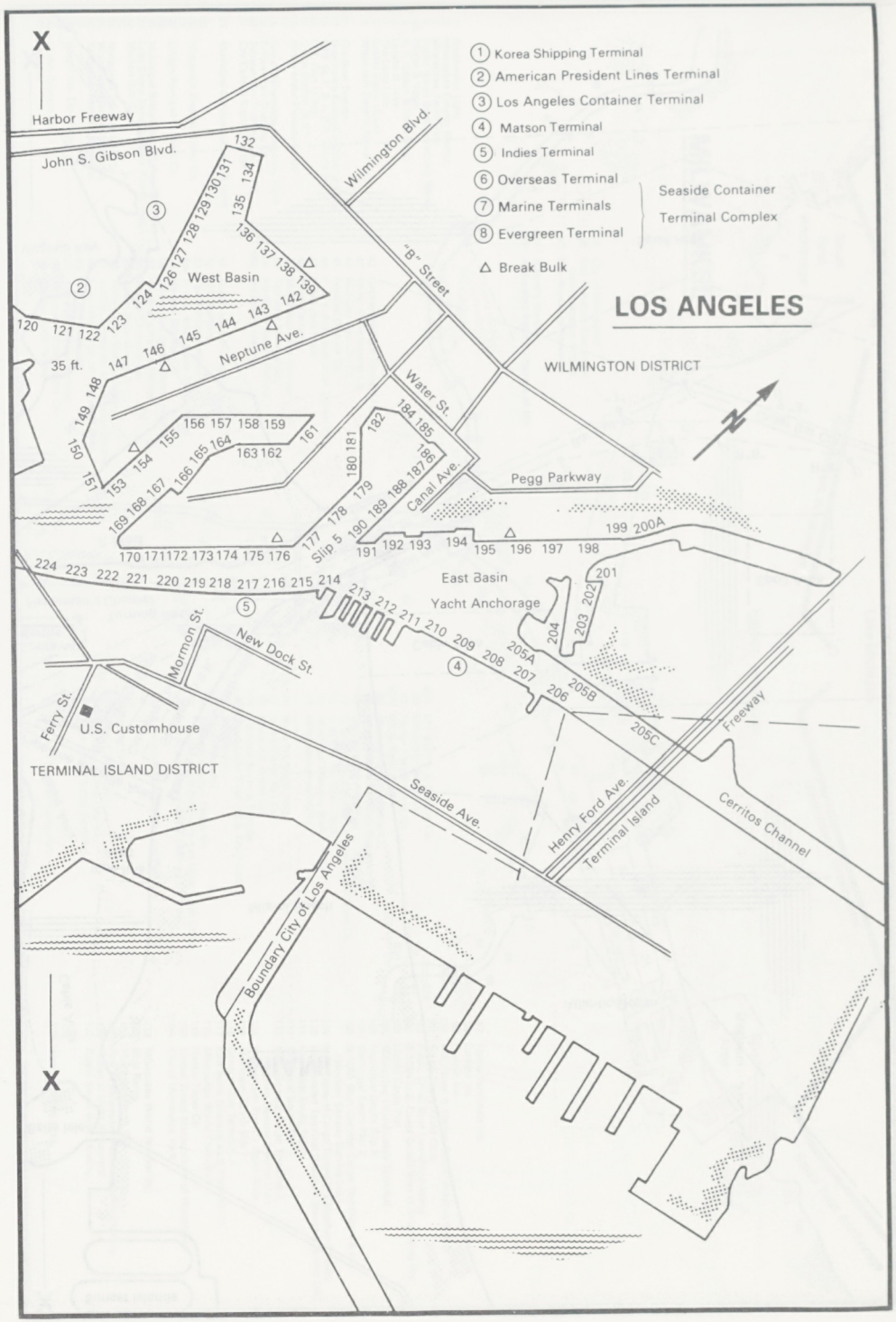
LIST OF OFFSHORE COMPONENTS

Offshore Component	Location Latitude (N.)	Location Longitude (W.)	(1) Distance from Pumping Platform	(1) Bearing from Pumping Platform
Platform Complex:				
Pumping Platform (PP)	28° 53′ 06.00″	90° 01′ 30.00″	REFERENCE POINT	—
Control Platform (CP)	28° 53′ 04″	90° 01′ 28″	102.1 m. (335 ft.)	138° 47′ 41″
Single Point Moorings (SPMs):				
L.O.O.P. 102	28° 53′ 16″	89° 59′ 59″	2484.1 m. (8,150 ft.)	082° 50′ 48″
L.O.O.P. 103	28° 52′ 15″	90° 00′ 19″	2484.1 m. (8,150 ft.)	129° 21′ 51″
L.O.O.P. 104	28° 51′ 45″	90° 01′ 25″	2484.1 m. (8,150 ft.)	176° 54′ 27″
Service Vessel Moorings (VMs):				
VM–1	28° 53′ 17″	90° 01′ 13″	500.0 m. (1,640.4 ft.)	050° 00′ 00″
VM–2	28° 52′ 52″	90° 01′ 47″	500.0 m. (1,640.4 ft.)	230° 00′ 00″
Approach Section Marker Buoys:				
3	28° 51′ 08″	89° 59′ 55″	4,456.2 m. (14,620 ft.)	144° 49′ 06″
4	28° 52′ 51″	89° 58′ 46″	4,456.4 m. (14,621 ft.)	095° 57′ 46″
1	28° 48′ 36″	89° 55′ 00″	13,436.9 m. (44,084 ft.)	128° 19′ 56″
2	28° 50′ 20″	89° 53′ 51″	13,421.5 m. (44,034 ft.)	112° 26′ 34″
Anchorage Section Marker Buoys:				
L–A	28° 54′ 05″	89° 56′ 38″	8,099.0 m. (26,572 ft.)	077° 00′ 20″
L–B	28° 52′ 04″	89° 52′ 42″	14,393.5 m. (47,223 ft.)	097° 38′ 30″

(1) Components referenced to pumping platform location.
(2) To be determined after components are installed.


L.O.O.P
NAVIGATIONAL AIDS
N
NOTE: ALL SPM'S ARE YELLOW AND WHITE. (FLASHING WHITE LIGHT). ALL SPM AND MARKER BUOYS HAVE RADAR REFLECTORS; ALL MARKER BUOY LIGHTS ARE RATED FOR 5-MILE VISIBILITY; ALL MILES ARE NAUTICAL MILES.
MARKER BUOY
SPM
SERVICE VESSEL MOORINGS (LIGHTED, WHITE WITH BLUE BAND)
BOUNDARY OF SAFETY ZONE
PUMPING PLATFORM
CONTROL PLATFORM
VM–2
VM–1
SPM 104
TERMINAL SECTION
SPM 103
SPM 102
BLACK MARKER BUOY (LIGHTED, GREEN)
3
4
1.0 MILE
RED MARKER BUOY (LIGHTED, RED)
2.0 MILE
L–A
WHITE MARKER BUOY (LIGHTED, WHITE)
APPROACH SECTION
BLACK MARKER BUOY (LIGHTED, GREEN WITH FOG SIGNAL)
1
2.0 MILE
ANCHORAGE SECTION
AREAS TO BE AVOIDED:
SPM 102
SPM 103
SPM 104
500 METRES RADIUS
PLATFORM COMPLEX
600 METRES RADIUS
4.0 MILE
RED MARKER BUOY (LIGHTED, RED)
2
2.0 MILE
SAFETY FAIRWAY
L–B
WHITE MARKER BUOY (LIGHTED, WHITE)


LOS ANGELES
Harbor Freeway
John S. Gibson Blvd.
Front St.
Pacific Ave.
Fifth St.
Harbor Dept. Headquarters
Break Bulk
SAN PEDRO DISTRICT
Harbor Blvd.
Crescent Ave.
Twenty Second St.
West Channel
Watchorn Basin
East Channel
Miner St.
Signal St.
So. Seaside Ave.
S.P. Slip 73
Main Channel
Slip 93
Vincent Thomas Bridge
Turning Basin 35 ft.
35 ft.
Terminal Way
Canneries
Fish Harbor
Barracuda St.
Earle St.
Pier 301
TERMINAL ISLAND DISTRICT
X
X


1 Korea Shipping Terminal
2 American President Lines Terminal
3 Los Angeles Container Terminal
4 Matson Terminal
5 Indies Terminal
6 Overseas Terminal
7 Marine Terminals
8 Evergreen Terminal
Seaside Container Terminal Complex
Break Bulk
LOS ANGELES
WILMINGTON DISTRICT
Harbor Freeway
John S. Gibson Blvd.
Wilmington Blvd.
"B" Street
West Basin
Neptune Ave.
35 ft.
Water St.
Canal Ave.
Pegg Parkway
Slip 5
East Basin
Yacht Anchorage
Mormon St.
New Dock St.
Ferry St.
U.S. Customhouse
TERMINAL ISLAND DISTRICT
Seaside Ave.
Henry Ford Ave.
Terminal Island Freeway
Cerritos Channel
Boundary City of Los Angeles
X
X

U.S.A.

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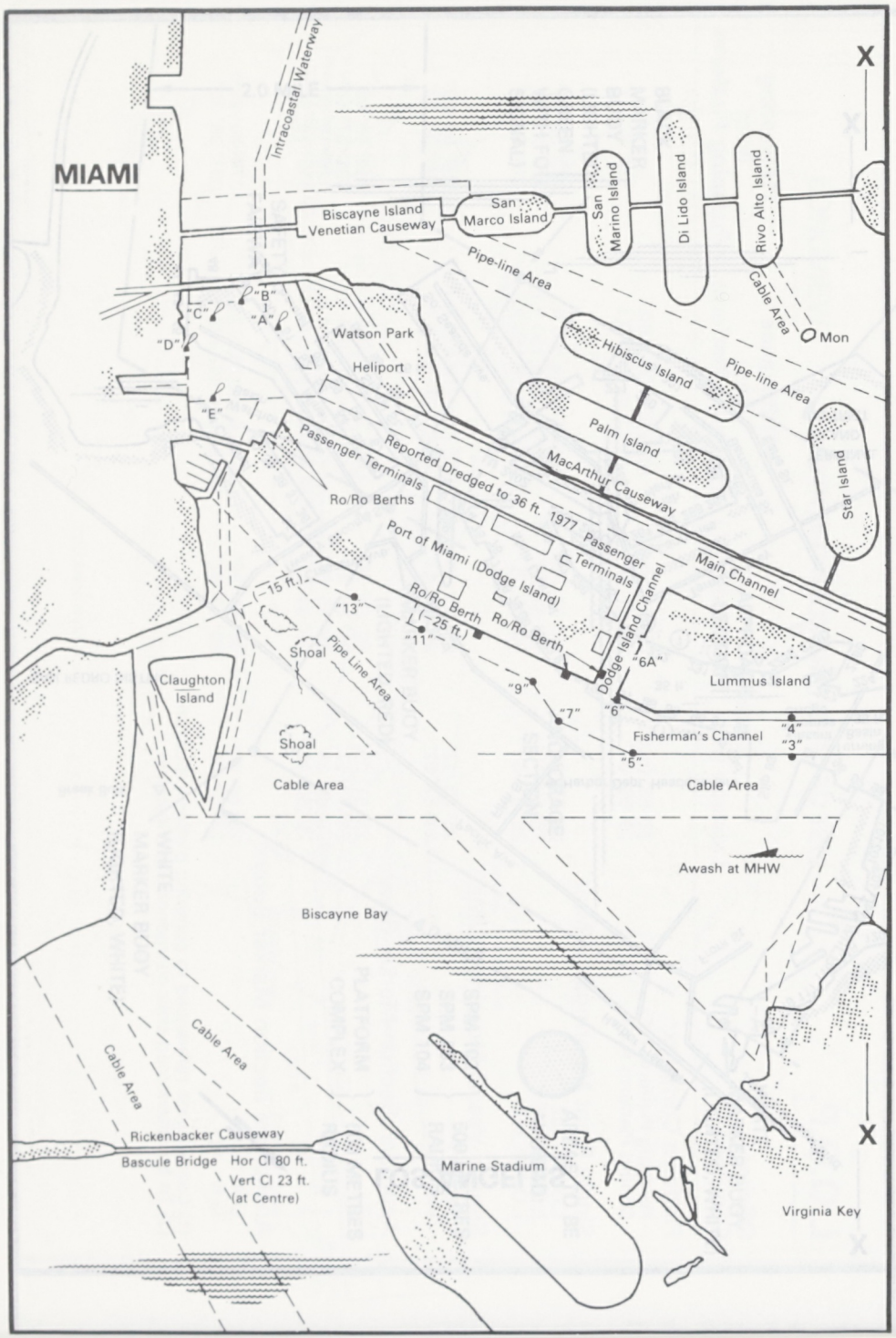
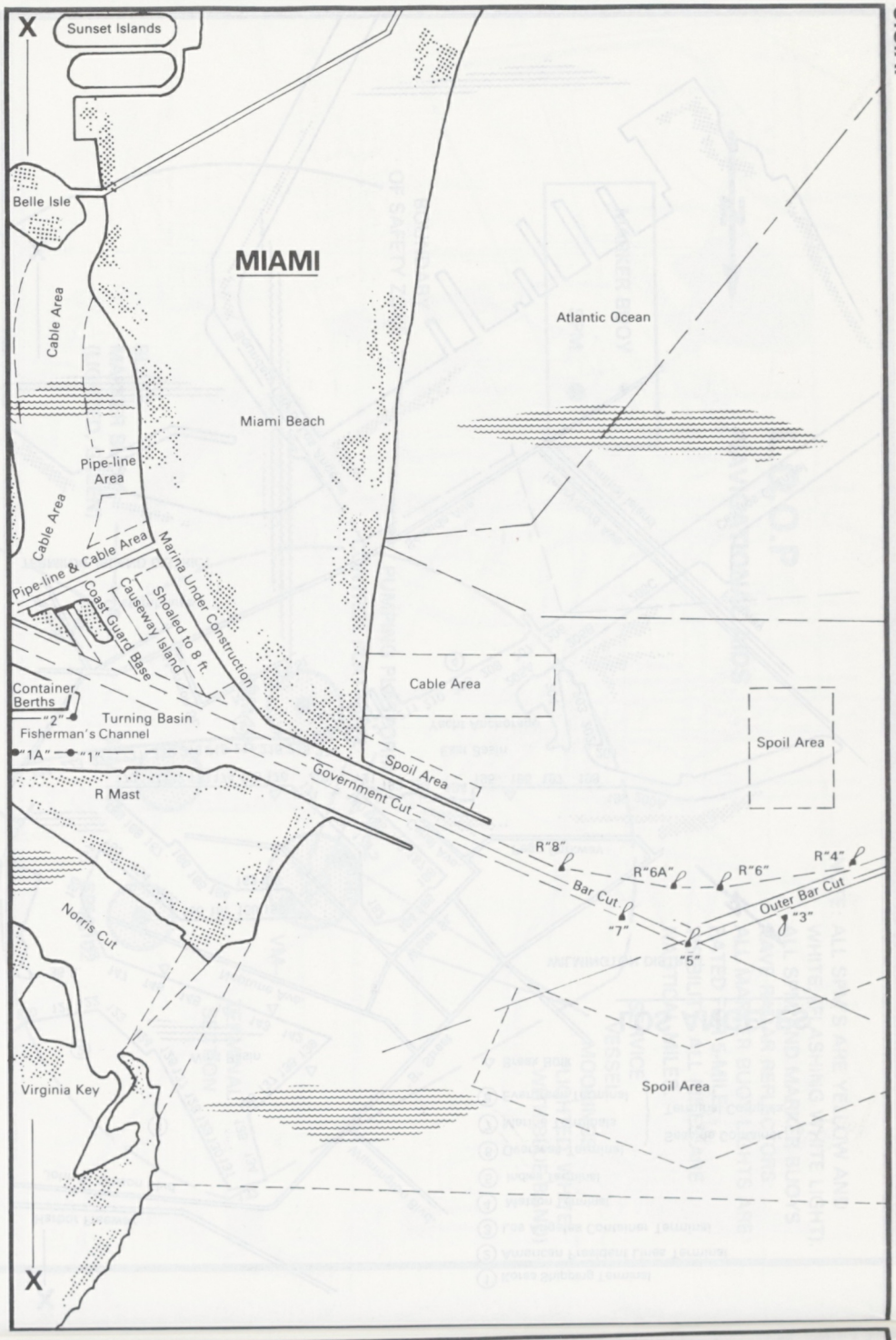
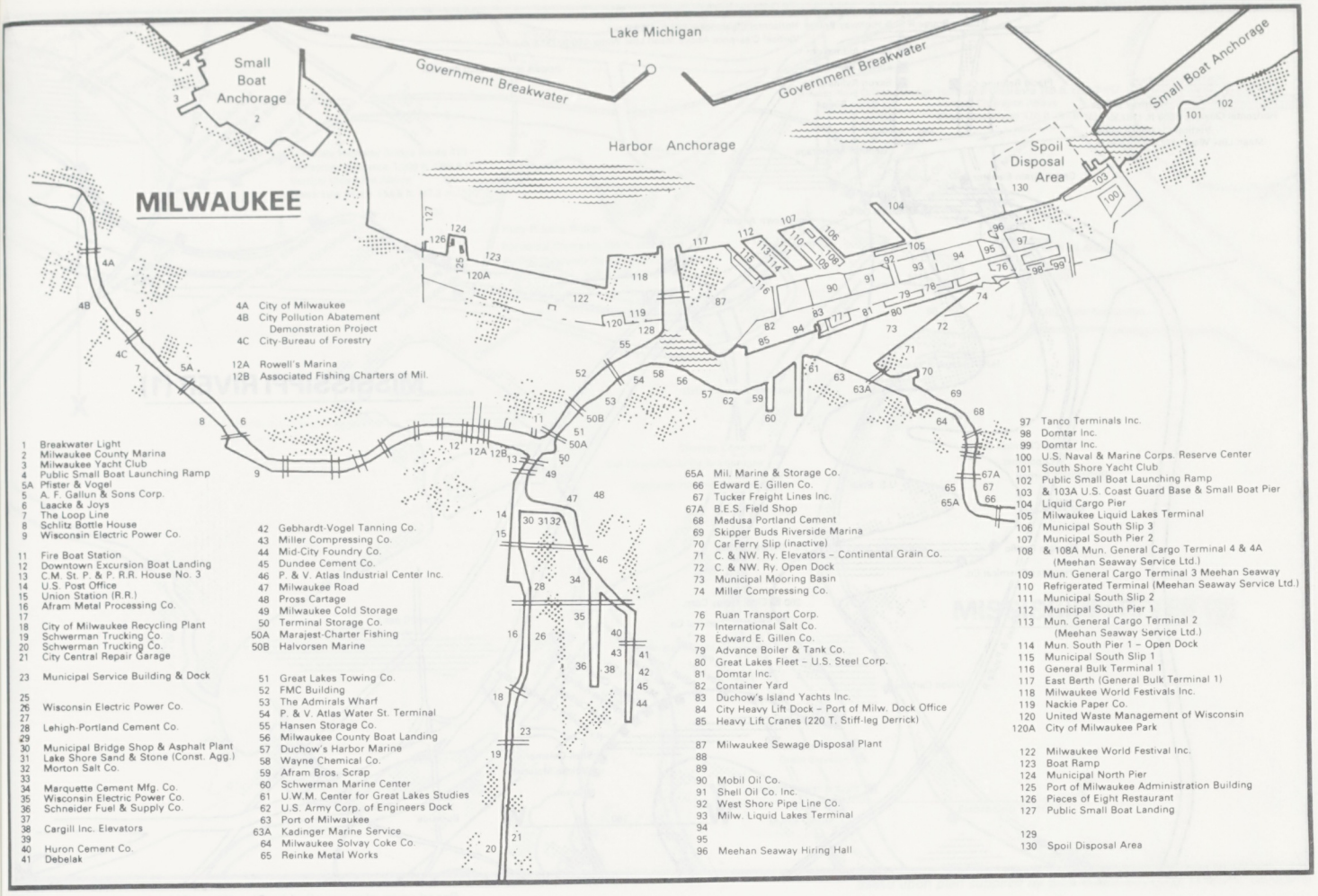
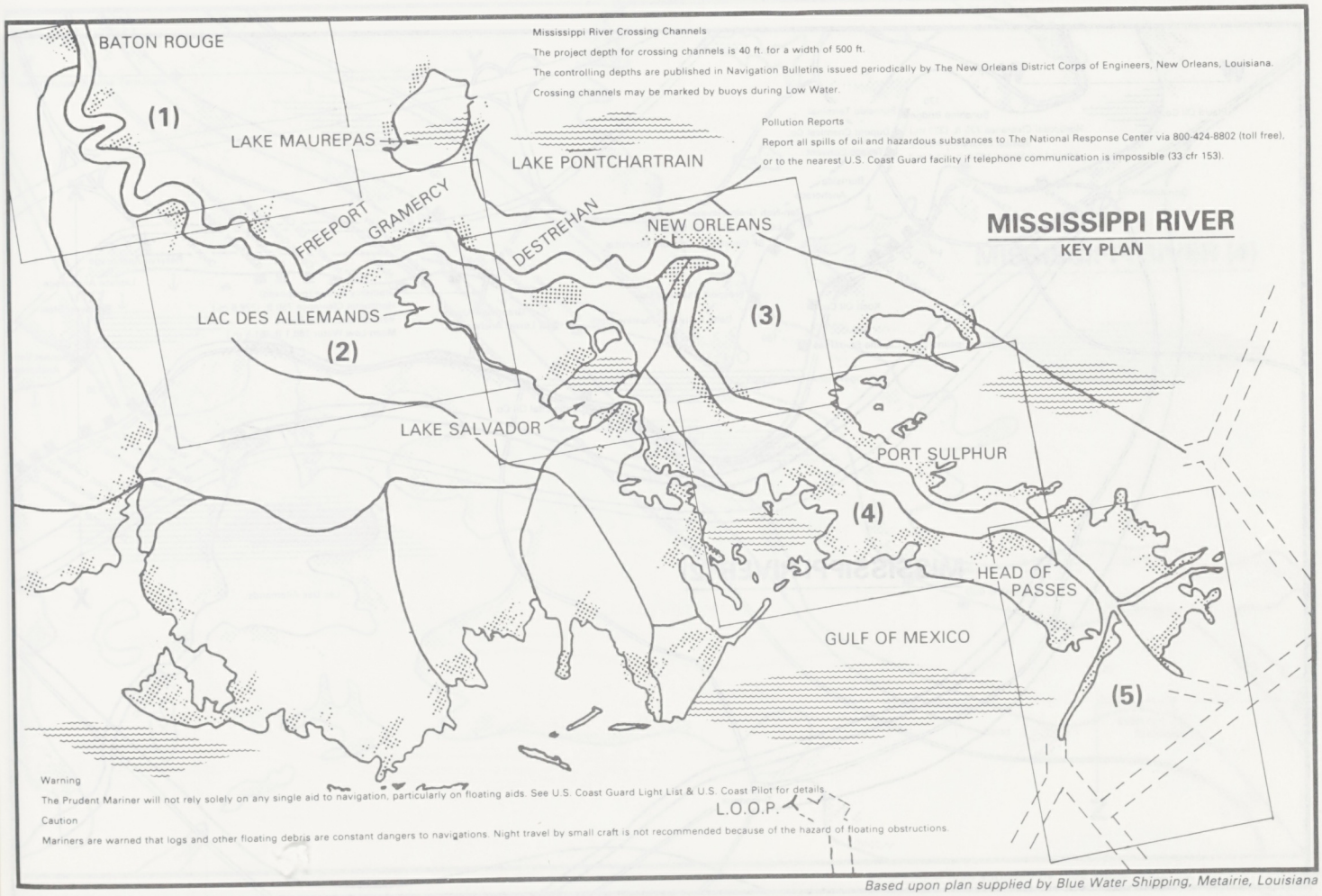
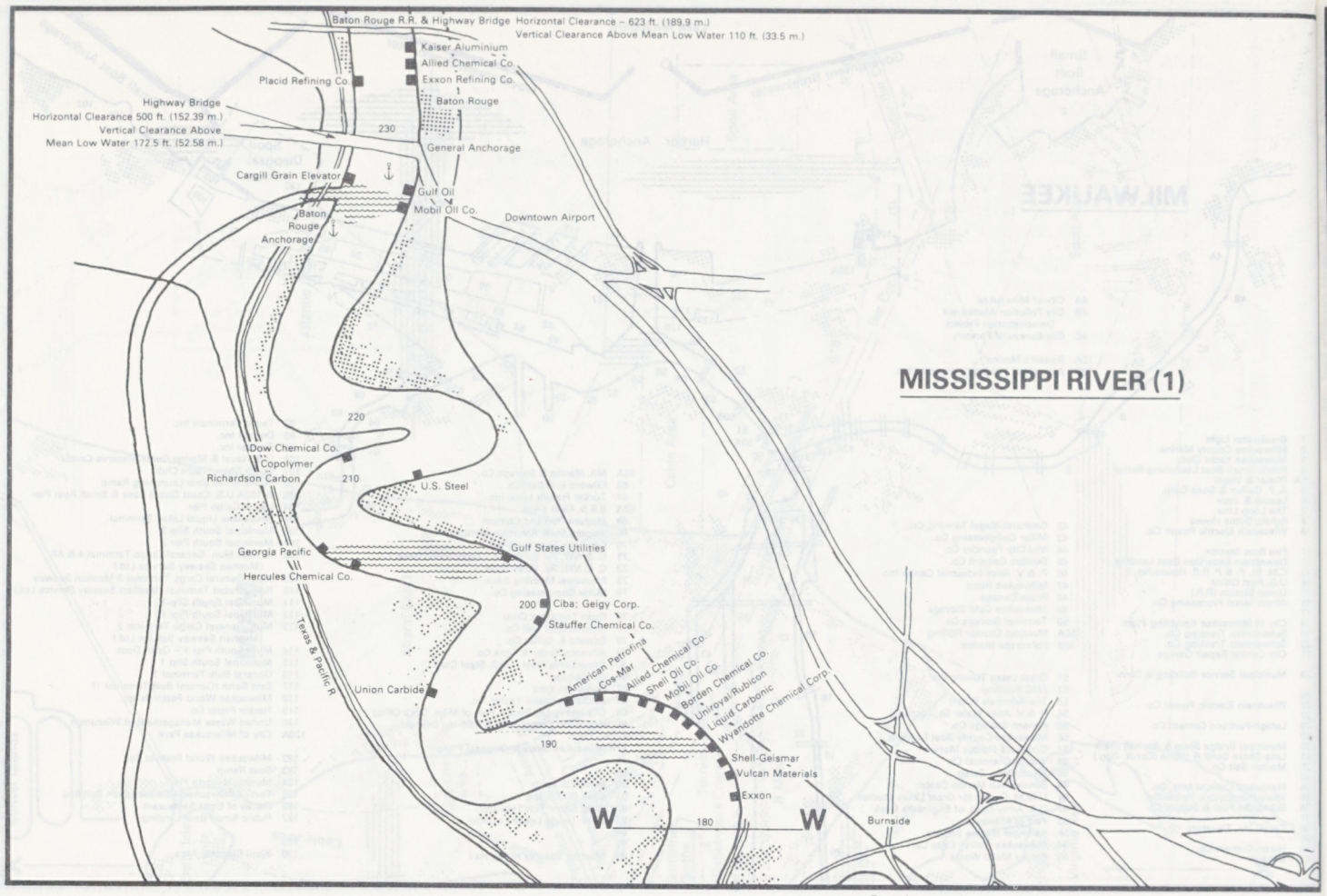

MIAMI
Intracoastal Waterway
Biscayne Island
Venetian Causeway
San Marco Island
San Marino Island
Di Lido Island
Rivo Alto Island
Pipe-line Area
Cable Area
Mon
"A"
"B"
"C"
"D"
"E"
Watson Park
Heliport
Hibiscus Island
Palm Island
MacArthur Causeway
Star Island
Passenger Terminals
Ro/Ro Berths
Reported Dredged to 36 ft. 1977
Port of Miami (Dodge Island)
Terminals
Main Channel
Dodge Island Channel
Ro/Ro Berth
Ro/Ro Berth
(-15 ft.)
(-25 ft.)
"13"
"11"
"9"
"7"
"6"
"6A"
"4"
"3"
"5"
Shoal
Pipe Line Area
Claughton Island
Lummus Island
Fisherman's Channel
Shoal
Cable Area
Cable Area
Awash at MHW
Biscayne Bay
Cable Area
Cable Area
Rickenbacker Causeway
Bascule Bridge
Hor Cl 80 ft.
Vert Cl 23 ft.
(at Centre)
Marine Stadium
Virginia Key
X
X
X


X
Sunset Islands
Belle Isle
MIAMI
Cable Area
Atlantic Ocean
Miami Beach
Pipe-line Area
Cable Area
Pipe-line & Cable Area
Marina Under Construction
Coast Guard Base
Causeway Island
Shoaled to 8 ft.
Container Berths
"2"
Turning Basin
Fisherman's Channel
"1A"
"1"
R Mast
Cable Area
Spoil Area
Spoil Area
Government Cut
R"8"
R"6A"
R"6"
R"4"
Bar Cut
Outer Bar Cut
"7"
"5"
"3"
Norris Cut
Virginia Key
Spoil Area
X
X

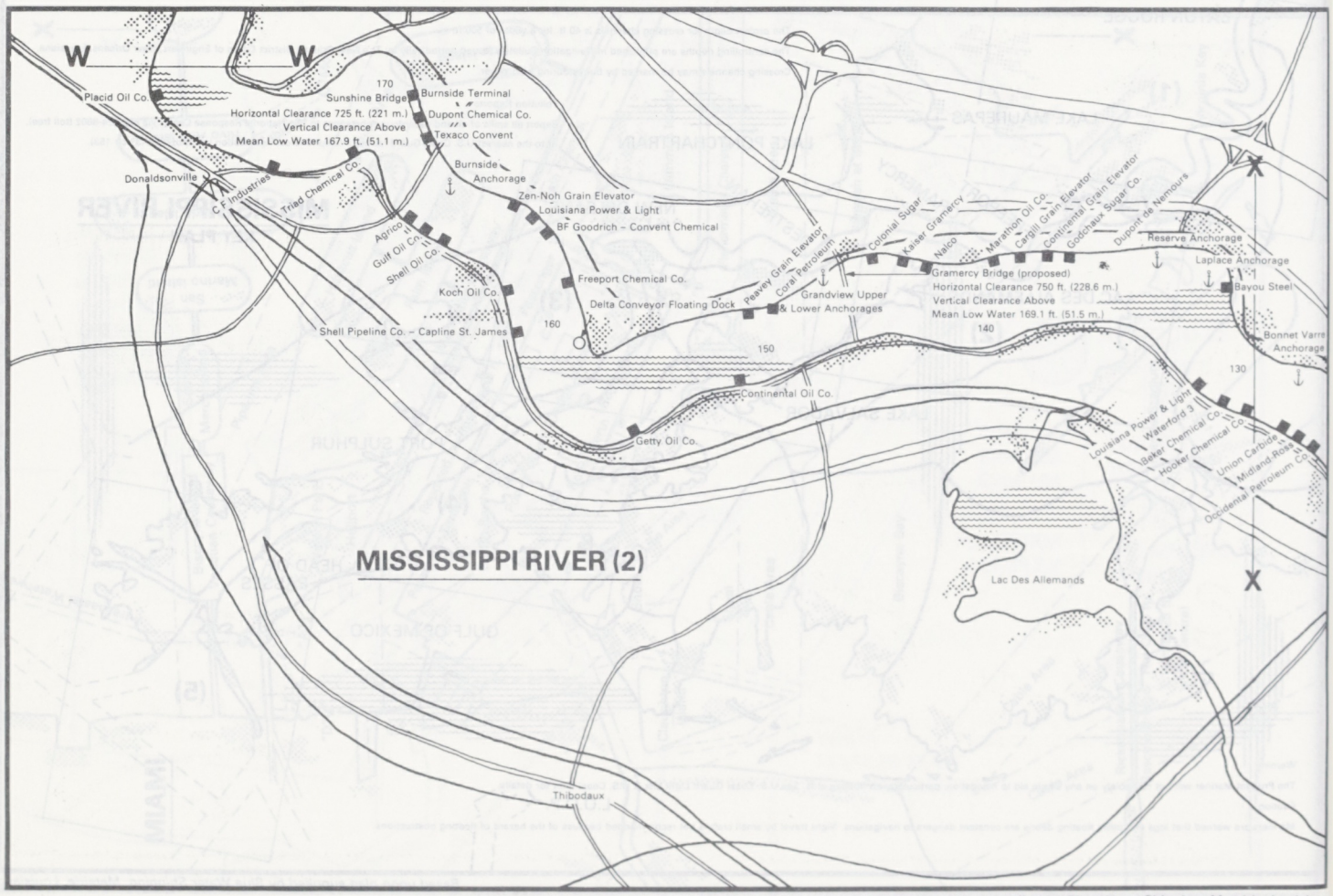




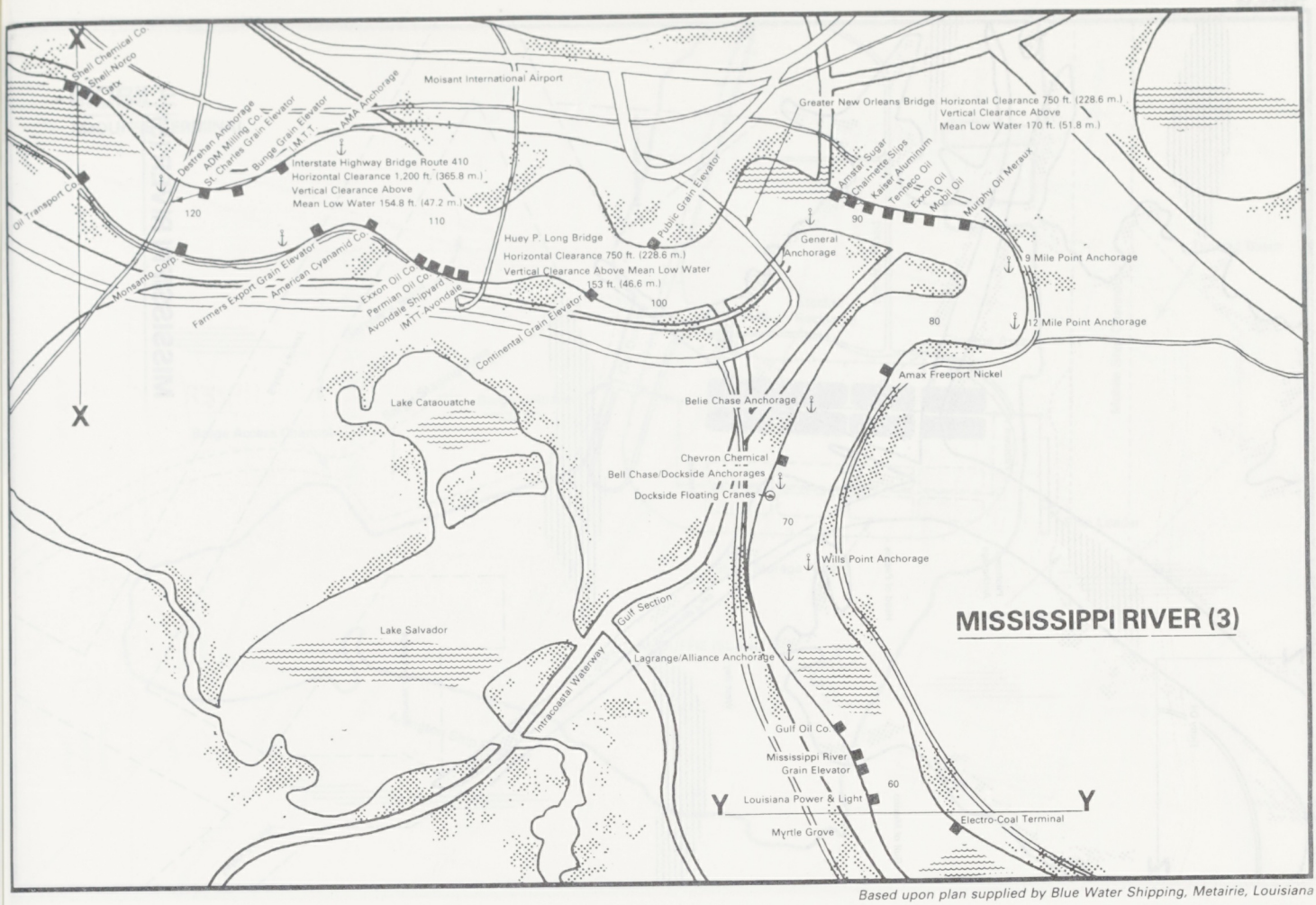
Based upon plan supplied by Blue Water Shipping, Metairie, Louisiana



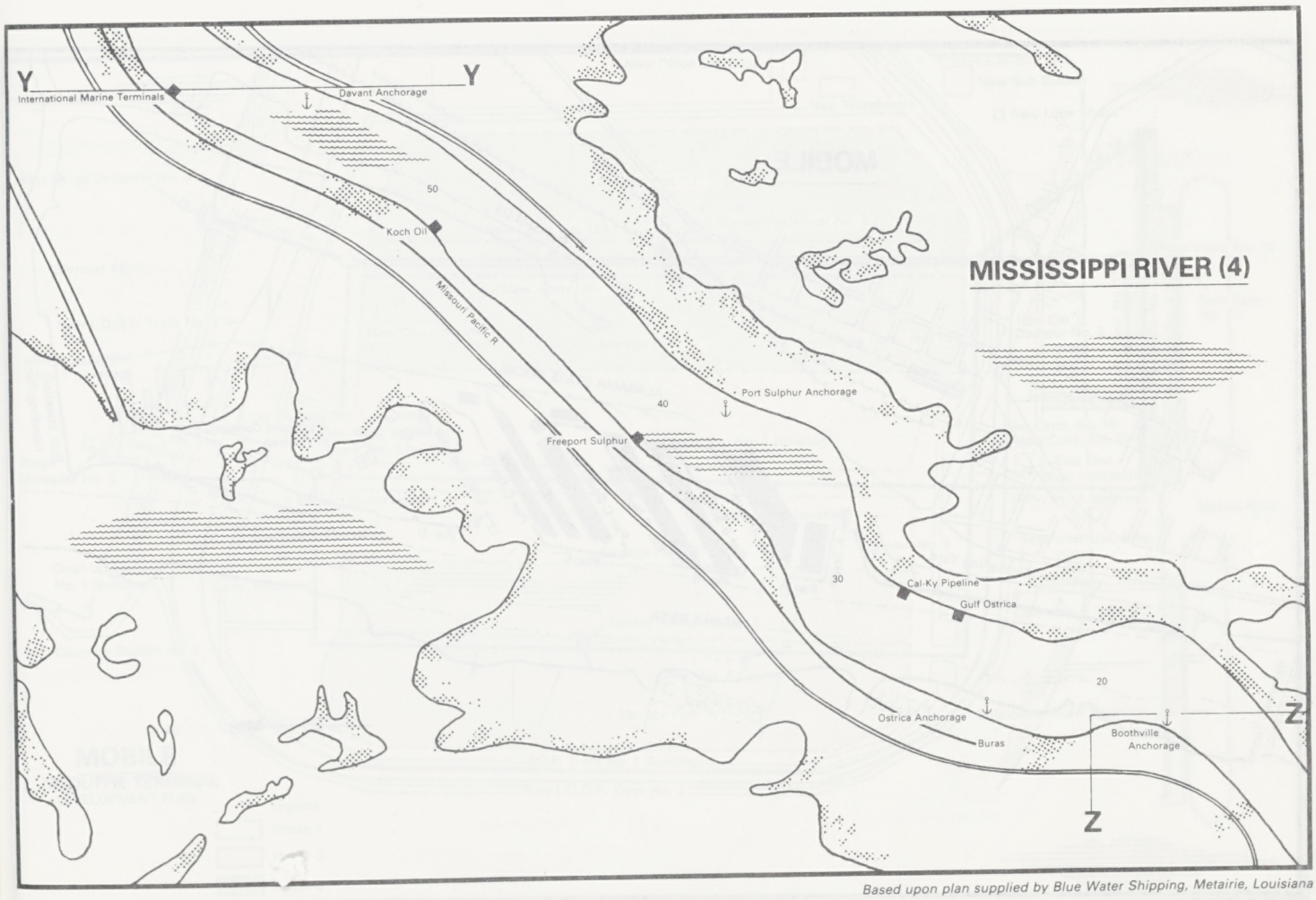
Based upon plan supplied by Blue Water Shipping, Metairie, Louisiana



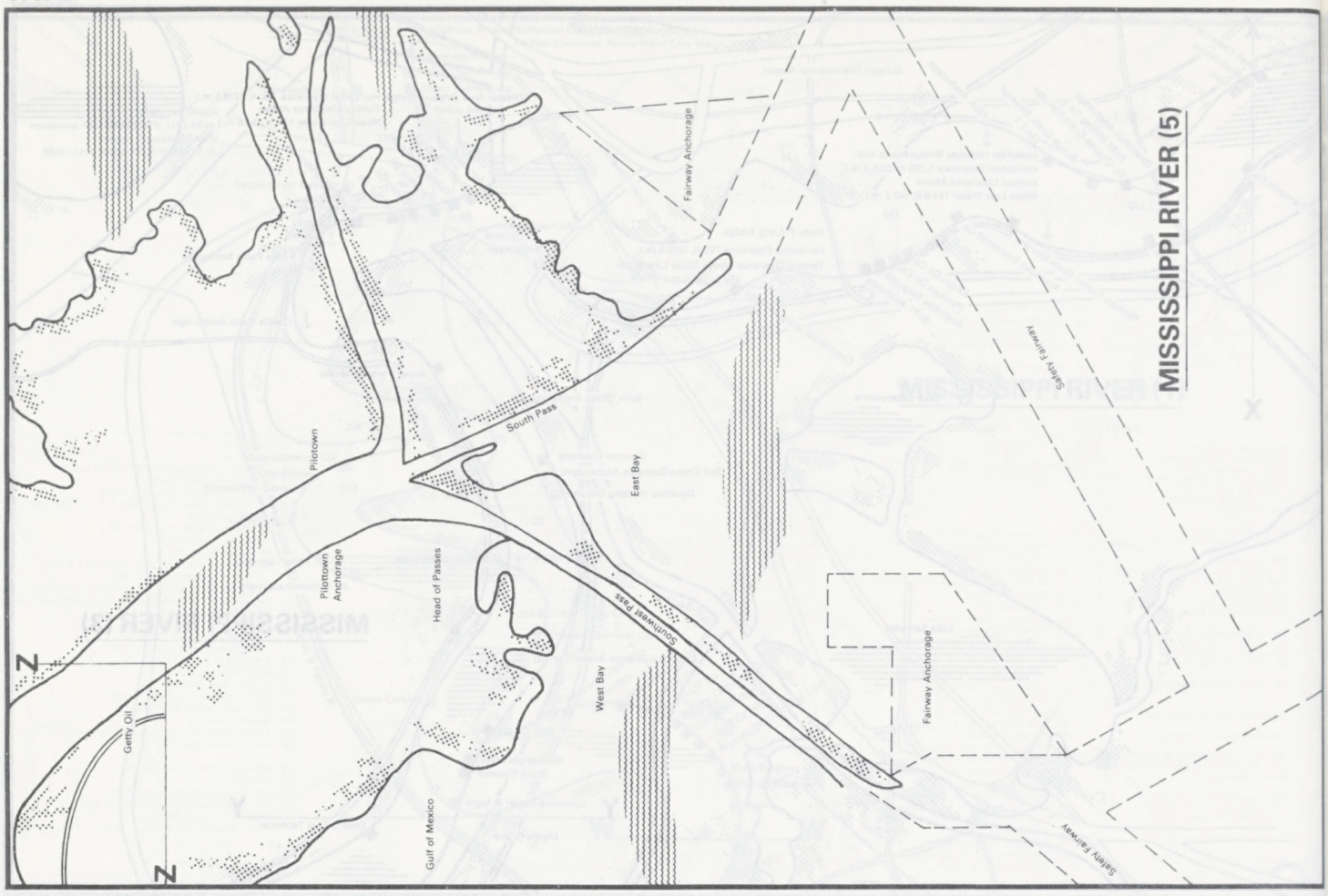
Based upon plan supplied by Blue Water Shipping, Metairie, Louisiana

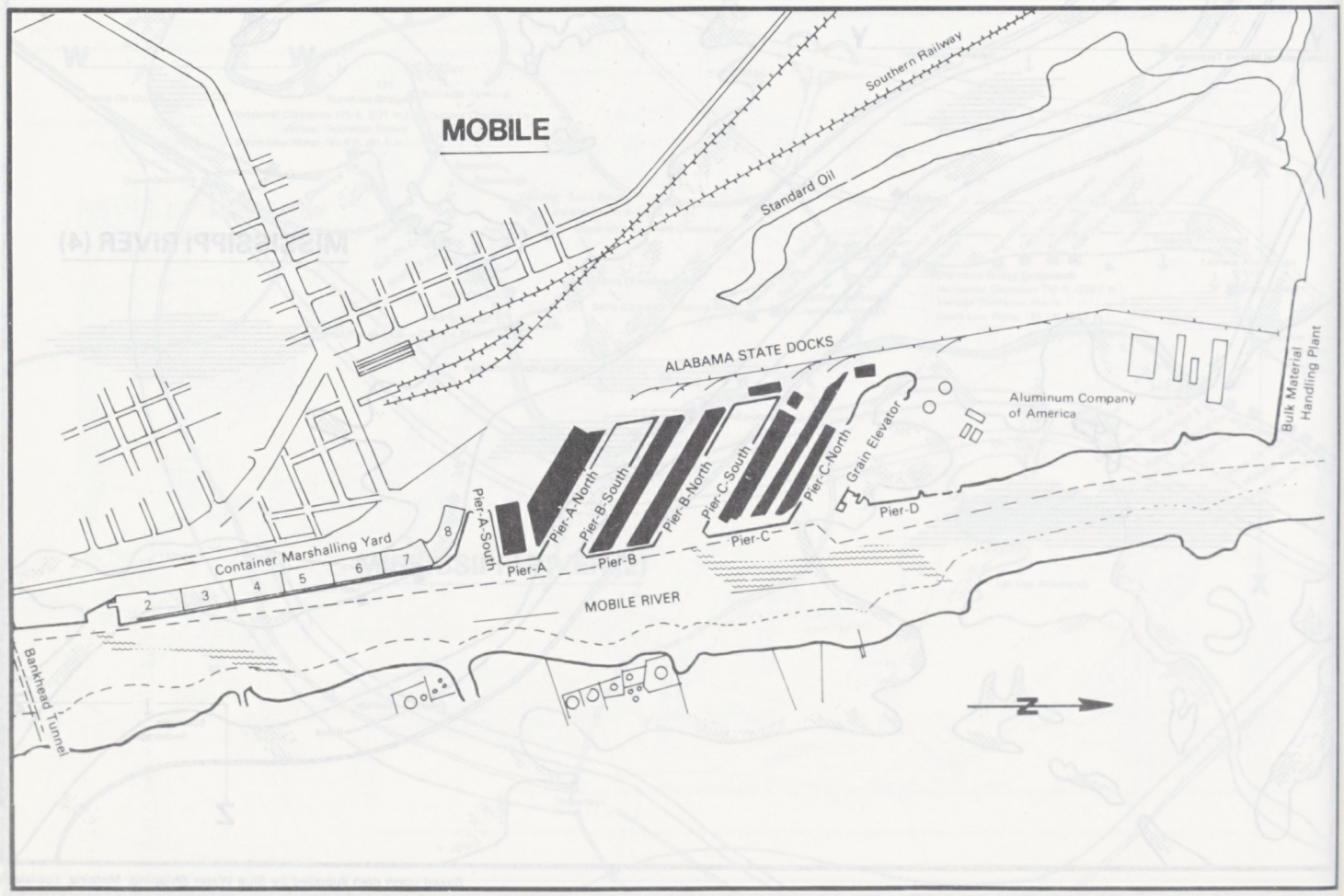


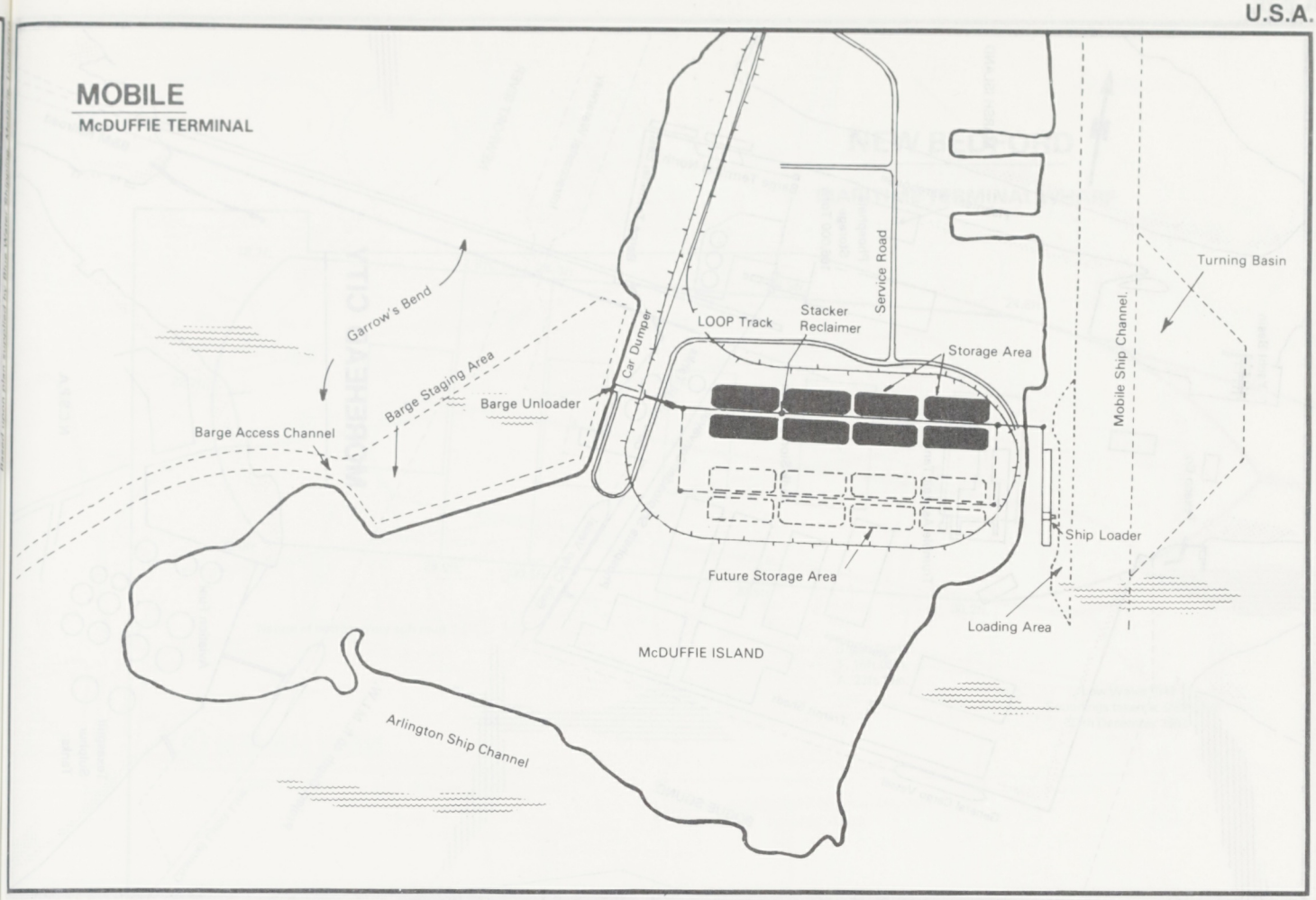
Based upon plan supplied by Blue Water Shipping, Metairie, Louisiana

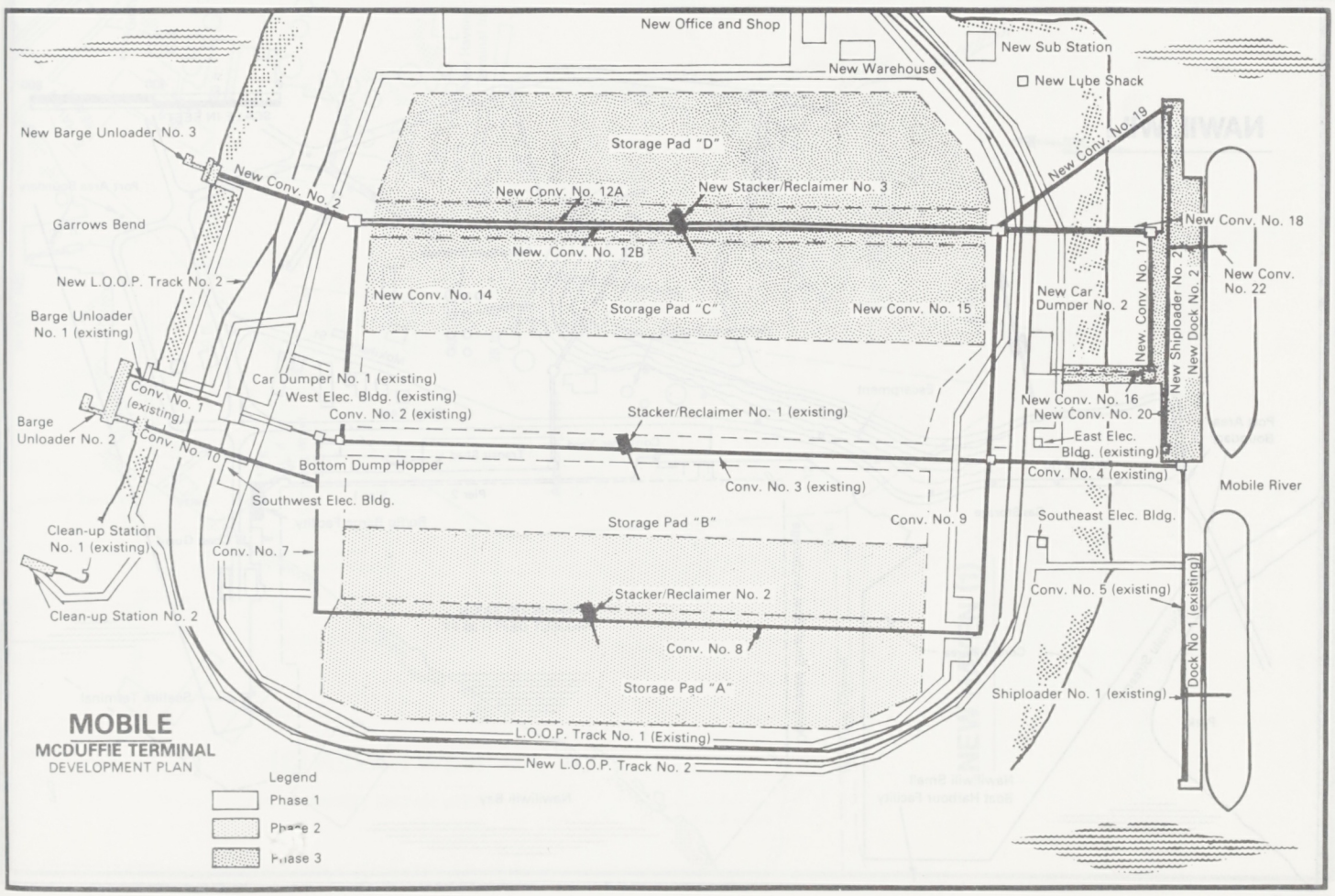


Based upon plan supplied by Blue Water Shipping, Metairie, Louisiana

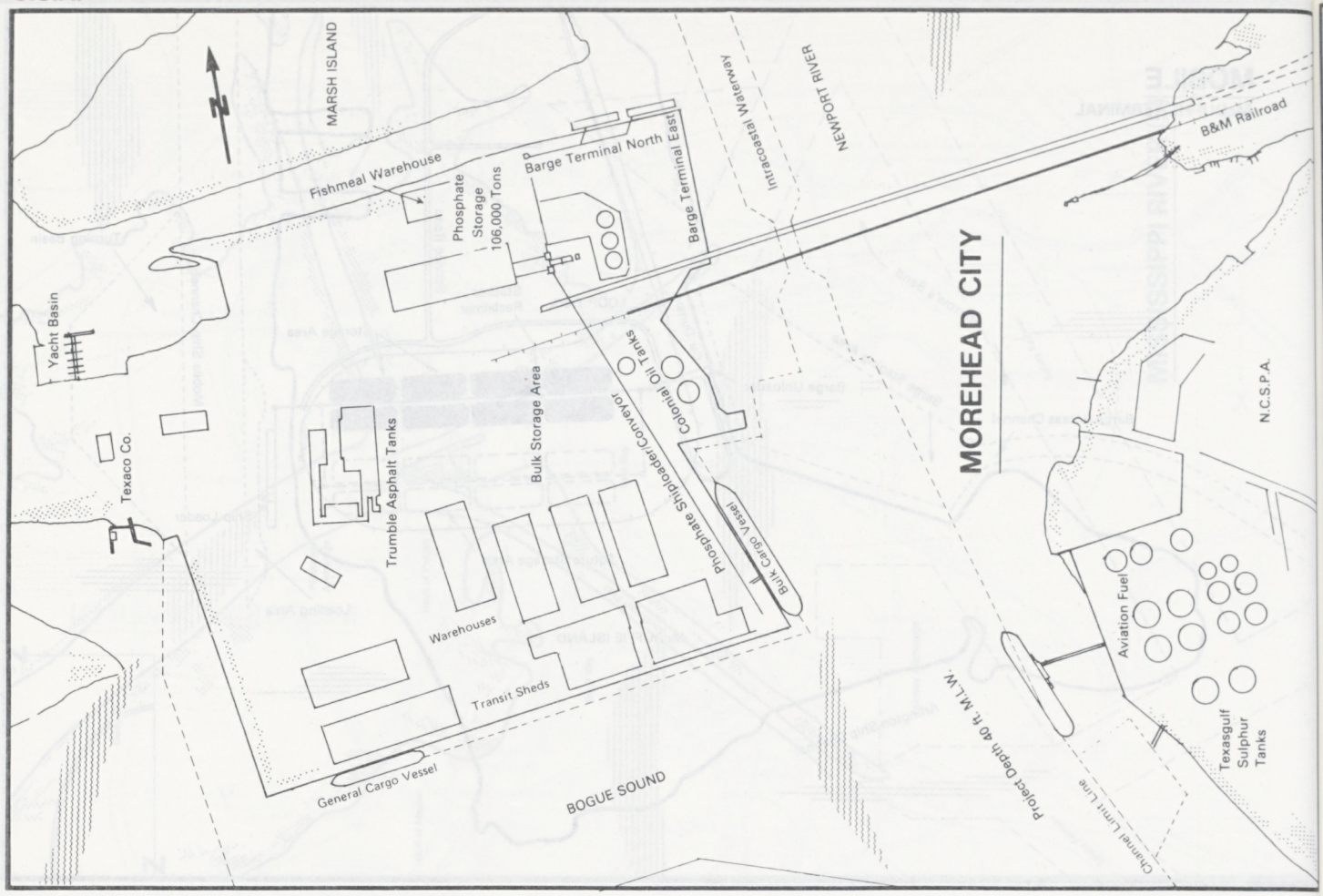

MISSISSIPPI RIVER (5)
Fairway Anchorage
Safety Fairway
South Pass
Pilotown
East Bay
Pilottown Anchorage
Head of Passes
Southwest Pass
West Bay
Fairway Anchorage
Safety Fairway
Gulf of Mexico
Getty Oil
N
N

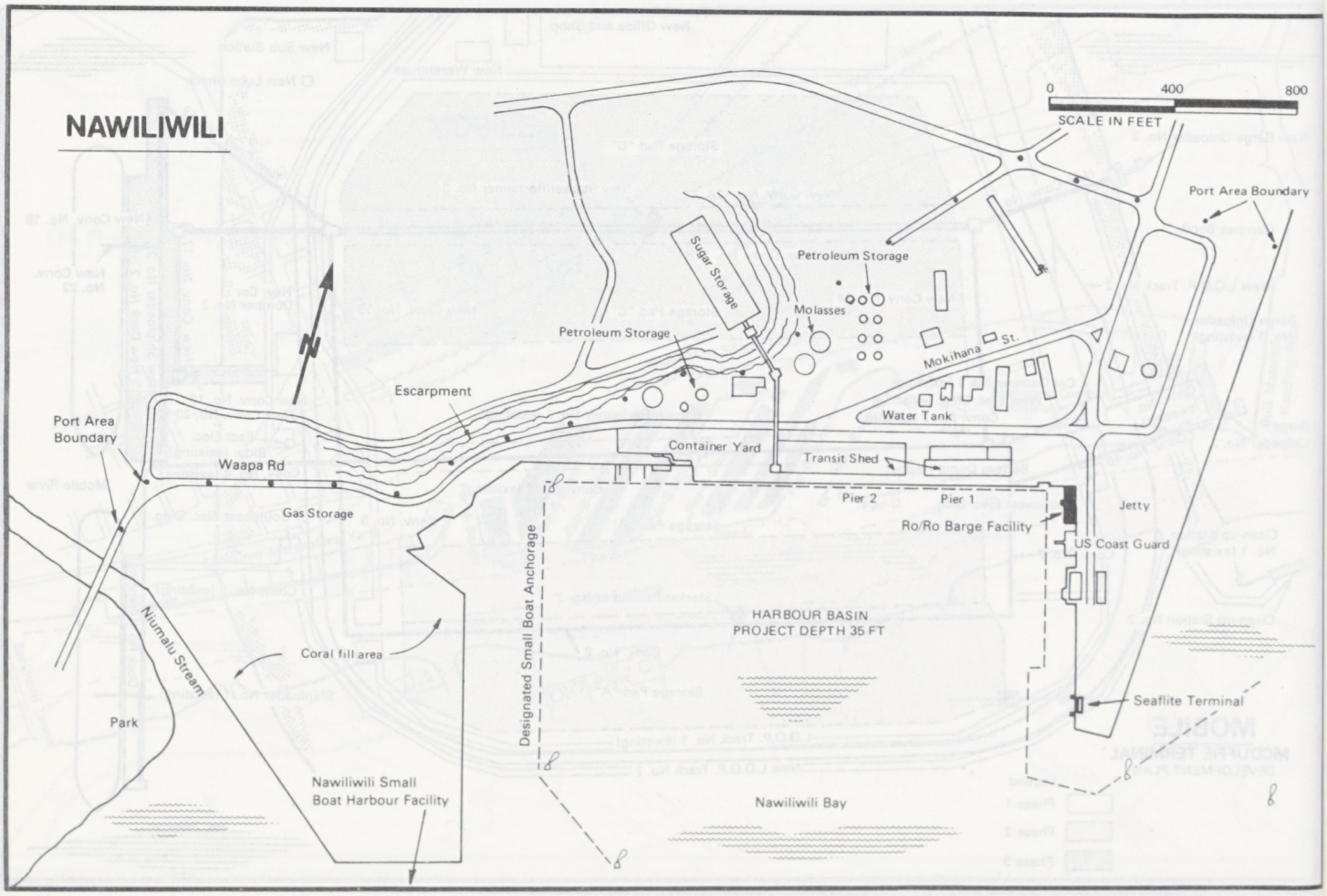

MOBILE
Southern Railway
Standard Oil
ALABAMA STATE DOCKS
Aluminum Company of America
Bulk Material Handling Plant
Grain Elevator
Pier-A-South
Pier-A-North
Pier-B-South
Pier-B-North
Pier-C-South
Pier-C-North
Pier-A
Pier-B
Pier-C
Pier-D
Container Marshalling Yard
2
3
4
5
6
7
8
MOBILE RIVER
Bankhead Tunnel
N


MOBILE
McDUFFIE TERMINAL
Garrow's Bend
Barge Staging Area
Barge Access Channel
Barge Unloader
Car Dumper
LOOP Track
Stacker Reclaimer
Service Road
Storage Area
Turning Basin
Mobile Ship Channel
Ship Loader
Future Storage Area
Loading Area
McDUFFIE ISLAND
Arlington Ship Channel


New Office and Shop
New Warehouse
New Sub Station
New Lube Shack
New Barge Unloader No. 3
New Conv. No. 2
Storage Pad "D"
New Conv. No. 12A
New Stacker/Reclaimer No. 3
New Conv. No. 19
Garrows Bend
New Conv. No. 18
New. Conv. No. 12B
New L.O.O.P. Track No. 2
New Conv. No. 14
Storage Pad "C"
New Conv. No. 15
New Car Dumper No. 2
New Conv. No. 17
New Shiploader No. 2
New Dock No. 2
New Conv. No. 22
Barge Unloader No. 1 (existing)
Car Dumper No. 1 (existing)
West Elec. Bldg. (existing)
Conv. No. 1 (existing)
Conv. No. 2 (existing)
Stacker/Reclaimer No. 1 (existing)
New Conv. No. 16
New Conv. No. 20
Barge Unloader No. 2
Conv. No. 10
East Elec. Bldg. (existing)
Bottom Dump Hopper
Conv. No. 4 (existing)
Mobile River
Conv. No. 3 (existing)
Southwest Elec. Bldg.
Southeast Elec. Bldg.
Storage Pad "B"
Conv. No. 9
Clean-up Station No. 1 (existing)
Conv. No. 7
Conv. No. 5 (existing)
Stacker/Reclaimer No. 2
Clean-up Station No. 2
Conv. No. 8
Dock No. 1 (existing)
Storage Pad "A"
Shiploader No. 1 (existing)
L.O.O.P. Track No. 1 (Existing)
New L.O.O.P. Track No. 2
MOBILE
MCDUFFIE TERMINAL
DEVELOPMENT PLAN
Legend
Phase 1
Phase 2
Phase 3

U.S.A.

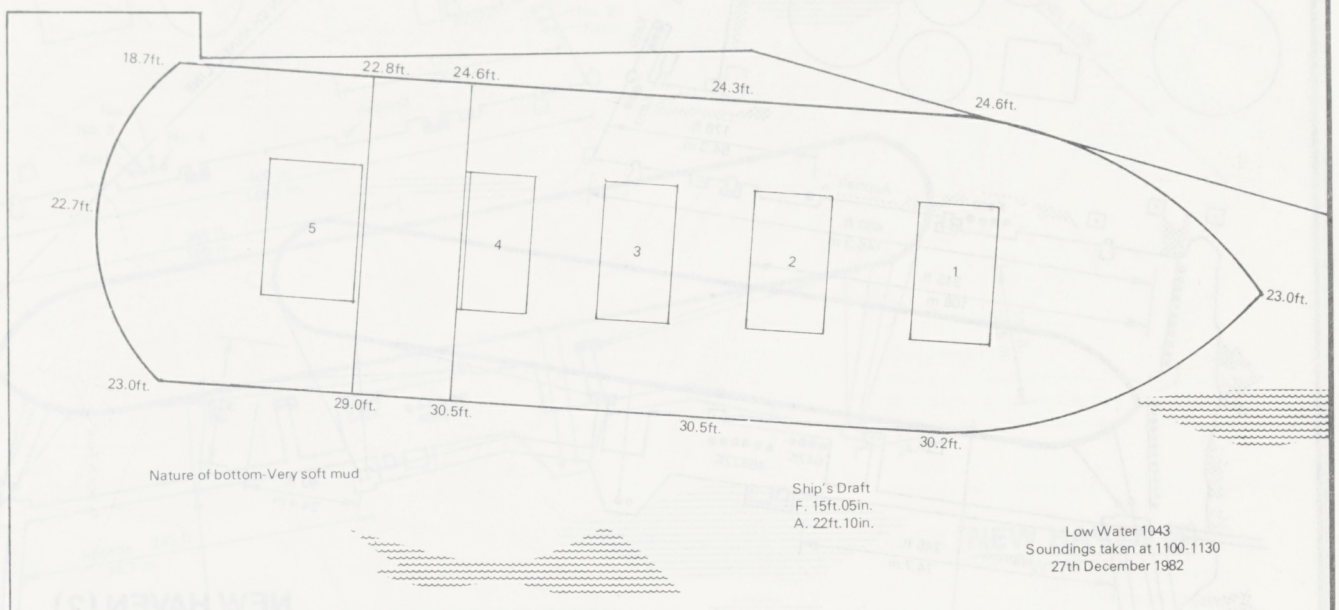

MARSH ISLAND
Fishmeal Warehouse
Phosphate Storage 106,000 Tons
Barge Terminal North
Barge Terminal East
Intracoastal Waterway
NEWPORT RIVER
B&M Railroad
MOREHEAD CITY
Yacht Basin
Texaco Co.
Trumble Asphalt Tanks
Bulk Storage Area
Colonial Oil Tanks
Phosphate Shiploader Conveyor
Bulk Cargo Vessel
N.C.S.P.A.
Aviation Fuel
Warehouses
Transit Sheds
General Cargo Vessel
BOGUE SOUND
Project Depth 40 ft M.L.W.
Channel Limit Line
Texasgulf Sulphur Tanks


NAWILIWILI
0
400
800
SCALE IN FEET
Port Area Boundary
Sugar Storage
Petroleum Storage
Molasses
Petroleum Storage
Mokihana St.
Escarpment
Water Tank
Port Area Boundary
Container Yard
Transit Shed
Waapa Rd
Pier 2
Pier 1
Jetty
Gas Storage
Ro/Ro Barge Facility
US Coast Guard
Designated Small Boat Anchorage
HARBOUR BASIN
PROJECT DEPTH 35 FT
Niumalu Stream
Coral fill area
Seaflite Terminal
Park
Nawiliwili Small Boat Harbour Facility
Nawiliwili Bay

P1044

NEW BEDFORD

MARITIME TERMINAL WHARF

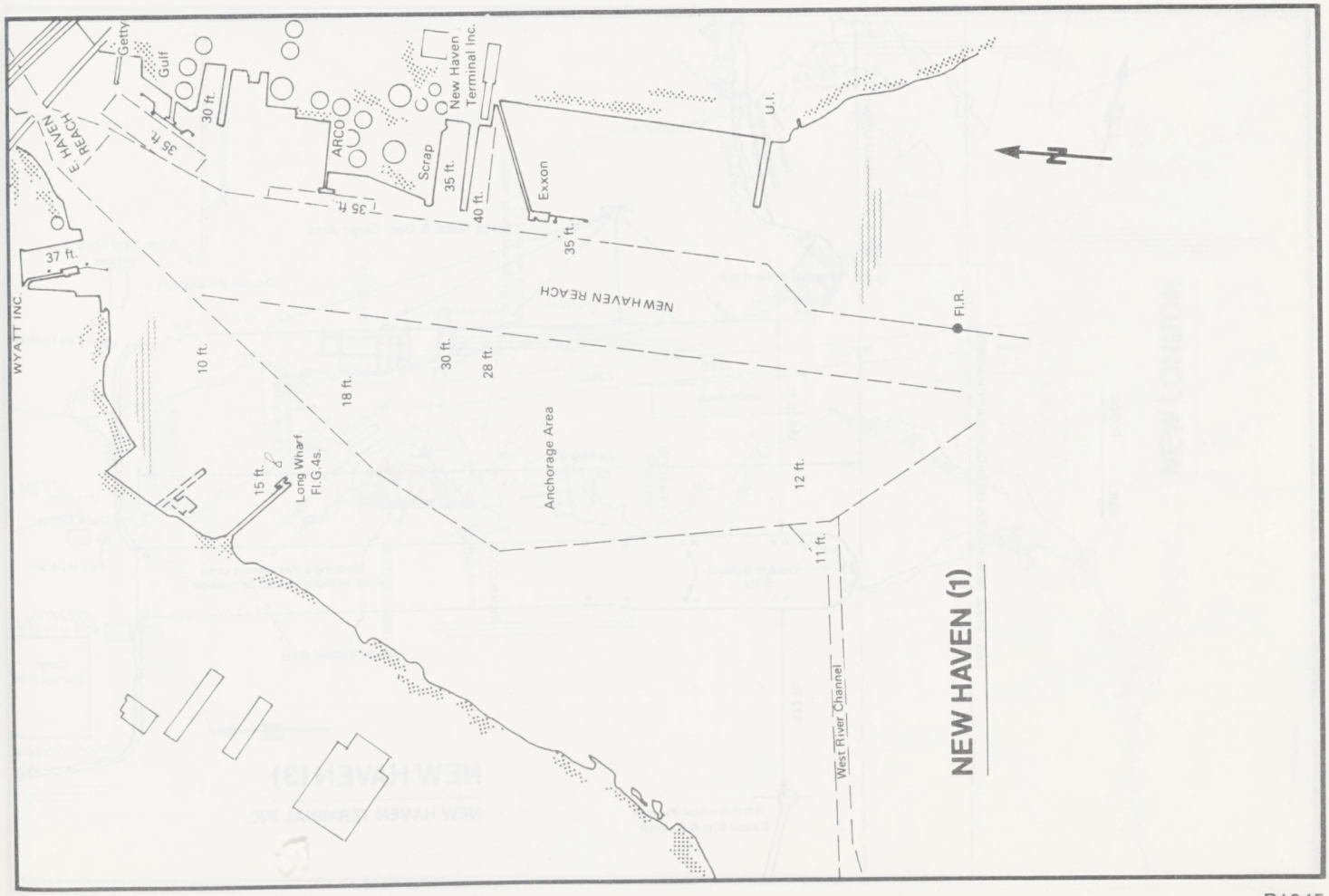


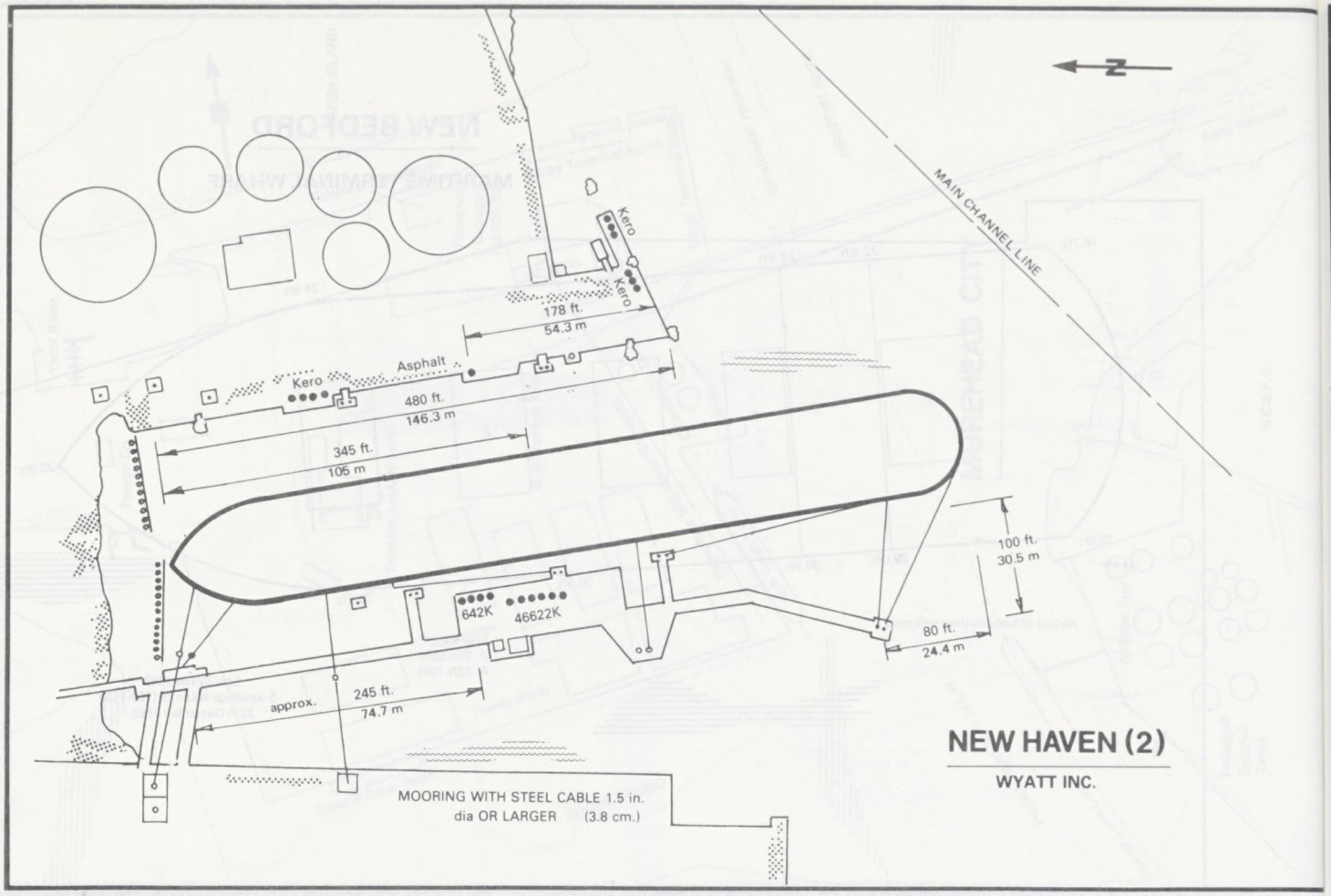
Nature of bottom-Very soft mud

Ship's Draft
F. 15ft.05in.
A. 22ft.10in.

Low Water 1043
Soundings taken at 1100-1130
27th December 1982

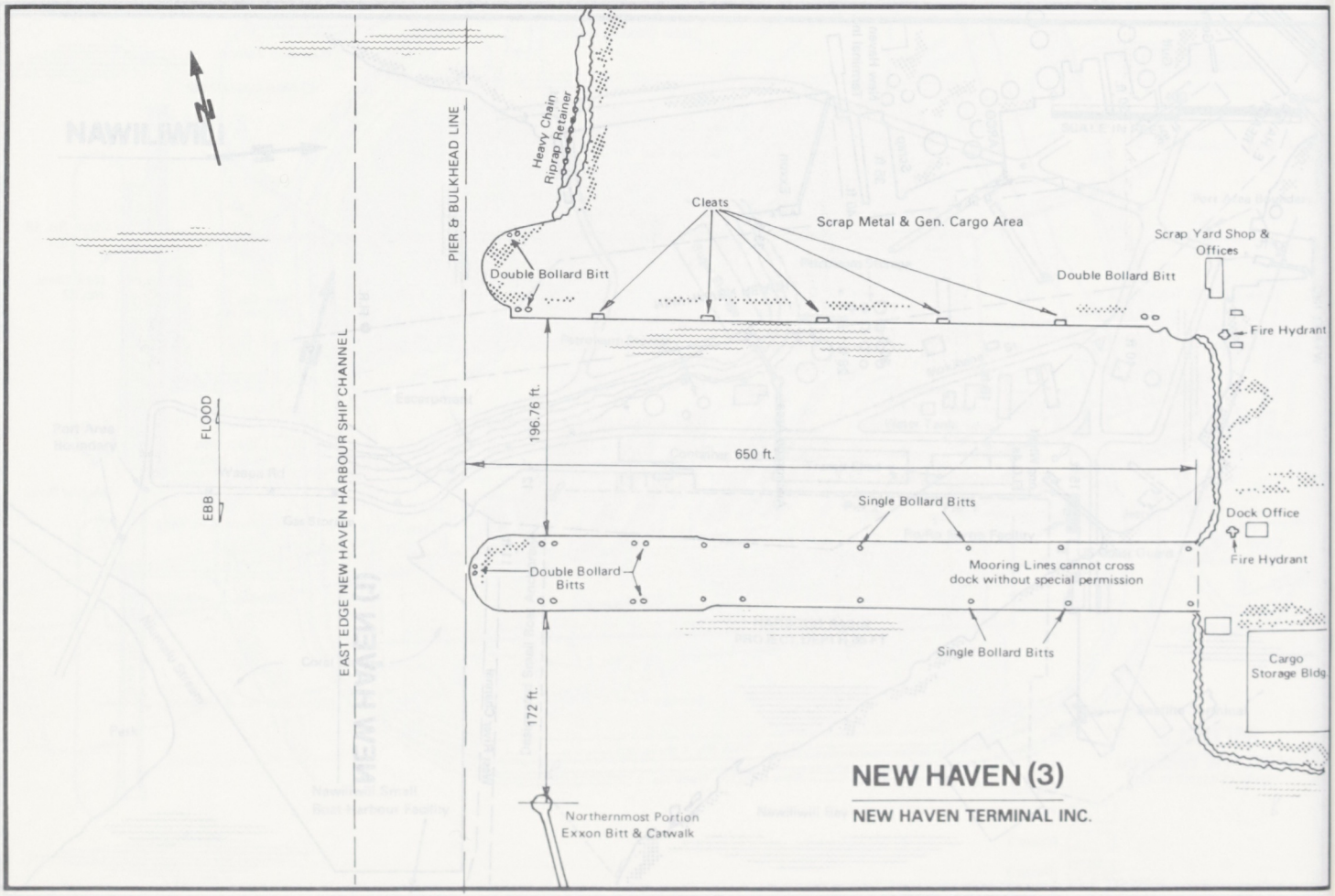
"Plan supplied by Ship's Master"





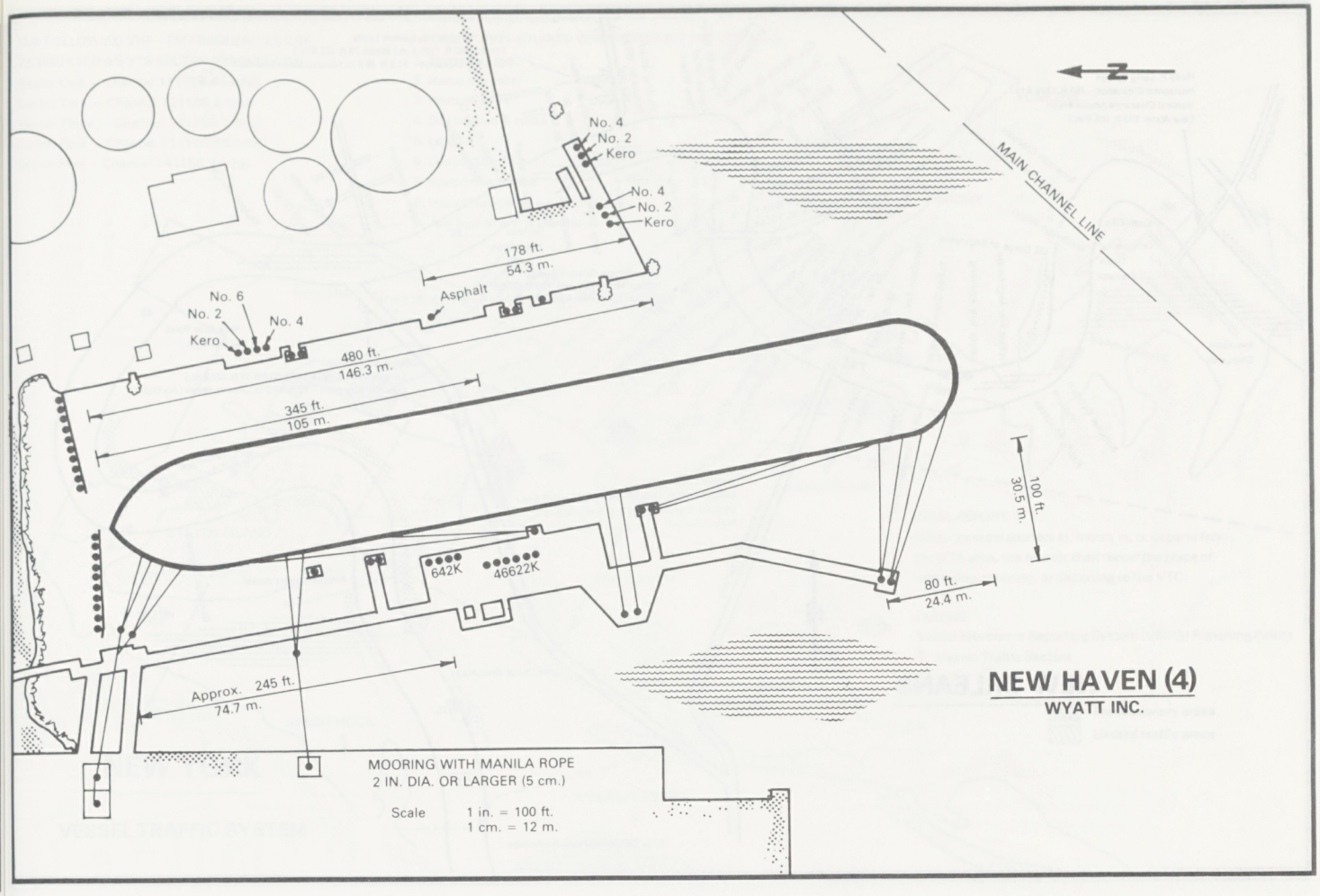
NEW HAVEN (2)

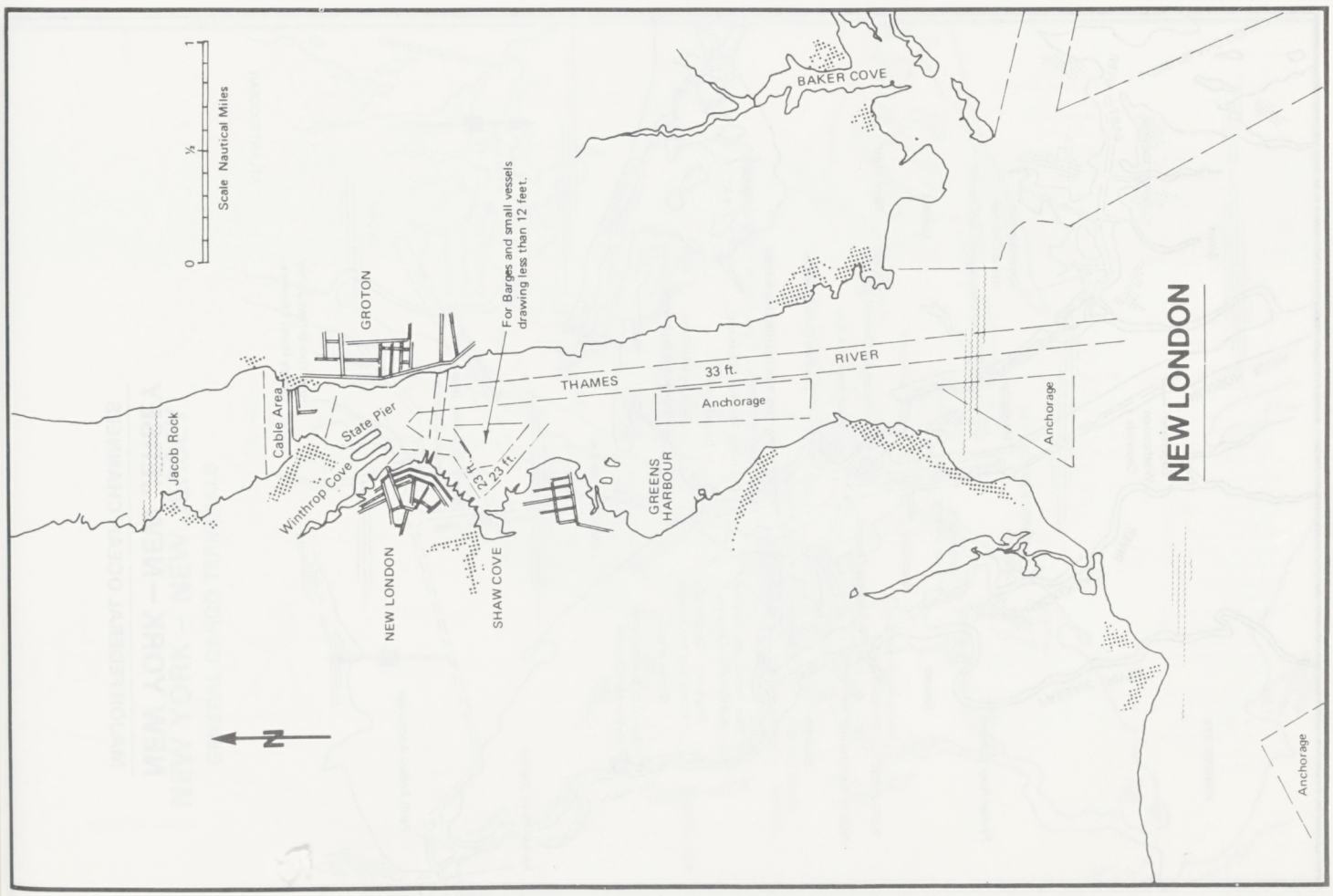
WYATT INC.

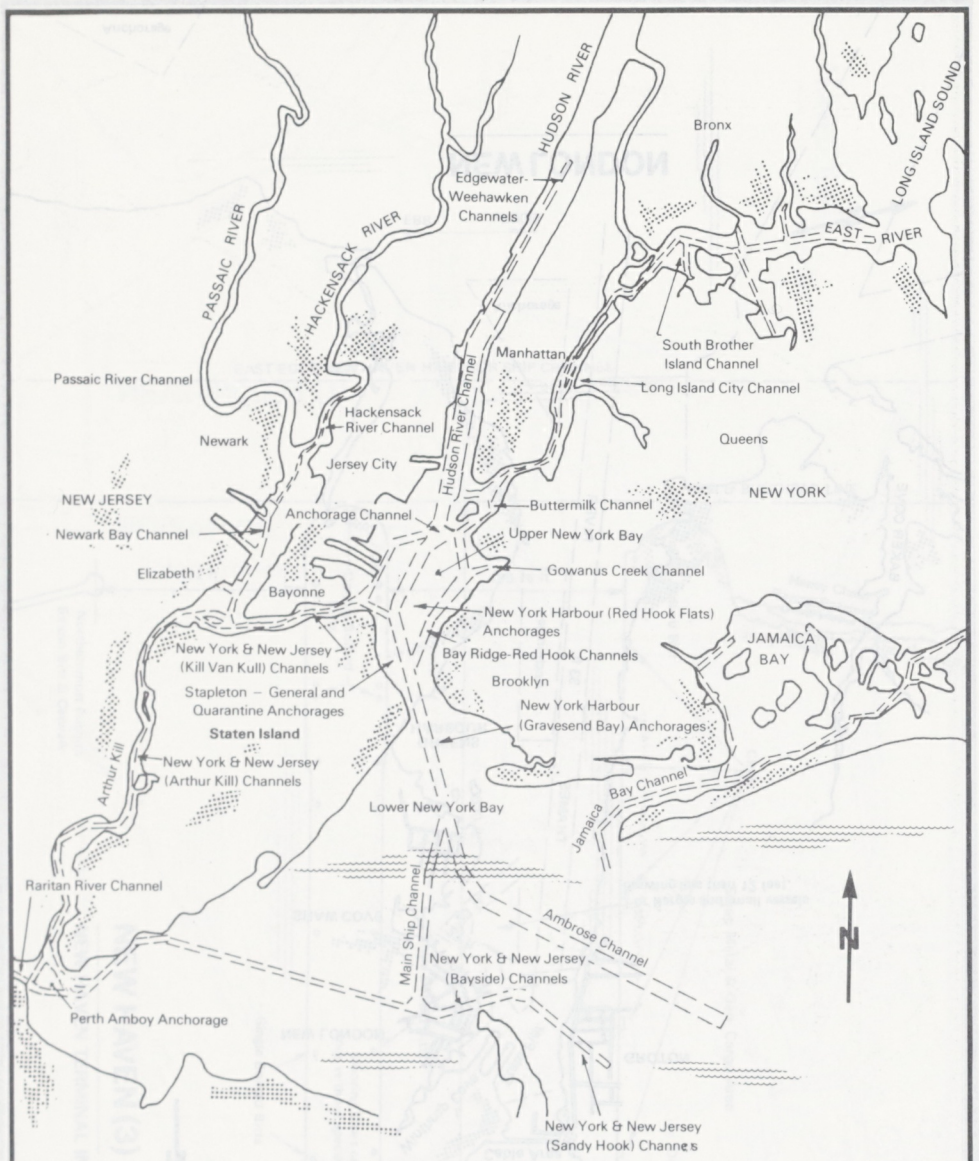


NEW HAVEN (3)

NEW HAVEN TERMINAL INC.


N
MAIN CHANNEL LINE
No. 4
No. 2
Kero
No. 4
No. 2
Kero
178 ft.
54.3 m.
Asphalt
No. 6
No. 2
Kero
No. 4
480 ft.
146.3 m.
345 ft.
105 m.
100 ft.
30.5 m.
642K
46622K
80 ft.
24.4 m.
Approx. 245 ft.
74.7 m.
MOORING WITH MANILA ROPE
2 IN. DIA. OR LARGER (5 cm.)
Scale 1 in. = 100 ft.
1 cm. = 12 m.
NEW HAVEN (4)
WYATT INC.

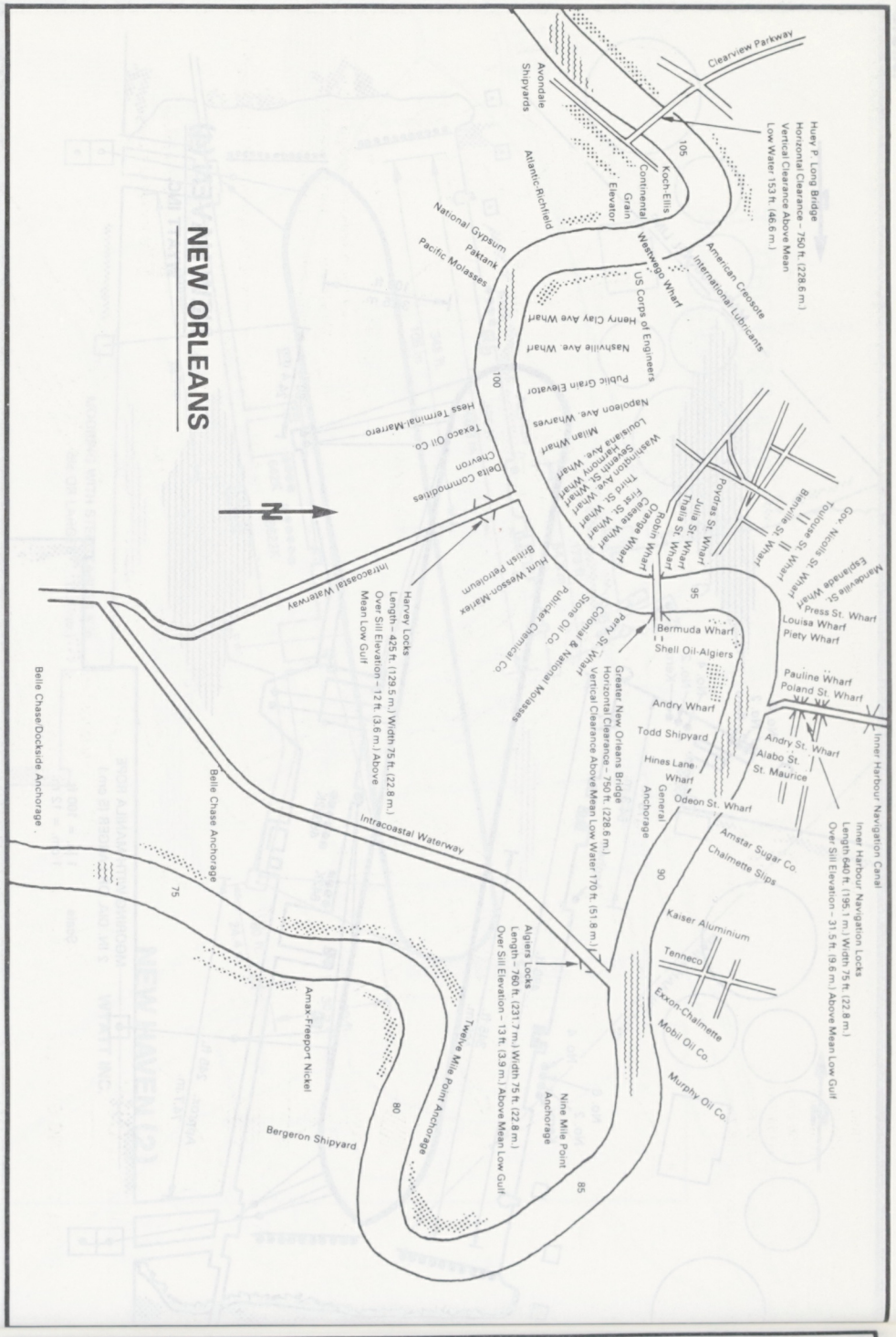

Scale Nautical Miles
0
½
1
BAKER COVE
For Barges and small vessels drawing less than 12 feet.
GROTON
THAMES
33 ft.
RIVER
Anchorage
Anchorage
NEW LONDON
Cable Area
State Pier
Jacob Rock
Winthrop Cove
23 ft.
GREENS HARBOUR
NEW LONDON
SHAW COVE
N
Anchorage

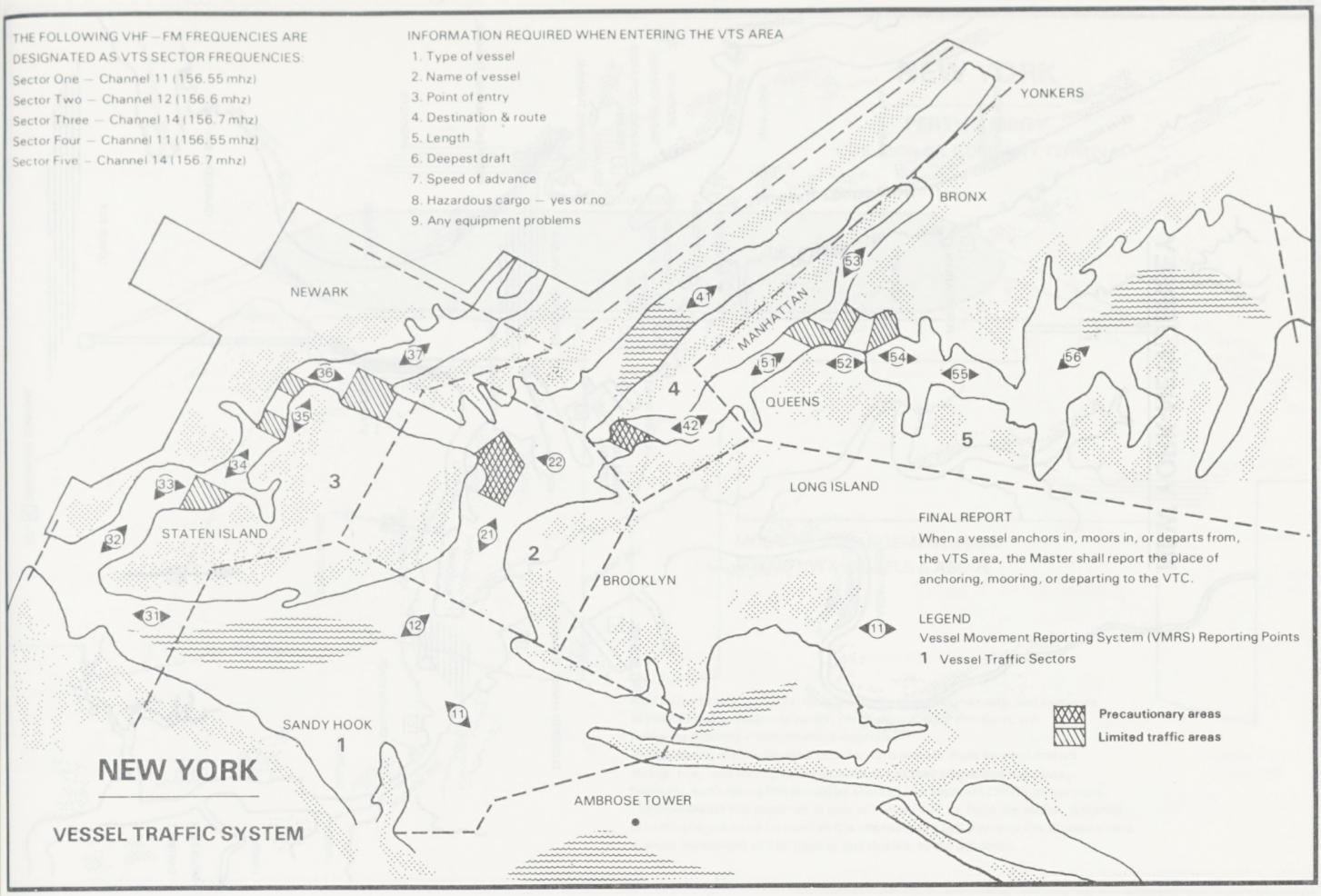


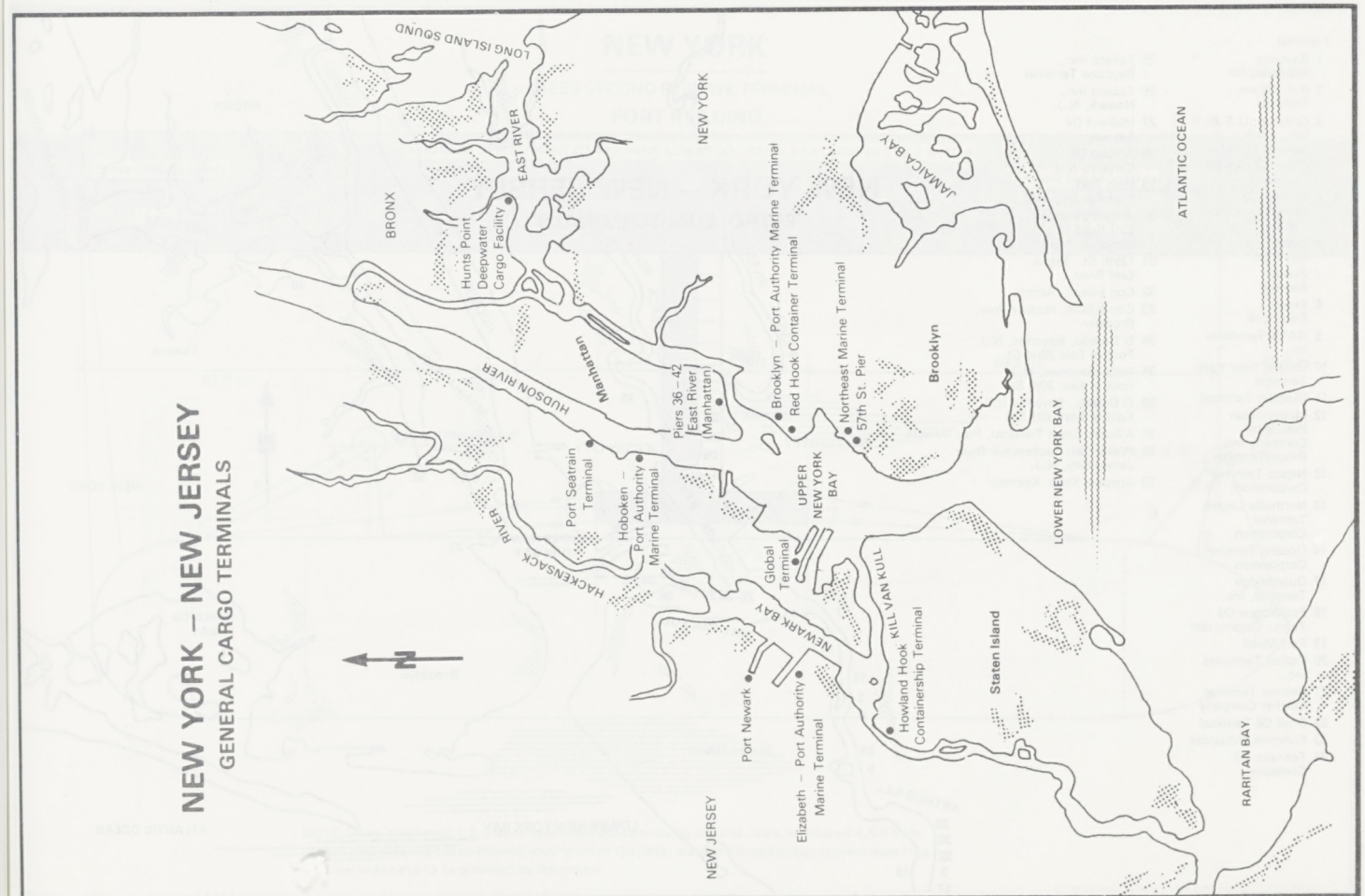
NEW YORK – NEW JERSEY

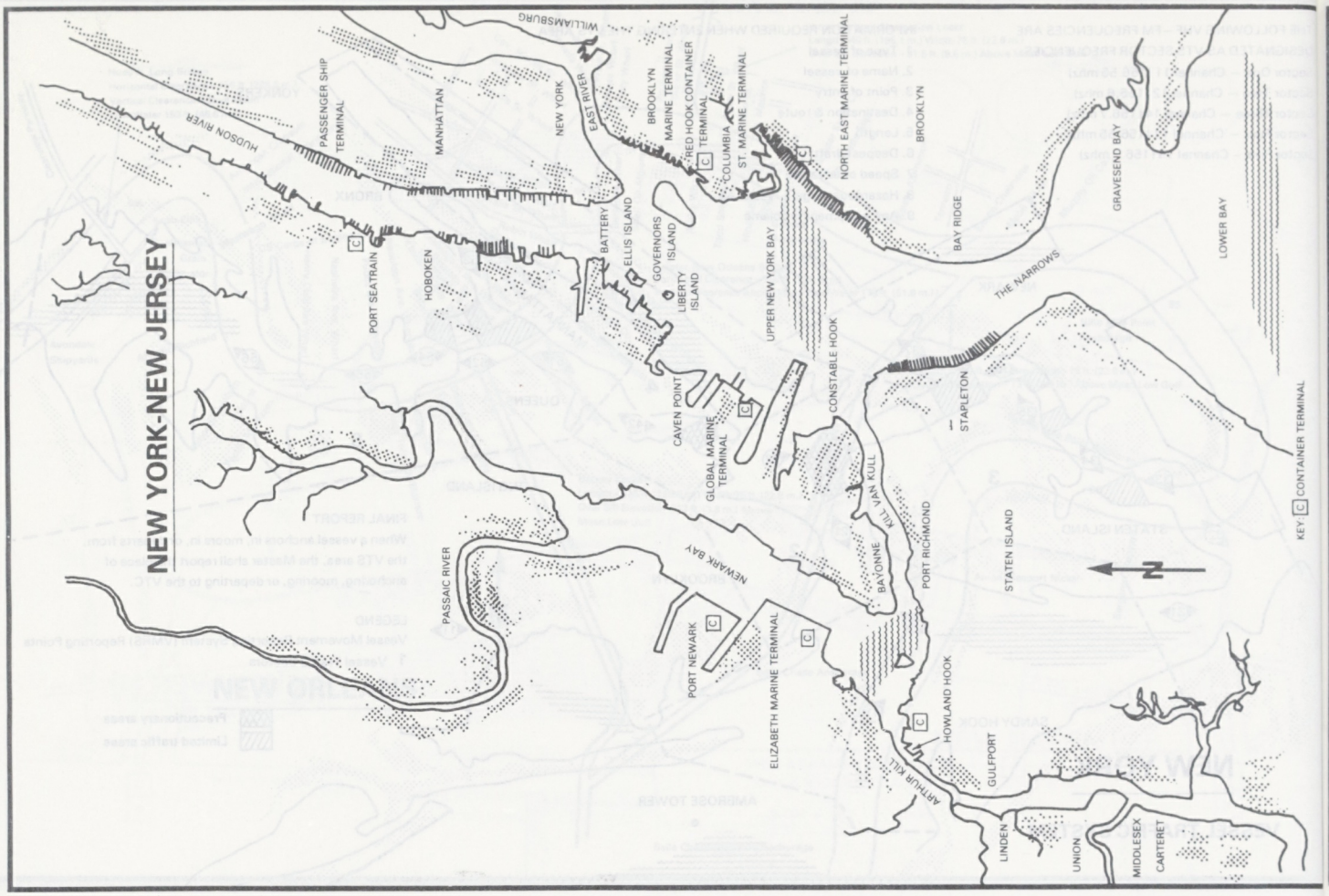
MAJOR FEDERAL OCEAN CHANNELS

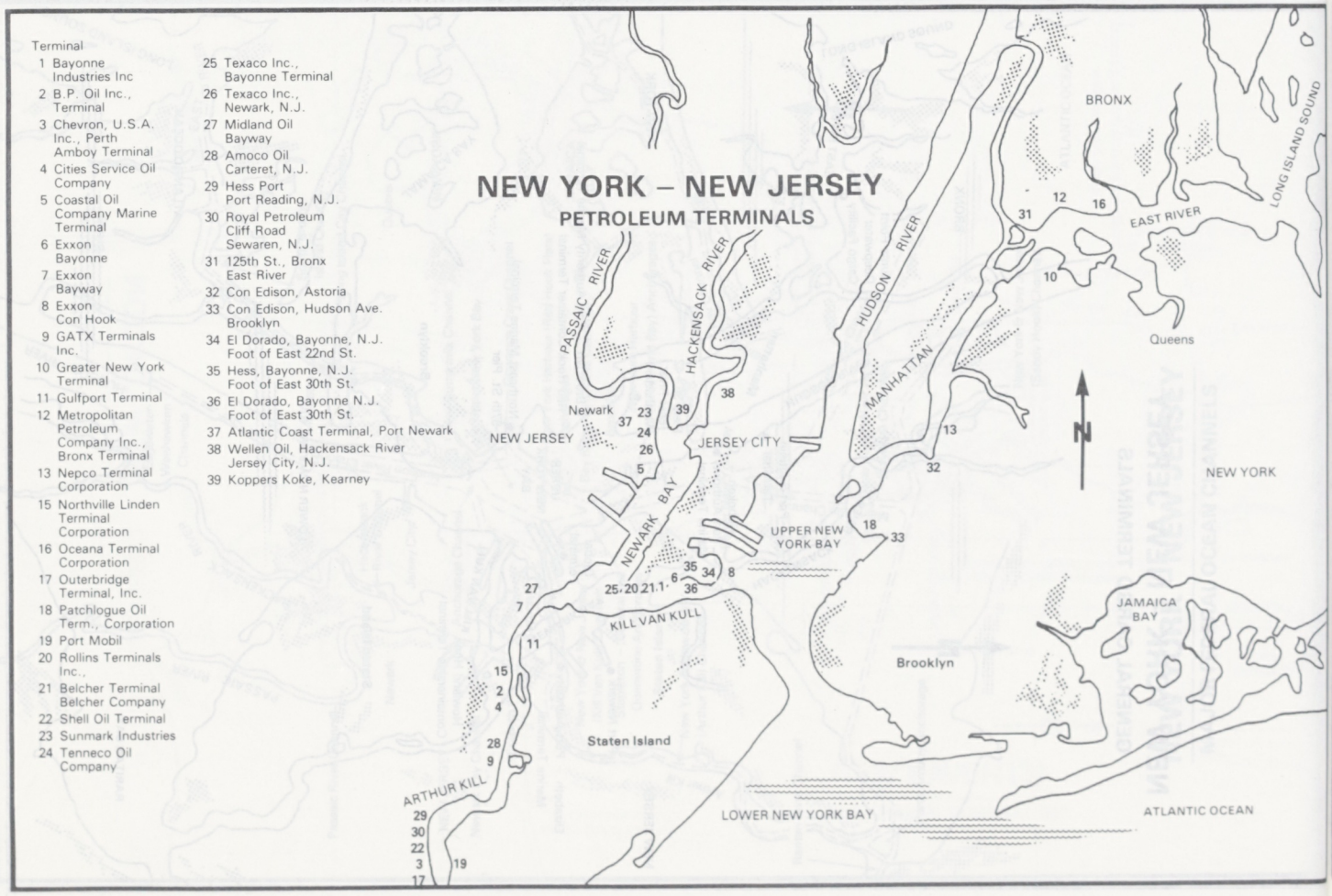
U.S.A.




THE FOLLOWING VHF – FM FREQUENCIES ARE DESIGNATED AS VTS SECTOR FREQUENCIES:
Sector One – Channel 11 (156.55 mhz)
Sector Two – Channel 12 (156.6 mhz)
Sector Three – Channel 14 (156.7 mhz)
Sector Four – Channel 11 (156.55 mhz)
Sector Five – Channel 14 (156.7 mhz)
INFORMATION REQUIRED WHEN ENTERING THE VTS AREA
1. Type of vessel
2. Name of vessel
3. Point of entry
4. Destination & route
5. Length
6. Deepest draft
7. Speed of advance
8. Hazardous cargo – yes or no
9. Any equipment problems
YONKERS
BRONX
NEWARK
MANHATTAN
QUEENS
LONG ISLAND
STATEN ISLAND
BROOKLYN
SANDY HOOK
AMBROSE TOWER
FINAL REPORT
When a vessel anchors in, moors in, or departs from, the VTS area, the Master shall report the place of anchoring, mooring, or departing to the VTC.
LEGEND
Vessel Movement Reporting System (VMRS) Reporting Points
1 Vessel Traffic Sectors
Precautionary areas
Limited traffic areas
NEW YORK
VESSEL TRAFFIC SYSTEM


NEW YORK – NEW JERSEY
GENERAL CARGO TERMINALS
LONG ISLAND SOUND
EAST RIVER
NEW YORK
BRONX
Hunts Point Deepwater Cargo Facility
JAMAICA BAY
ATLANTIC OCEAN
HUDSON RIVER
Manhattan
Piers 36 – 42 East River (Manhattan)
Brooklyn – Port Authority Marine Terminal
Red Hook Container Terminal
Northeast Marine Terminal
57th St. Pier
Brooklyn
LOWER NEW YORK BAY
Port Seatrain Terminal
Hoboken – Port Authority Marine Terminal
HACKENSACK RIVER
UPPER NEW YORK BAY
Global Terminal
NEWARK BAY
KILL VAN KULL
Howland Hook Containership Terminal
Staten Island
Port Newark
Elizabeth – Port Authority Marine Terminal
NEW JERSEY
RARITAN BAY
N





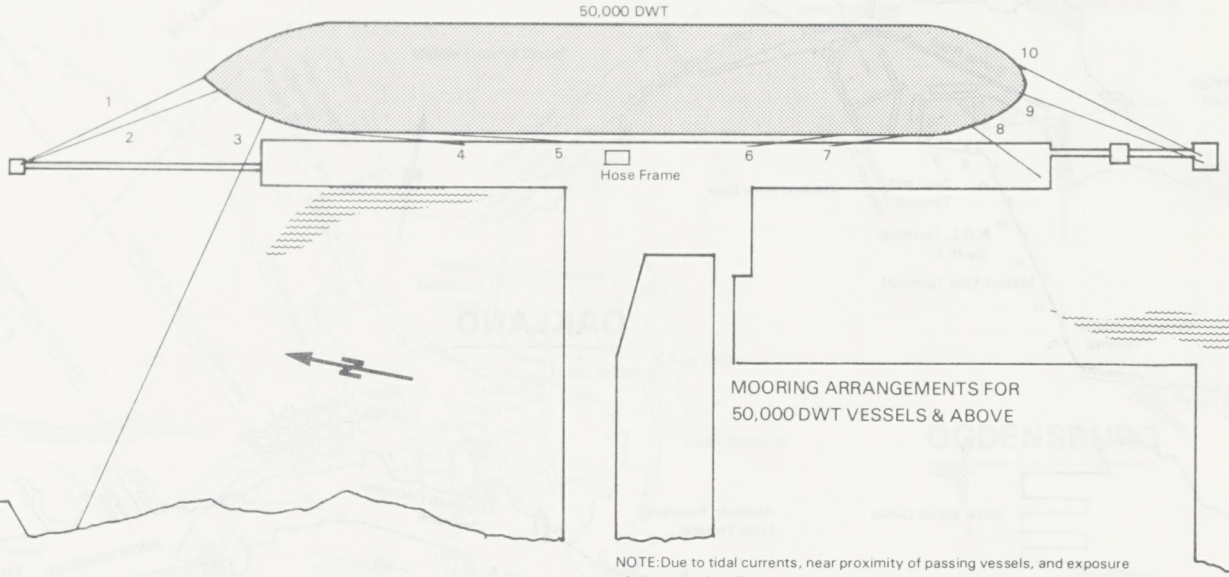
Terminal

1 Bayonne Industries Inc
2 B.P. Oil Inc., Terminal
3 Chevron, U.S.A. Inc., Perth Amboy Terminal
4 Cities Service Oil Company
5 Coastal Oil Company Marine Terminal
6 Exxon Bayonne
7 Exxon Bayway
8 Exxon Con Hook
9 GATX Terminals Inc.
10 Greater New York Terminal
11 Gulfport Terminal
12 Metropolitan Petroleum Company Inc., Bronx Terminal
13 Nepco Terminal Corporation
15 Northville Linden Terminal Corporation
16 Oceana Terminal Corporation
17 Outerbridge Terminal, Inc.
18 Patchlogue Oil Term., Corporation
19 Port Mobil
20 Rollins Terminals Inc.,
21 Belcher Terminal Belcher Company
22 Shell Oil Terminal
23 Sunmark Industries
24 Tenneco Oil Company
25 Texaco Inc., Bayonne Terminal
26 Texaco Inc., Newark, N.J.
27 Midland Oil Bayway
28 Amoco Oil Carteret, N.J.
29 Hess Port Port Reading, N.J.
30 Royal Petroleum Cliff Road Sewaren, N.J.
31 125th St., Bronx East River
32 Con Edison, Astoria
33 Con Edison, Hudson Ave. Brooklyn
34 El Dorado, Bayonne, N.J. Foot of East 22nd St.
35 Hess, Bayonne, N.J. Foot of East 30th St.
36 El Dorado, Bayonne N.J. Foot of East 30th St.
37 Atlantic Coast Terminal, Port Newark
38 Wellen Oil, Hackensack River Jersey City, N.J.
39 Koppers Koke, Kearney

NEW YORK

PERTH AMBOY

CHEVRON OIL COMPANY TERMINAL



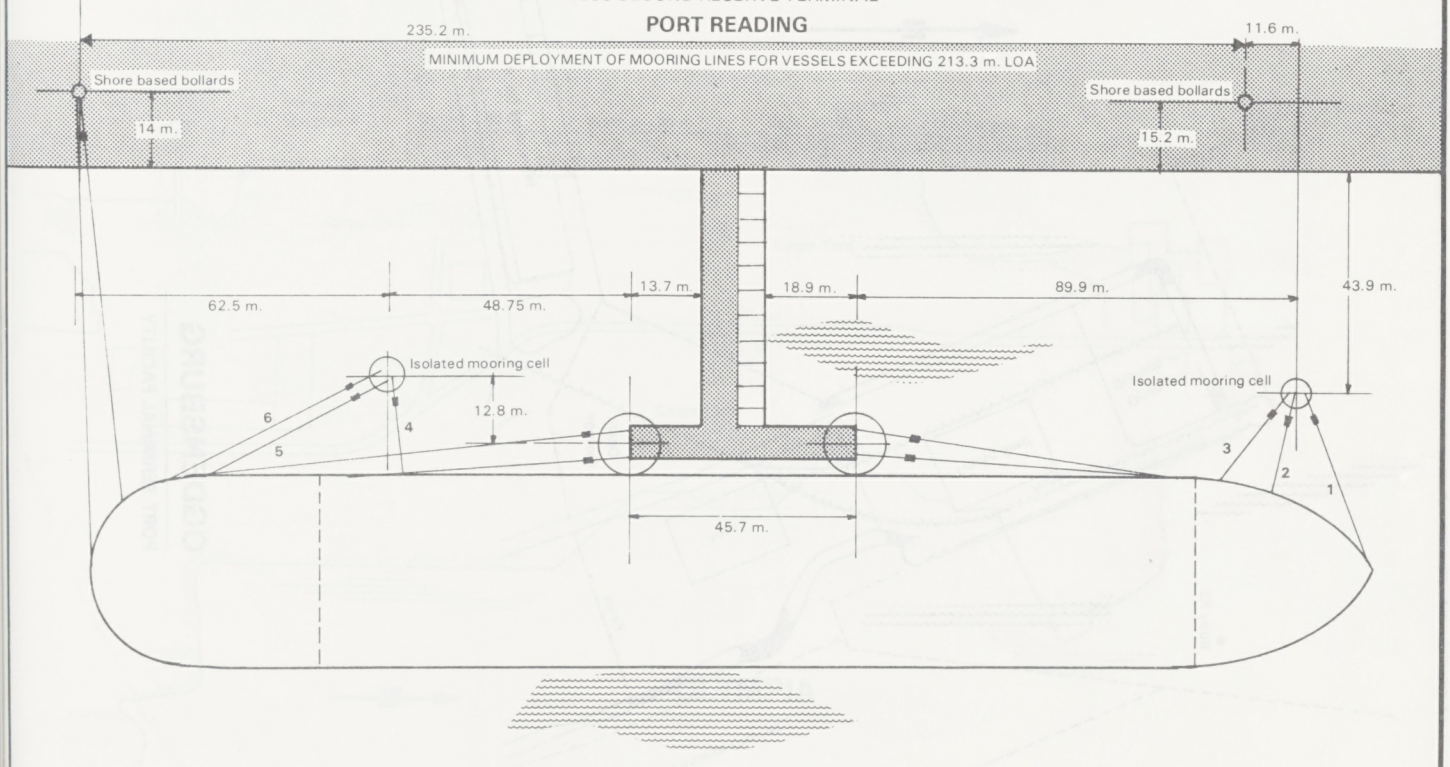
MOORING ARRANGEMENTS FOR
50,000 DWT VESSELS & ABOVE

NOTE:Due to tidal currents, near proximity of passing vessels, and exposure of your vessel to Westerly winds, particularly in light condition, the following mooring arrangement is required.
Double spring lines to be used both forward and aft. Both forward and aft springs may lead through the same chocks at their respective locations, however, each spring line should be secured to a separate bollard on the dock.
The bow breast line deadman is approximately 137 m. from the vessel. A manila or synthetic line must be used as it is impossible to pull a wire to the shoreline here. A shore messenger will be used to pull this line to the deadman.

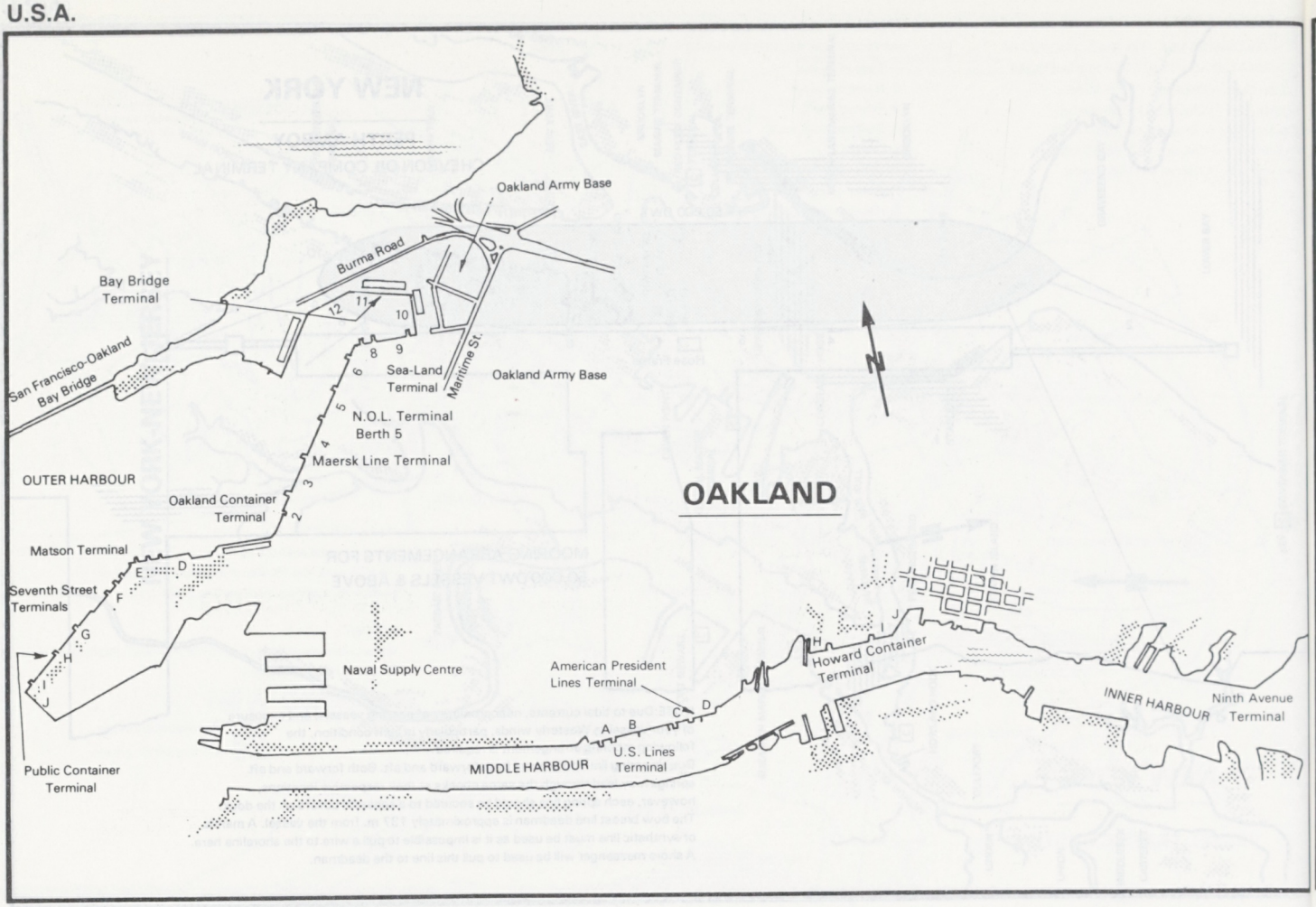
NEW YORK

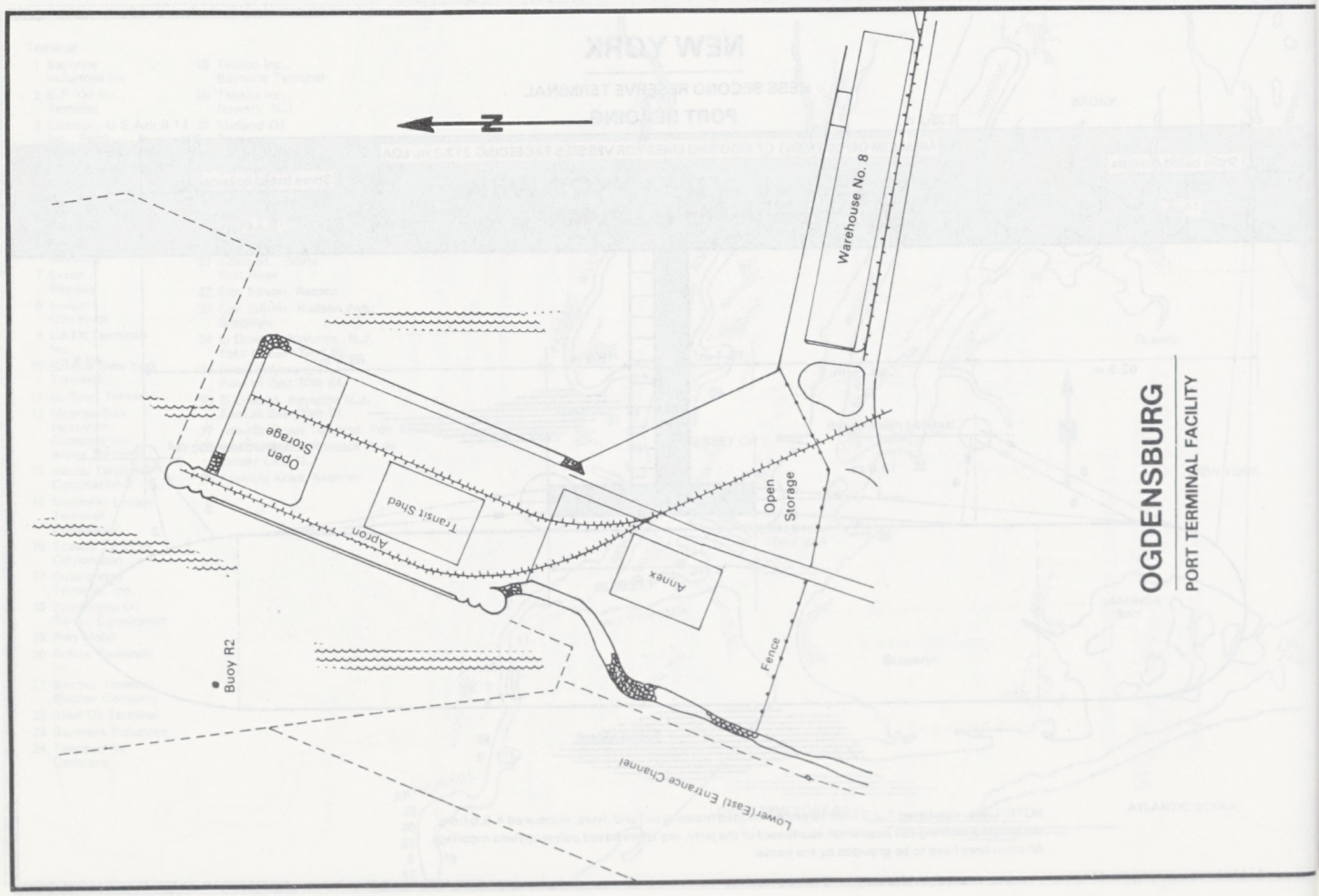
HESS SECOND RESERVE TERMINAL

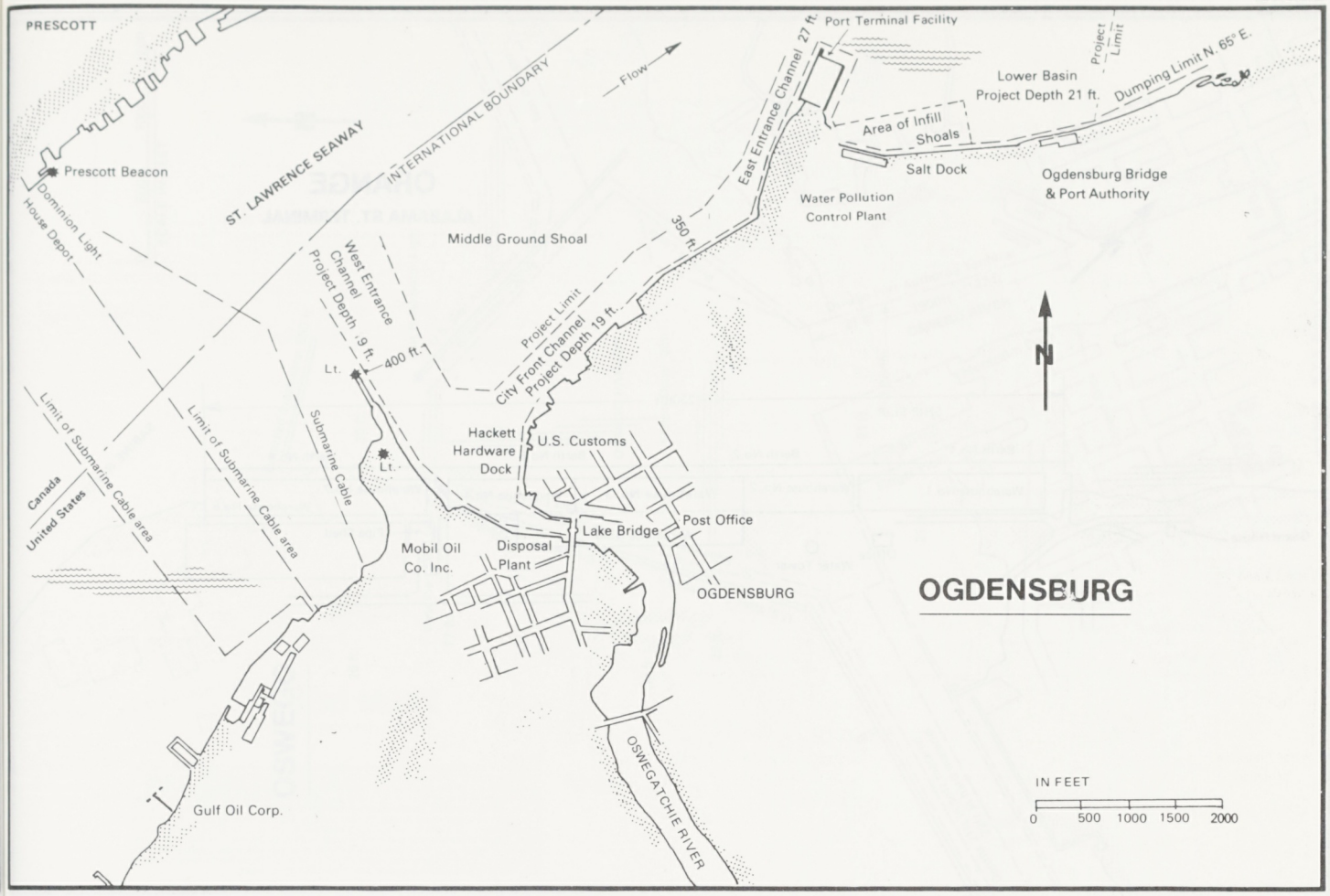
PORT READING

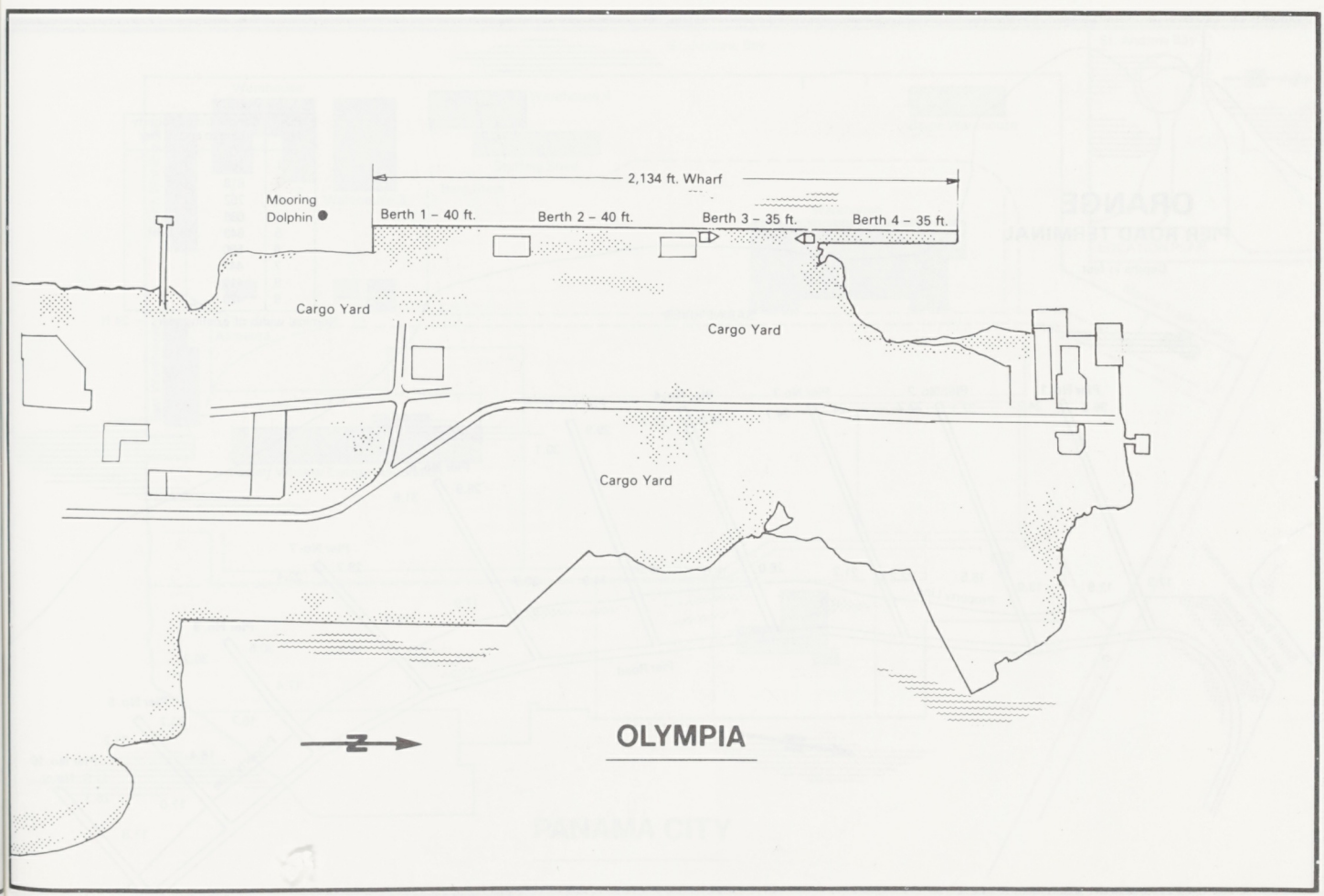


NOTE: Lines, numbered 1,2,3 from foremost isolated mooring cell and, lines, numbered 4,5,6 from the isolated mooring cell positioned southward of the jetty, are shore based polypropylene moorings. Other lines have to be provided by the vessel.


OAKLAND
Oakland Army Base
Burma Road
Bay Bridge Terminal
San Francisco-Oakland Bay Bridge
Sea-Land Terminal
Maritime St.
Oakland Army Base
N.O.L. Terminal Berth 5
Maersk Line Terminal
OUTER HARBOUR
Oakland Container Terminal
Matson Terminal
Seventh Street Terminals
Naval Supply Centre
American President Lines Terminal
Howard Container Terminal
INNER HARBOUR
Ninth Avenue Terminal
MIDDLE HARBOUR
U.S. Lines Terminal
Public Container Terminal

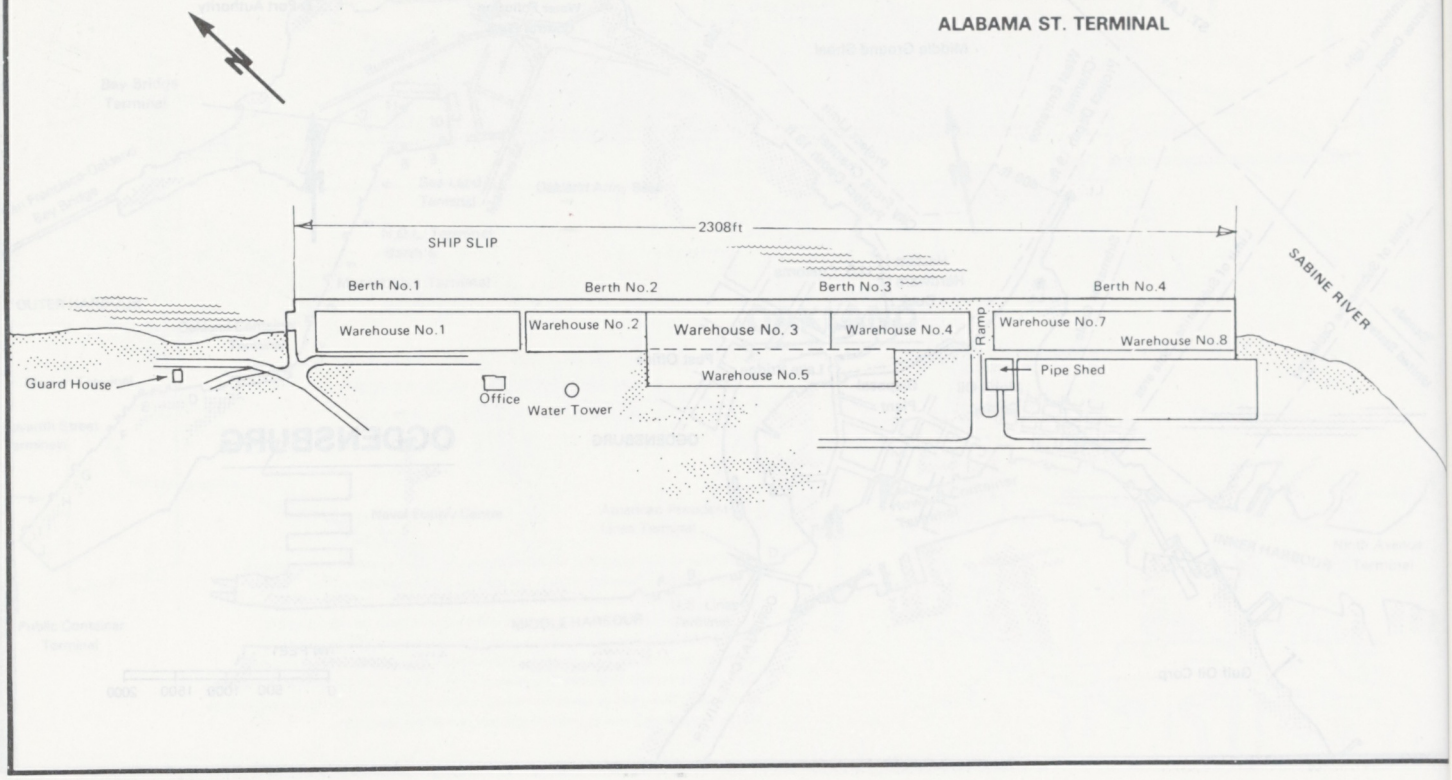

OGDENSBURG
PORT TERMINAL FACILITY
Warehouse No. 8
Open Storage
Transit Shed
Apron
Annex
Fence
Buoy R2
Lower (East) Entrance Channel


PRESCOTT
Prescott Beacon
Dominion Light House Depot
ST. LAWRENCE SEAWAY
INTERNATIONAL BOUNDARY
Flow
Middle Ground Shoal
West Entrance Channel Project Depth 9 ft.
400 ft.
Lt.
Project Limit
City Front Channel Project Depth 19 ft.
350 ft.
East Entrance Channel 27 ft.
Port Terminal Facility
Project Limit
Lower Basin Project Depth 21 ft.
Dumping Limit N. 65° E.
Area of Infill Shoals
Salt Dock
Ogdensburg Bridge & Port Authority
Water Pollution Control Plant
N
Hackett Hardware Dock
U.S. Customs
Post Office
Lake Bridge
Mobil Oil Co. Inc.
Disposal Plant
OGDENSBURG
OGDENSBURG
Limit of Submarine Cable area
Limit of Submarine Cable area
Submarine Cable
Canada
United States
Gulf Oil Corp.
OSWEGATCHIE RIVER
IN FEET
0 500 1000 1500 2000


2,134 ft. Wharf
Mooring Dolphin
Berth 1 – 40 ft.
Berth 2 – 40 ft.
Berth 3 – 35 ft.
Berth 4 – 35 ft.
Cargo Yard
Cargo Yard
Cargo Yard
N
OLYMPIA

ORANGE

ALABAMA ST. TERMINAL



ORANGE

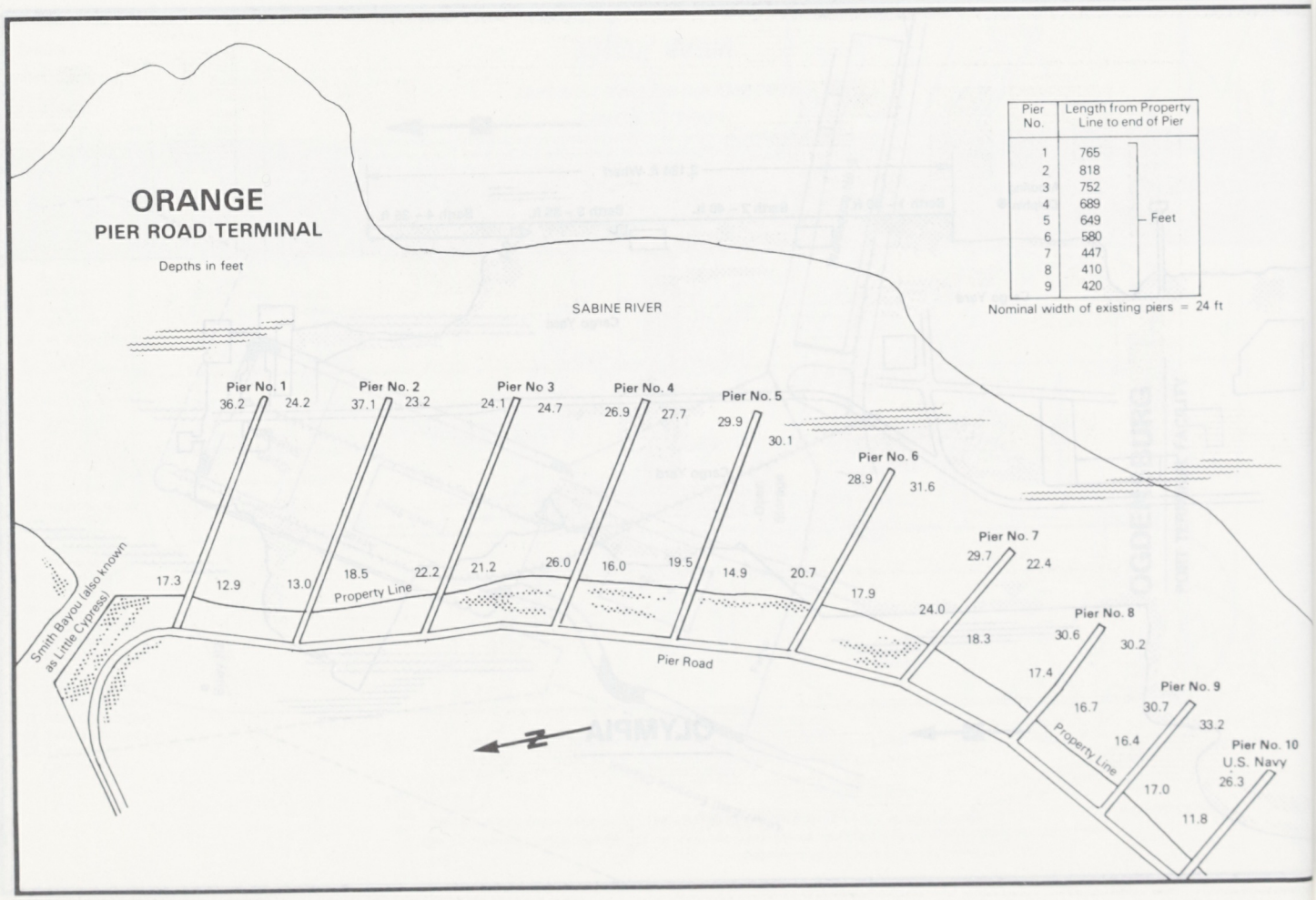
PIER ROAD TERMINAL

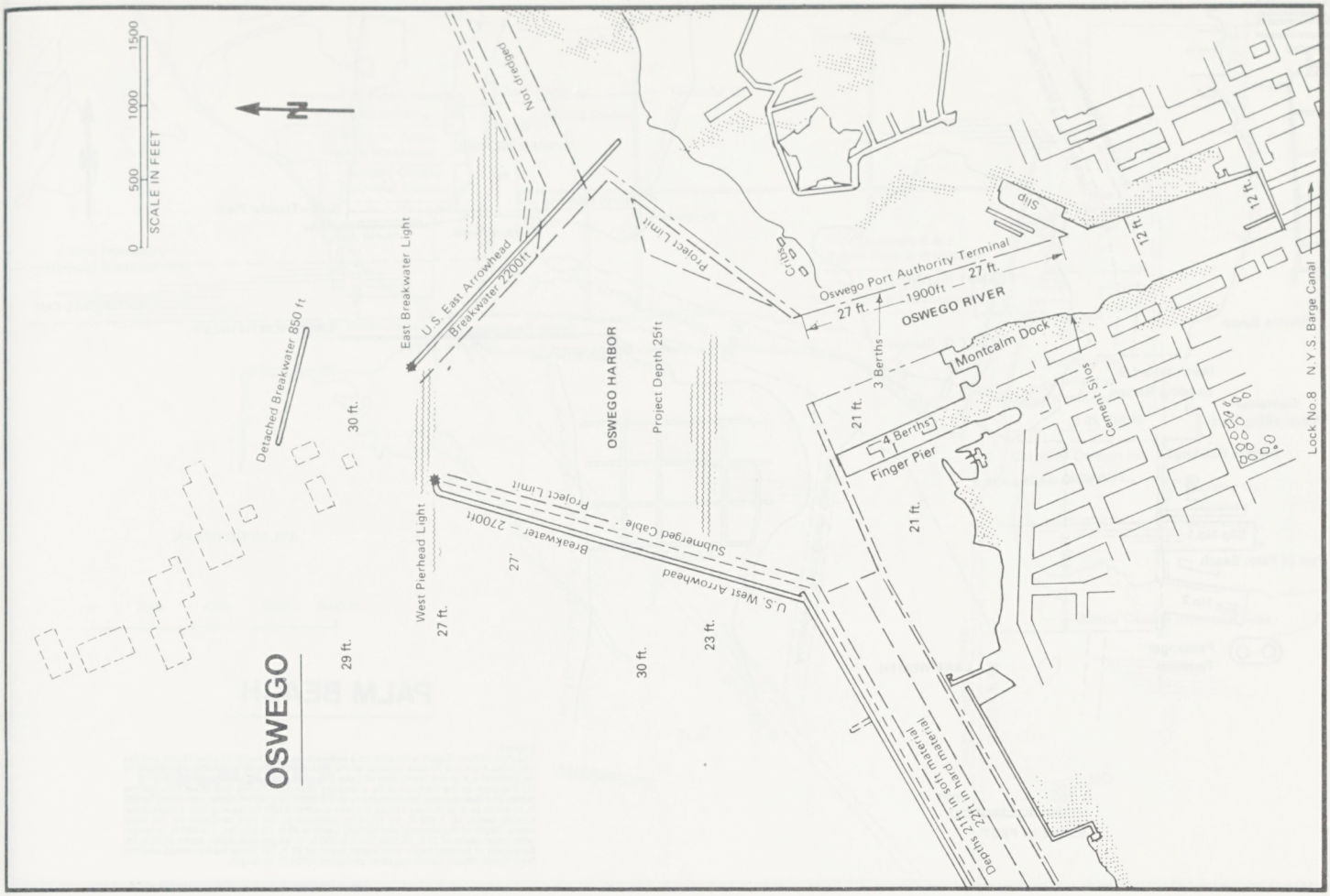
Depths in feet

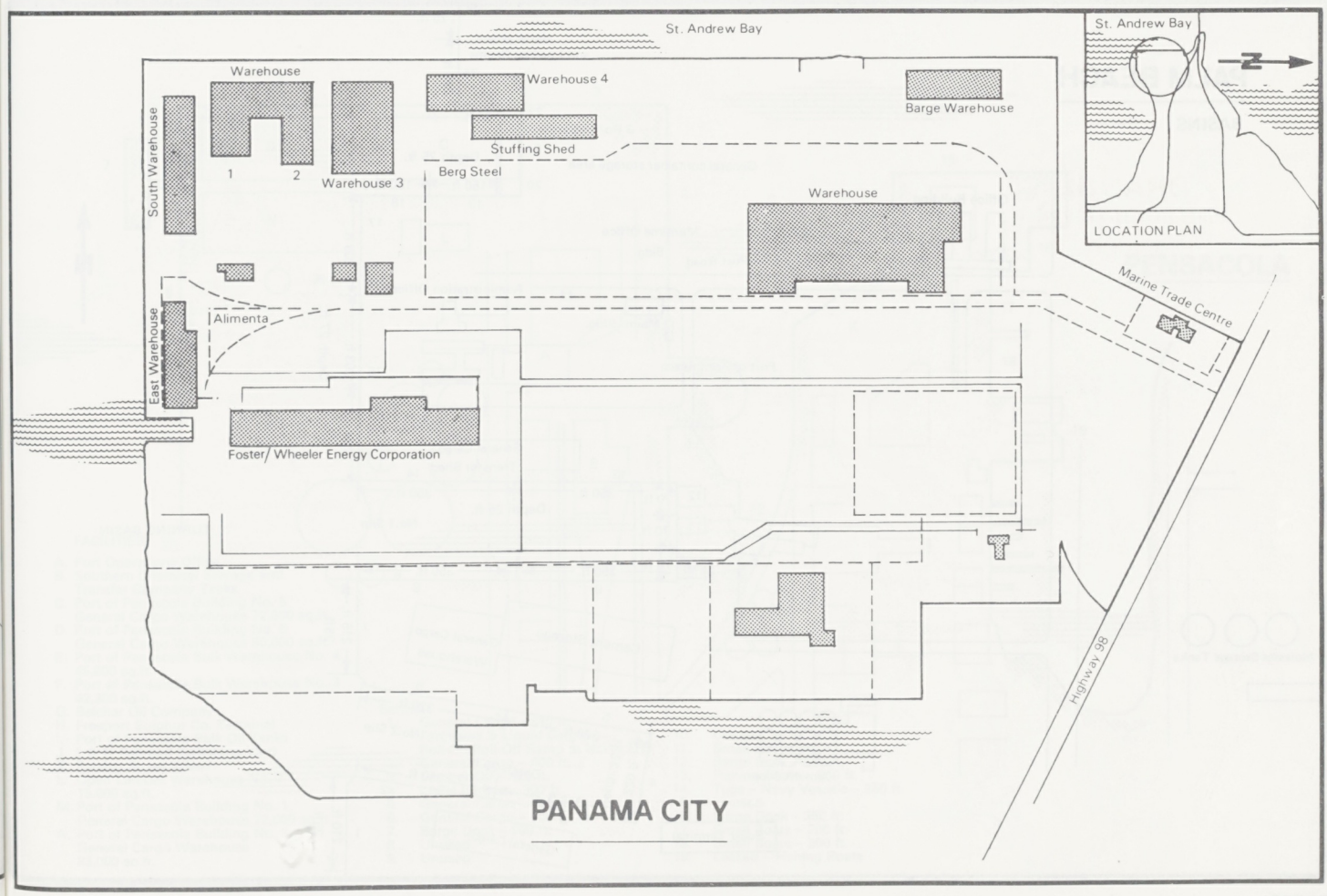
Pier No.	Length from Property Line to end of Pier
1	765
2	818
3	752
4	689
5	649
6	580
7	447
8	410
9	420

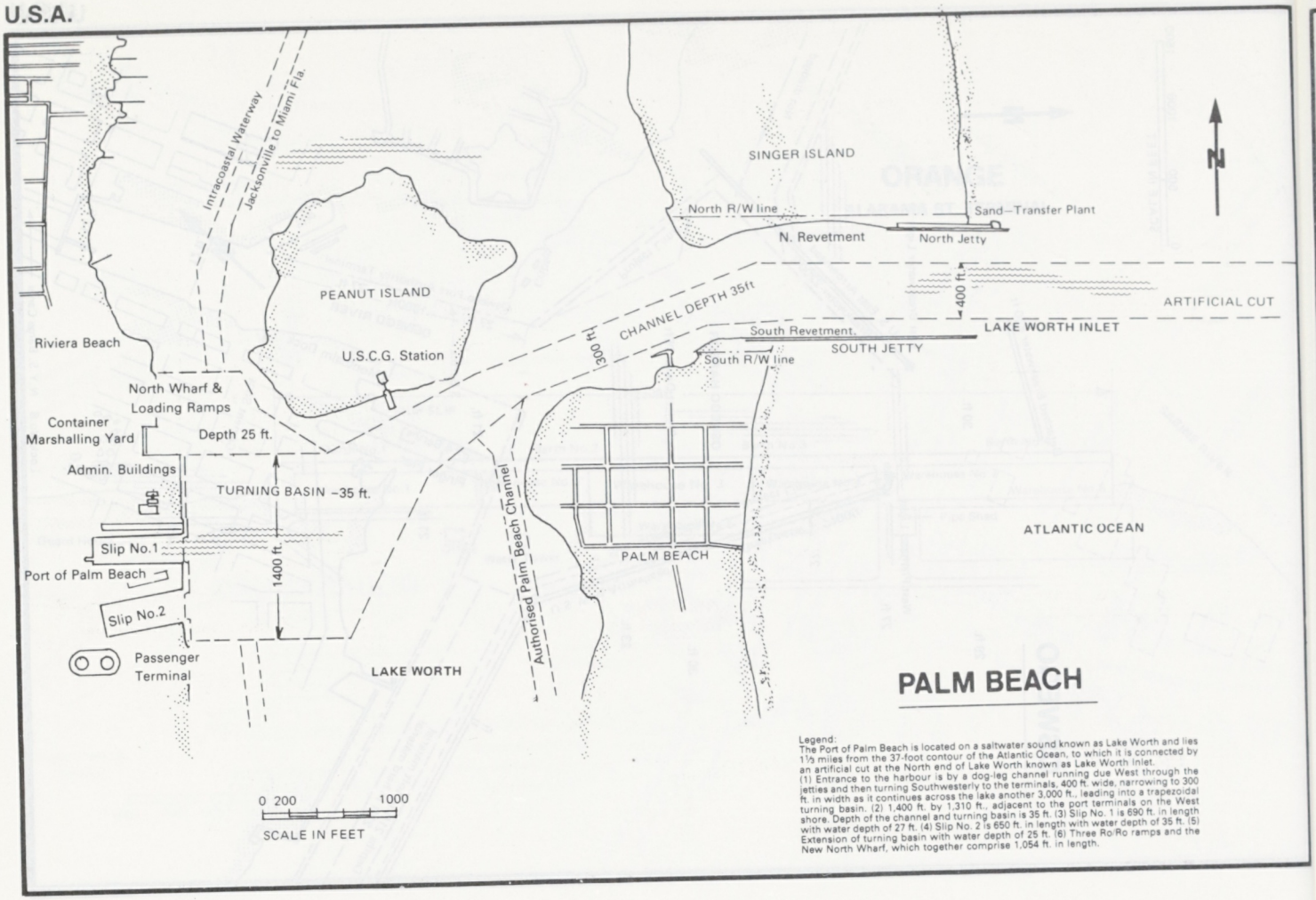
Feet

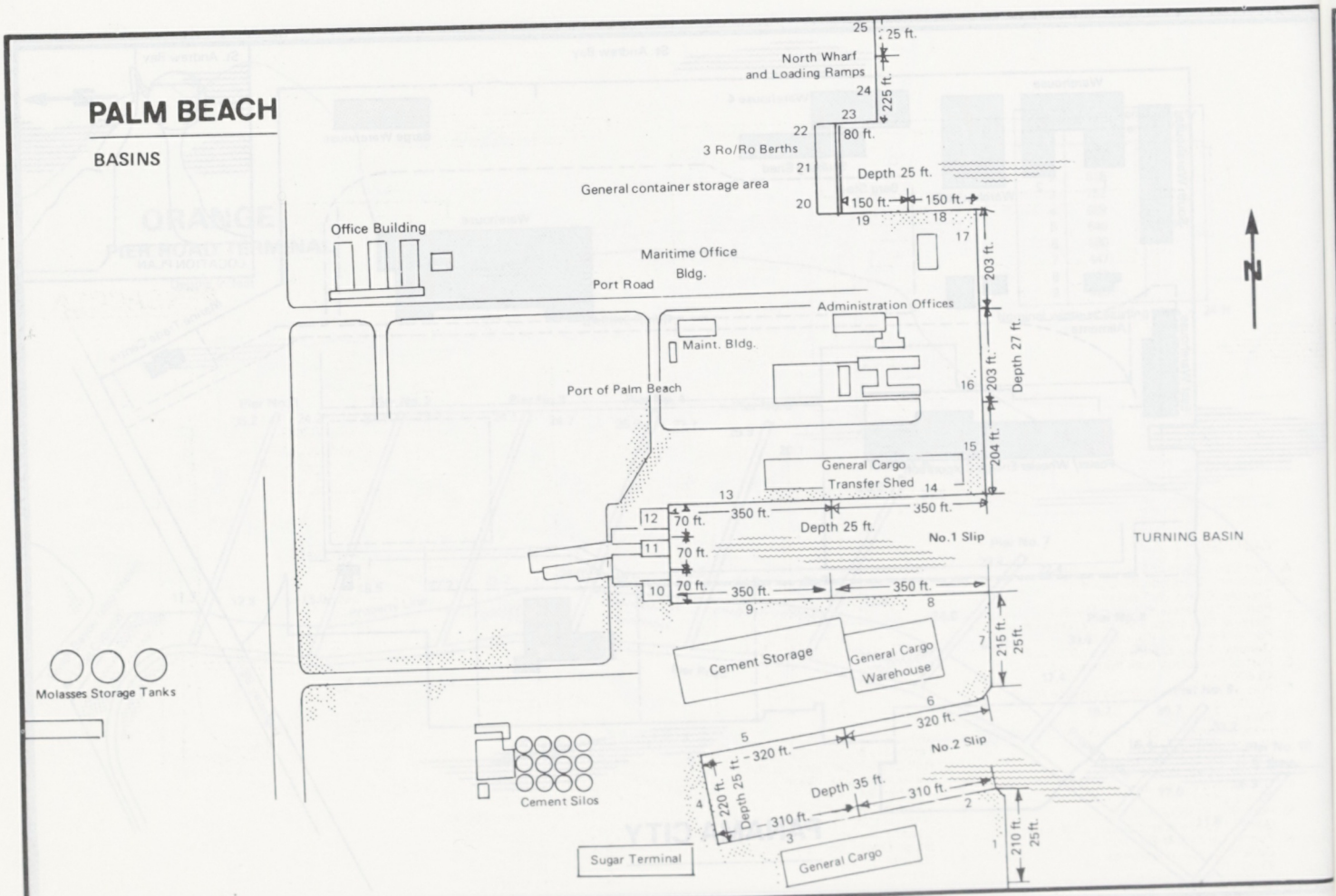
Nominal width of existing piers = 24 ft

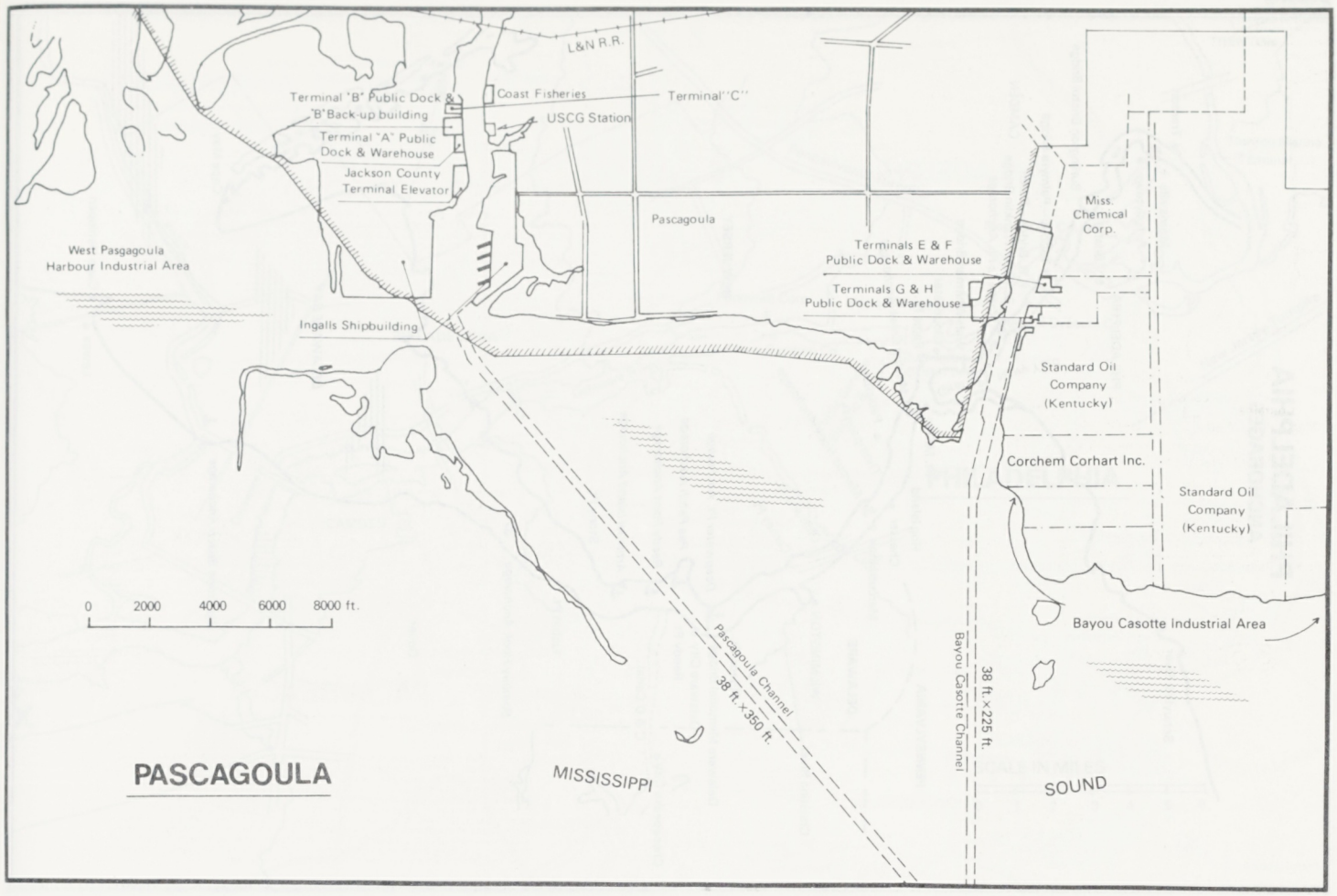


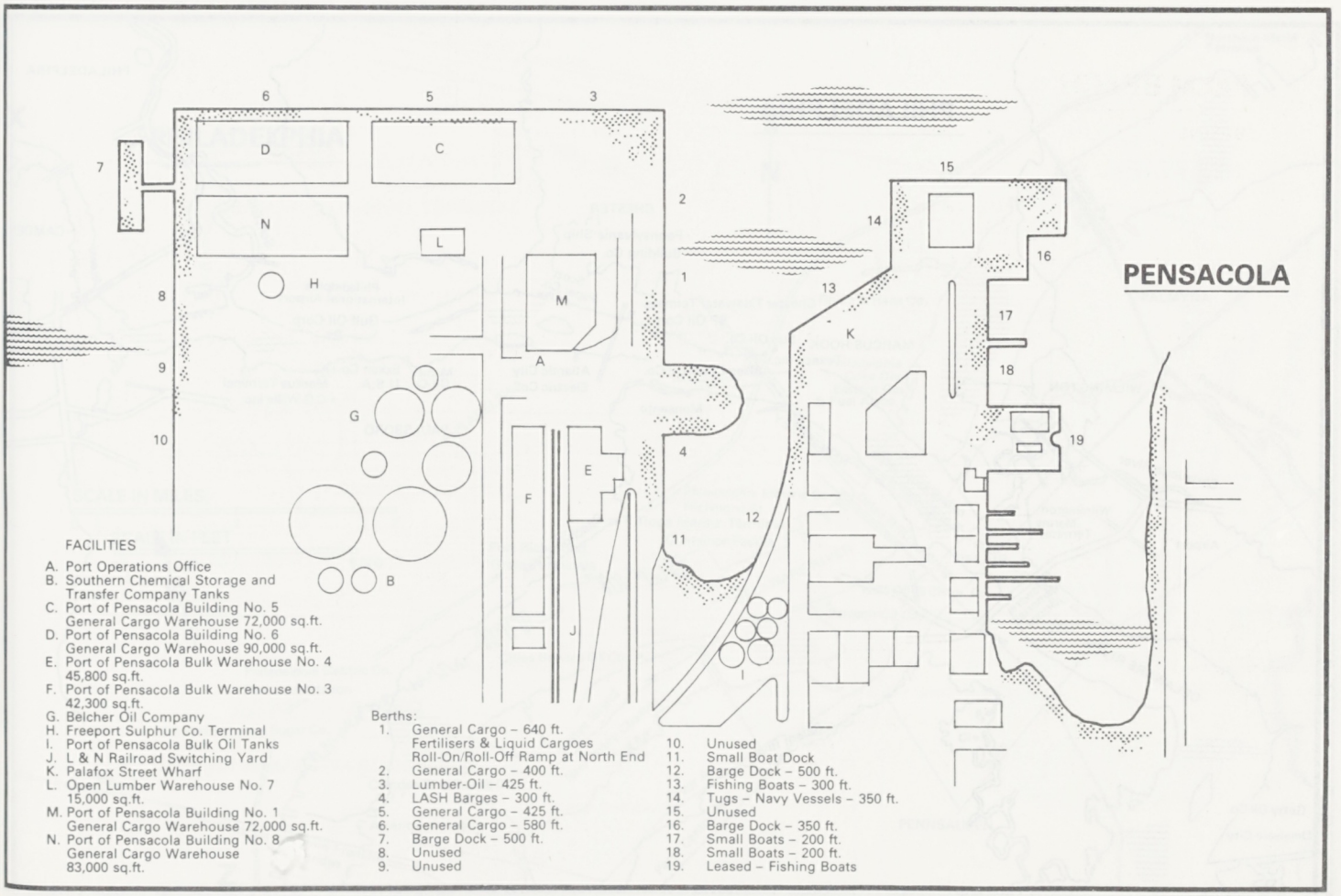

SCALE IN FEET
0
500
1000
1500
N
Not dredged
East Breakwater Light
U.S. East Arrowhead
Breakwater 2200ft
Project Limit
Detached Breakwater 850 ft
30 ft.
OSWEGO HARBOR
Project Depth 25ft
Oswego Port Authority Terminal
1900ft
27 ft.
OSWEGO RIVER
Slip
12 ft.
Montcalm Dock
3 Berths
21 ft.
4 Berths
Finger Pier
Cement Silos
Lock No.8 N.Y.S. Barge Canal
West Pierhead Light
Breakwater — 2700ft
Submerged Cable
U.S. West Arrowhead
27 ft.
29 ft.
30 ft.
23 ft.
Depths 21ft in soft material
22ft in hard material
OSWEGO


St. Andrew Bay
Warehouse
1
2
Warehouse 3
Warehouse 4
Stuffing Shed
Berg Steel
Barge Warehouse
South Warehouse
Warehouse
Alimenta
East Warehouse
Foster/ Wheeler Energy Corporation
Marine Trade Centre
Highway 98
PANAMA CITY
St. Andrew Bay
N
LOCATION PLAN


Intracoastal Waterway
Jacksonville to Miami Fla.
SINGER ISLAND
North R/W line
Sand–Transfer Plant
N. Revetment
North Jetty
PEANUT ISLAND
400 ft.
ARTIFICIAL CUT
CHANNEL DEPTH 35ft
300 ft.
South Revetment.
LAKE WORTH INLET
SOUTH JETTY
South R/W line
Riviera Beach
U.S.C.G. Station
North Wharf &
Loading Ramps
Container
Marshalling Yard
Depth 25 ft.
Admin. Buildings
TURNING BASIN –35 ft.
Slip No.1
Port of Palm Beach
Slip No.2
1400 ft.
Passenger
Terminal
LAKE WORTH
Authorised Palm Beach Channel
PALM BEACH
ATLANTIC OCEAN
PALM BEACH
0 200 1000
SCALE IN FEET
Legend:
The Port of Palm Beach is located on a saltwater sound known as Lake Worth and lies 1½ miles from the 37-foot contour of the Atlantic Ocean, to which it is connected by an artificial cut at the North end of Lake Worth known as Lake Worth Inlet.
(1) Entrance to the harbour is by a dog-leg channel running due West through the jetties and then turning Southwesterly to the terminals, 400 ft. wide, narrowing to 300 ft. in width as it continues across the lake another 3,000 ft., leading into a trapezoidal turning basin. (2) 1,400 ft. by 1,310 ft., adjacent to the port terminals on the West shore. Depth of the channel and turning basin is 35 ft. (3) Slip No. 1 is 690 ft. in length with water depth of 27 ft. (4) Slip No. 2 is 650 ft. in length with water depth of 35 ft. (5) Extension of turning basin with water depth of 25 ft. (6) Three Ro/Ro ramps and the New North Wharf, which together comprise 1,054 ft. in length.


PALM BEACH
BASINS
25
25 ft.
North Wharf
and Loading Ramps
24
225 ft.
23
22
80 ft.
3 Ro/Ro Berths
21
Depth 25 ft.
General container storage area
20
150 ft.
150 ft.
19
18
17
Office Building
Maritime Office
Bldg.
Port Road
203 ft.
Administration Offices
Maint. Bldg.
Depth 27 ft.
Port of Palm Beach
16
203 ft.
15
204 ft.
General Cargo
Transfer Shed
14
13
12
70 ft.
350 ft.
350 ft.
Depth 25 ft.
No.1 Slip
TURNING BASIN
11
70 ft.
10
70 ft.
350 ft.
350 ft.
9
8
7
215 ft.
25ft.
Cement Storage
General Cargo
Warehouse
6
320 ft.
5
320 ft.
No.2 Slip
Molasses Storage Tanks
Depth 25 ft.
220 ft.
Depth 35 ft.
310 ft.
4
310 ft.
2
3
1
210 ft.
25 ft.
Cement Silos
Sugar Terminal
General Cargo



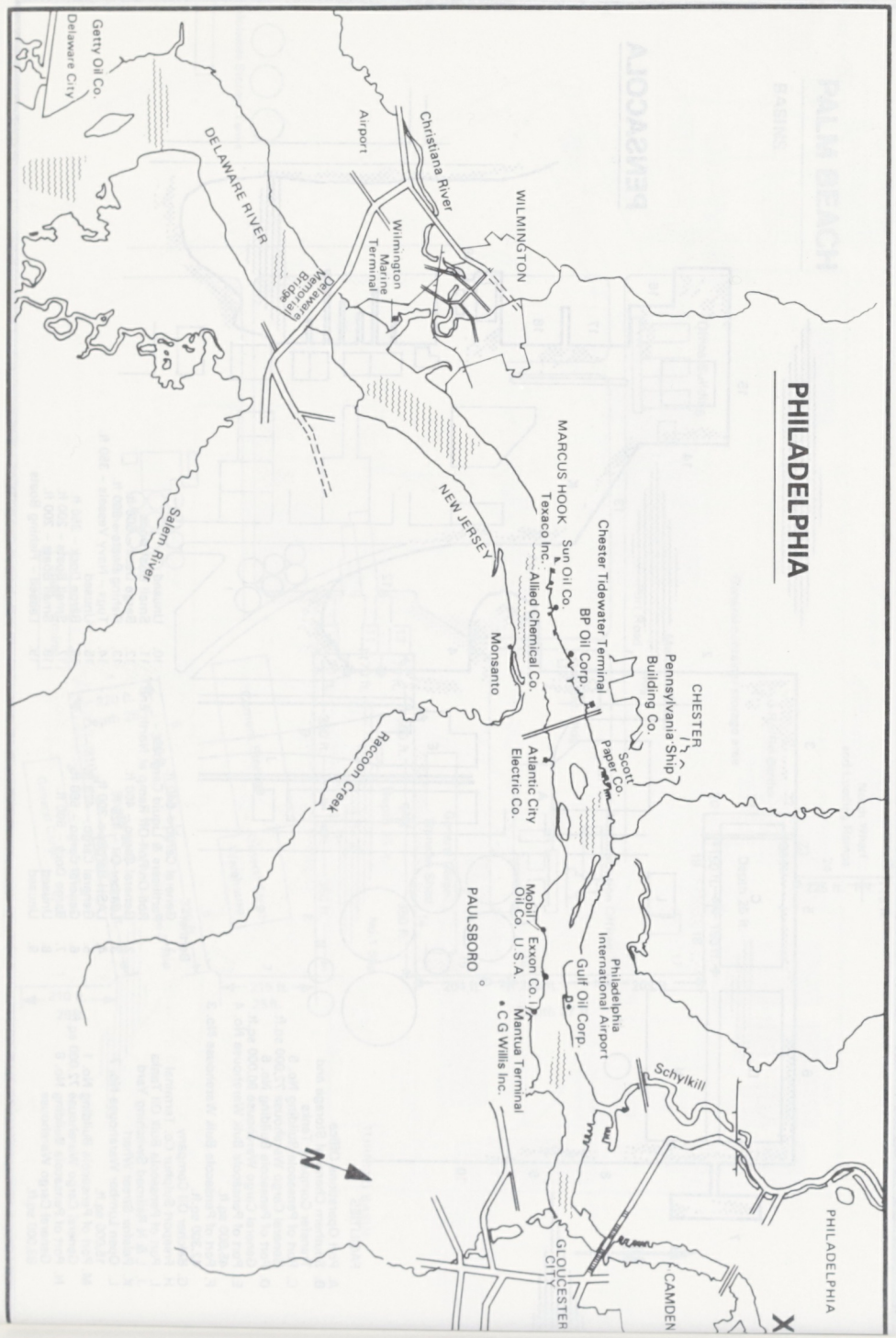


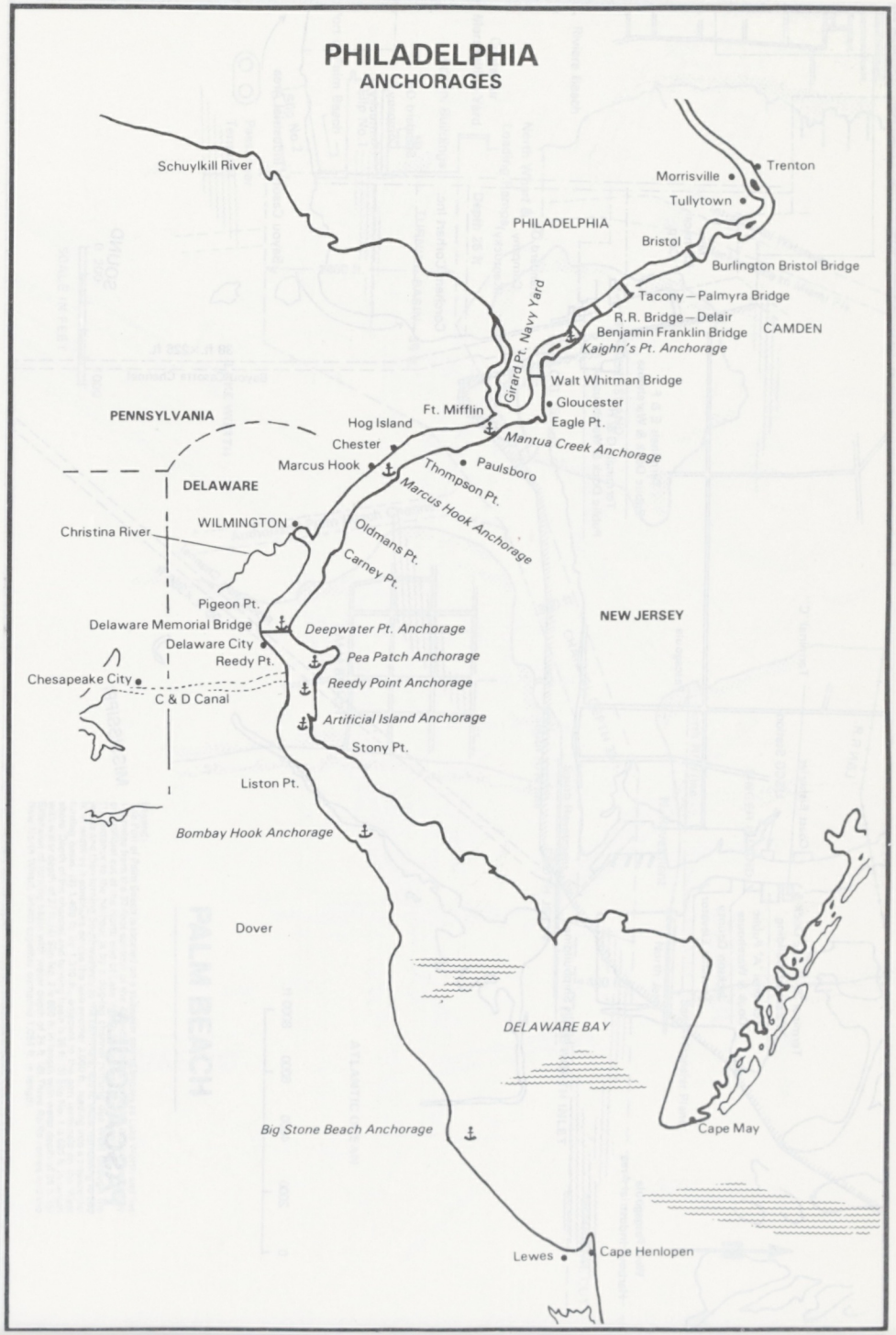
FACILITIES

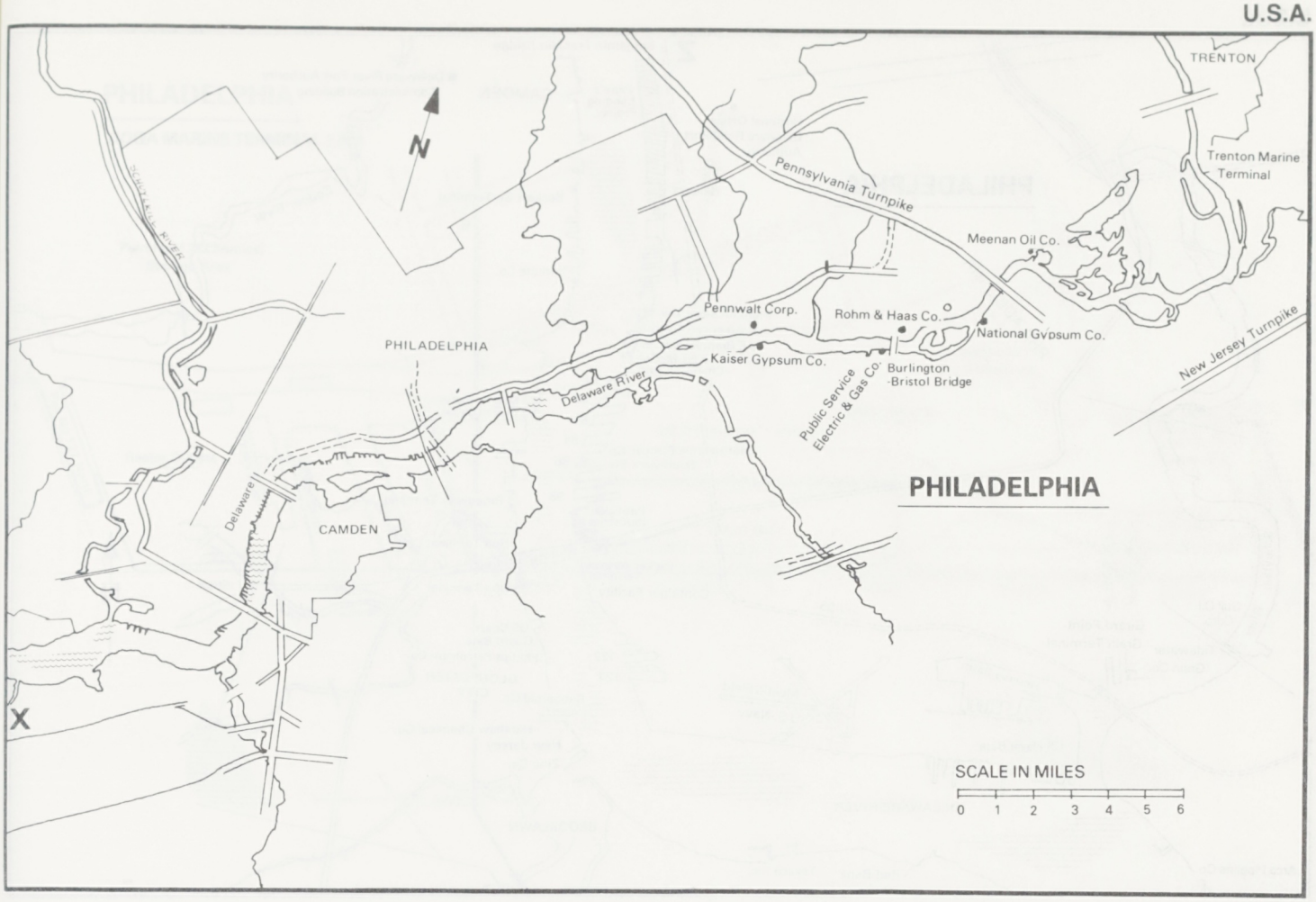
A. Port Operations Office
B. Southern Chemical Storage and Transfer Company Tanks
C. Port of Pensacola Building No. 5 General Cargo Warehouse 72,000 sq.ft.
D. Port of Pensacola Building No. 6 General Cargo Warehouse 90,000 sq.ft.
E. Port of Pensacola Bulk Warehouse No. 4 45,800 sq.ft.
F. Port of Pensacola Bulk Warehouse No. 3 42,300 sq.ft.
G. Belcher Oil Company
H. Freeport Sulphur Co. Terminal
I. Port of Pensacola Bulk Oil Tanks
J. L & N Railroad Switching Yard
K. Palafox Street Wharf
L. Open Lumber Warehouse No. 7 15,000 sq.ft.
M. Port of Pensacola Building No. 1 General Cargo Warehouse 72,000 sq.ft.
N. Port of Pensacola Building No. 8 General Cargo Warehouse 83,000 sq.ft.

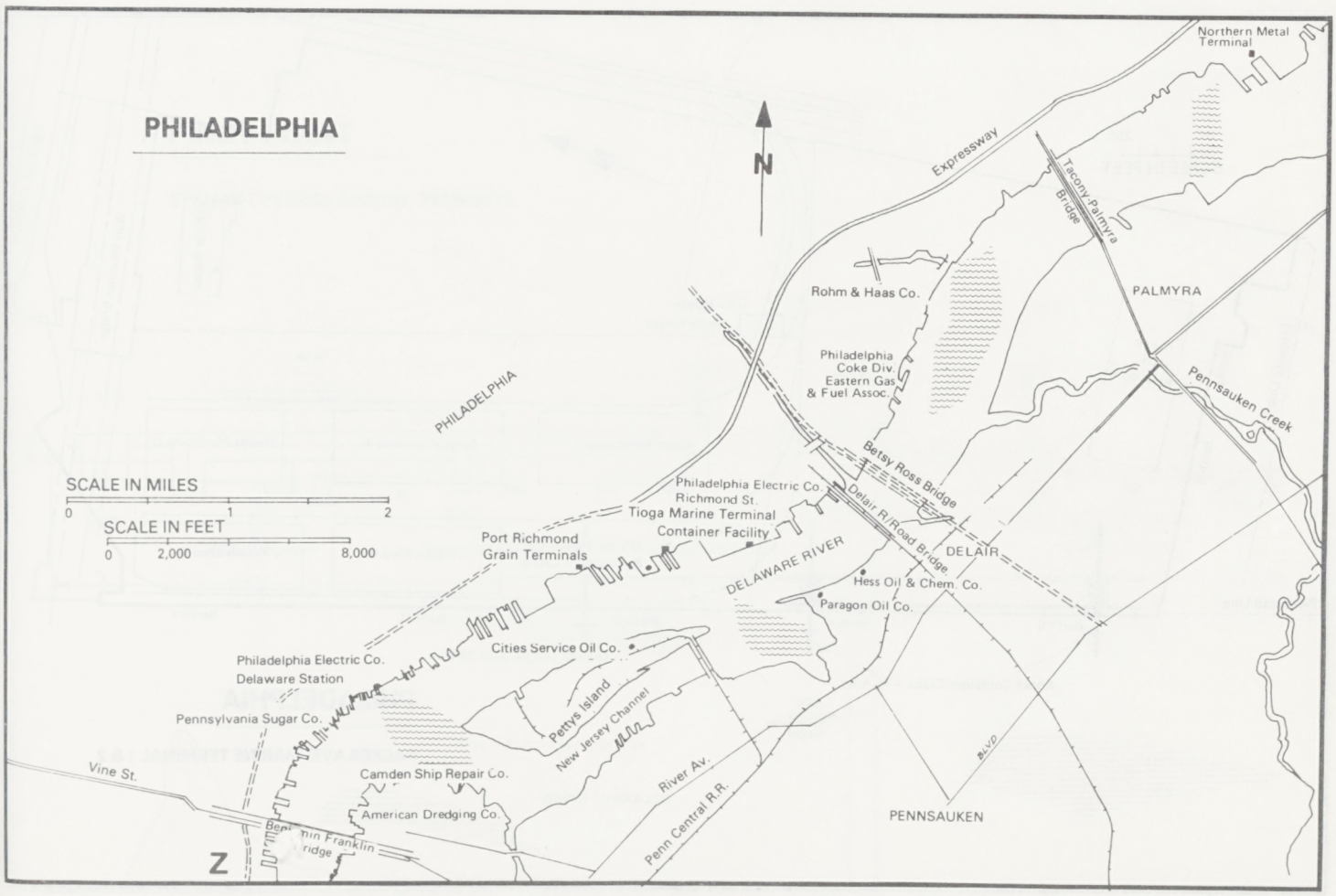
Berths:

1. General Cargo – 640 ft. Fertilisers & Liquid Cargoes Roll-On/Roll-Off Ramp at North End
2. General Cargo – 400 ft.
3. Lumber-Oil – 425 ft.
4. LASH Barges – 300 ft.
5. General Cargo – 425 ft.
6. General Cargo – 580 ft.
7. Barge Dock – 500 ft.
8. Unused
9. Unused
10. Unused
11. Small Boat Dock
12. Barge Dock – 500 ft.
13. Fishing Boats – 300 ft.
14. Tugs – Navy Vessels – 350 ft.
15. Unused
16. Barge Dock – 350 ft.
17. Small Boats – 200 ft.
18. Small Boats – 200 ft.
19. Leased – Fishing Boats

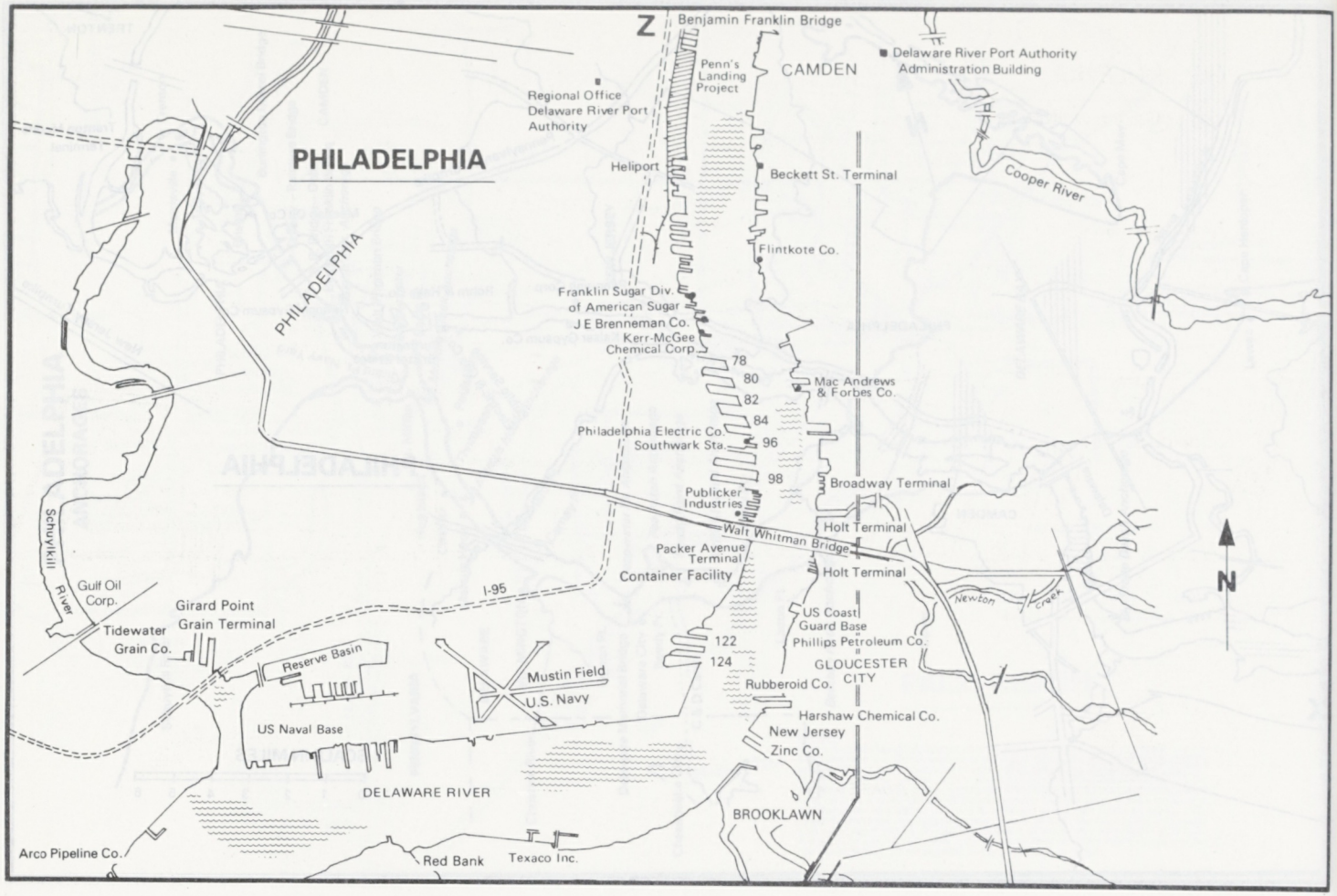

PHILADELPHIA
Getty Oil Co.
Delaware City
DELAWARE RIVER
Airport
Christiana River
Delaware Memorial Bridge
Wilmington Marine Terminal
WILMINGTON
NEW JERSEY
Salem River
MARCUS HOOK
Sun Oil Co.
Texaco Inc.
Allied Chemical Co.
Monsanto
Chester Tidewater Terminal
BP Oil Corp.
Pennsylvania Ship Building Co.
CHESTER
Scott Paper Co.
Raccoon Creek
Atlantic City Electric Co.
PAULSBORO
Mobil Oil Co.
Exxon Co. U.S.A.
C G Willis Inc.
Gulf Oil Corp.
Philadelphia International Airport
Mantua Terminal
Schylkill
GLOUCESTER CITY
CAMDEN
PHILADELPHIA
N

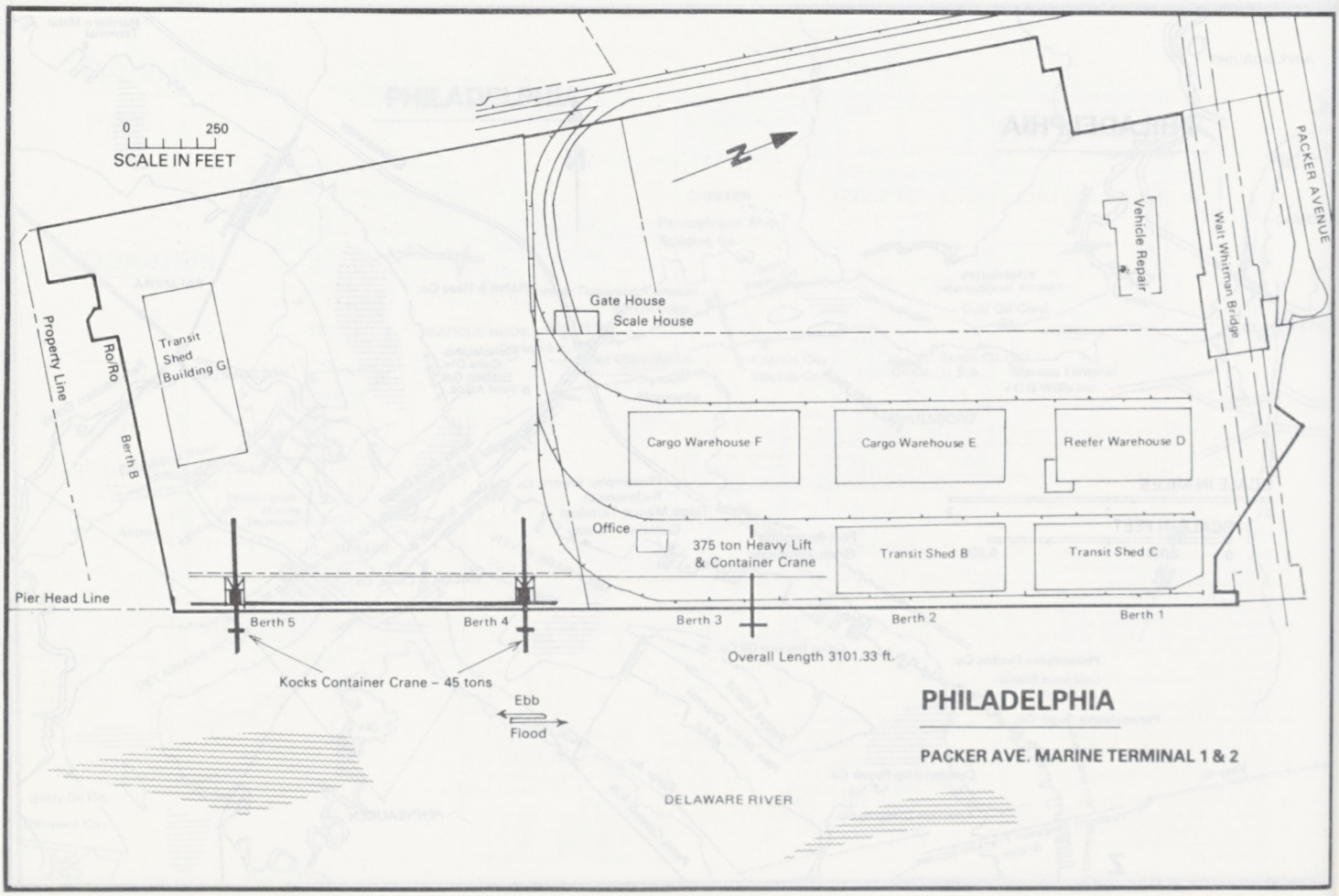

PHILADELPHIA
ANCHORAGES
Schuylkill River
Morrisville
Trenton
Tullytown
PHILADELPHIA
Bristol
Burlington Bristol Bridge
Tacony – Palmyra Bridge
R.R. Bridge – Delair
Benjamin Franklin Bridge
CAMDEN
Kaighn's Pt. Anchorage
Girard Pt. Navy Yard
Walt Whitman Bridge
Gloucester
Eagle Pt.
Ft. Mifflin
PENNSYLVANIA
Hog Island
Chester
Mantua Creek Anchorage
Marcus Hook
Paulsboro
Thompson Pt.
DELAWARE
Marcus Hook Anchorage
WILMINGTON
Christina River
Oldmans Pt.
Carney Pt.
Pigeon Pt.
NEW JERSEY
Delaware Memorial Bridge
Deepwater Pt. Anchorage
Delaware City
Reedy Pt.
Pea Patch Anchorage
Chesapeake City
Reedy Point Anchorage
C & D Canal
Artificial Island Anchorage
Stony Pt.
Liston Pt.
Bombay Hook Anchorage
Dover
DELAWARE BAY
Big Stone Beach Anchorage
Cape May
Lewes
Cape Henlopen


TRENTON
Trenton Marine Terminal
Pennsylvania Turnpike
Meenan Oil Co.
Pennwalt Corp.
Rohm & Haas Co.
National Gypsum Co.
New Jersey Turnpike
PHILADELPHIA
Kaiser Gypsum Co.
Public Service Electric & Gas Co.
Burlington -Bristol Bridge
Delaware River
Delaware
CAMDEN
PHILADELPHIA
X
SCALE IN MILES
0 1 2 3 4 5 6


PHILADELPHIA
Northern Metal Terminal
Expressway
Tacony-Palmyra Bridge
Rohm & Haas Co.
PALMYRA
Philadelphia Coke Div. Eastern Gas & Fuel Assoc.
PHILADELPHIA
Pennsauken Creek
Betsy Ross Bridge
SCALE IN MILES
0 1 2
SCALE IN FEET
0 2,000 8,000
Philadelphia Electric Co. Richmond St.
Tioga Marine Terminal
Container Facility
Port Richmond Grain Terminals
DELAWARE RIVER
Delair R/Road Bridge
DELAIR
Hess Oil & Chem. Co.
Paragon Oil Co.
Cities Service Oil Co.
Philadelphia Electric Co. Delaware Station
Pennsylvania Sugar Co.
Pettys Island
New Jersey Channel
River Av.
Penn Central R.R.
Vine St.
Camden Ship Repair Co.
American Dredging Co.
Benjamin Franklin Bridge
PENNSAUKEN
Z

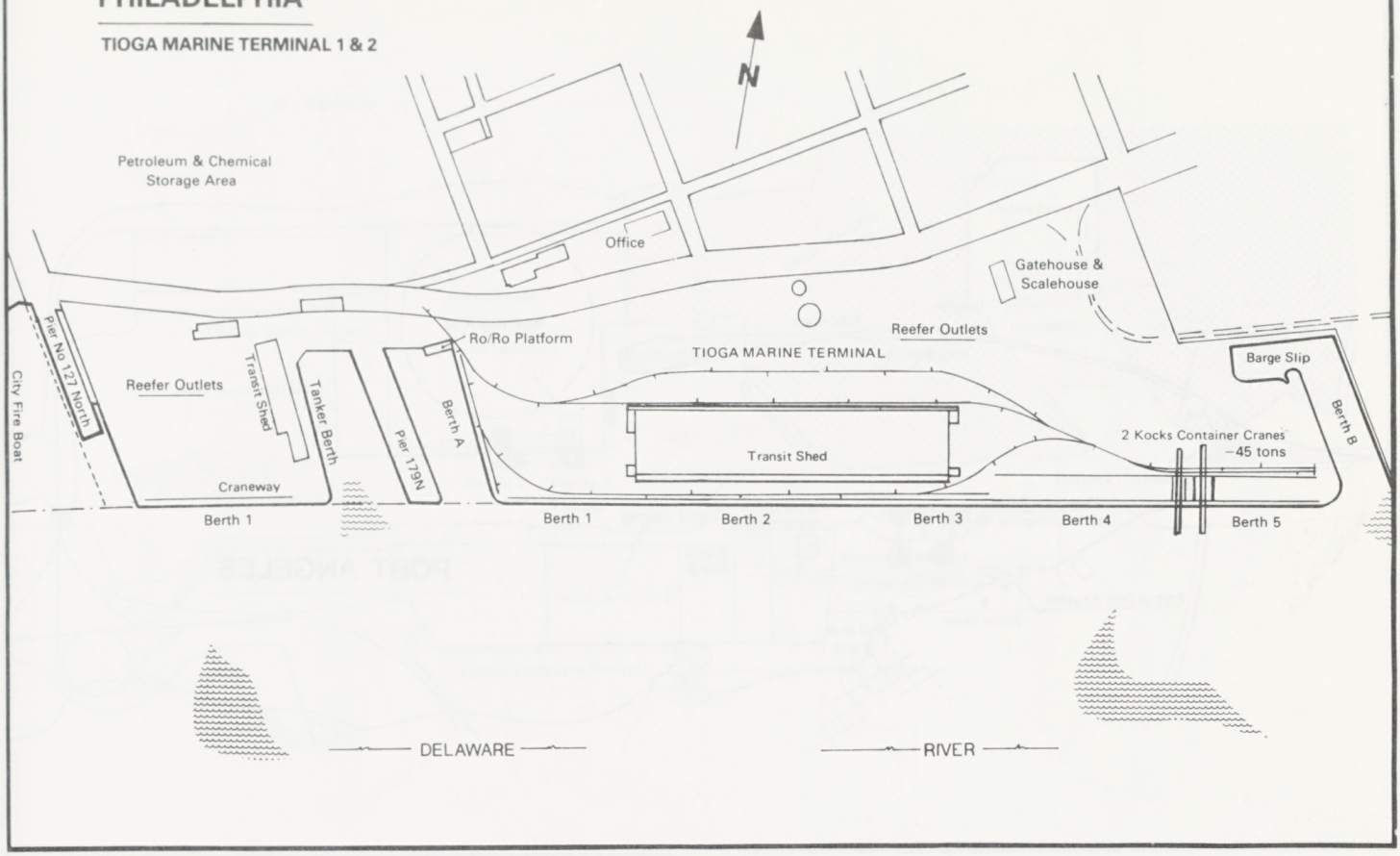
U.S.A.


Benjamin Franklin Bridge
Penn's Landing Project
CAMDEN
Delaware River Port Authority Administration Building
Regional Office Delaware River Port Authority
PHILADELPHIA
Heliport
Beckett St. Terminal
Cooper River
Flintkote Co.
PHILADELPHIA
Franklin Sugar Div. of American Sugar
J E Brenneman Co.
Kerr-McGee Chemical Corp.
78
80
82
84
96
98
Mac Andrews & Forbes Co.
Philadelphia Electric Co. Southwark Sta.
Broadway Terminal
Publicker Industries
Holt Terminal
Walt Whitman Bridge
Packer Avenue Terminal
Container Facility
Holt Terminal
Schuylkill River
Gulf Oil Corp.
Girard Point Grain Terminal
Tidewater Grain Co.
I-95
Newton Creek
US Coast Guard Base
Phillips Petroleum Co.
GLOUCESTER CITY
122
124
Reserve Basin
Mustin Field
U.S. Navy
Rubberoid Co.
US Naval Base
Harshaw Chemical Co.
New Jersey Zinc Co.
DELAWARE RIVER
BROOKLAWN
Arco Pipeline Co.
Red Bank
Texaco Inc.
N


0 250
SCALE IN FEET
N
PACKER AVENUE
Vehicle Repair
Walt Whitman Bridge
Gate House
Scale House
Property Line
Ro/Ro
Berth B
Transit Shed Building G
Cargo Warehouse F
Cargo Warehouse E
Reefer Warehouse D
Office
375 ton Heavy Lift & Container Crane
Transit Shed B
Transit Shed C
Pier Head Line
Berth 5
Berth 4
Berth 3
Berth 2
Berth 1
Overall Length 3101.33 ft.
Kocks Container Crane – 45 tons
Ebb
Flood
DELAWARE RIVER
PHILADELPHIA
PACKER AVE. MARINE TERMINAL 1 & 2

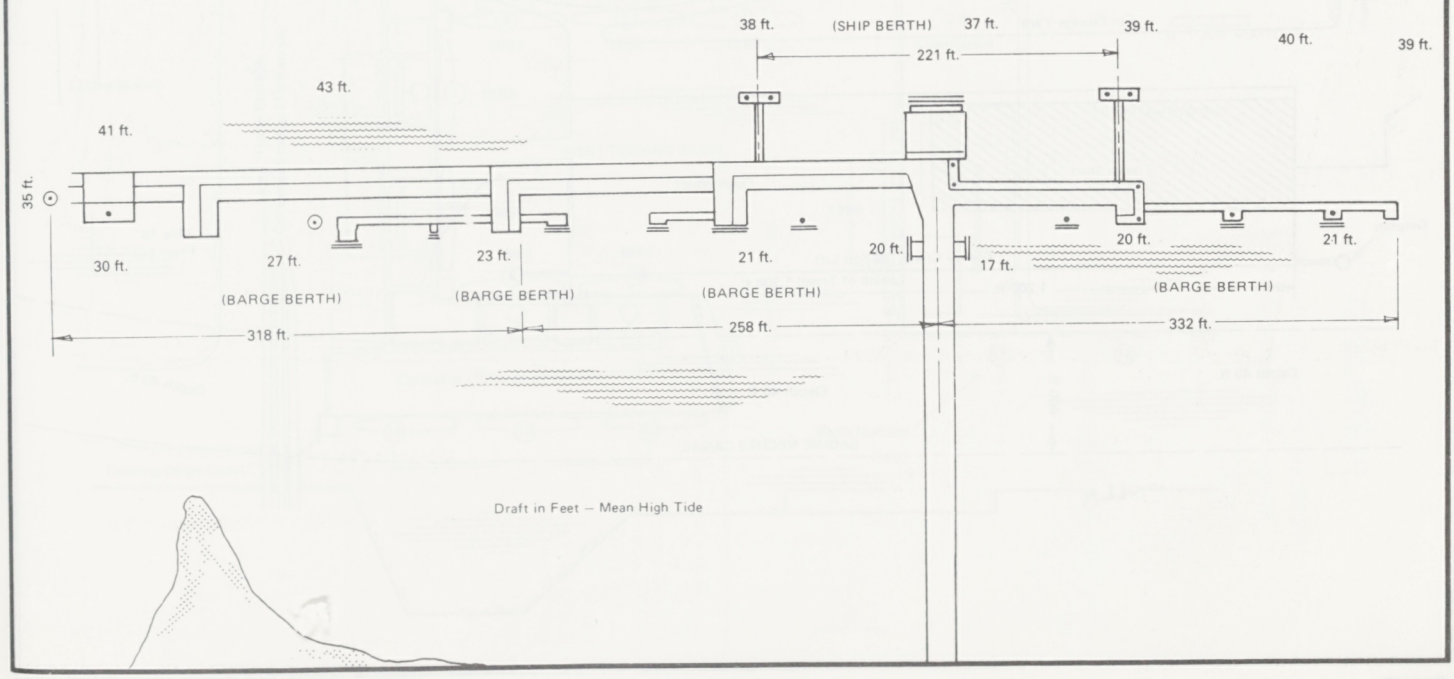
PHILADELPHIA

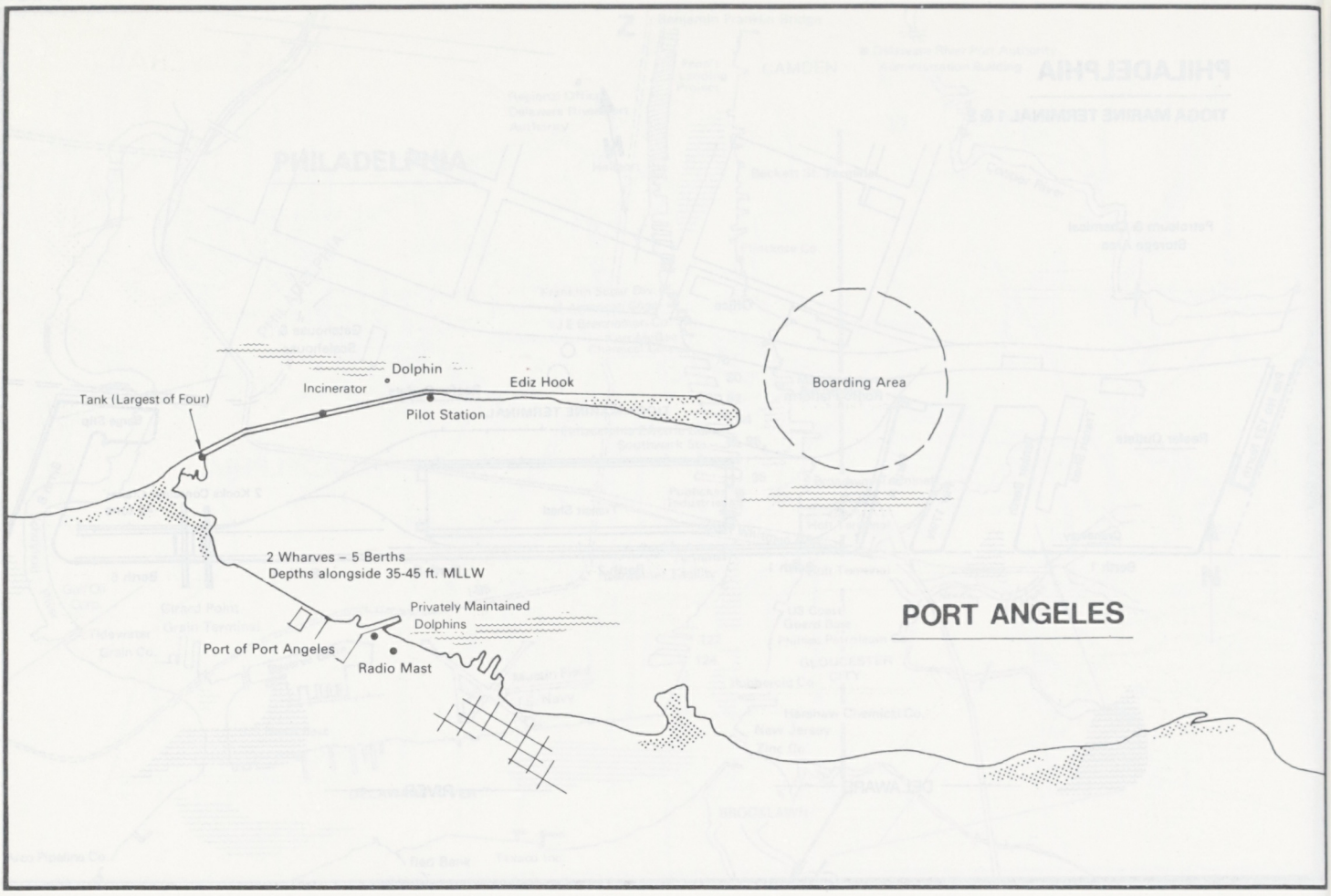
TIOGA MARINE TERMINAL 1 & 2

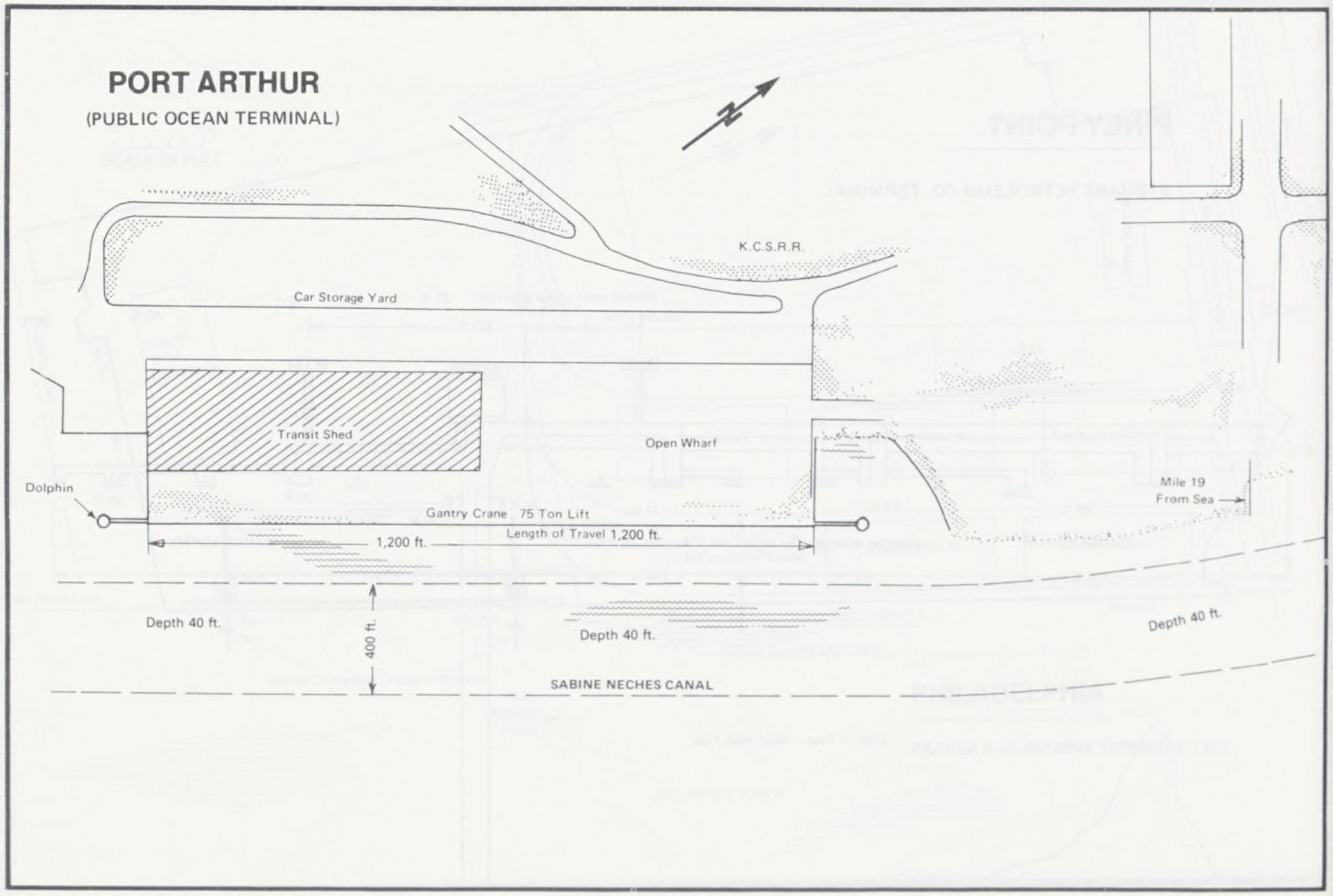


PINEY POINT

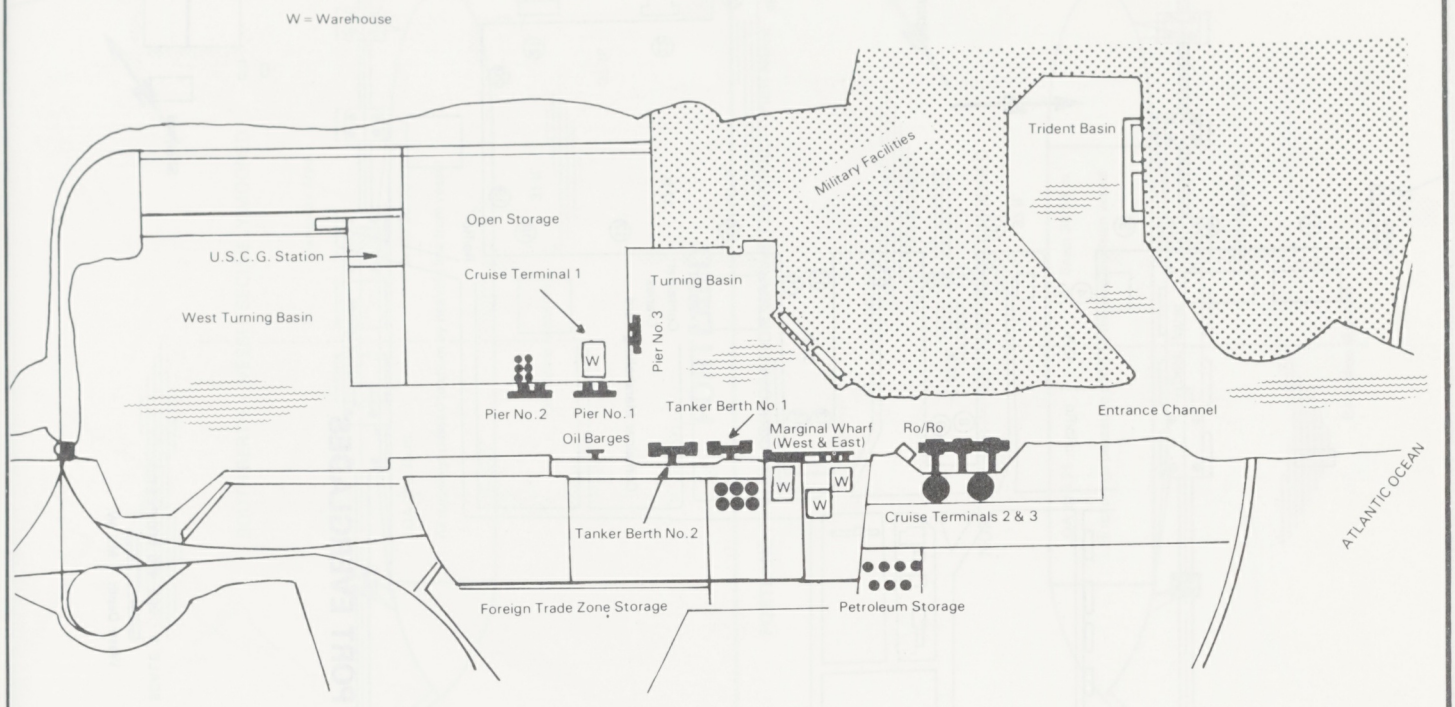
STEUART PETROLEUM CO. TERMINAL



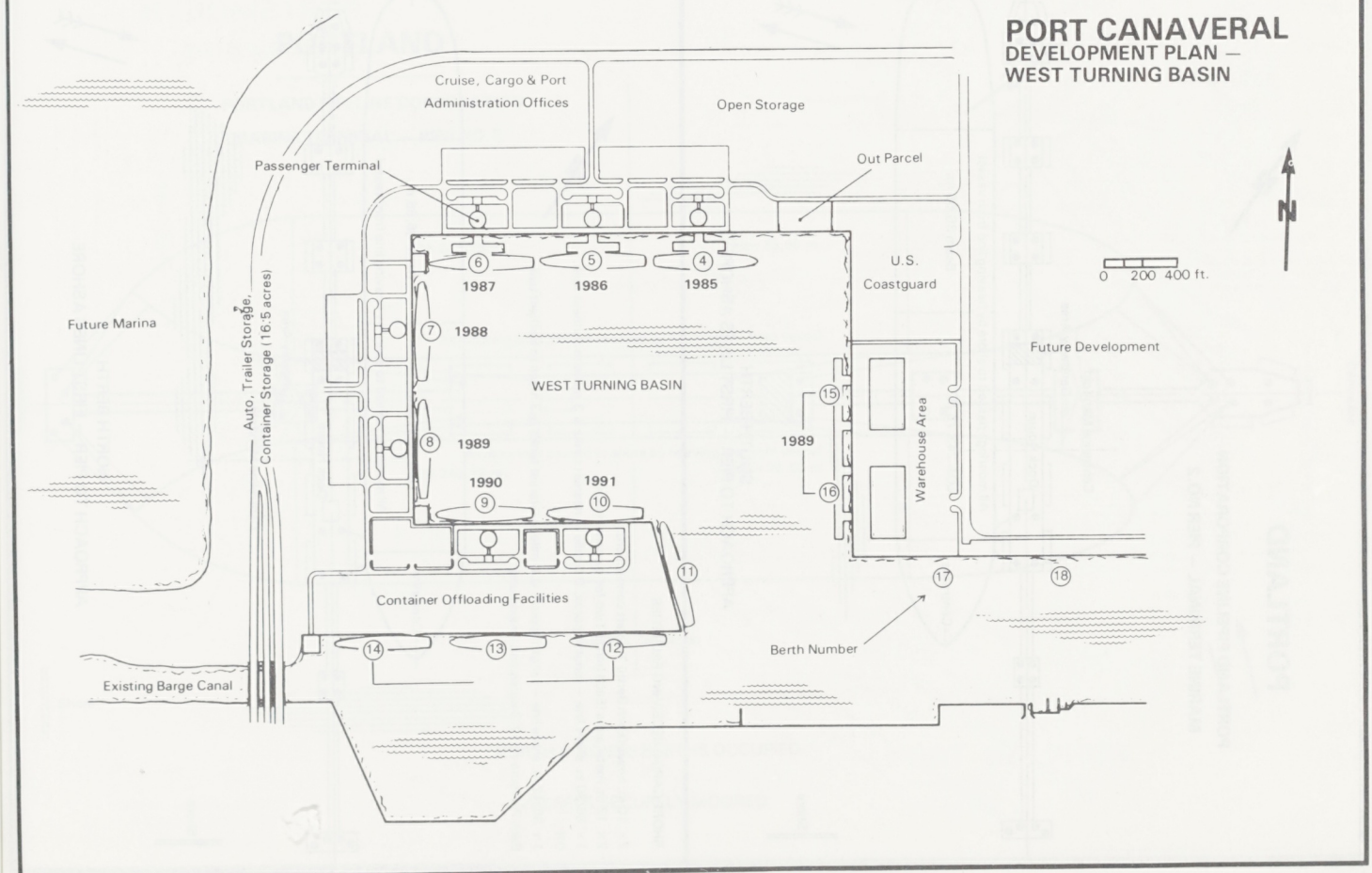

Dolphin
Incinerator
Ediz Hook
Tank (Largest of Four)
Pilot Station
Boarding Area
2 Wharves – 5 Berths
Depths alongside 35-45 ft. MLLW
Privately Maintained
Dolphins
Port of Port Angeles
Radio Mast
PORT ANGELES


PORT ARTHUR
(PUBLIC OCEAN TERMINAL)
K.C.S.R.R.
Car Storage Yard
Transit Shed
Open Wharf
Dolphin
Gantry Crane 75 Ton Lift
Length of Travel 1,200 ft.
1,200 ft.
Mile 19
From Sea
Depth 40 ft.
400 ft.
Depth 40 ft.
Depth 40 ft.
SABINE NECHES CANAL

PORT CANAVERAL

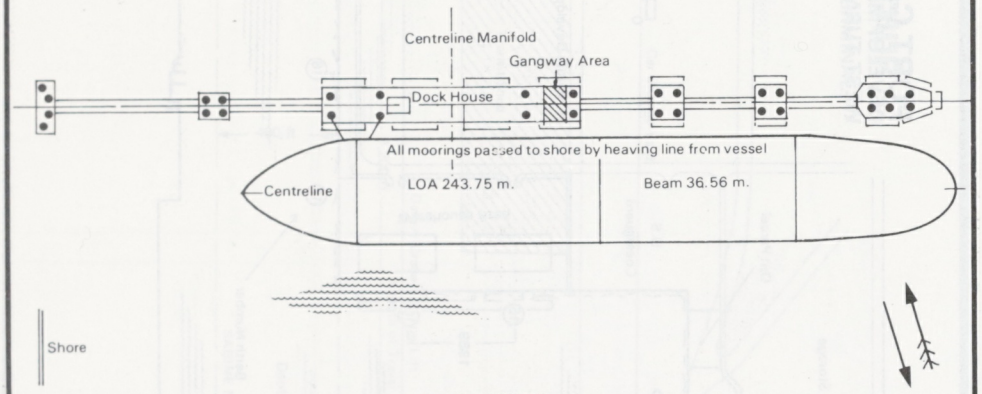


PORT CANAVERAL
DEVELOPMENT PLAN — WEST TURNING BASIN



PORTLAND

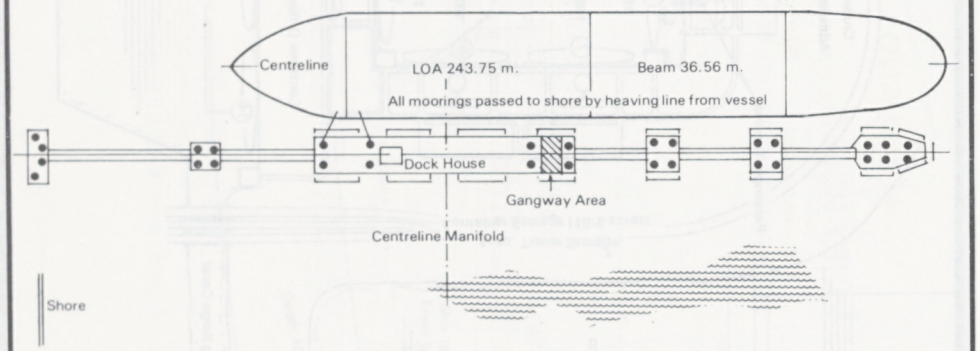
PORTLAND PIPELINE CORPORATION
MARINE TERMINAL — PIER NO.2



SOUTH BERTH
APPROACH TO PIER — FIRST LINES ASHORE

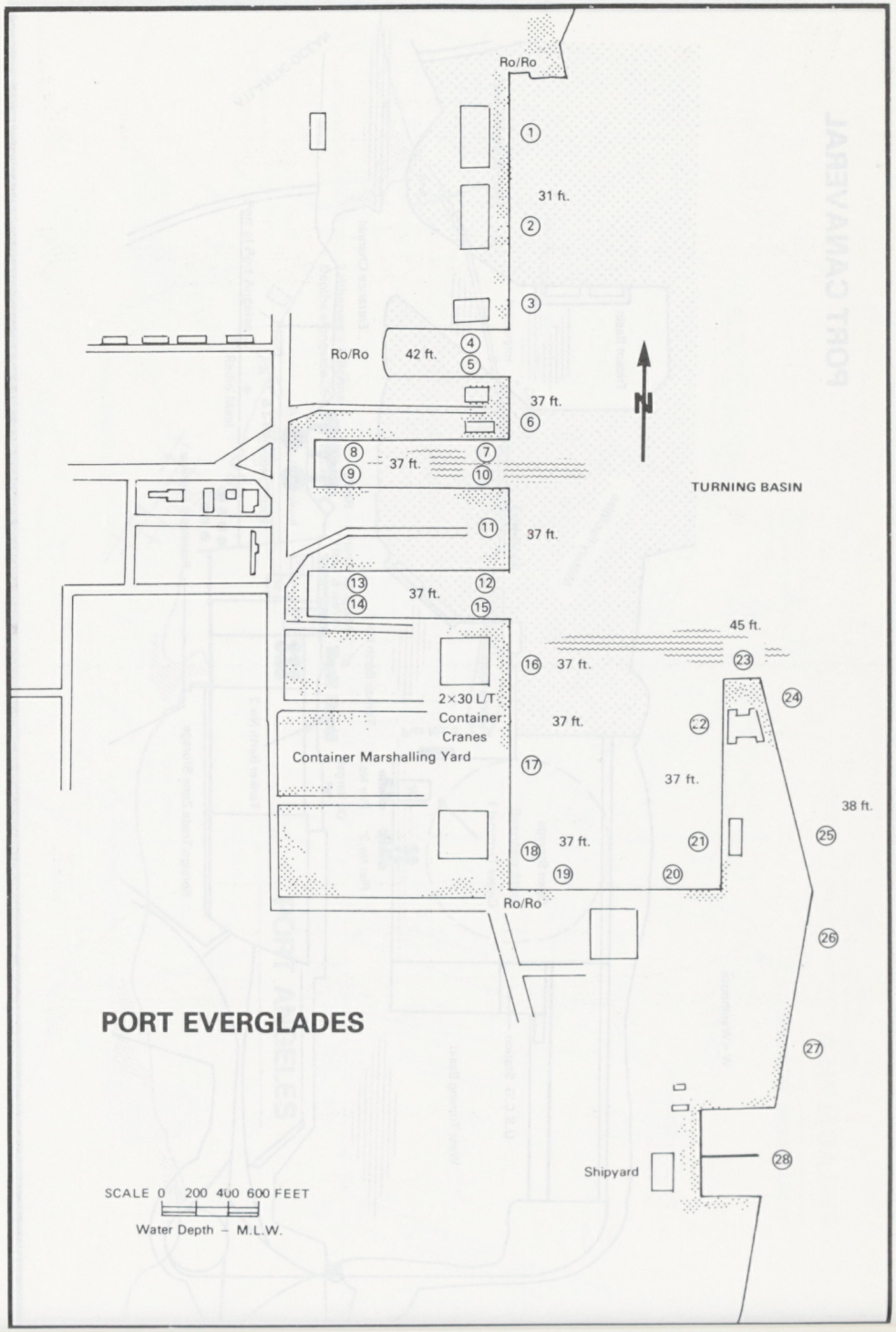
SHORE CARGO RECEIVING FACILITIES

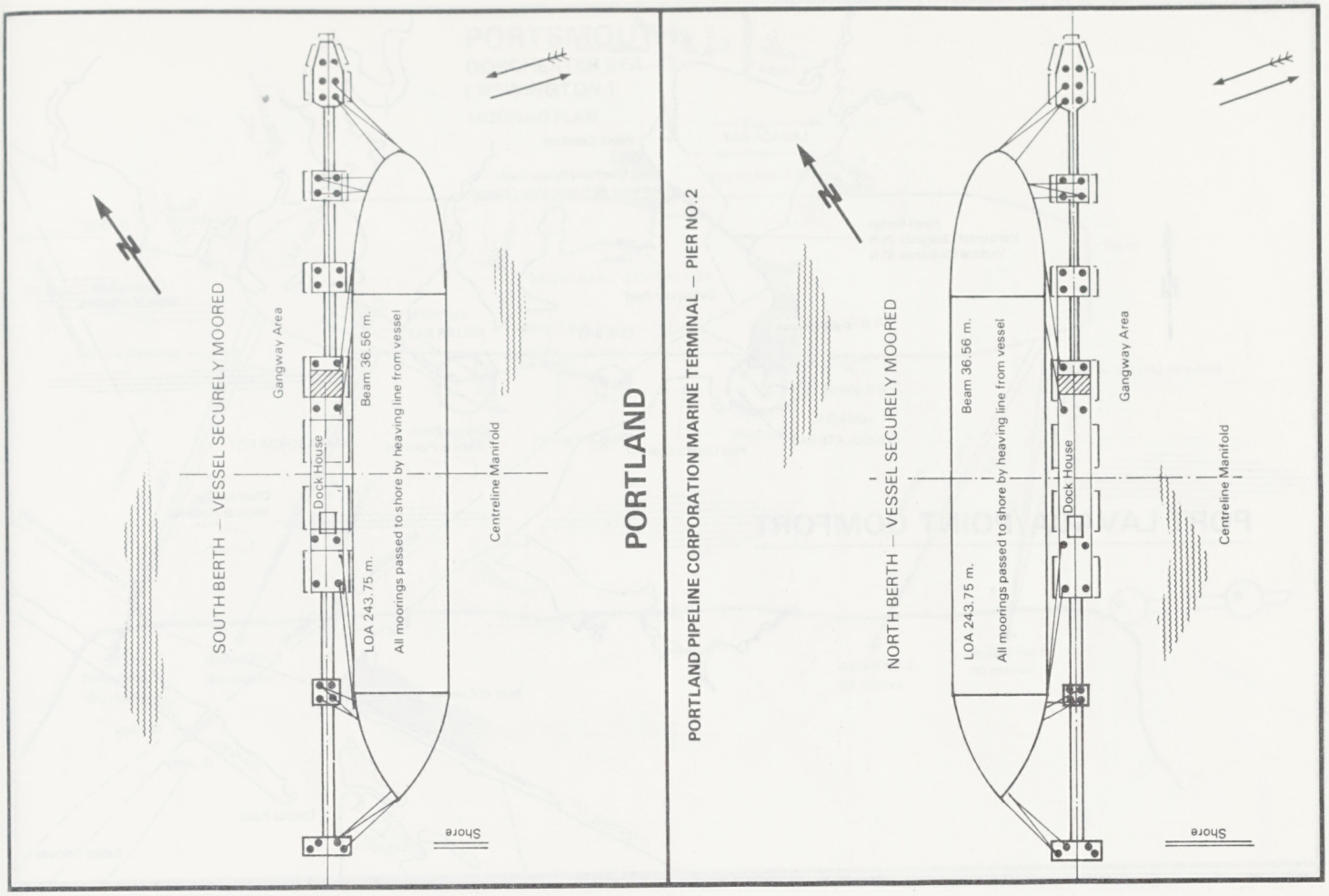
2× 10 in. hoses (Each Berth) Two aft connections
2× 12 in. metal arms (Each berth) Two for'd connections
1× 36/30 in. shore line — length approx. 0.5 mile to nearest tanks & 3 miles to furthest tank.
OR
1× 36/42 in. shore line — length approx. 0.5 mile to nearest tanks & 3 miles to furthest tank.
Back Pressure = 12.3 kg/sq.cm. (maximum)

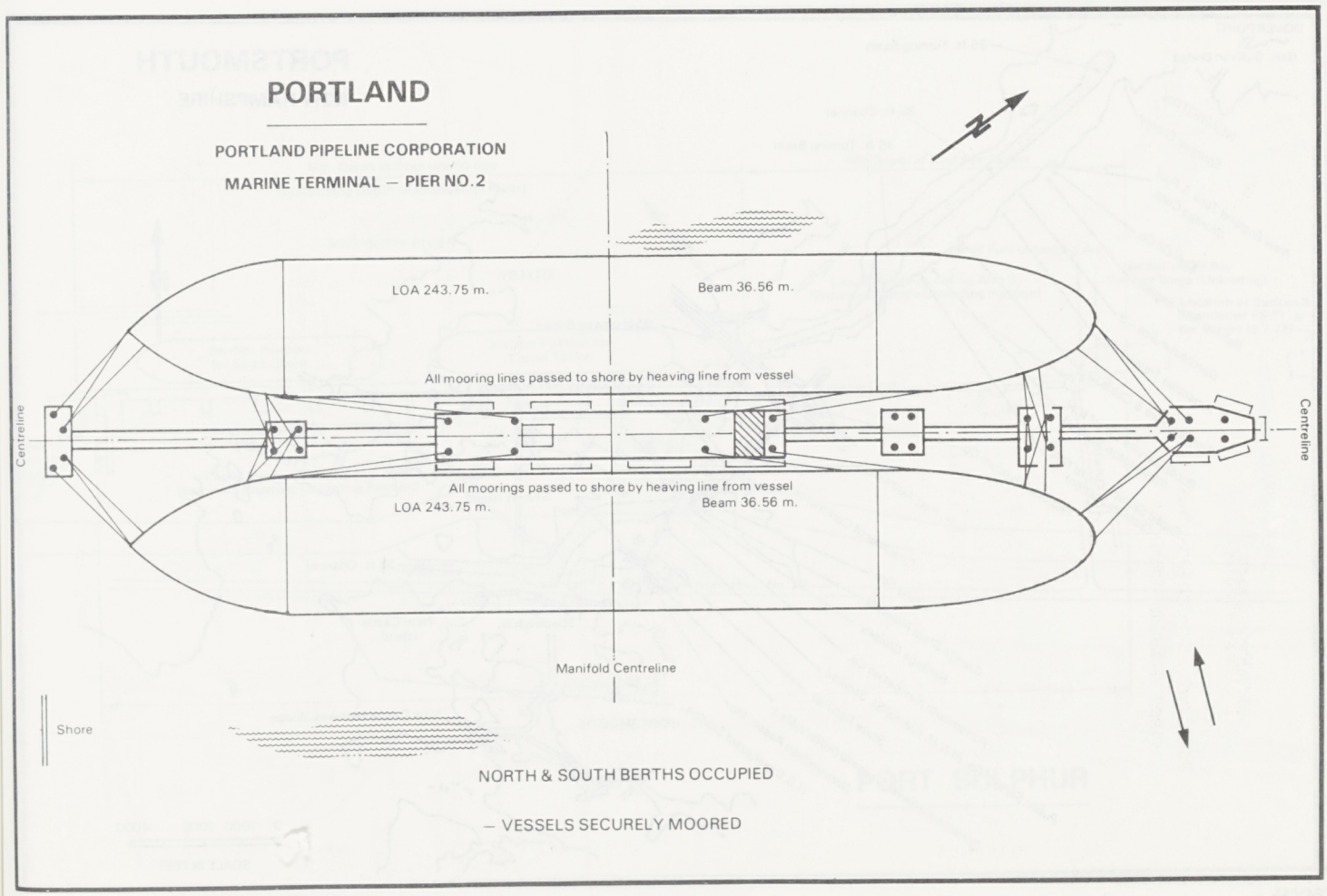


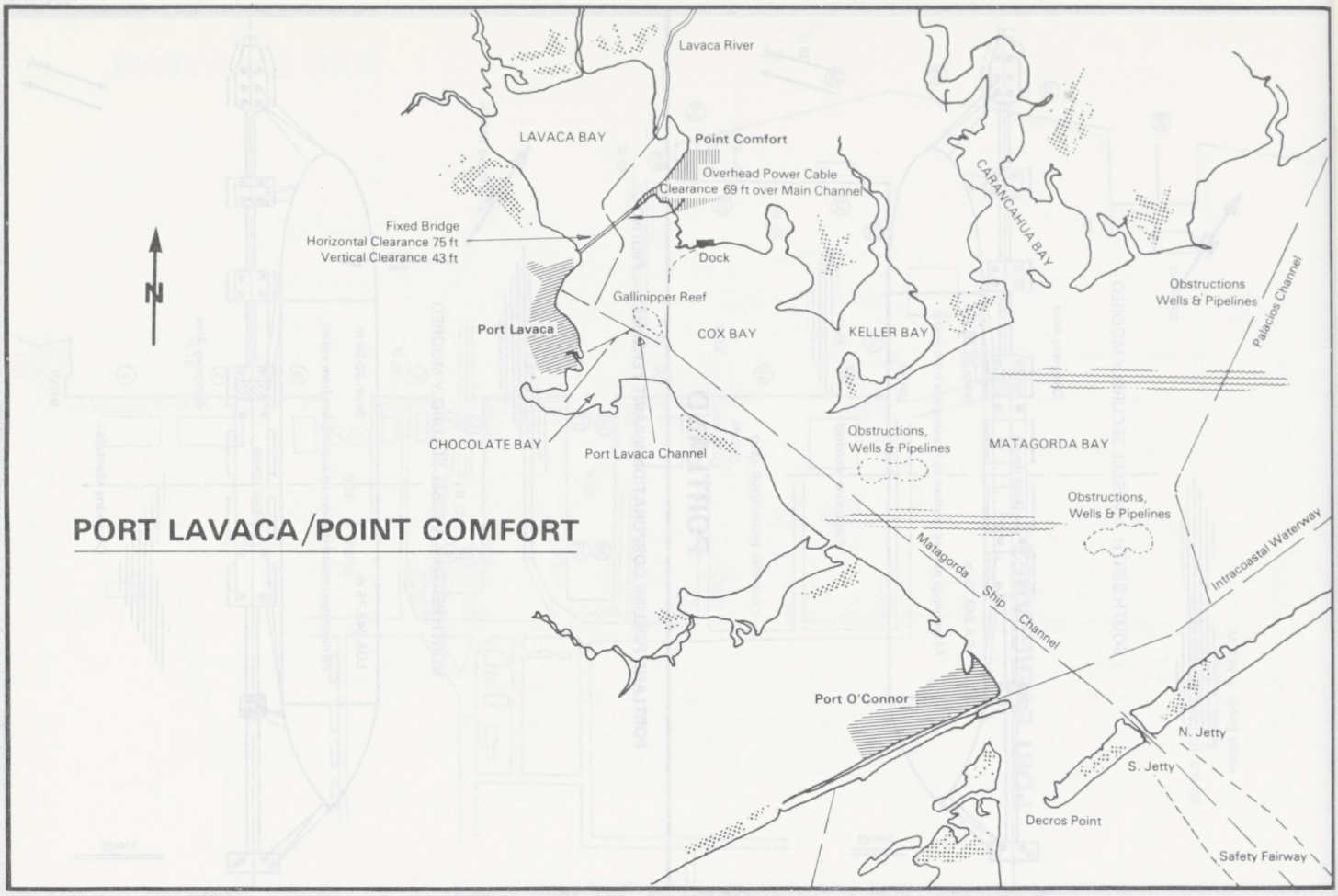
NORTH BERTH
APPROACH TO PIER — FIRST LINES ASHORE

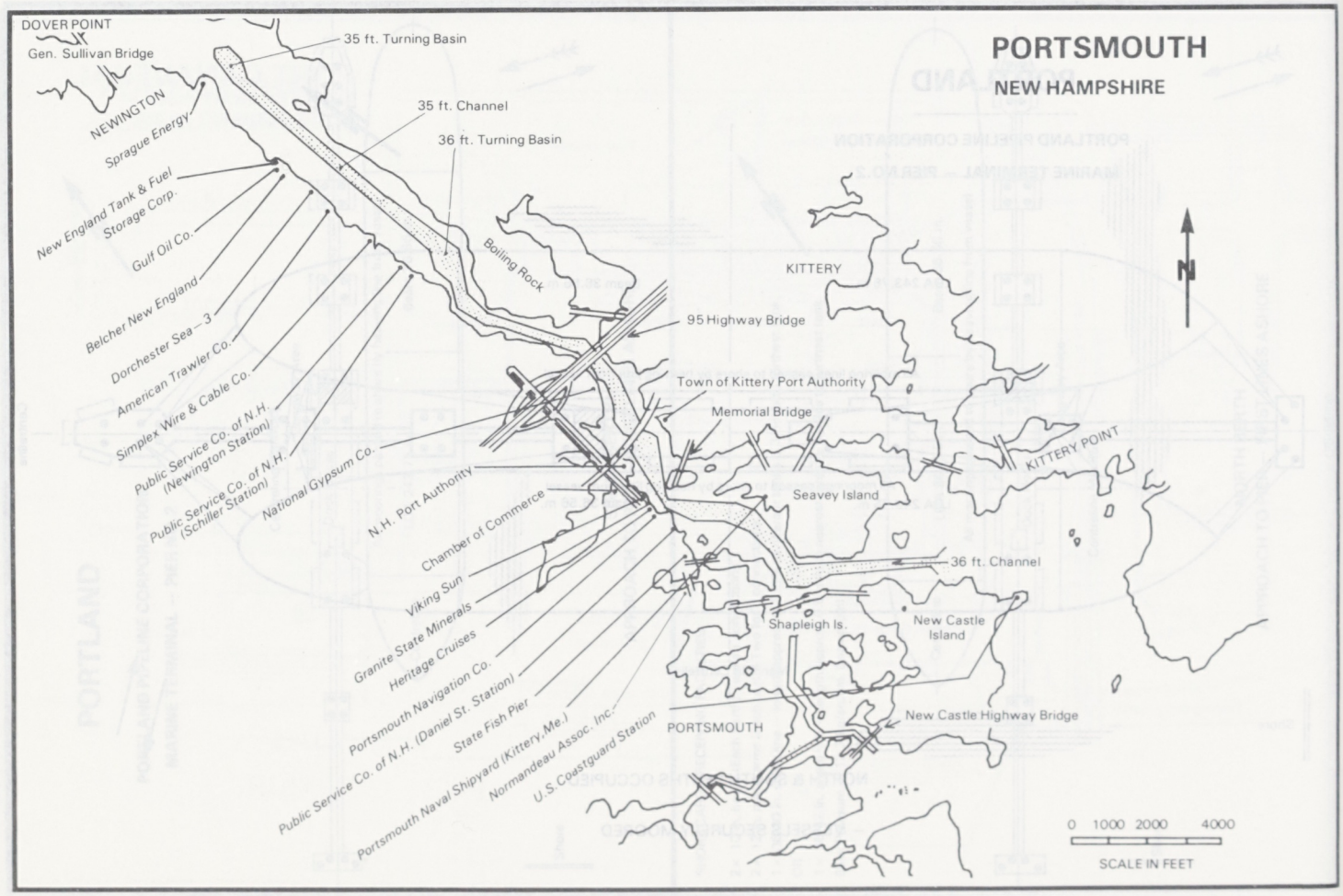
U.S.A.




PORTLAND
SOUTH BERTH — VESSEL SECURELY MOORED
Gangway Area
Beam 36.56 m.
Dock House
LOA 243.75 m.
All moorings passed to shore by heaving line from vessel
Centreline Manifold
Shore
PORTLAND PIPELINE CORPORATION MARINE TERMINAL — PIER NO.2
NORTH BERTH — VESSEL SECURELY MOORED
Beam 36.56 m.
All moorings passed to shore by heaving line from vessel
Gangway Area
Dock House
LOA 243.75 m.
Centreline Manifold
Shore


PORTLAND
PORTLAND PIPELINE CORPORATION
MARINE TERMINAL — PIER NO.2
LOA 243.75 m.
Beam 36.56 m.
All mooring lines passed to shore by heaving line from vessel
Centreline
Centreline
All moorings passed to shore by heaving line from vessel
LOA 243.75 m.
Beam 36.56 m.
Manifold Centreline
Shore
NORTH & SOUTH BERTHS OCCUPIED
— VESSELS SECURELY MOORED


PORT LAVACA/POINT COMFORT
Lavaca River
LAVACA BAY
Point Comfort
Overhead Power Cable
Clearance 69 ft over Main Channel
Fixed Bridge
Horizontal Clearance 75 ft
Vertical Clearance 43 ft
Dock
Gallinipper Reef
Port Lavaca
COX BAY
KELLER BAY
CARANCAHUA BAY
Obstructions
Wells & Pipelines
Palacios Channel
CHOCOLATE BAY
Port Lavaca Channel
Obstructions,
Wells & Pipelines
MATAGORDA BAY
Obstructions,
Wells & Pipelines
Intracoastal Waterway
Matagorda Ship Channel
Port O'Connor
N. Jetty
S. Jetty
Decros Point
Safety Fairway

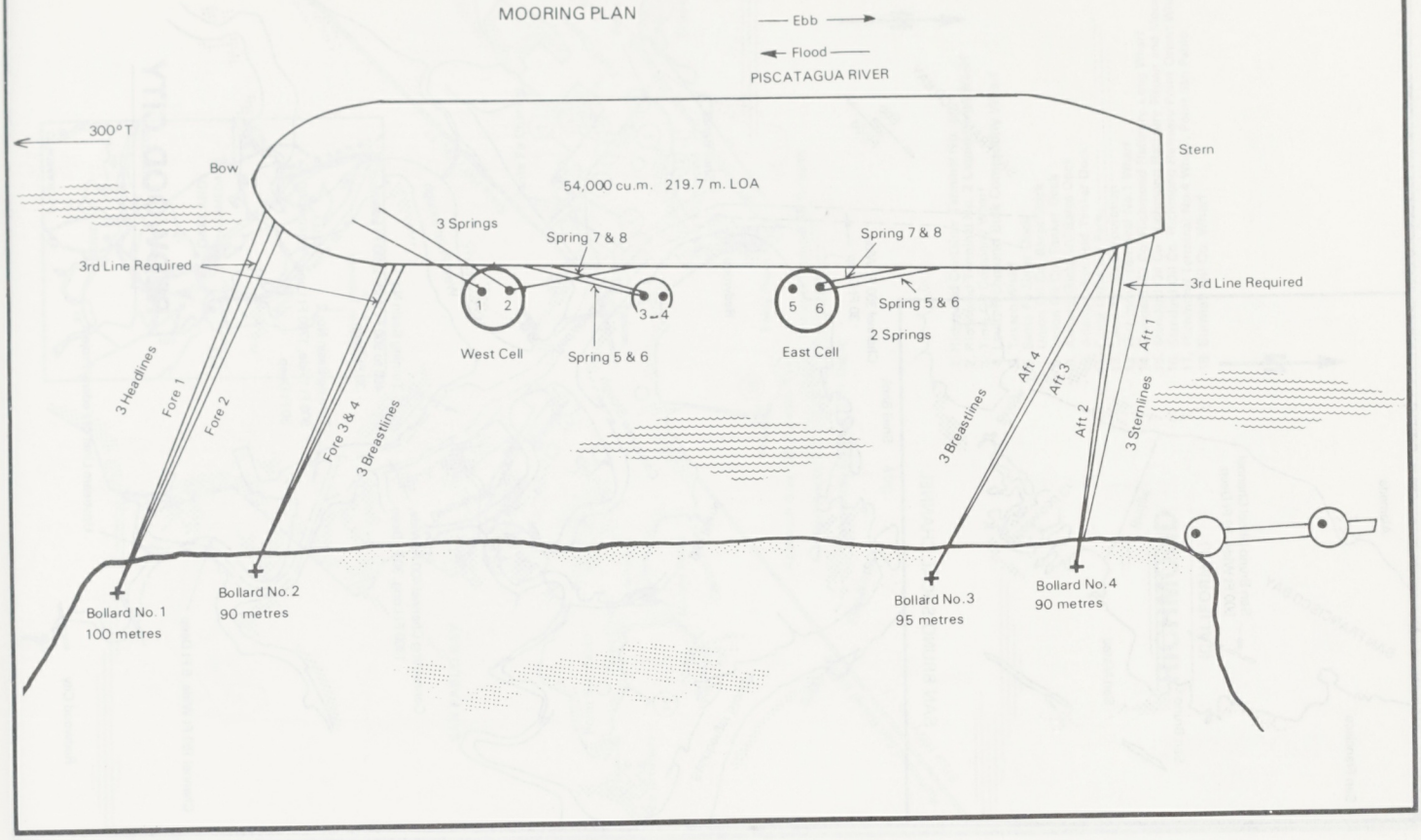

PORTSMOUTH
NEW HAMPSHIRE
DOVER POINT
Gen. Sullivan Bridge
35 ft. Turning Basin
NEWINGTON
35 ft. Channel
36 ft. Turning Basin
Sprague Energy
New England Tank & Fuel Storage Corp.
Gulf Oil Co.
Belcher New England
Dorchester Sea – 3
American Trawler Co.
Simplex Wire & Cable Co.
Public Service Co. of N.H. (Newington Station)
Public Service Co. of N.H. (Schiller Station)
National Gypsum Co.
Boiling Rock
KITTERY
95 Highway Bridge
Town of Kittery Port Authority
Memorial Bridge
KITTERY POINT
N.H. Port Authority
Chamber of Commerce
Seavey Island
Viking Sun
Granite State Minerals
Heritage Cruises
Portsmouth Navigation Co.
Public Service Co. of N.H. (Daniel St. Station)
State Fish Pier
Portsmouth Naval Shipyard (Kittery, Me.)
Normandeau Assoc. Inc.
U.S. Coastguard Station
36 ft. Channel
Shapleigh Is.
New Castle Island
PORTSMOUTH
New Castle Highway Bridge
0 1000 2000 4000
SCALE IN FEET

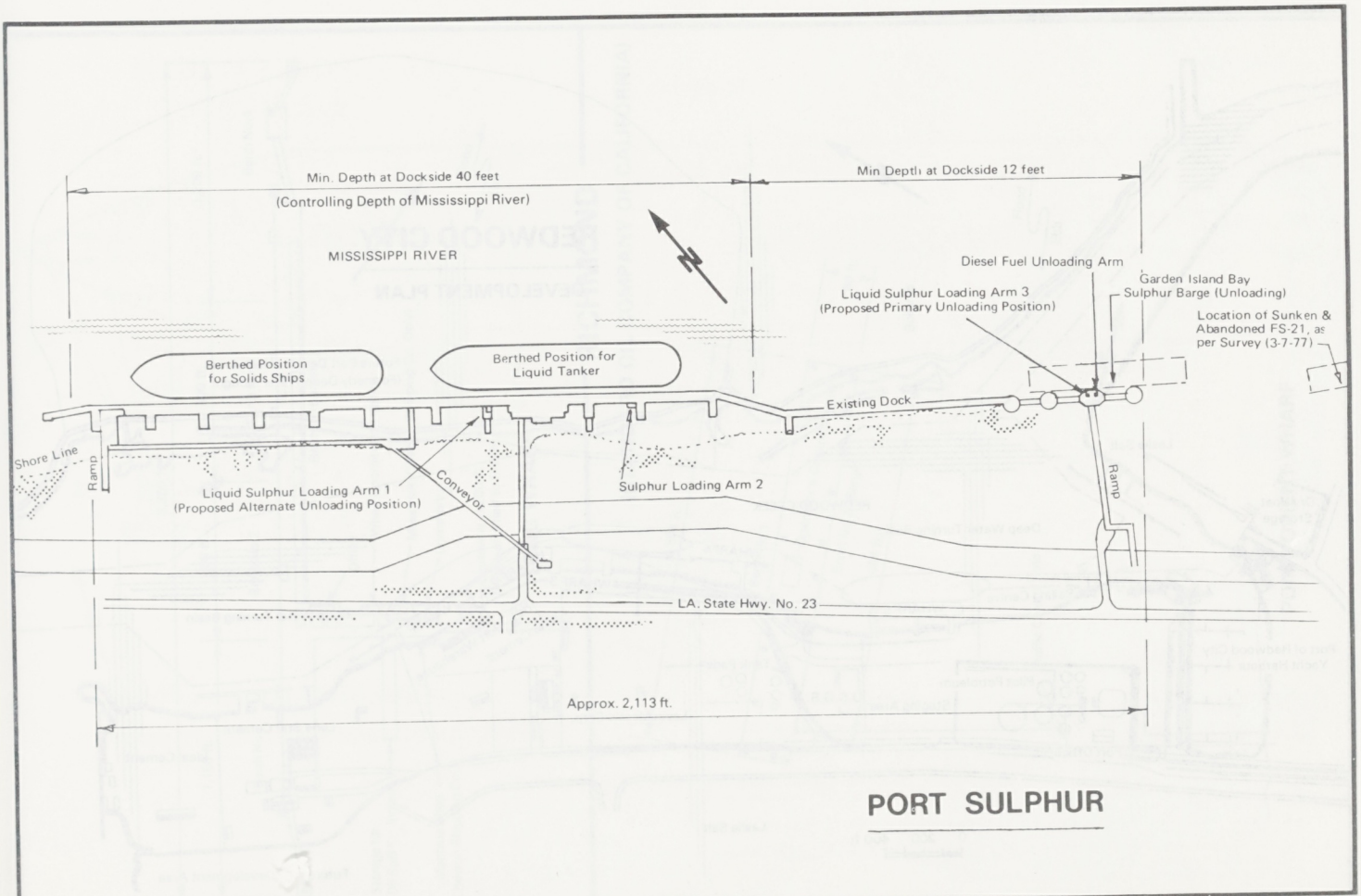
PORTSMOUTH

DORCHESTER SEA – 3

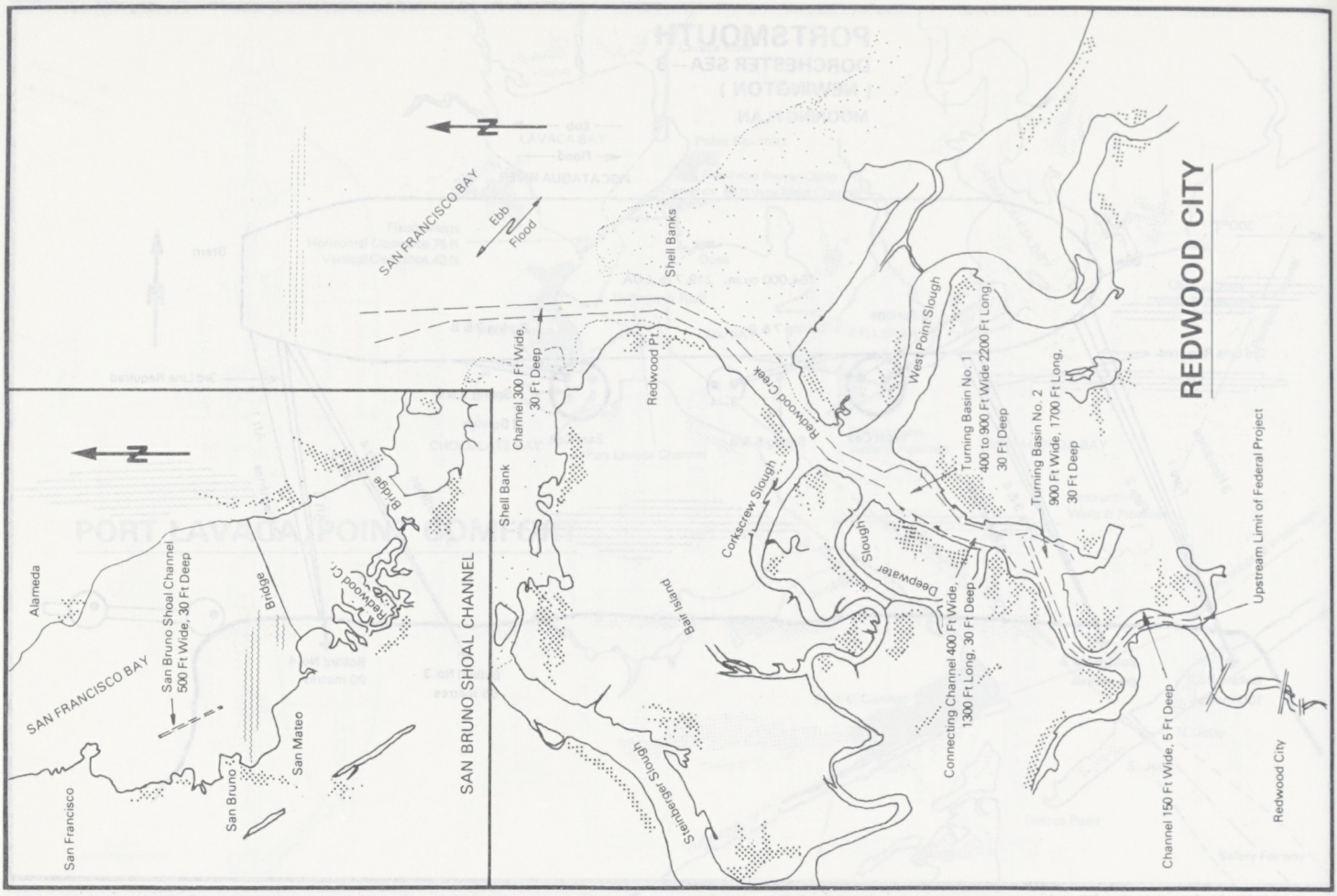
(NEWINGTON)

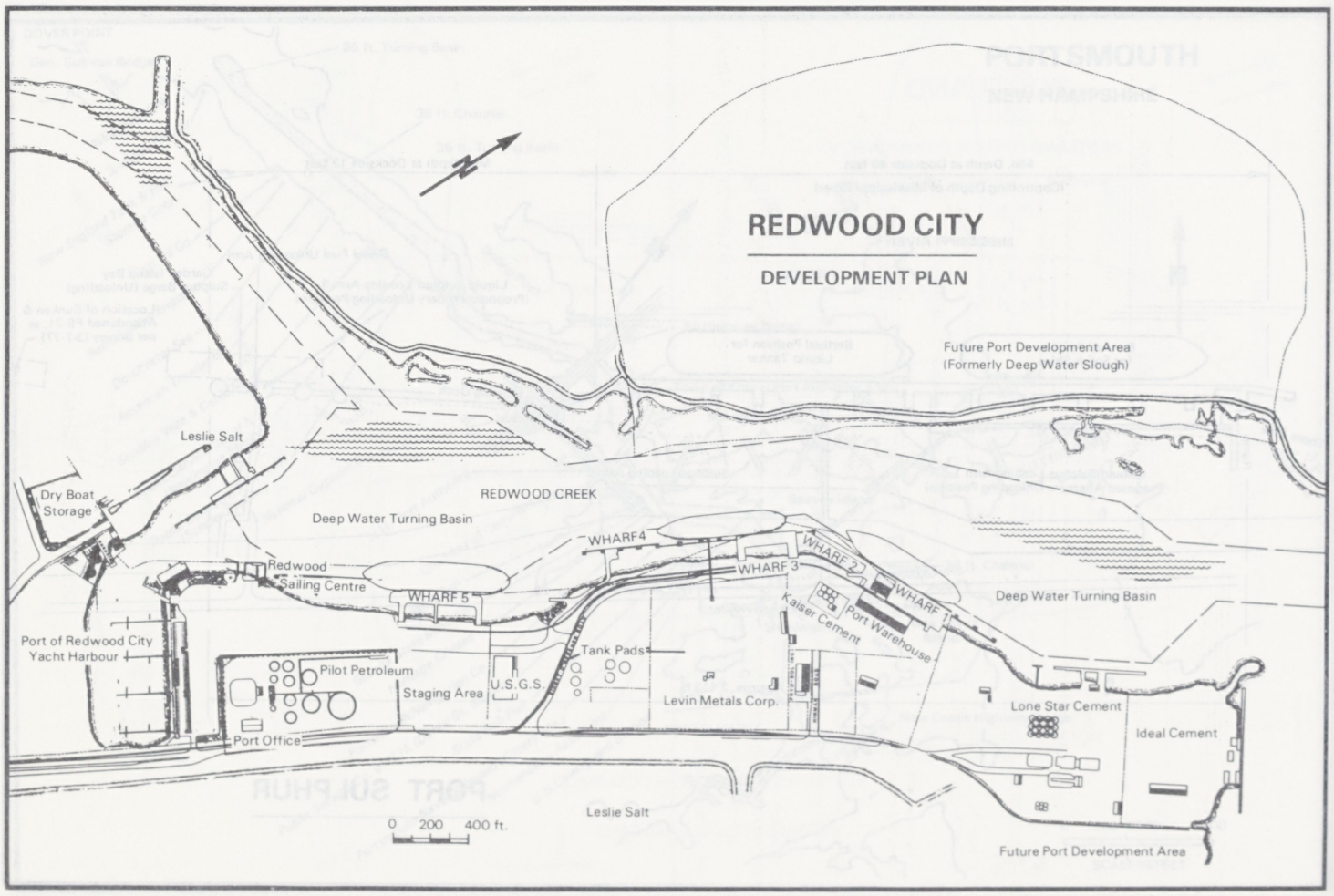
MOORING PLAN

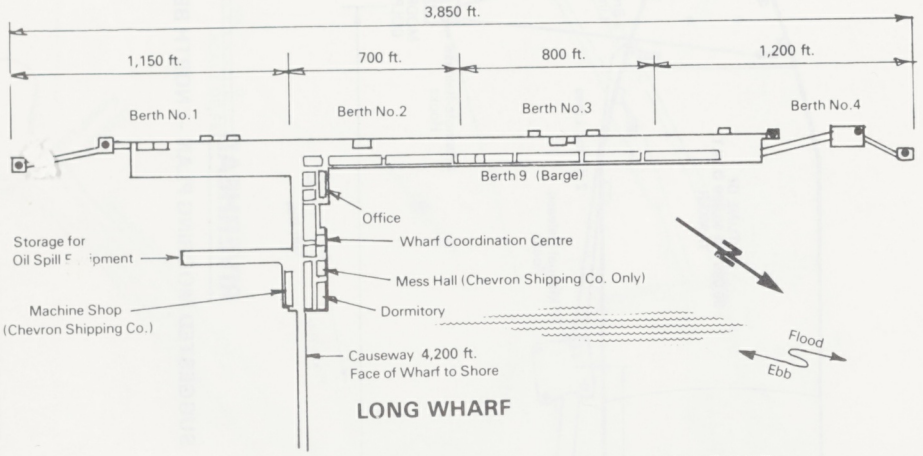




PORT SULPHUR

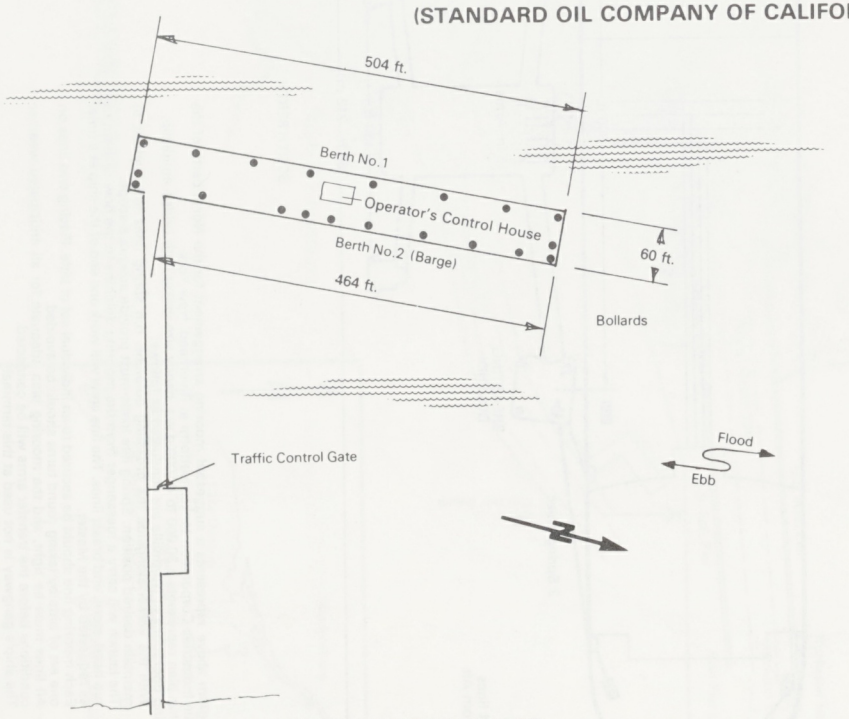

REDWOOD CITY
SAN FRANCISCO BAY
Ebb
Flood
Shell Banks
Channel 300 Ft Wide, 30 Ft Deep
Redwood Pt.
Redwood Creek
West Point Slough
Turning Basin No. 1
400 to 900 Ft Wide 2200 Ft Long, 30 Ft Deep
Turning Basin No. 2
900 Ft Wide, 1700 Ft Long, 30 Ft Deep
Upstream Limit of Federal Project
Shell Bank
Corkscrew Slough
Deepwater Slough
Connecting Channel 400 Ft Wide, 1300 Ft Long, 30 Ft Deep
Bair Island
Steinberger Slough
Channel 150 Ft Wide, 5 Ft Deep
Redwood City
SAN BRUNO SHOAL CHANNEL
Alameda
San Bruno Shoal Channel 500 Ft Wide, 30 Ft Deep
Bridge
Redwood C.
SAN FRANCISCO BAY
San Francisco
San Bruno
San Mateo

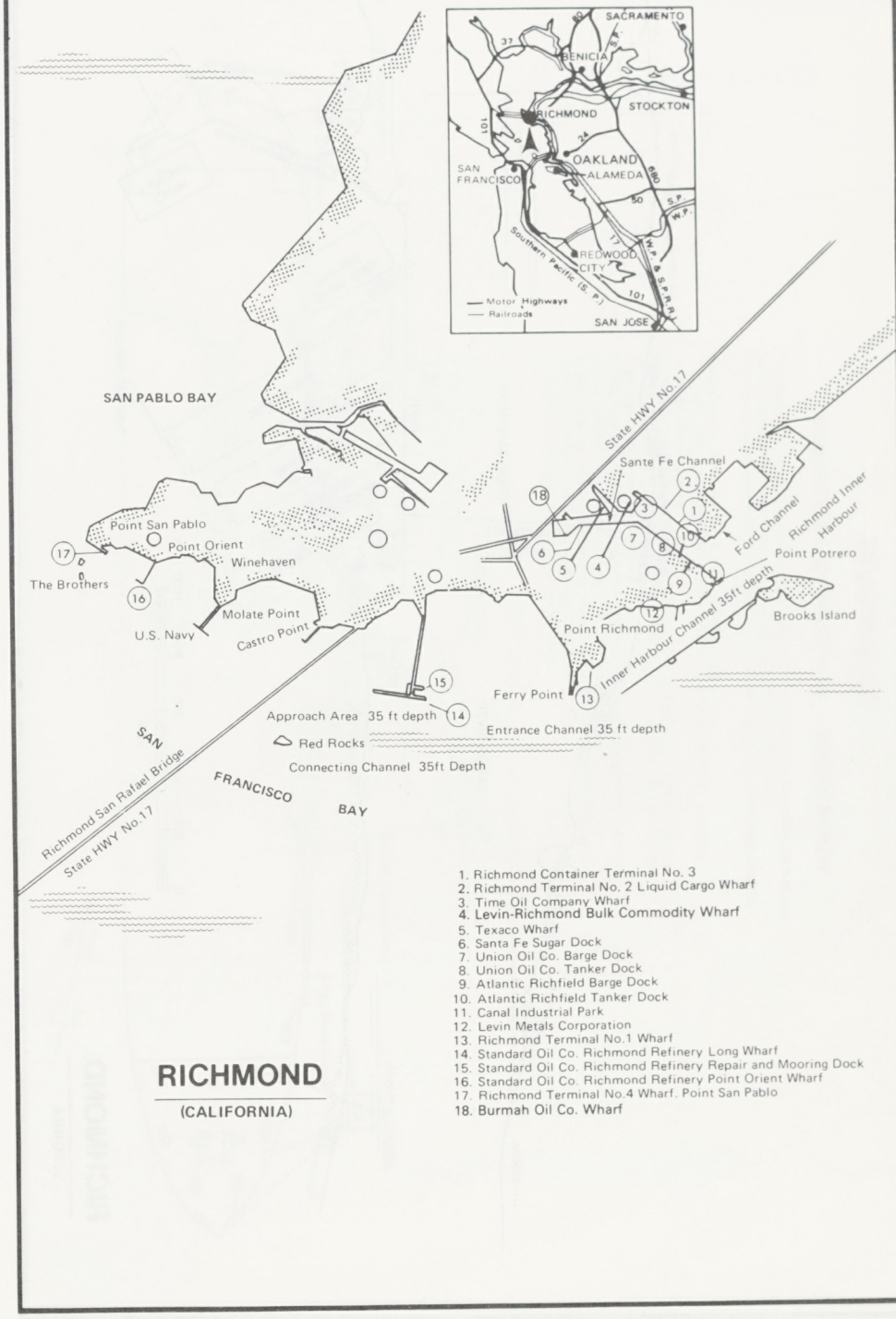

REDWOOD CITY
DEVELOPMENT PLAN
Future Port Development Area
(Formerly Deep Water Slough)
Leslie Salt
Dry Boat Storage
REDWOOD CREEK
Deep Water Turning Basin
WHARF4
WHARF 3
WHARF 2
WHARF 1
Redwood Sailing Centre
WHARF 5
Port of Redwood City Yacht Harbour
Pilot Petroleum
Staging Area
U.S.G.S.
Tank Pads
Levin Metals Corp.
Kaiser Cement
Port Warehouse
Deep Water Turning Basin
Lone Star Cement
Ideal Cement
Port Office
Leslie Salt
0 200 400 ft.
Future Port Development Area



RICHMOND

(STANDARD OIL COMPANY OF CALIFORNIA)





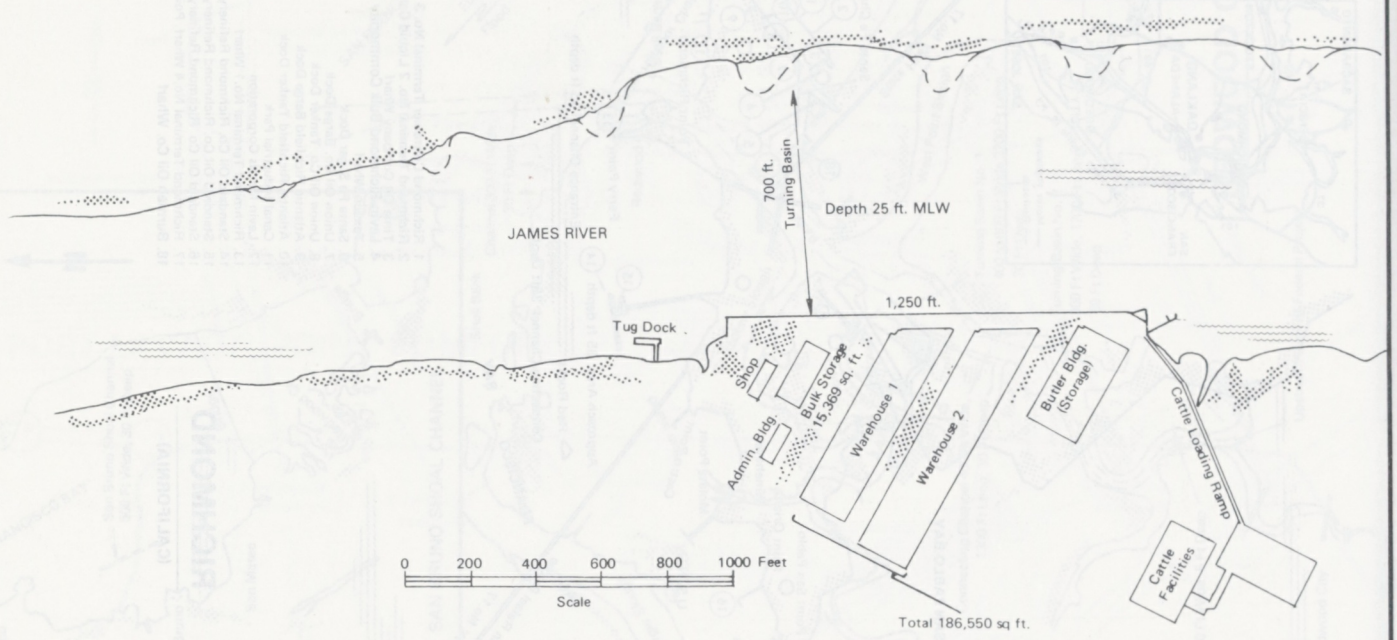
RICHMOND

(CALIFORNIA)

1. Richmond Container Terminal No. 3
2. Richmond Terminal No. 2 Liquid Cargo Wharf
3. Time Oil Company Wharf
4. Levin-Richmond Bulk Commodity Wharf
5. Texaco Wharf
6. Santa Fe Sugar Dock
7. Union Oil Co. Barge Dock
8. Union Oil Co. Tanker Dock
9. Atlantic Richfield Barge Dock
10. Atlantic Richfield Tanker Dock
11. Canal Industrial Park
12. Levin Metals Corporation
13. Richmond Terminal No.1 Wharf
14. Standard Oil Co. Richmond Refinery Long Wharf
15. Standard Oil Co. Richmond Refinery Repair and Mooring Dock
16. Standard Oil Co. Richmond Refinery Point Orient Wharf
17. Richmond Terminal No.4 Wharf. Point San Pablo
18. Burmah Oil Co. Wharf

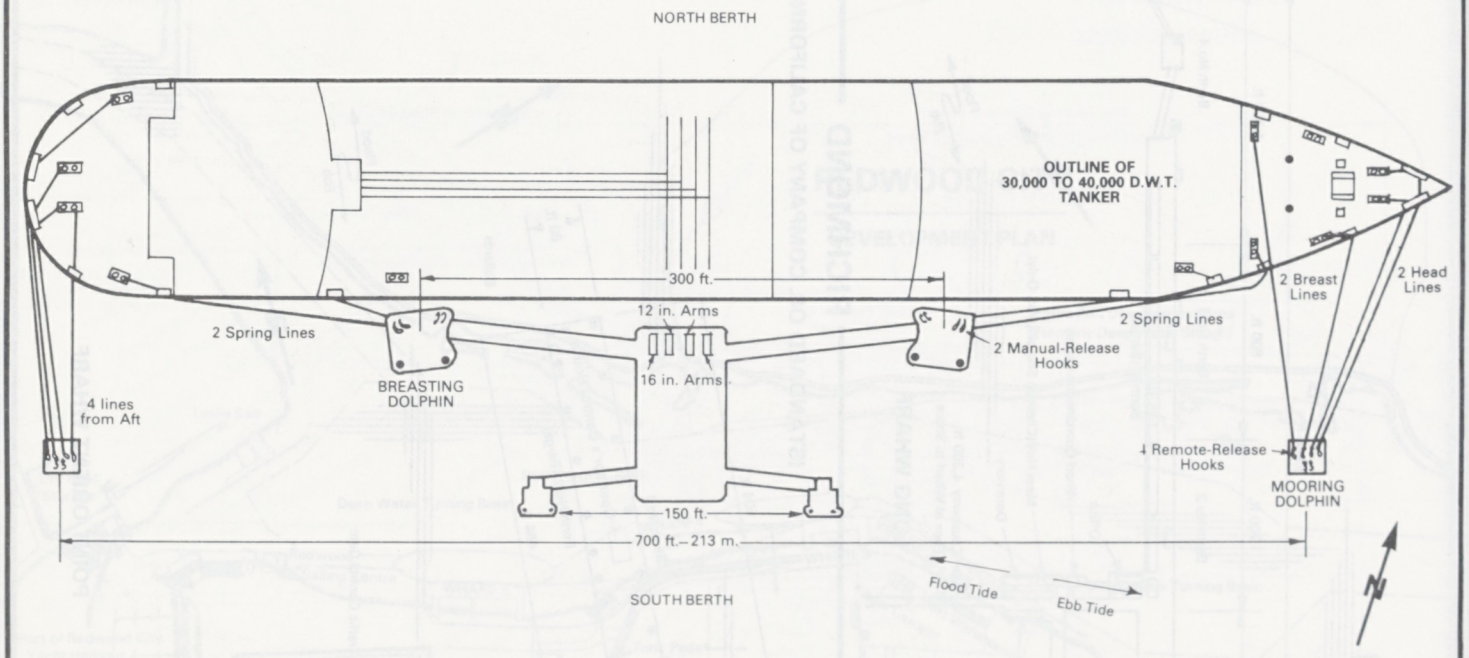
U.S.A.

P1069



RICHMOND

VIRGINIA



RIVERHEAD

SUGGESTED MOORING PLAN — NORTH BERTH

The diagram above represents a suggested mooring arrangement for the North berth of the Northville Industries Corporation tanker platform at Riverhead, New York.

The ship plan represents a 30,000 to 40,000 d.w.t. handy size tanker with bridge amidship.

Mooring operations at Northville are conducted as follows:

1. With the vessel alongside the breasting dolphins, run spring lines fore and aft to maintain desired position. Spring line leads must provide adequate scope.
2. The launch will carry a messenger from the mooring dolphins to the bow or stern to run head, stern, and breast lines. The line crew will work one end of the ship at a time, as requested by the Master.
3. Each mooring line should be secured to an individual set of bitts. Placing two lines on one set of bitts by taking round turns should be avoided.
4. All lines must be tight, and the mooring plan adequate for all anticipated weather conditions before the transfer arms will be connected.
5. The ship's gangway is not used at this terminal.

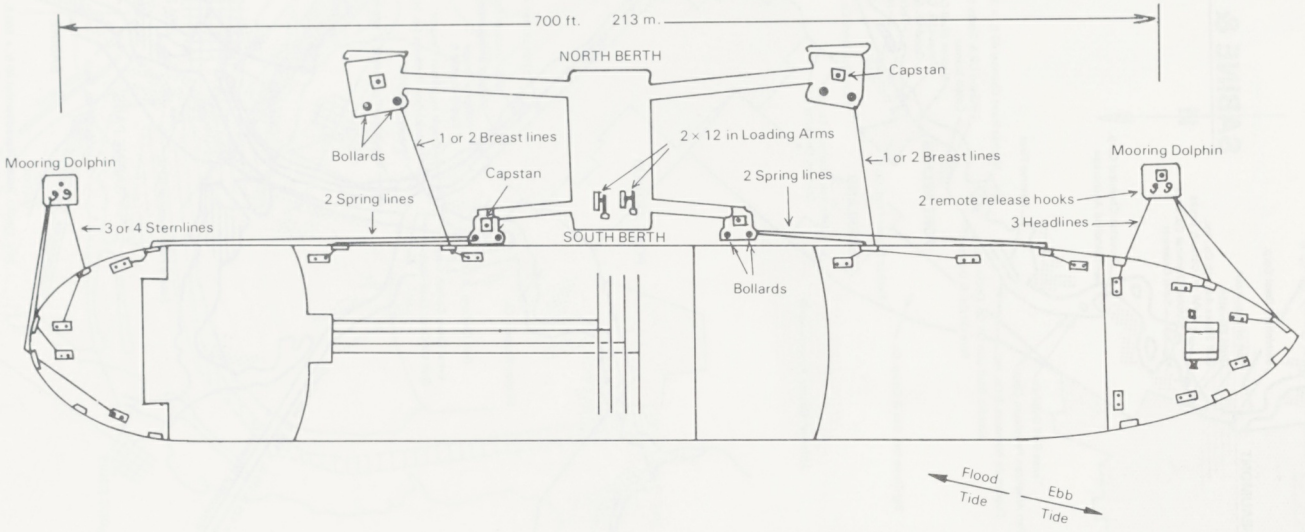
RIVERHEAD

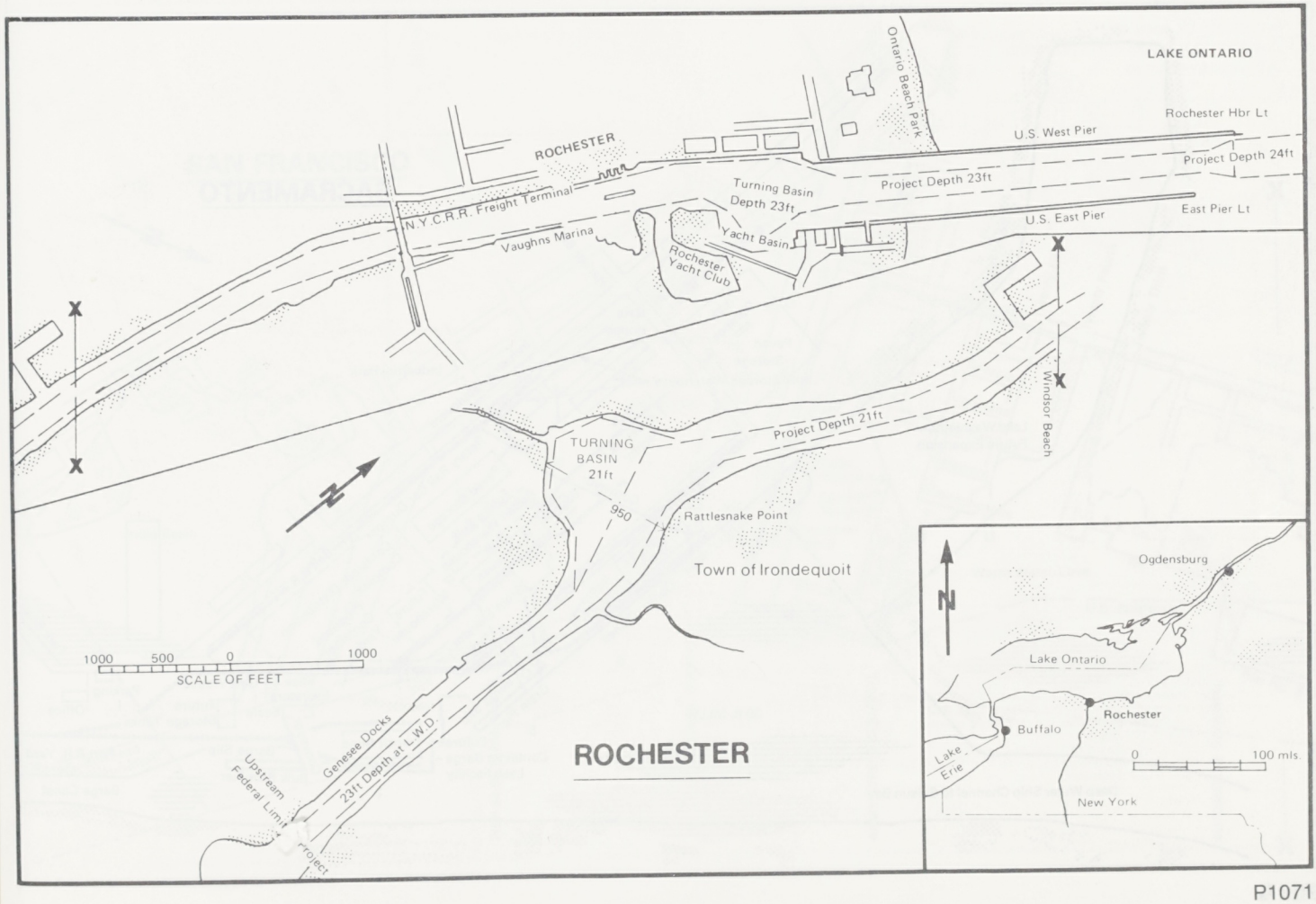
SUGGESTED MOORING PLAN — SOUTH BERTH

The diagram below represents a suggested mooring arrangement for the South Berth of the Northville Industries Corporation tanker platform at Riverhead, New York.
The ship plan represents a 30,000 to 40,000 DWT handy size tanker with bridge amidship.

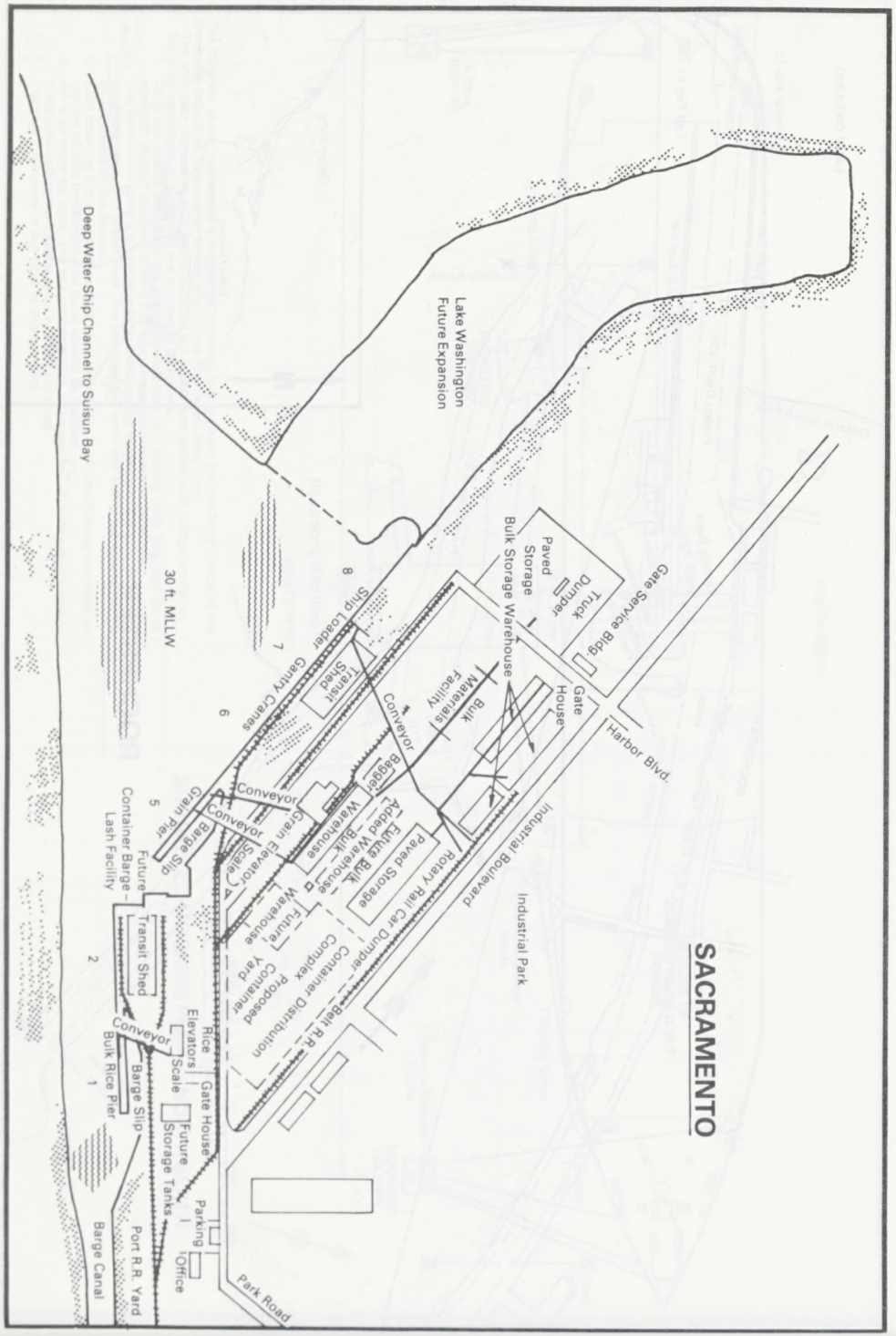
Mooring operations at Northville are conducted as follows:

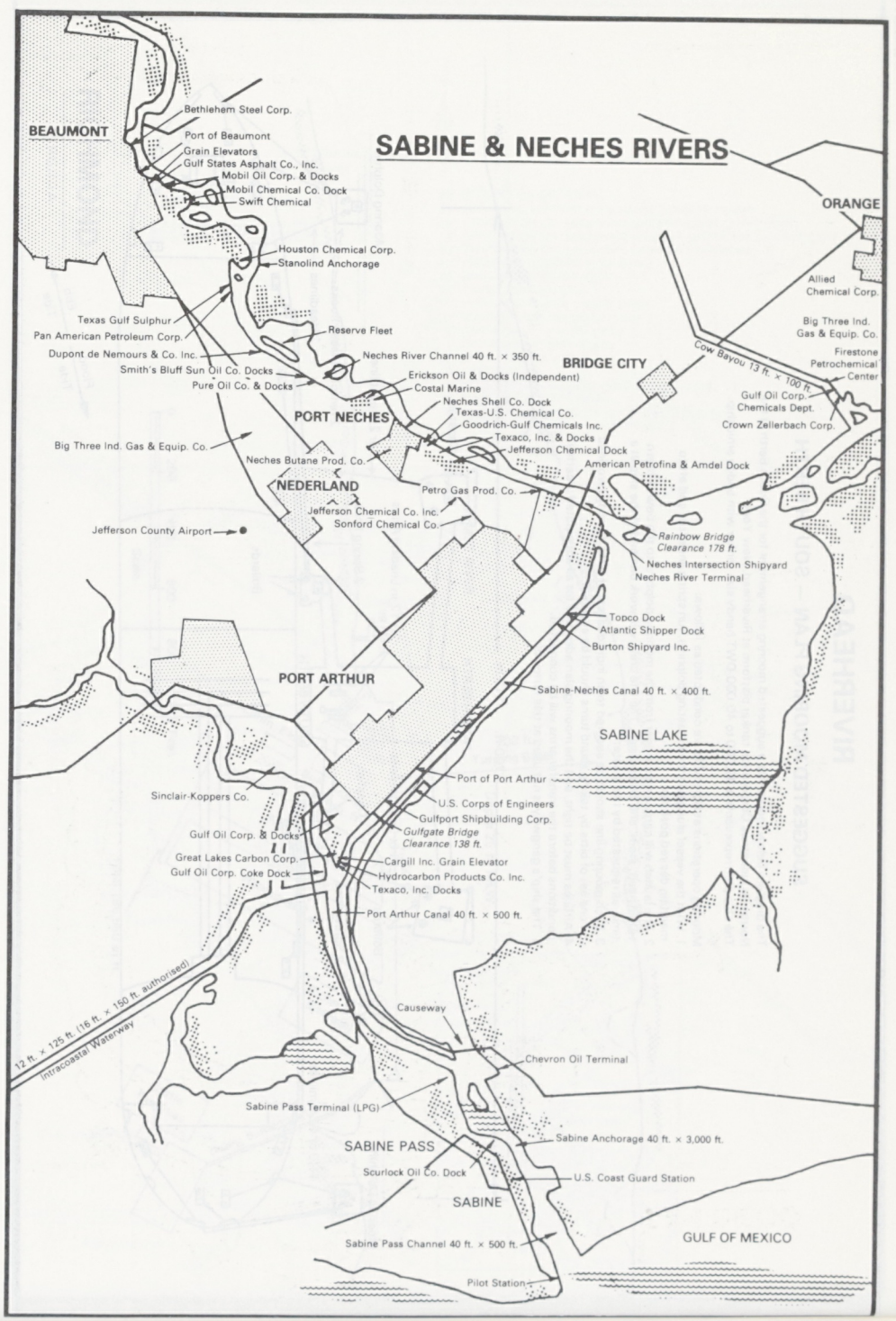
1. With the vessel alongside the breasting dolphins, run spring lines fore and aft to maintain desired position.
2. The launch will carry a messenger from the mooring dolphins to the bow or stern to run head, stern, and breast lines. The line crew will work one end of the ship at a time, as requested by the Master.
3. Each mooring line should be secured to an individual set of bitts. Placing two lines on one set of bitts by taking round turns should be avoided.
4. All lines must be tight, and the mooring plan adequate for all anticipated weather conditions before the transfer arms will be connected.
5. The ship's gangway is not used at this terminal.

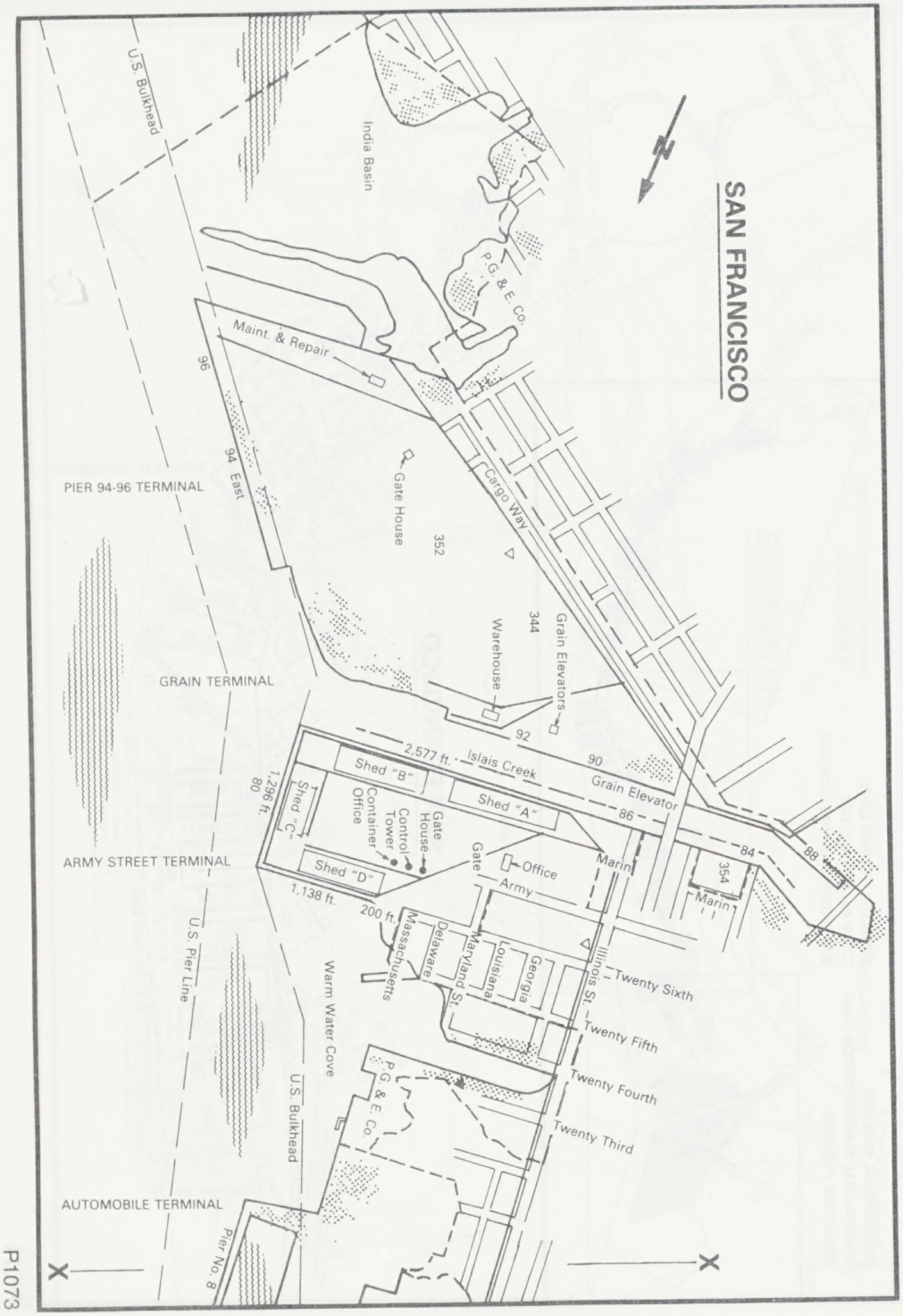


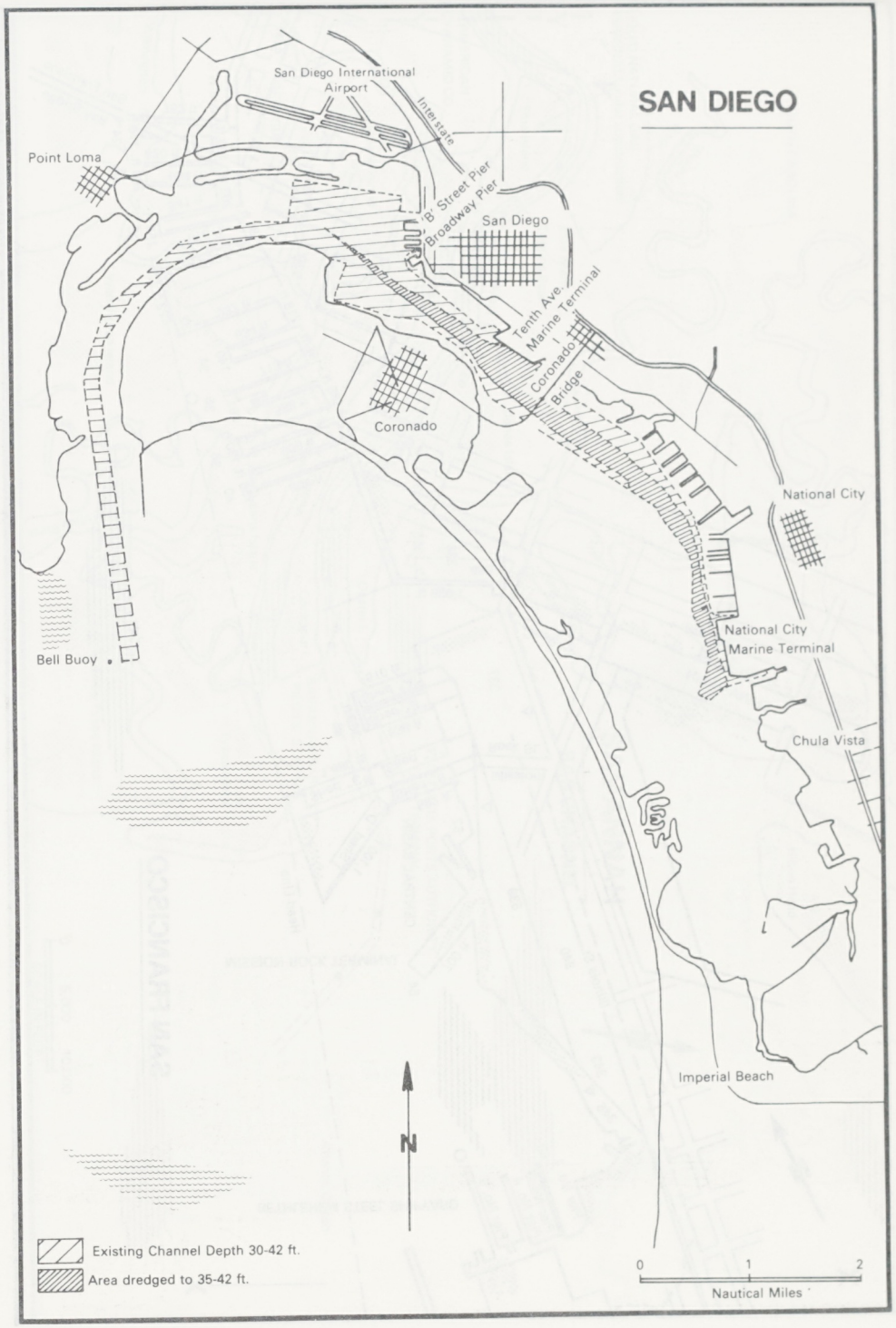


ROCHESTER


SACRAMENTO
Deep Water Ship Channel to Suisun Bay
Lake Washington Future Expansion
30 ft. MLLW
Ship Loader
Gantry Cranes
Transit Shed
Conveyor
Bagger
Bulk Materials Facility
Paved Storage
Bulk Storage Warehouse
Truck Dumper
Gate Service Bldg.
Gate House
Harbor Blvd.
Industrial Boulevard
Industrial Park
Grain Pier
Barge Slip
Container Barge Lash Facility
Future
Transit Shed
Grain Elevator
Scale
Warehouse
Future Added Bulk Warehouse
Future Warehouse
Paved Storage
Rotary Rail Car Dumper
Belt R.R.
Proposed Container Complex Yard
Container Distribution
Bulk Rice Pier
Barge Slip
Rice Elevators
Scale
Gate House
Future Storage Tanks
Parking
Office
Port R.R. Yard
Barge Canal
Park Road


SABINE & NECHES RIVERS
BEAUMONT
Bethlehem Steel Corp.
Port of Beaumont
Grain Elevators
Gulf States Asphalt Co., Inc.
Mobil Oil Corp. & Docks
Mobil Chemical Co. Dock
Swift Chemical
Houston Chemical Corp.
Stanolind Anchorage
ORANGE
Allied Chemical Corp.
Big Three Ind. Gas & Equip. Co.
Firestone Petrochemical Center
Texas Gulf Sulphur
Pan American Petroleum Corp.
Dupont de Nemours & Co. Inc.
Smith's Bluff Sun Oil Co. Docks
Pure Oil Co. & Docks
Reserve Fleet
Neches River Channel 40 ft. × 350 ft.
BRIDGE CITY
Cow Bayou 13 ft. × 100 ft.
Erickson Oil & Docks (Independent)
Costal Marine
Neches Shell Co. Dock
Texas-U.S. Chemical Co.
Goodrich-Gulf Chemicals Inc.
Texaco, Inc. & Docks
Jefferson Chemical Dock
PORT NECHES
Gulf Oil Corp. Chemicals Dept.
Crown Zellerbach Corp.
Big Three Ind. Gas & Equip. Co.
Neches Butane Prod. Co.
American Petrofina & Amdel Dock
NEDERLAND
Petro Gas Prod. Co.
Jefferson Chemical Co. Inc.
Sonford Chemical Co.
Jefferson County Airport
Rainbow Bridge Clearance 178 ft.
Neches Intersection Shipyard
Neches River Terminal
Topco Dock
Atlantic Shipper Dock
Burton Shipyard Inc.
PORT ARTHUR
Sabine-Neches Canal 40 ft. × 400 ft.
SABINE LAKE
Port of Port Arthur
U.S. Corps of Engineers
Gulfport Shipbuilding Corp.
Gulfgate Bridge Clearance 138 ft.
Sinclair-Koppers Co.
Gulf Oil Corp. & Docks
Great Lakes Carbon Corp.
Gulf Oil Corp. Coke Dock
Cargill Inc. Grain Elevator
Hydrocarbon Products Co. Inc.
Texaco, Inc. Docks
Port Arthur Canal 40 ft. × 500 ft.
Causeway
12 ft. × 125 ft. (16 ft. × 150 ft. authorised) Intracoastal Waterway
Chevron Oil Terminal
Sabine Pass Terminal (LPG)
Sabine Anchorage 40 ft. × 3,000 ft.
SABINE PASS
Scurlock Oil Co. Dock
U.S. Coast Guard Station
SABINE
GULF OF MEXICO
Sabine Pass Channel 40 ft. × 500 ft.
Pilot Station


SAN FRANCISCO
U.S. Bulkhead
India Basin
P.G. & E. Co.
Maint. & Repair
96
94 East
PIER 94-96 TERMINAL
Gate House
352
Cargo Way
Warehouse
344
Grain Elevators
GRAIN TERMINAL
92
90
2,577 ft.
Islais Creek
Grain Elevator
Shed "B"
Shed "A"
86
84
88
1,296 ft.
80
Shed "C"
Container Office
Control Tower
Gate House
Shed "D"
ARMY STREET TERMINAL
Gate
Office
Army
Marin
354
1,138 ft.
200 ft.
Massachusetts
Delaware
Maryland St.
Louisiana
Georgia
Illinois St.
Twenty Sixth
Twenty Fifth
Twenty Fourth
Twenty Third
U.S. Pier Line
Warm Water Cove
U.S. Bulkhead
P.G. & E. Co.
AUTOMOBILE TERMINAL
Pier No. 8


SAN DIEGO
San Diego International Airport
Interstate
Point Loma
B Street Pier
Broadway Pier
San Diego
Tenth Ave. Marine Terminal
Coronado Bridge
Coronado
National City
National City Marine Terminal
Bell Buoy
Chula Vista
Imperial Beach
N
Existing Channel Depth 30-42 ft.
Area dredged to 35-42 ft.
0
1
2
Nautical Miles

U.S.A.

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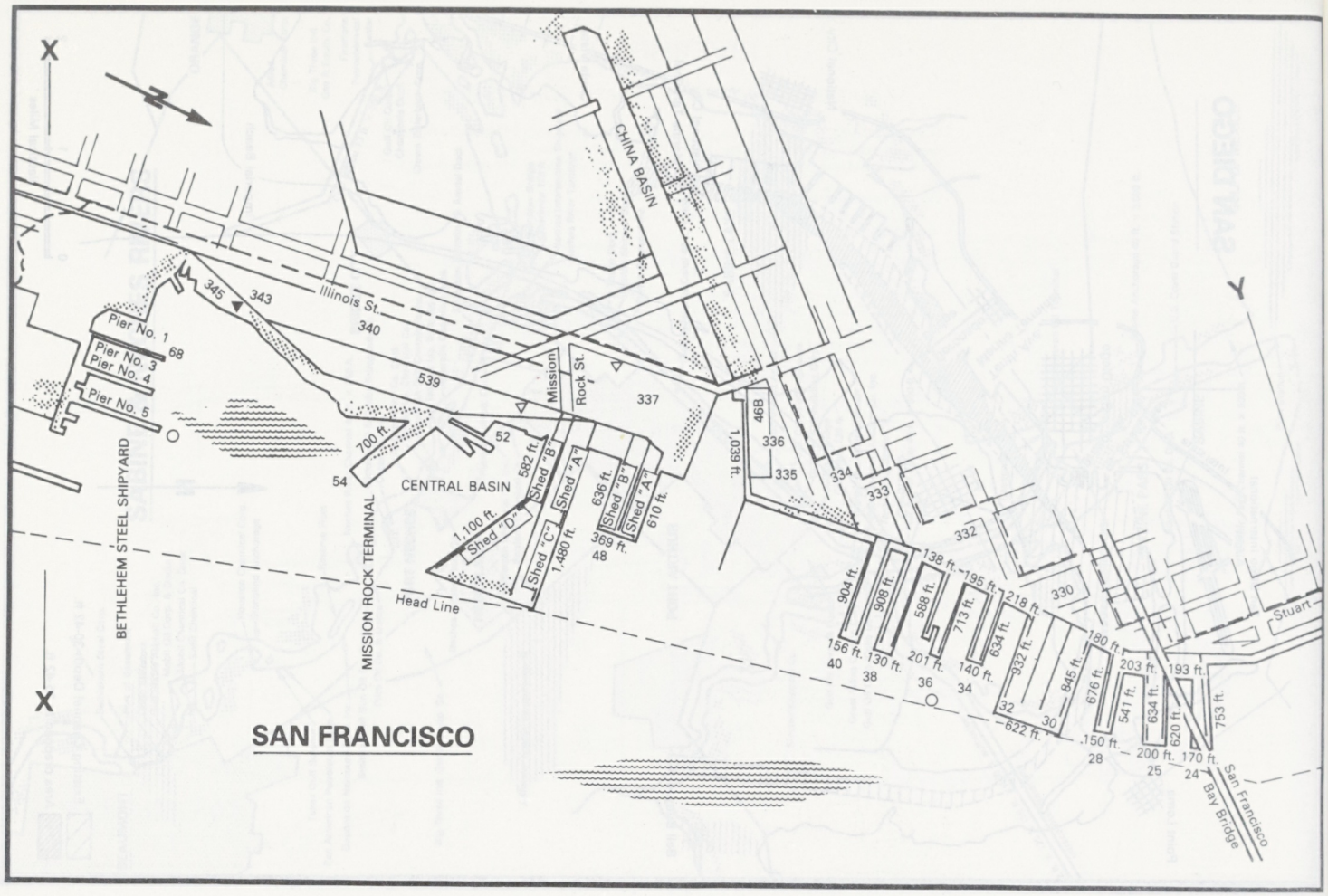
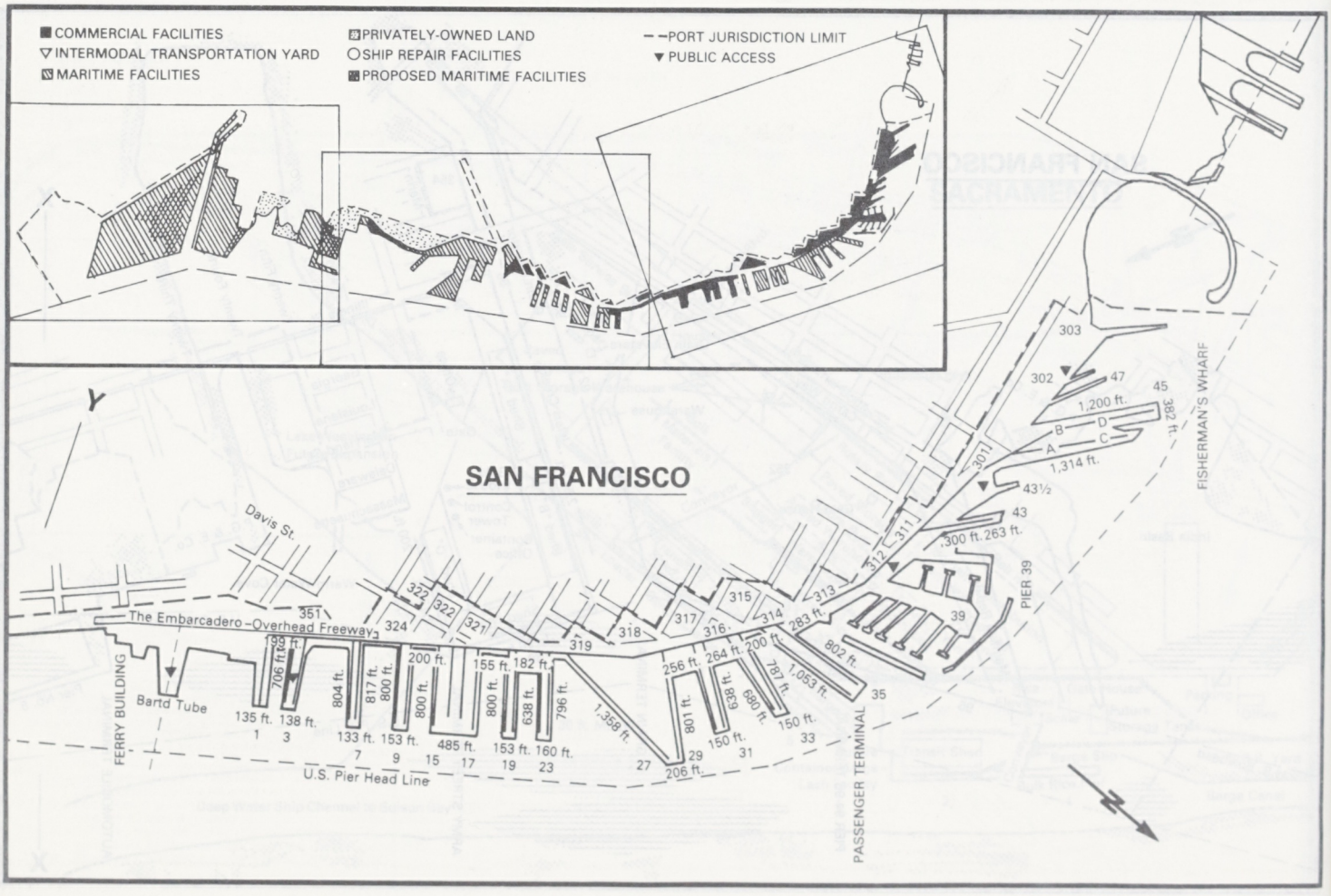
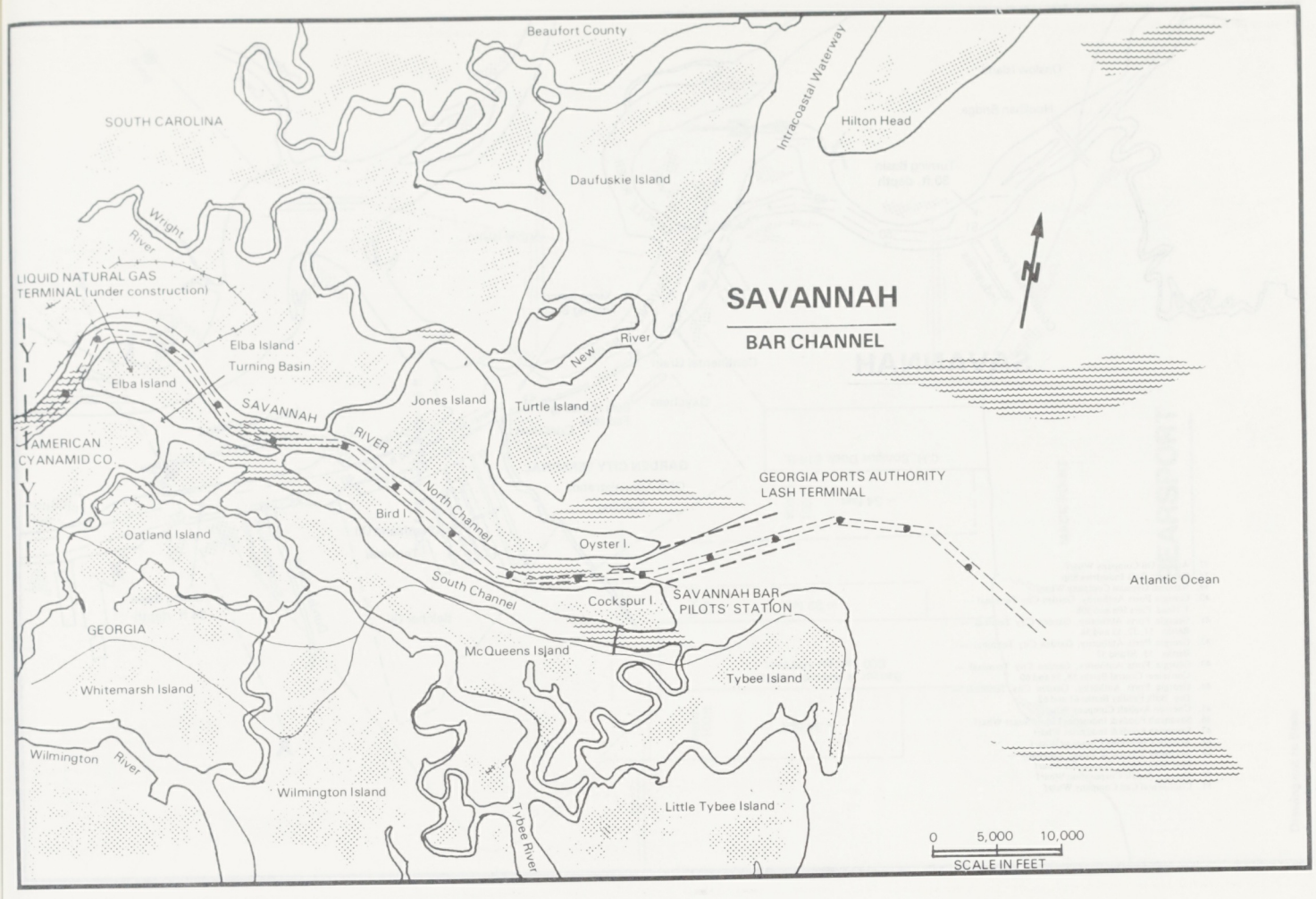
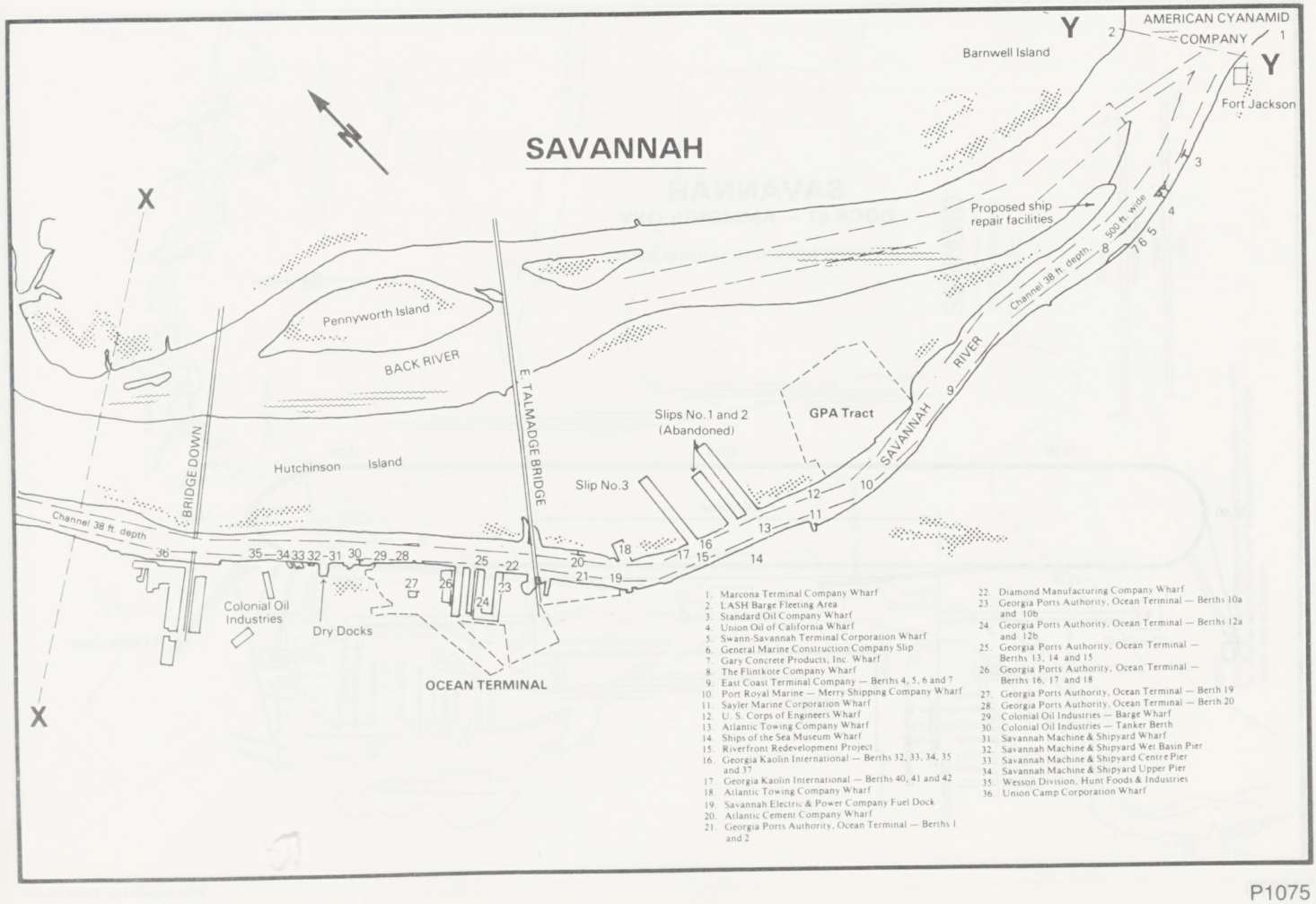
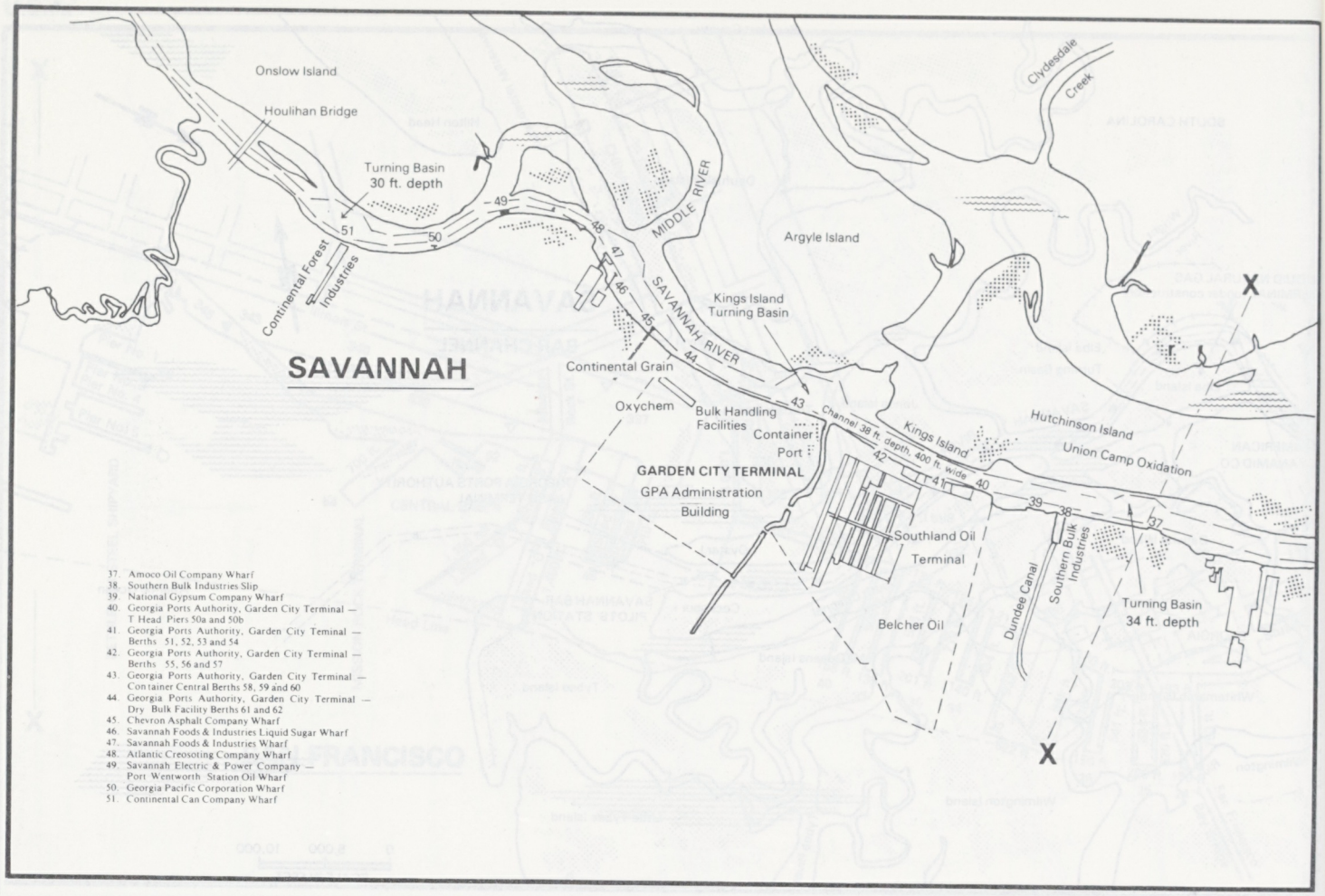

X
Y
CHINA BASIN
Illinois St.
Pier No. 1
Pier No. 3
Pier No. 4
Pier No. 5
345
343
340
68
539
Mission
Rock St.
337
700 ft.
52
54
CENTRAL BASIN
582 ft.
Shed "B"
Shed "A"
636 ft.
Shed "B"
Shed "A"
610 ft.
1,100 ft.
Shed "D"
Shed "C"
1,480 ft.
369 ft.
48
1,090 ft.
468
336
335
334
333
332
330
BETHLEHEM STEEL SHIPYARD
MISSION ROCK TERMINAL
Head Line
904 ft.
908 ft.
588 ft.
138 ft.
713 ft.
195 ft.
634 ft.
218 ft.
932 ft.
180 ft.
845 ft.
676 ft.
203 ft.
541 ft.
193 ft.
634 ft.
620 ft.
753 ft.
156 ft.
130 ft.
201 ft.
140 ft.
40
38
36
34
32
30
622 ft.
150 ft.
28
200 ft.
25
170 ft.
24
Stuart
San Francisco
Bay Bridge
SAN FRANCISCO


COMMERCIAL FACILITIES
INTERMODAL TRANSPORTATION YARD
MARITIME FACILITIES
PRIVATELY-OWNED LAND
SHIP REPAIR FACILITIES
PROPOSED MARITIME FACILITIES
PORT JURISDICTION LIMIT
PUBLIC ACCESS
Y
SAN FRANCISCO
Davis St.
The Embarcadero–Overhead Freeway
351
324
322
321
319
318
317
316
315
314
313
312
311
307
303
302
47
45
1,200 ft.
382 ft.
B
D
A
C
1,314 ft.
43½
43
300 ft.
263 ft.
39
PIER 39
FISHERMAN'S WHARF
283 ft.
802 ft.
1,053 ft.
35
FERRY BUILDING
Bartd Tube
706 ft.
135 ft.
138 ft.
804 ft.
817 ft.
800 ft.
133 ft.
153 ft.
200 ft.
800 ft.
485 ft.
155 ft.
800 ft.
153 ft.
182 ft.
638 ft.
160 ft.
796 ft.
1,358 ft.
256 ft.
801 ft.
206 ft.
264 ft.
638 ft.
150 ft.
200 ft.
680 ft.
787 ft.
150 ft.
1
3
7
9
15
17
19
23
27
29
31
33
U.S. Pier Head Line
PASSENGER TERMINAL


SAVANNAH
BAR CHANNEL
Beaufort County
SOUTH CAROLINA
Intracoastal Waterway
Hilton Head
Daufuskie Island
Wright River
LIQUID NATURAL GAS TERMINAL (under construction)
Elba Island
Turning Basin
Elba Island
SAVANNAH RIVER
New River
Jones Island
Turtle Island
AMERICAN CYANAMID CO.
GEORGIA PORTS AUTHORITY LASH TERMINAL
North Channel
Bird I.
Oatland Island
Oyster I.
South Channel
Cockspur I.
SAVANNAH BAR PILOTS' STATION
Atlantic Ocean
GEORGIA
McQueens Island
Tybee Island
Whitemarsh Island
Wilmington River
Wilmington Island
Little Tybee Island
Tybee River
0 5,000 10,000
SCALE IN FEET

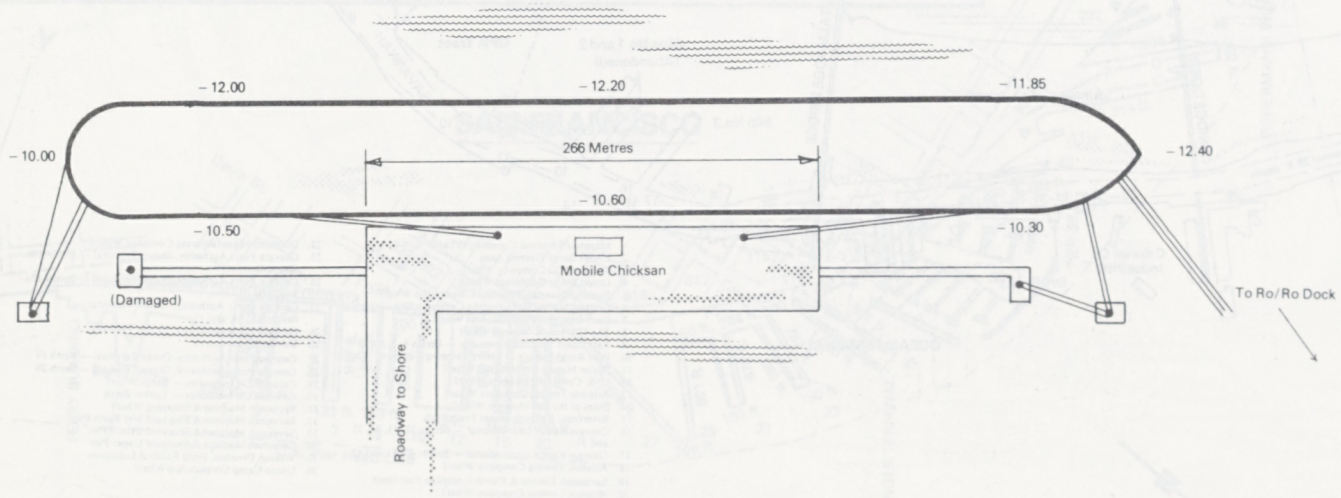

SAVANNAH
AMERICAN CYANAMID COMPANY
Barnwell Island
Fort Jackson
Proposed ship repair facilities
500 ft. wide
Channel 38 ft. depth
Pennyworth Island
BACK RIVER
E. TALMADGE BRIDGE
BRIDGE DOWN
Hutchinson Island
Slips No.1 and 2 (Abandoned)
GPA Tract
Slip No.3
SAVANNAH RIVER
Channel 38 ft. depth
Colonial Oil Industries
Dry Docks
OCEAN TERMINAL
1. Marcona Terminal Company Wharf
2. LASH Barge Fleeting Area
3. Standard Oil Company Wharf
4. Union Oil of California Wharf
5. Swann-Savannah Terminal Corporation Wharf
6. General Marine Construction Company Slip
7. Gary Concrete Products, Inc. Wharf
8. The Flintkote Company Wharf
9. East Coast Terminal Company — Berths 4, 5, 6 and 7
10. Port Royal Marine — Merry Shipping Company Wharf
11. Sayler Marine Corporation Wharf
12. U. S. Corps of Engineers Wharf
13. Atlantic Towing Company Wharf
14. Ships of the Sea Museum Wharf
15. Riverfront Redevelopment Project
16. Georgia Kaolin International — Berths 32, 33, 34, 35 and 37
17. Georgia Kaolin International — Berths 40, 41 and 42
18. Atlantic Towing Company Wharf
19. Savannah Electric & Power Company Fuel Dock
20. Atlantic Cement Company Wharf
21. Georgia Ports Authority, Ocean Terminal — Berths 1 and 2
22. Diamond Manufacturing Company Wharf
23. Georgia Ports Authority, Ocean Terminal — Berths 10a and 10b
24. Georgia Ports Authority, Ocean Terminal — Berths 12a and 12b
25. Georgia Ports Authority, Ocean Terminal — Berths 13, 14 and 15
26. Georgia Ports Authority, Ocean Terminal — Berths 16, 17 and 18
27. Georgia Ports Authority, Ocean Terminal — Berth 19
28. Georgia Ports Authority, Ocean Terminal — Berth 20
29. Colonial Oil Industries — Barge Wharf
30. Colonial Oil Industries — Tanker Berth
31. Savannah Machine & Shipyard Wharf
32. Savannah Machine & Shipyard Wet Basin Pier
33. Savannah Machine & Shipyard Centre Pier
34. Savannah Machine & Shipyard Upper Pier
35. Wesson Division, Hunt Foods & Industries
36. Union Camp Corporation Wharf



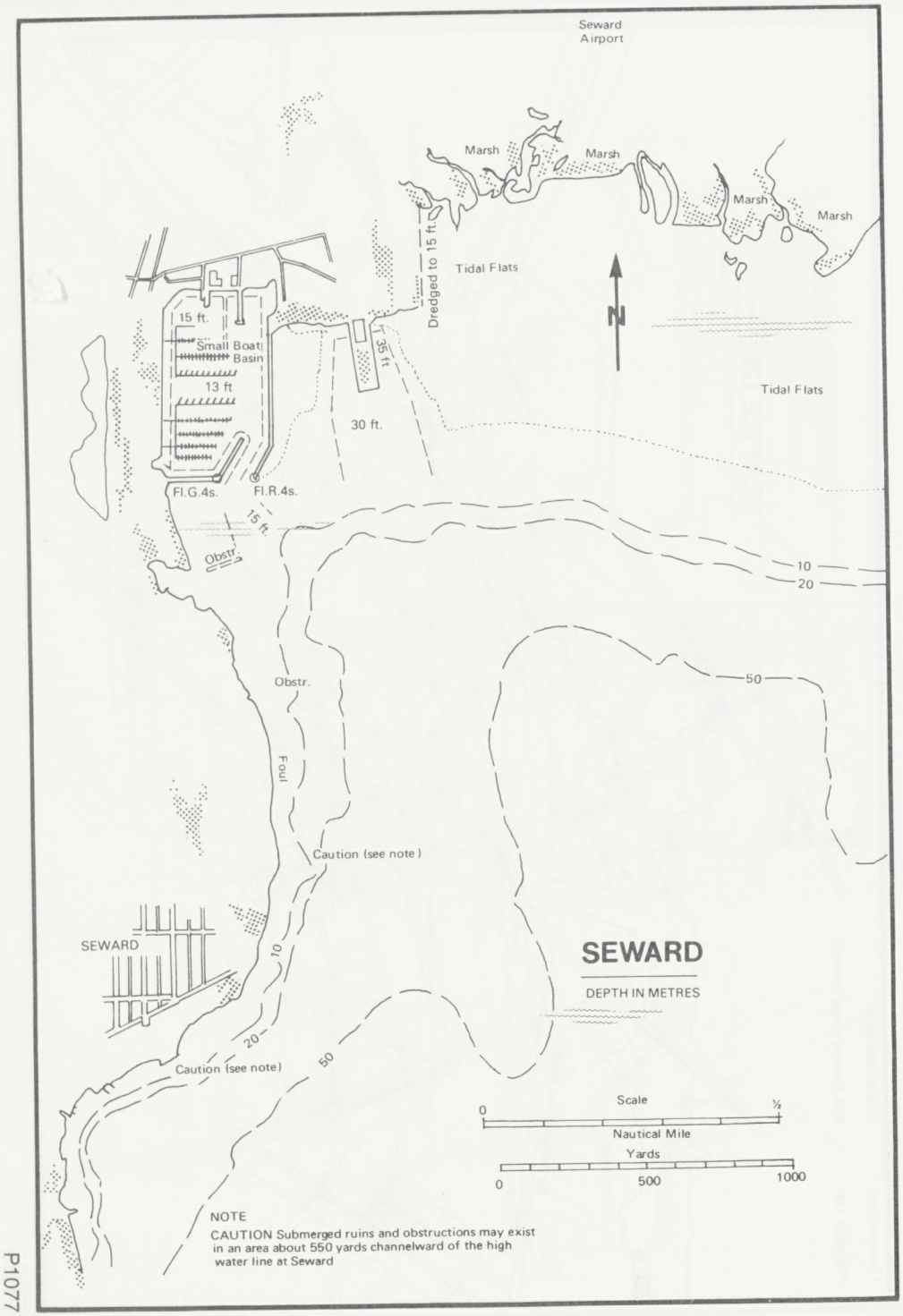
SAVANNAH

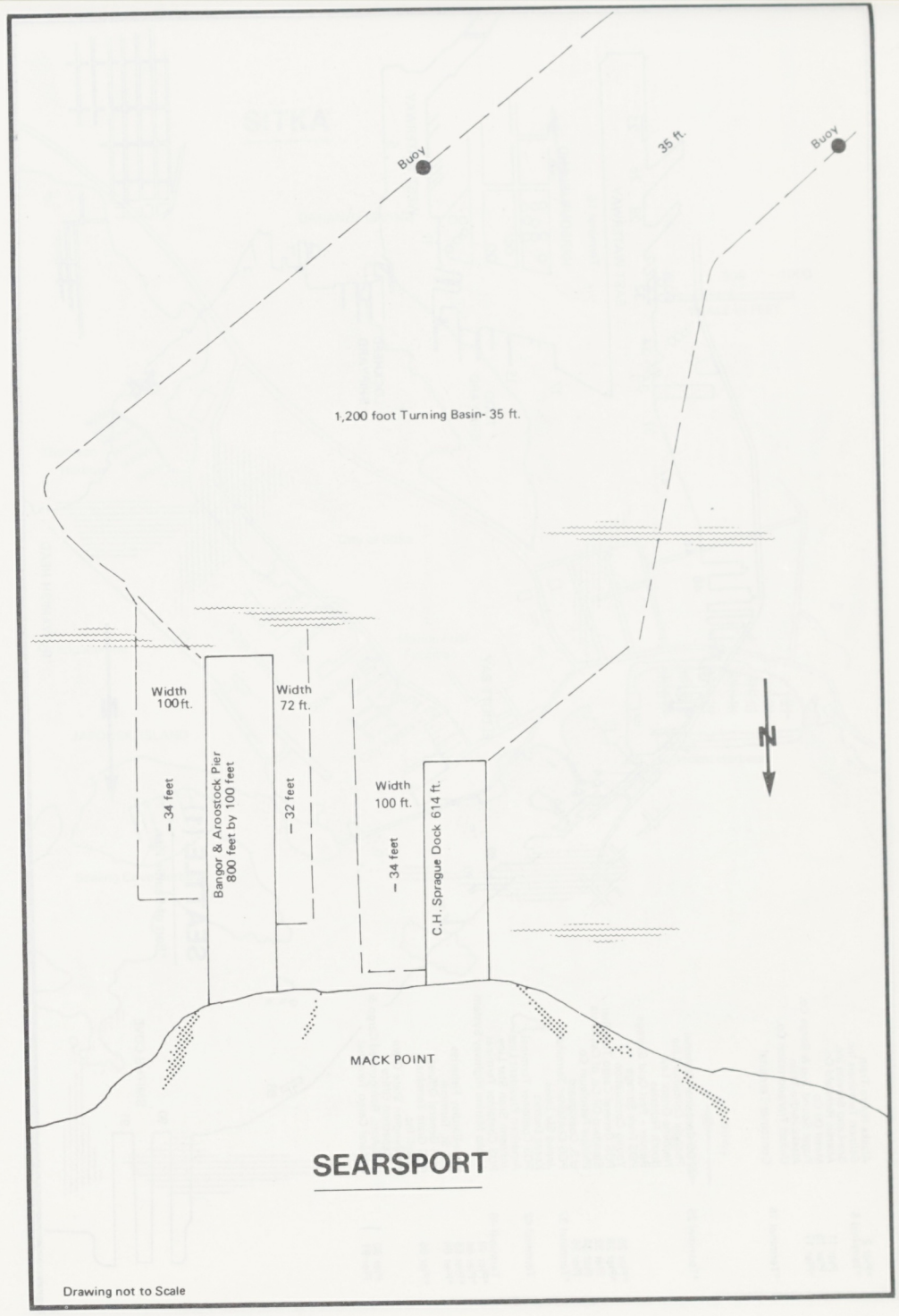
DOCK 61 – AMMONIA OXY

SOUNDINGS REDUCED TO DATUM IN METRES



"Plan supplied by Ship's Master"


Seward
Airport
Marsh
Marsh
Marsh
Marsh
Dredged to 15 ft.
Tidal Flats
N
15 ft.
Small Boat
Basin
13 ft
35 ft
Tidal Flats
30 ft.
Fl.G.4s.
Fl.R.4s.
15 ft.
Obstr.
10
20
50
Obstr.
Foul
Caution (see note)
SEWARD
10
20
50
Caution (see note)
SEWARD
DEPTH IN METRES
Scale
0
½
Nautical Mile
Yards
0
500
1000
NOTE
CAUTION Submerged ruins and obstructions may exist
in an area about 550 yards channelward of the high
water line at Seward


Buoy
35 ft.
Buoy
1,200 foot Turning Basin- 35 ft.
Width
100 ft.
– 34 feet
Bangor & Aroostock Pier
800 feet by 100 feet
Width
72 ft.
– 32 feet
Width
100 ft.
– 34 feet
C.H. Sprague Dock 614 ft.
N
MACK POINT
SEARSPORT
Drawing not to Scale

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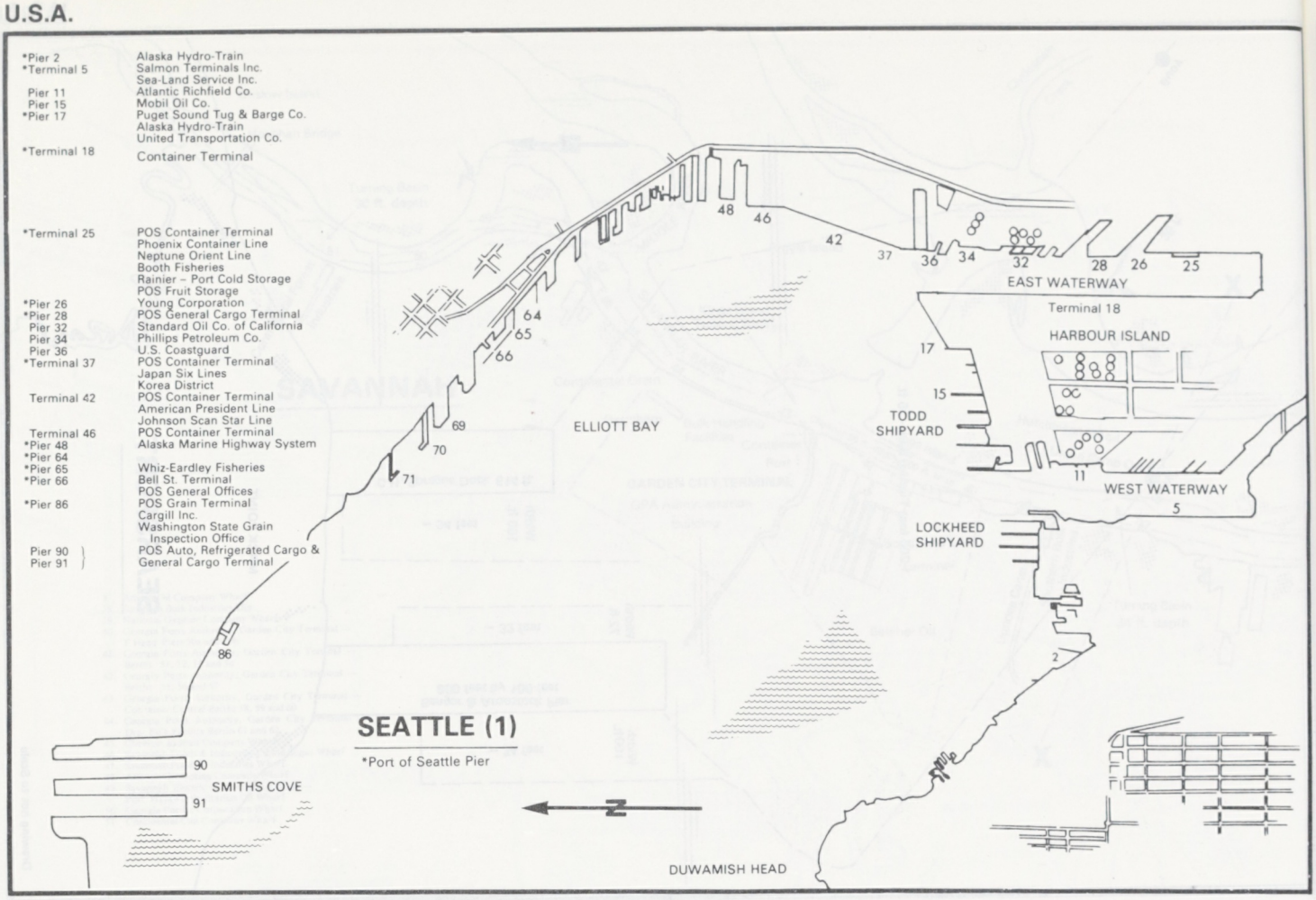
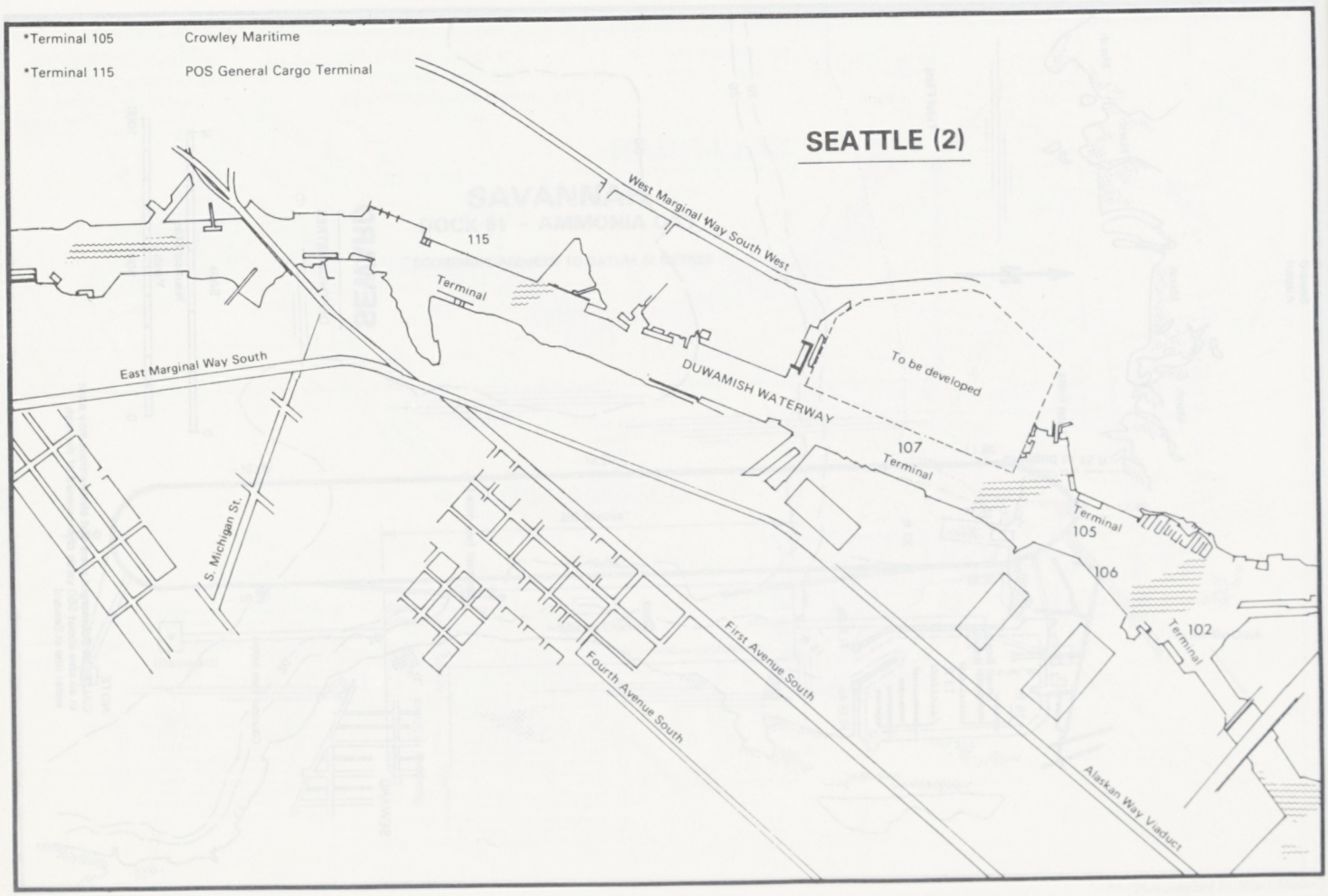
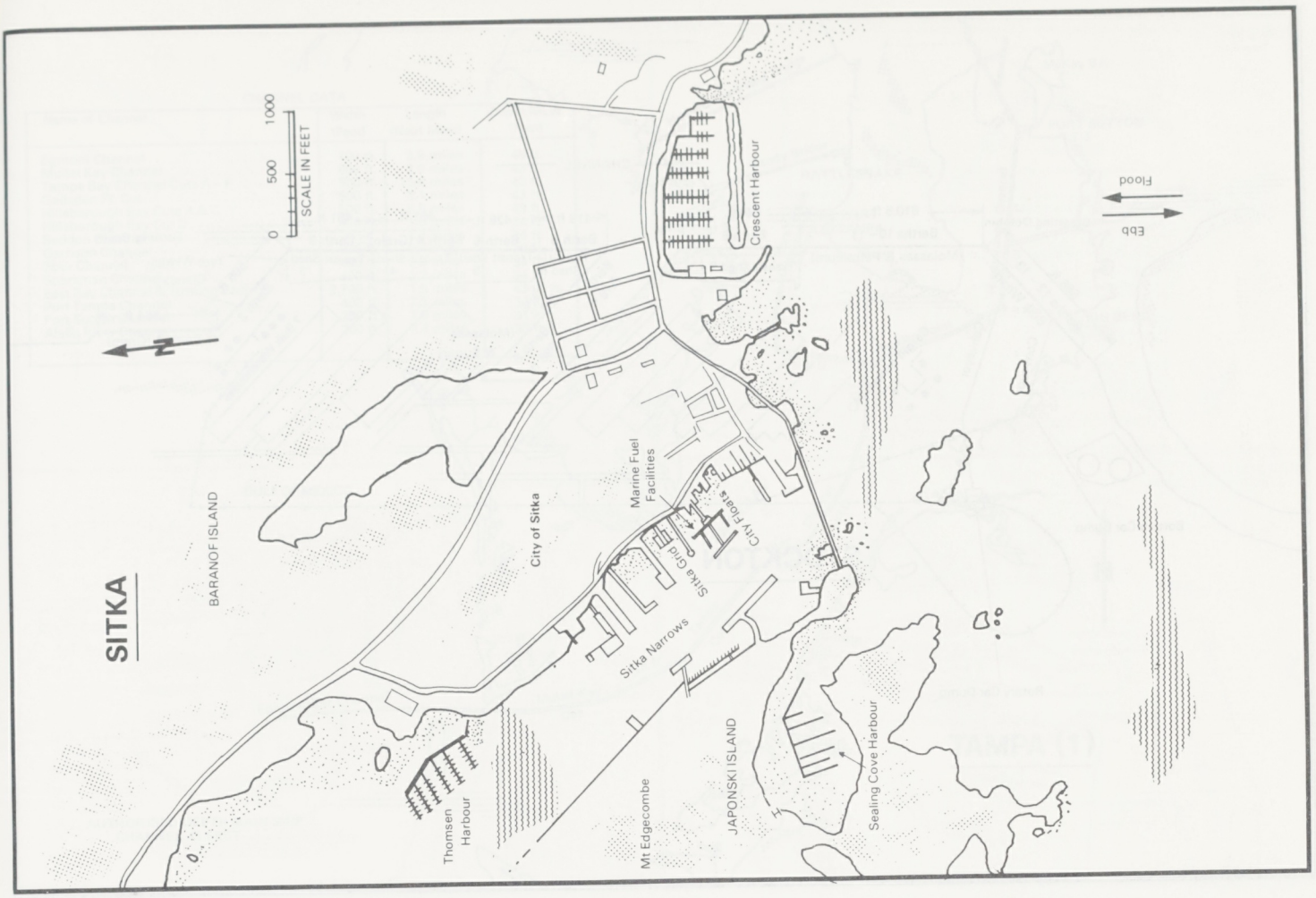
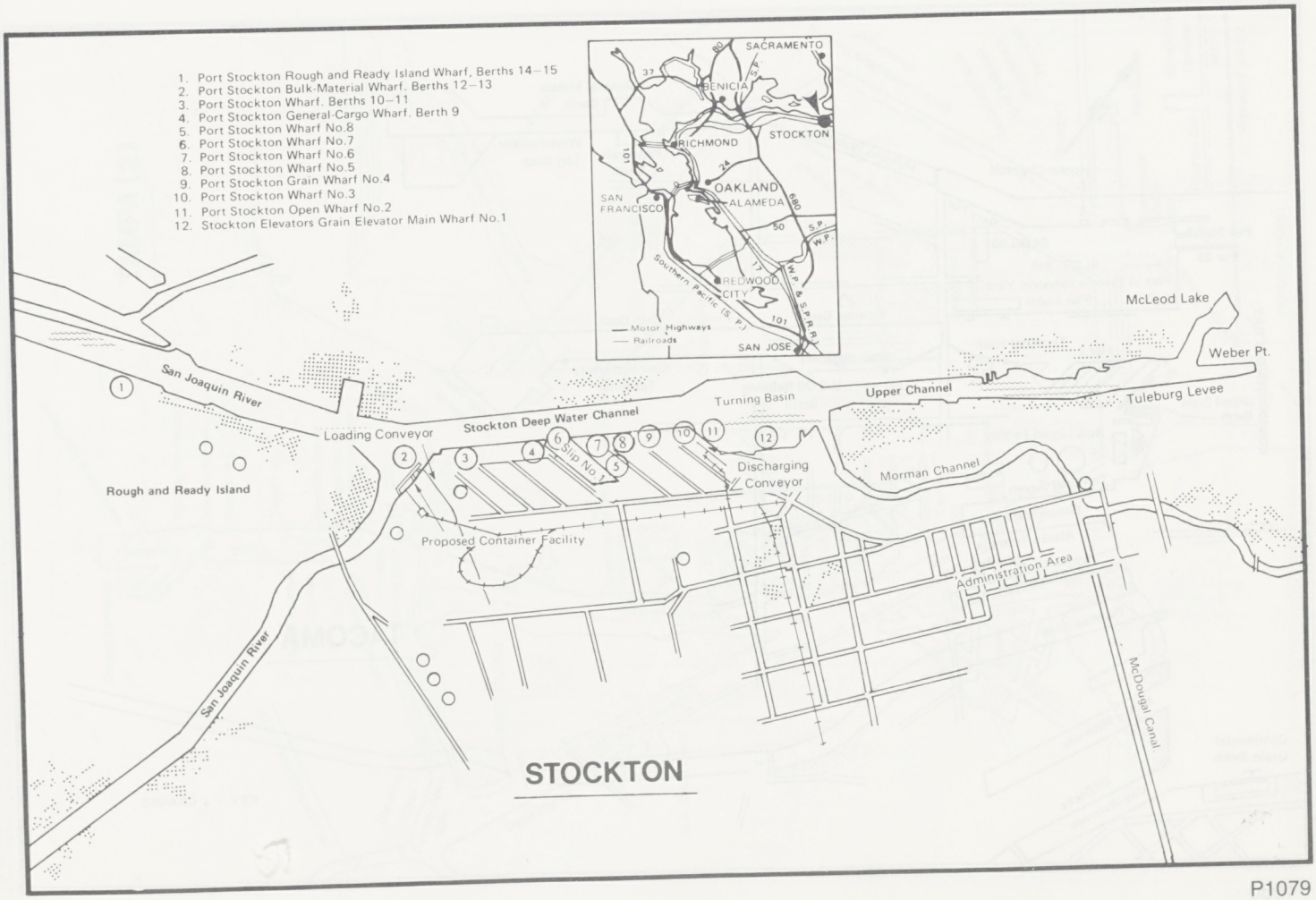
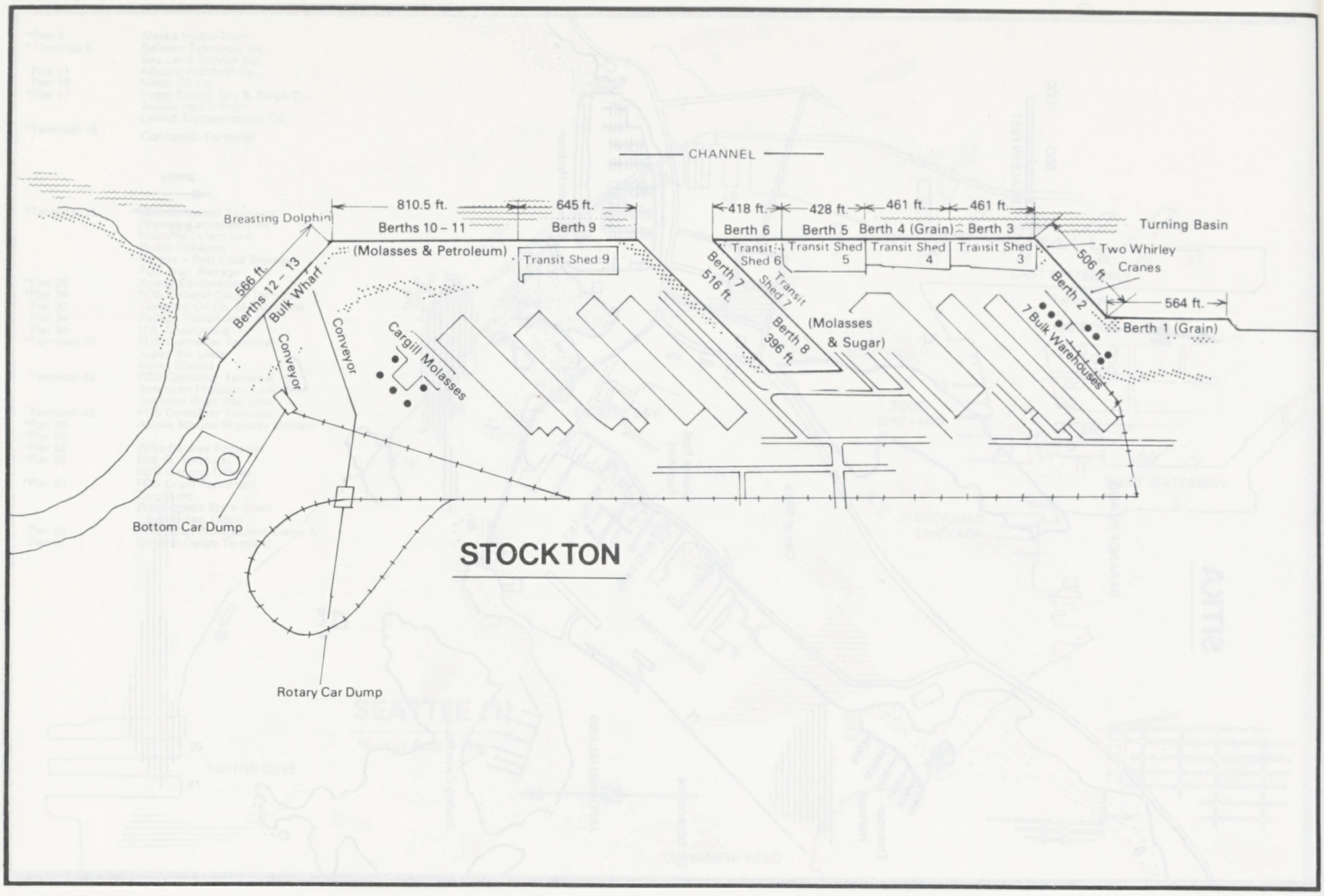
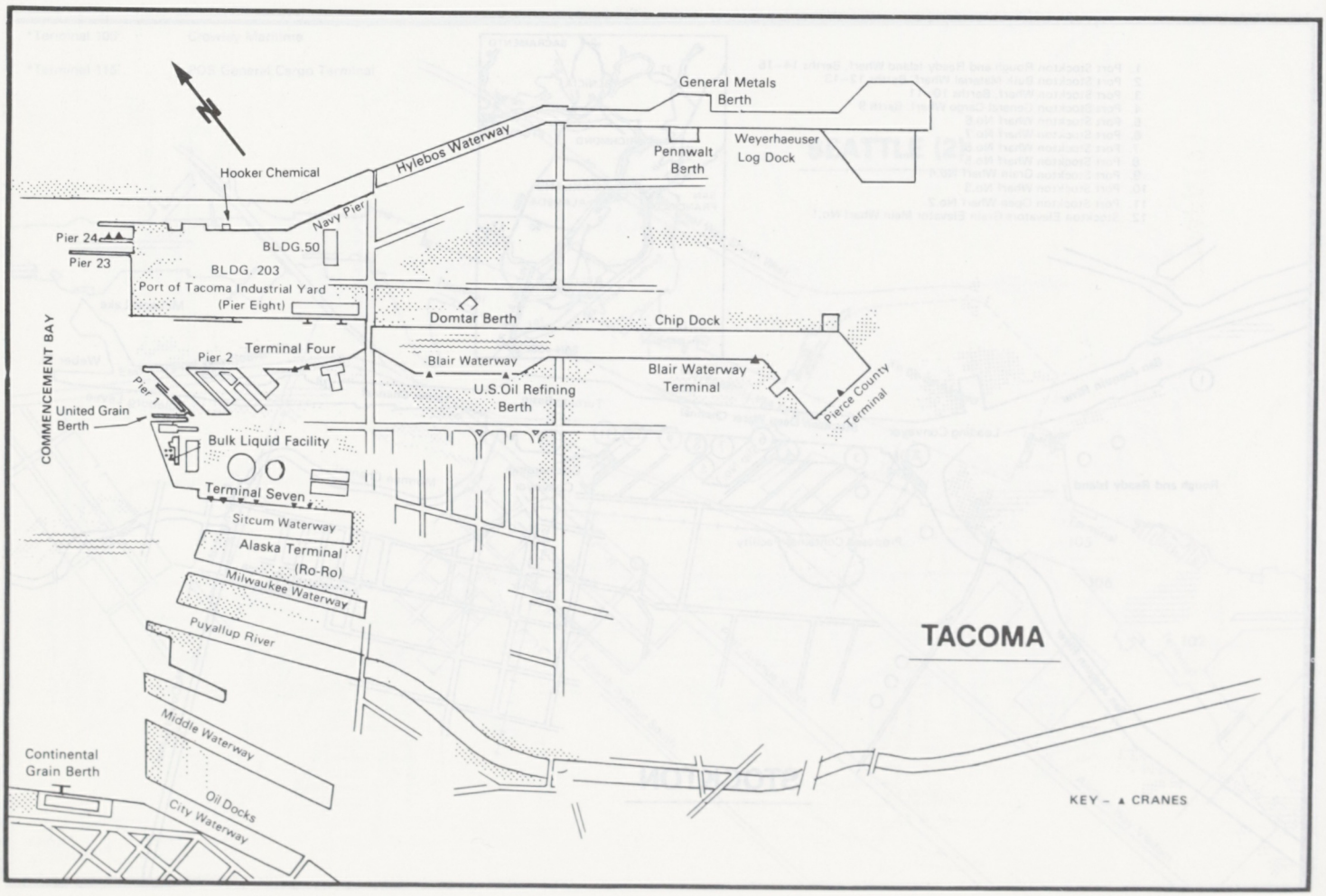

*Pier 2 Alaska Hydro-Train
*Terminal 5 Salmon Terminals Inc.
Sea-Land Service Inc.
Pier 11 Atlantic Richfield Co.
Pier 15 Mobil Oil Co.
*Pier 17 Puget Sound Tug & Barge Co.
Alaska Hydro-Train
United Transportation Co.
*Terminal 18 Container Terminal
*Terminal 25 POS Container Terminal
Phoenix Container Line
Neptune Orient Line
Booth Fisheries
Rainier – Port Cold Storage
POS Fruit Storage
*Pier 26 Young Corporation
*Pier 28 POS General Cargo Terminal
Pier 32 Standard Oil Co. of California
Pier 34 Phillips Petroleum Co.
Pier 36 U.S. Coastguard
*Terminal 37 POS Container Terminal
Japan Six Lines
Korea District
Terminal 42 POS Container Terminal
American President Line
Johnson Scan Star Line
Terminal 46 POS Container Terminal
*Pier 48 Alaska Marine Highway System
*Pier 64
*Pier 65 Whiz-Eardley Fisheries
*Pier 66 Bell St. Terminal
POS General Offices
*Pier 86 POS Grain Terminal
Cargill Inc.
Washington State Grain Inspection Office
Pier 90 / Pier 91 POS Auto, Refrigerated Cargo & General Cargo Terminal
SEATTLE (1)
*Port of Seattle Pier
ELLIOTT BAY
SMITHS COVE
DUWAMISH HEAD
EAST WATERWAY
Terminal 18
HARBOUR ISLAND
TODD SHIPYARD
WEST WATERWAY
LOCKHEED SHIPYARD
N


*Terminal 105 Crowley Maritime
*Terminal 115 POS General Cargo Terminal
SEATTLE (2)
West Marginal Way South West
East Marginal Way South
DUWAMISH WATERWAY
To be developed
Terminal 115
Terminal 107
Terminal 105
Terminal 102
106
S. Michigan St.
First Avenue South
Fourth Avenue South
Alaskan Way Viaduct


SITKA
SCALE IN FEET
0 500 1000
N
Flood
Ebb
Crescent Harbour
Marine Fuel Facilities
City Floats
Sitka Grid
City of Sitka
BARANOF ISLAND
Sitka Narrows
JAPONSKI ISLAND
Mt Edgecombe
Thomsen Harbour
Sealing Cove Harbour

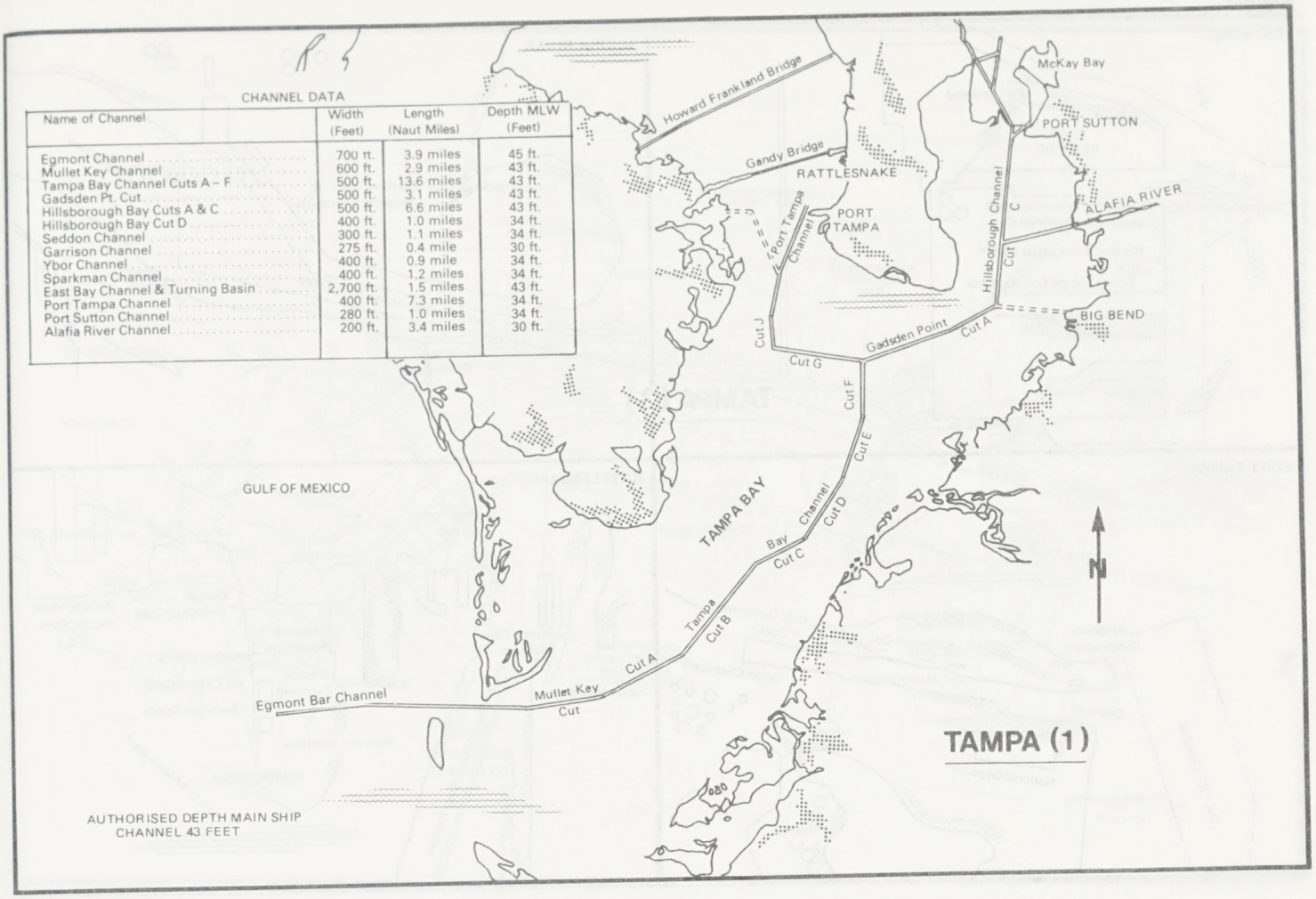

1. Port Stockton Rough and Ready Island Wharf, Berths 14–15
2. Port Stockton Bulk-Material Wharf, Berths 12–13
3. Port Stockton Wharf, Berths 10–11
4. Port Stockton General-Cargo Wharf, Berth 9
5. Port Stockton Wharf No.8
6. Port Stockton Wharf No.7
7. Port Stockton Wharf No.6
8. Port Stockton Wharf No.5
9. Port Stockton Grain Wharf No.4
10. Port Stockton Wharf No.3
11. Port Stockton Open Wharf No.2
12. Stockton Elevators Grain Elevator Main Wharf No.1
SACRAMENTO
BENICIA
STOCKTON
RICHMOND
OAKLAND
ALAMEDA
SAN FRANCISCO
REDWOOD CITY
SAN JOSE
Motor Highways
Railroads
McLeod Lake
Weber Pt.
Tuleburg Levee
San Joaquin River
Loading Conveyor
Stockton Deep Water Channel
Turning Basin
Upper Channel
Slip No.1
Discharging Conveyor
Morman Channel
Rough and Ready Island
Proposed Container Facility
Administration Area
McDougal Canal
STOCKTON

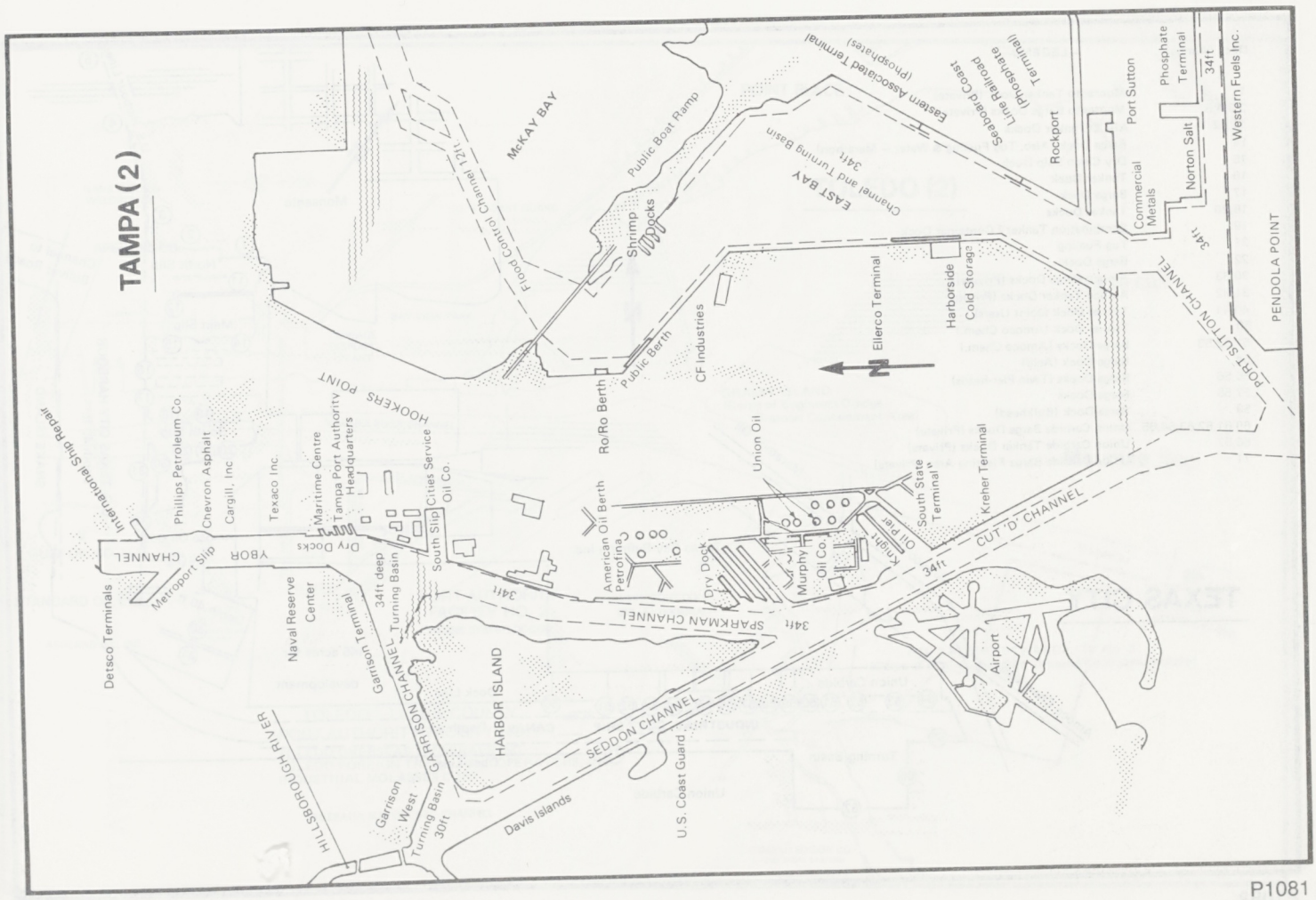

CHANNEL
810.5 ft.
645 ft.
Berths 10 – 11
Berth 9
Breasting Dolphin
(Molasses & Petroleum)
Transit Shed 9
566 ft.
Berths 12 – 13
Bulk Wharf
Conveyor
Conveyor
Cargill Molasses
418 ft.
428 ft.
461 ft.
461 ft.
Berth 6
Berth 5
Berth 4 (Grain)
Berth 3
Turning Basin
Transit Shed 6
Transit Shed 5
Transit Shed 4
Transit Shed 3
Two Whirley Cranes
506 ft.
Berth 7
516 ft.
Transit Shed 7
Berth 8
396 ft.
(Molasses & Sugar)
Berth 2
564 ft.
Berth 1 (Grain)
7 Bulk Warehouses
Bottom Car Dump
Rotary Car Dump
STOCKTON


N
General Metals Berth
Hylebos Waterway
Weyerhaeuser Log Dock
Pennwalt Berth
Hooker Chemical
Navy Pier
Pier 24
Pier 23
BLDG.50
BLDG. 203
Port of Tacoma Industrial Yard (Pier Eight)
Domtar Berth
Chip Dock
COMMENCEMENT BAY
Terminal Four
Pier 2
Blair Waterway
Blair Waterway Terminal
Pier 1
U.S.Oil Refining Berth
Pierce County Terminal
United Grain Berth
Bulk Liquid Facility
Terminal Seven
Sitcum Waterway
Alaska Terminal (Ro-Ro)
Milwaukee Waterway
Puyallup River
TACOMA
Middle Waterway
Continental Grain Berth
Oil Docks
City Waterway
KEY – ▲ CRANES

CHANNEL DATA

Name of Channel	Width (Feet)	Length (Naut Miles)	Depth MLW (Feet)
Egmont Channel	700 ft.	3.9 miles	45 ft.
Mullet Key Channel	600 ft.	2.9 miles	43 ft.
Tampa Bay Channel Cuts A – F	500 ft.	13.6 miles	43 ft.
Gadsden Pt. Cut	500 ft.	3.1 miles	43 ft.
Hillsborough Bay Cuts A & C	500 ft.	6.6 miles	43 ft.
Hillsborough Bay Cut D	400 ft.	1.0 miles	34 ft.
Seddon Channel	300 ft.	1.1 miles	34 ft.
Garrison Channel	275 ft.	0.4 mile	30 ft.
Ybor Channel	400 ft.	0.9 mile	34 ft.
Sparkman Channel	400 ft.	1.2 miles	34 ft.
East Bay Channel & Turning Basin	2,700 ft.	1.5 miles	43 ft.
Port Tampa Channel	400 ft.	7.3 miles	34 ft.
Port Sutton Channel	280 ft.	1.0 miles	34 ft.
Alafia River Channel	200 ft.	3.4 miles	30 ft.





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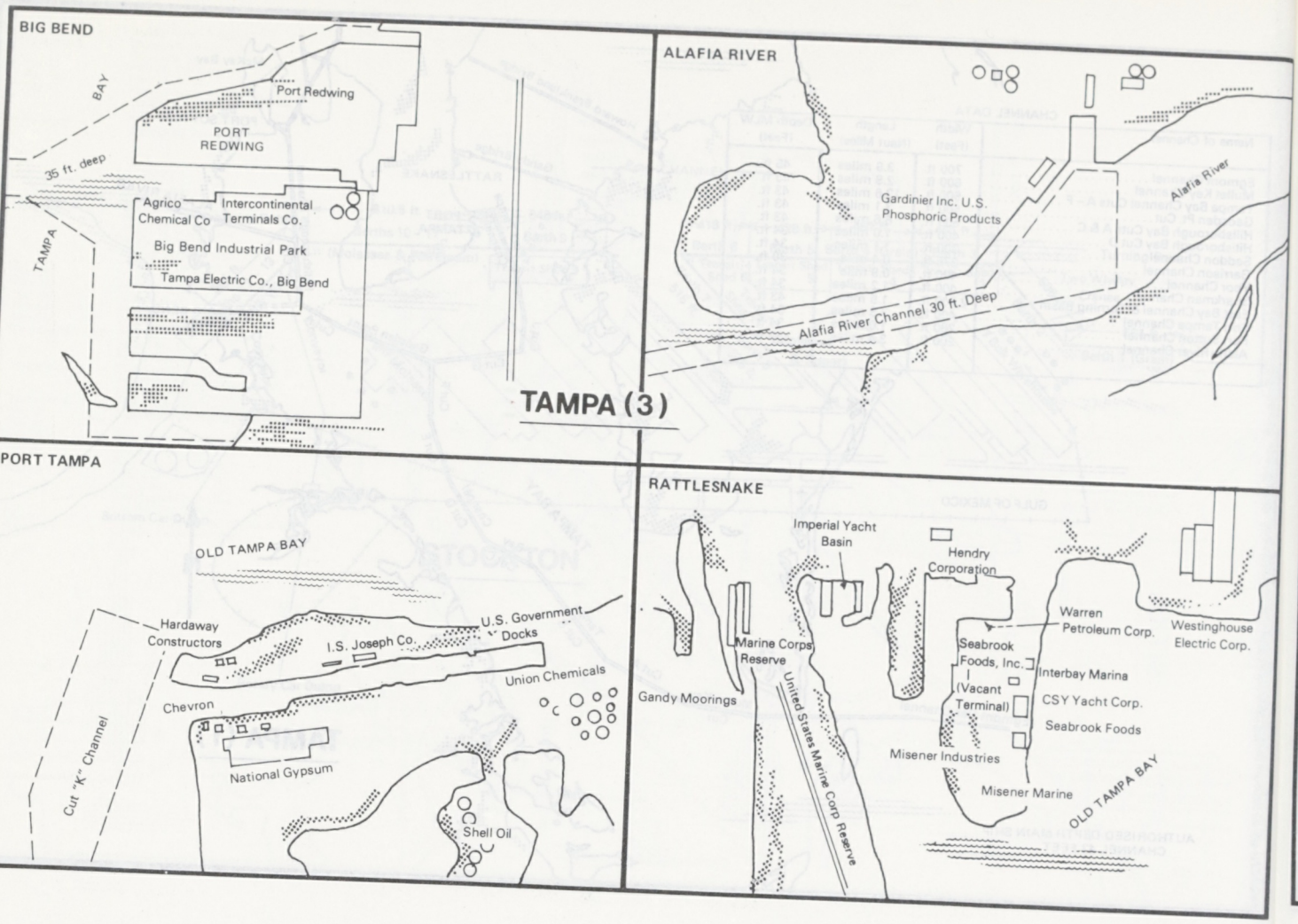
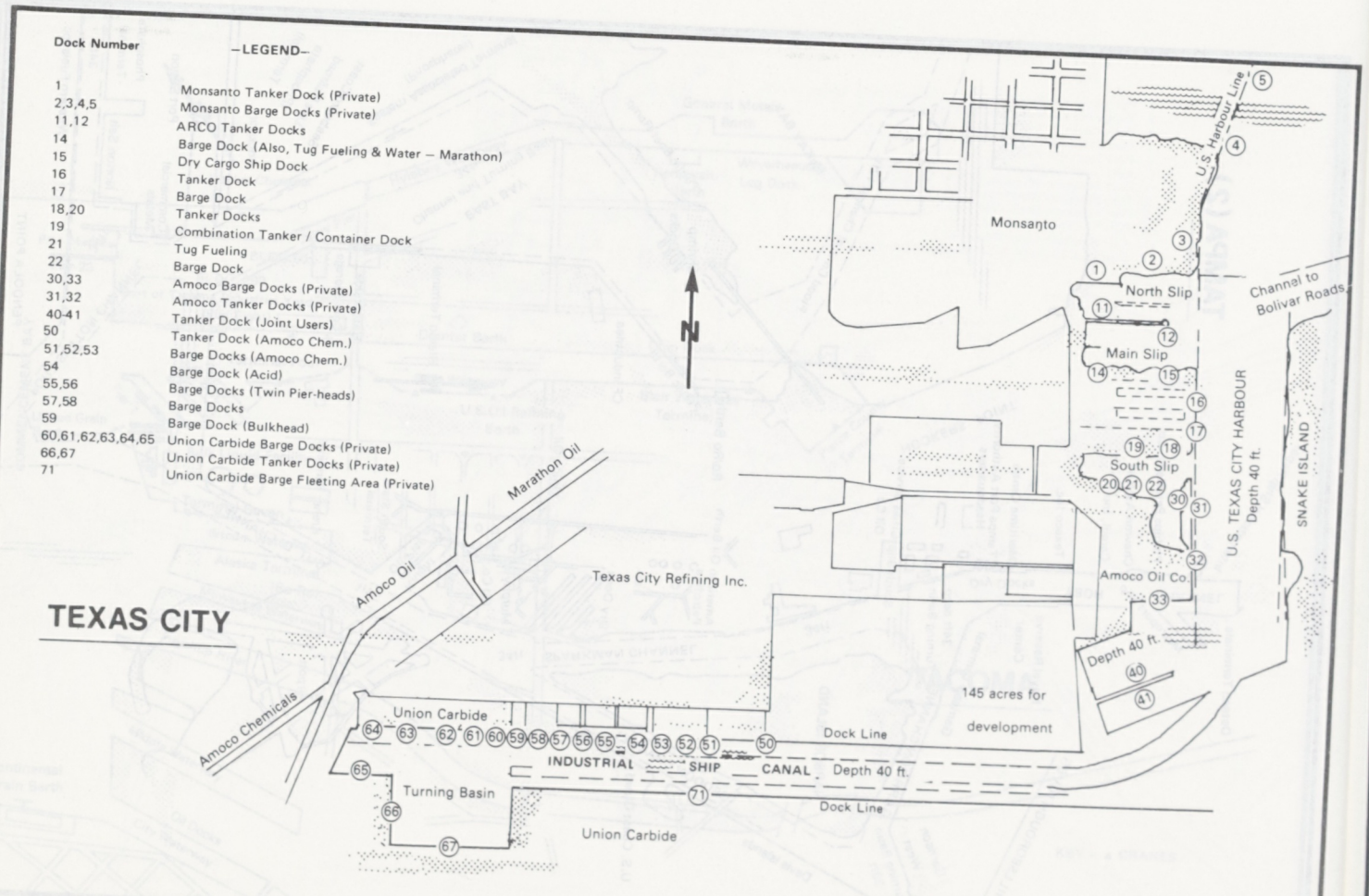
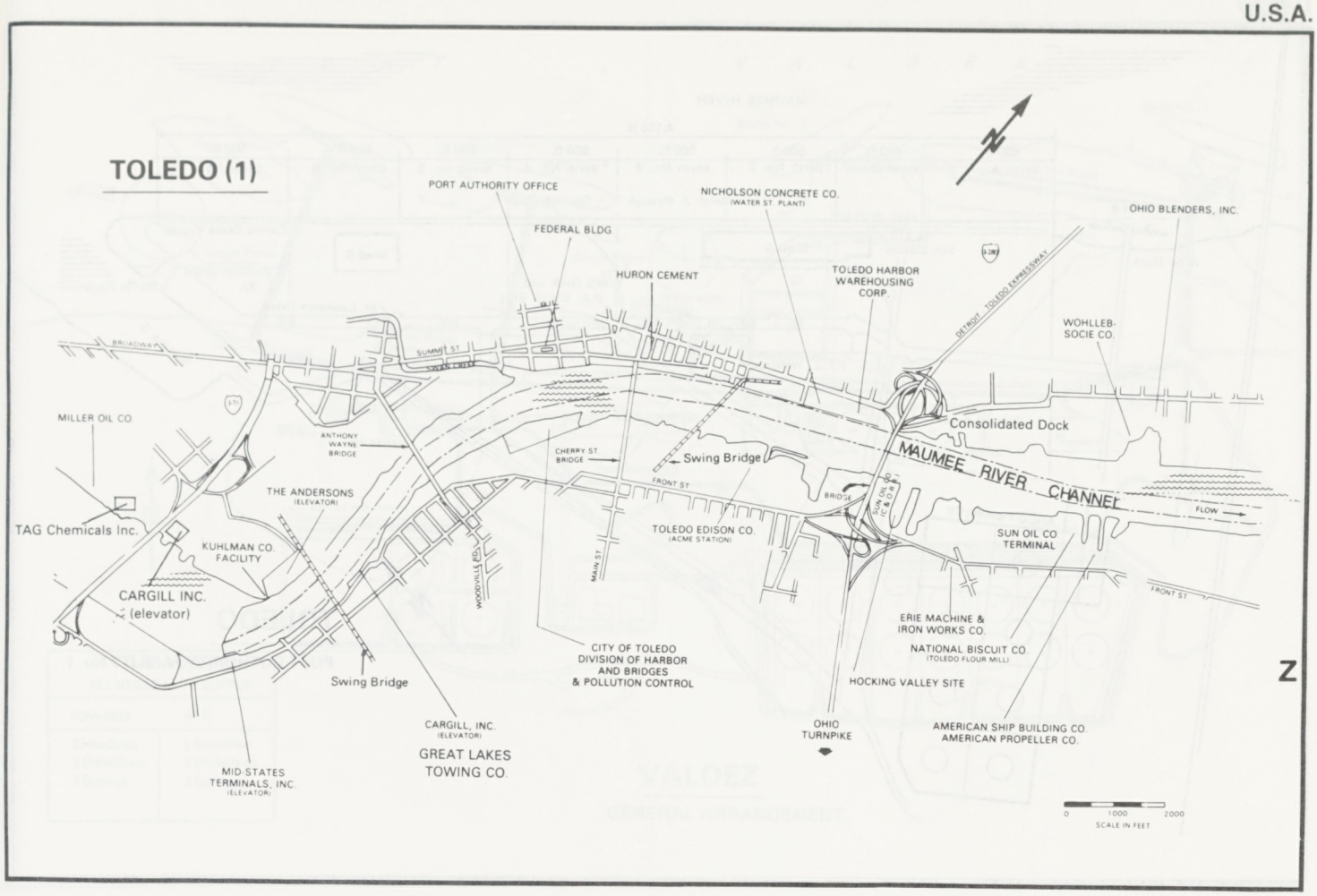
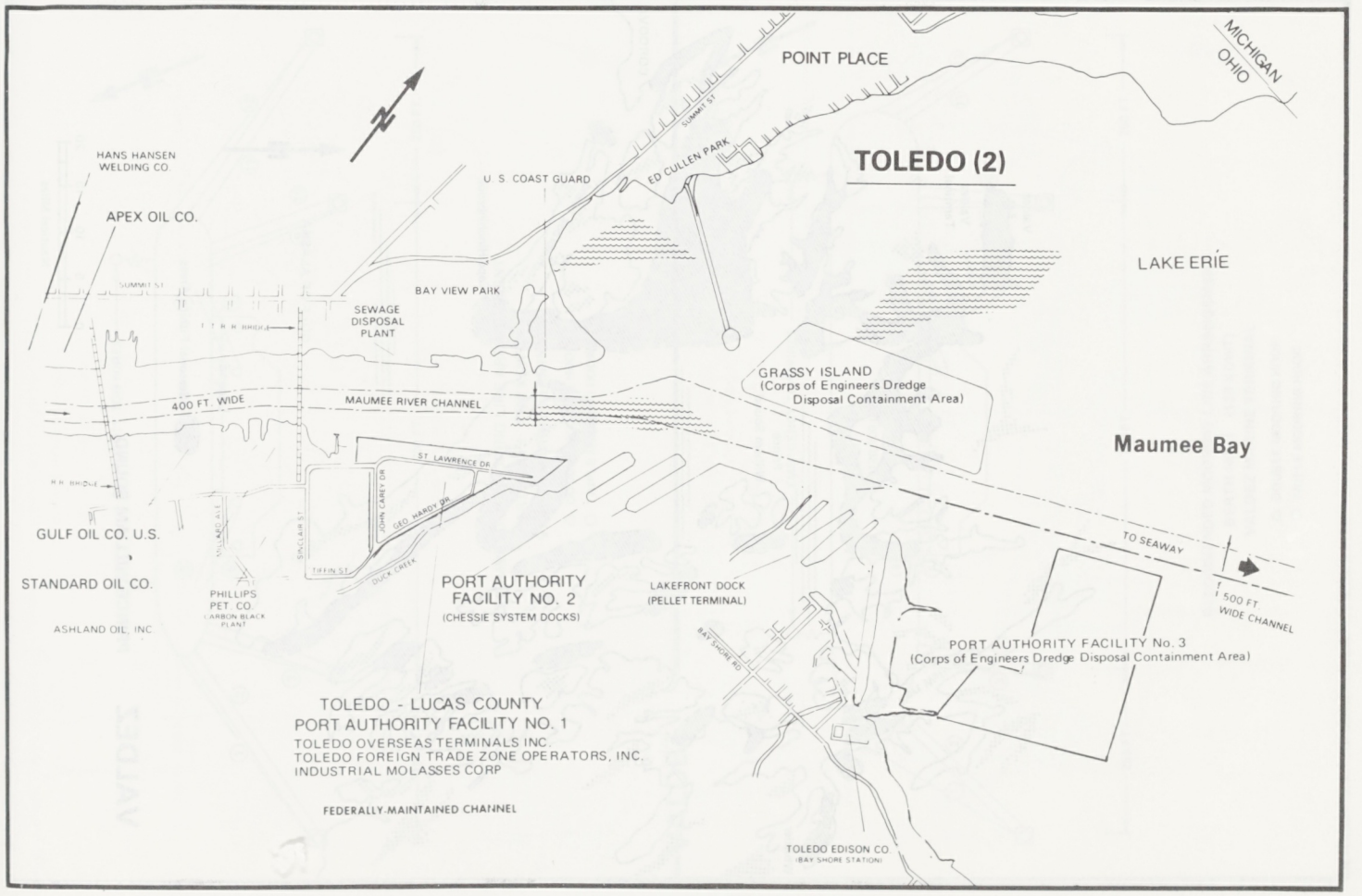
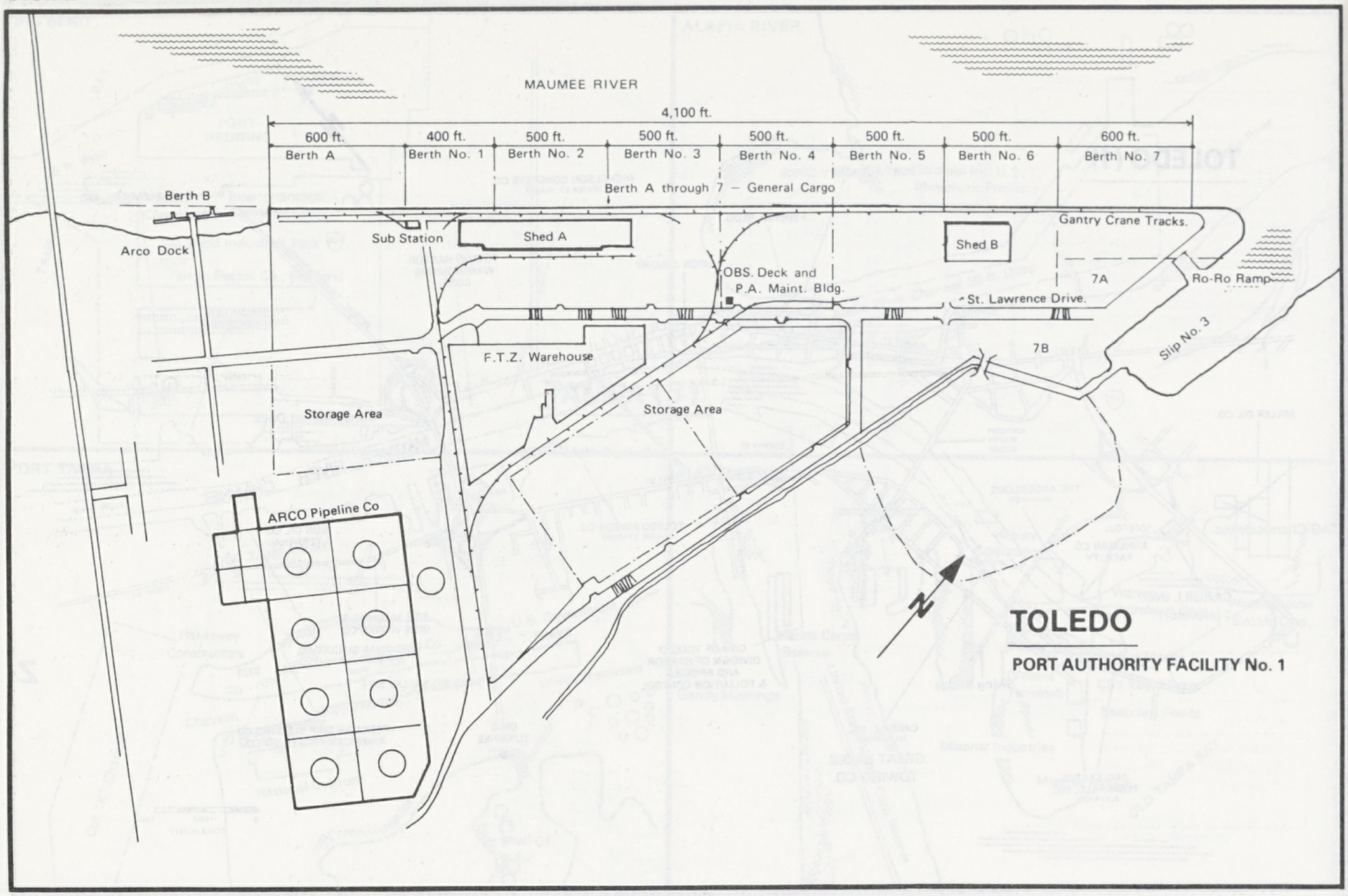
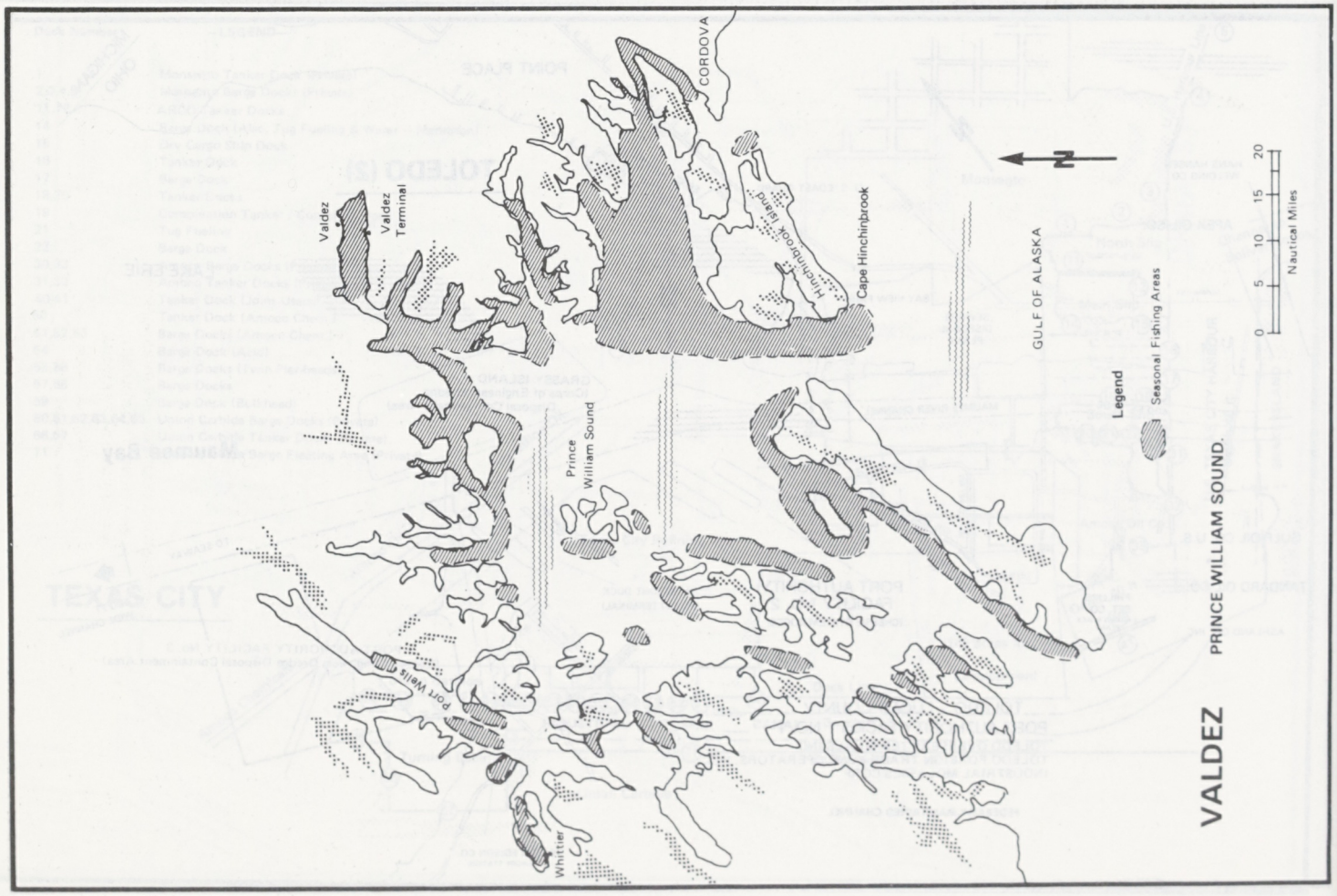

BIG BEND
BAY
Port Redwing
PORT REDWING
35 ft. deep
TAMPA
Agrico Chemical Co
Intercontinental Terminals Co.
Big Bend Industrial Park
Tampa Electric Co., Big Bend
ALAFIA RIVER
Gardinier Inc. U.S. Phosphoric Products
Alafia River
Alafia River Channel 30 ft. Deep
TAMPA (3)
PORT TAMPA
OLD TAMPA BAY
Hardaway Constructors
I.S. Joseph Co.
U.S. Government Docks
Union Chemicals
Chevron
National Gypsum
Cut "K" Channel
Shell Oil
RATTLESNAKE
Imperial Yacht Basin
Hendry Corporation
Warren Petroleum Corp.
Westinghouse Electric Corp.
Marine Corps Reserve
Seabrook Foods, Inc.
(Vacant Terminal)
Interbay Marina
CSY Yacht Corp.
Seabrook Foods
Gandy Moorings
United States Marine Corp Reserve
Misener Industries
Misener Marine
OLD TAMPA BAY

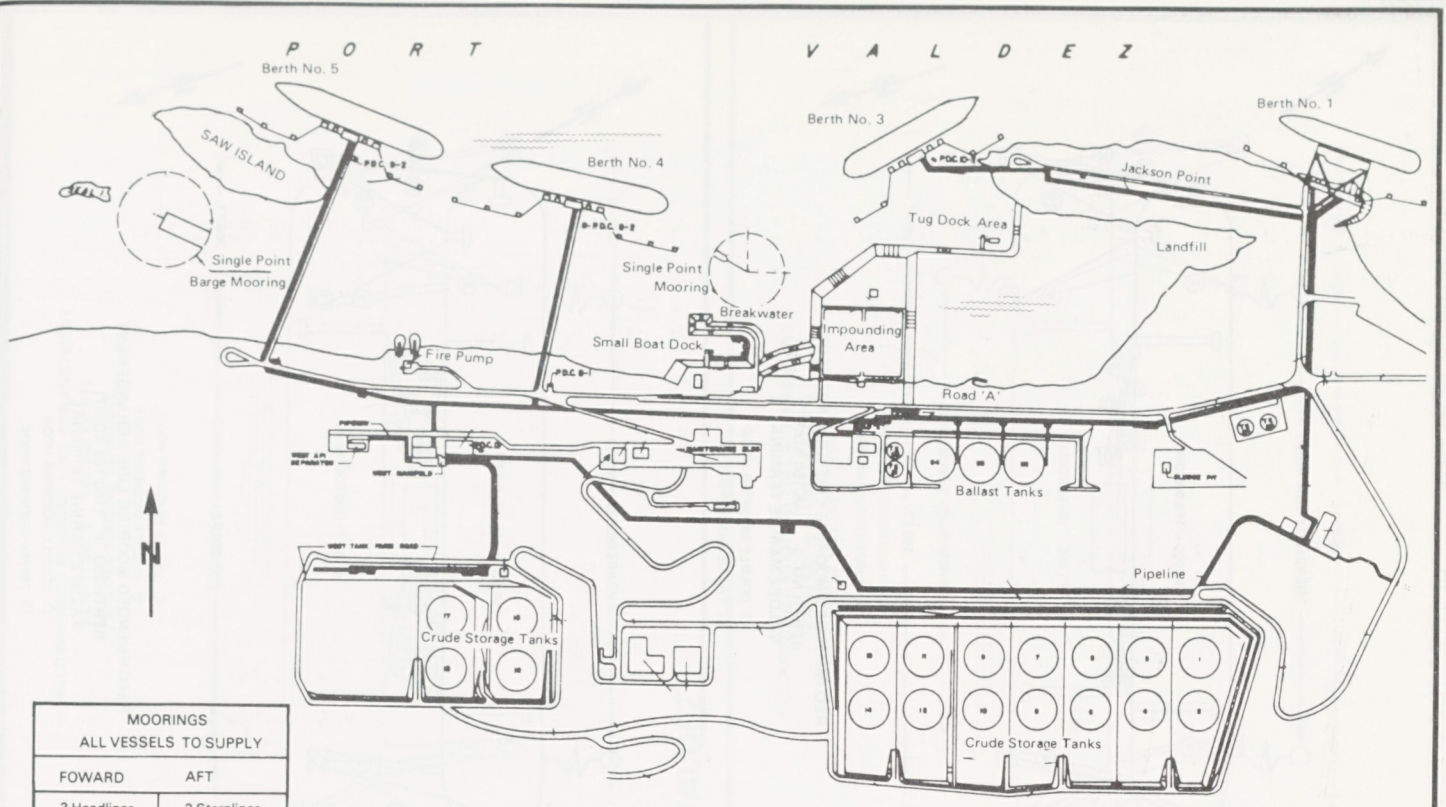

Dock Number
—LEGEND—
1 Monsanto Tanker Dock (Private)
2,3,4,5 Monsanto Barge Docks (Private)
11,12 ARCO Tanker Docks
14 Barge Dock (Also, Tug Fueling & Water — Marathon)
15 Dry Cargo Ship Dock
16 Tanker Dock
17 Barge Dock
18,20 Tanker Docks
19 Combination Tanker / Container Dock
21 Tug Fueling
22 Barge Dock
30,33 Amoco Barge Docks (Private)
31,32 Amoco Tanker Docks (Private)
40-41 Tanker Dock (Joint Users)
50 Tanker Dock (Amoco Chem.)
51,52,53 Barge Docks (Amoco Chem.)
54 Barge Dock (Acid)
55,56 Barge Docks (Twin Pier-heads)
57,58 Barge Docks
59 Barge Dock (Bulkhead)
60,61,62,63,64,65 Union Carbide Barge Docks (Private)
66,67 Union Carbide Tanker Docks (Private)
71 Union Carbide Barge Fleeting Area (Private)
TEXAS CITY
N
U.S. Harbour Line
Monsanto
North Slip
Channal to Bolivar Roads
Main Slip
South Slip
U.S. TEXAS CITY HARBOUR Depth 40 ft.
SNAKE ISLAND
Marathon Oil
Amoco Oil
Texas City Refining Inc.
Amoco Oil Co.
Depth 40 ft.
145 acres for development
Amoco Chemicals
Union Carbide
Dock Line
INDUSTRIAL SHIP CANAL Depth 40 ft.
Turning Basin
Dock Line
Union Carbide


TOLEDO (1)
PORT AUTHORITY OFFICE
FEDERAL BLDG.
NICHOLSON CONCRETE CO. (WATER ST. PLANT)
OHIO BLENDERS, INC.
HURON CEMENT
TOLEDO HARBOR WAREHOUSING CORP.
DETROIT - TOLEDO EXPRESSWAY
WOHLLEB-SOCIE CO.
BROADWAY
SUMMIT ST.
SWAN CREEK
MILLER OIL CO.
ANTHONY WAYNE BRIDGE
CHERRY ST. BRIDGE
Swing Bridge
Consolidated Dock
MAUMEE RIVER CHANNEL
FLOW
FRONT ST.
THE ANDERSONS (ELEVATOR)
TAG Chemicals Inc.
KUHLMAN CO. FACILITY
CARGILL INC. (elevator)
TOLEDO EDISON CO. (ACME STATION)
SUN OIL CO. TERMINAL
WOODVILLE RD.
MAIN ST.
ERIE MACHINE & IRON WORKS CO.
NATIONAL BISCUIT CO. (TOLEDO FLOUR MILL)
CITY OF TOLEDO DIVISION OF HARBOR AND BRIDGES & POLLUTION CONTROL
Swing Bridge
HOCKING VALLEY SITE
CARGILL, INC. (ELEVATOR)
GREAT LAKES TOWING CO.
OHIO TURNPIKE
AMERICAN SHIP BUILDING CO.
AMERICAN PROPELLER CO.
MID-STATES TERMINALS, INC. (ELEVATOR)
0 1000 2000
SCALE IN FEET
N
Z


TOLEDO (2)
POINT PLACE
MICHIGAN
OHIO
HANS HANSEN WELDING CO.
APEX OIL CO.
U. S. COAST GUARD
ED CULLEN PARK
SUMMIT ST.
LAKE ERIE
BAY VIEW PARK
SEWAGE DISPOSAL PLANT
T. T. R. R. BRIDGE
GRASSY ISLAND (Corps of Engineers Dredge Disposal Containment Area)
400 FT. WIDE
MAUMEE RIVER CHANNEL
Maumee Bay
ST. LAWRENCE DR.
R.R. BRIDGE
GULF OIL CO. U.S.
STANDARD OIL CO.
ASHLAND OIL, INC.
MILLARD AVE.
SINCLAIR ST.
JOHN CAREY DR.
GEO. HARDY DR.
TIFFIN ST.
DUCK CREEK
PHILLIPS PET. CO. (CARBON BLACK PLANT)
PORT AUTHORITY FACILITY NO. 2 (CHESSIE SYSTEM DOCKS)
LAKEFRONT DOCK (PELLET TERMINAL)
TO SEAWAY
500 FT. WIDE CHANNEL
BAY SHORE RD.
PORT AUTHORITY FACILITY No. 3 (Corps of Engineers Dredge Disposal Containment Area)
TOLEDO - LUCAS COUNTY PORT AUTHORITY FACILITY NO. 1
TOLEDO OVERSEAS TERMINALS INC.
TOLEDO FOREIGN TRADE ZONE OPERATORS, INC.
INDUSTRIAL MOLASSES CORP
FEDERALLY-MAINTAINED CHANNEL
TOLEDO EDISON CO. (BAY SHORE STATION)
N


MAUMEE RIVER
4,100 ft.
600 ft.
Berth A
400 ft.
Berth No. 1
500 ft.
Berth No. 2
500 ft.
Berth No. 3
500 ft.
Berth No. 4
500 ft.
Berth No. 5
500 ft.
Berth No. 6
600 ft.
Berth No. 7
Berth A through 7 – General Cargo
Berth B
Arco Dock
Sub Station
Shed A
Shed B
Gantry Crane Tracks.
OBS. Deck and
P.A. Maint. Bldg.
7A
Ro-Ro Ramp
St. Lawrence Drive.
7B
Slip No. 3
F.T.Z. Warehouse
Storage Area
Storage Area
ARCO Pipeline Co
N
TOLEDO
PORT AUTHORITY FACILITY No. 1

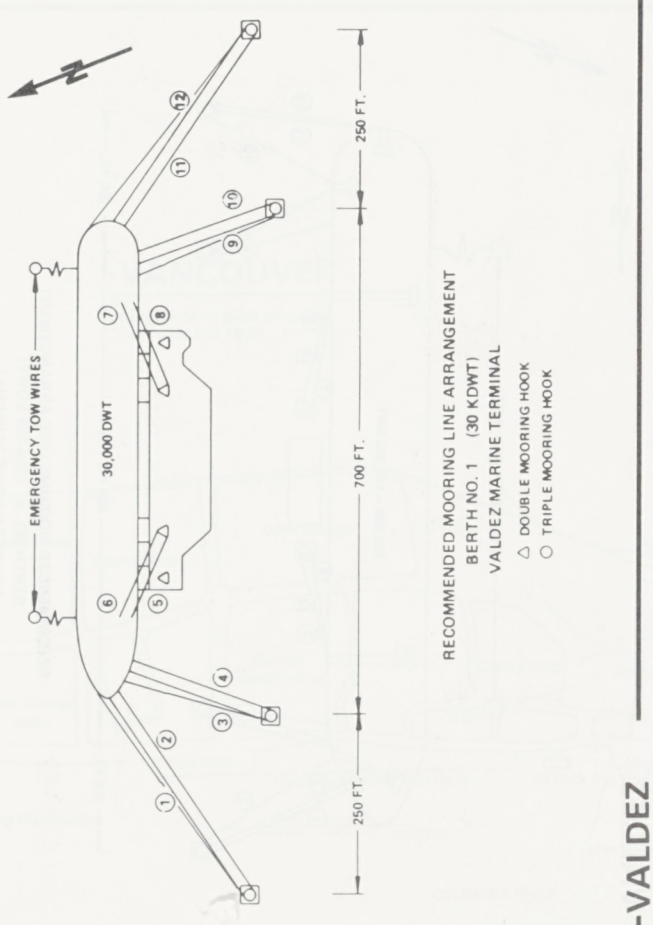

CORDOVA
Valdez
Valdez Terminal
Hinchinbrook Island
Cape Hinchinbrook
Prince William Sound
Port Wells
Whittier
GULF OF ALASKA
N
Legend
Seasonal Fishing Areas
0
5
10
15
20
Nautical Miles
VALDEZ
PRINCE WILLIAM SOUND.



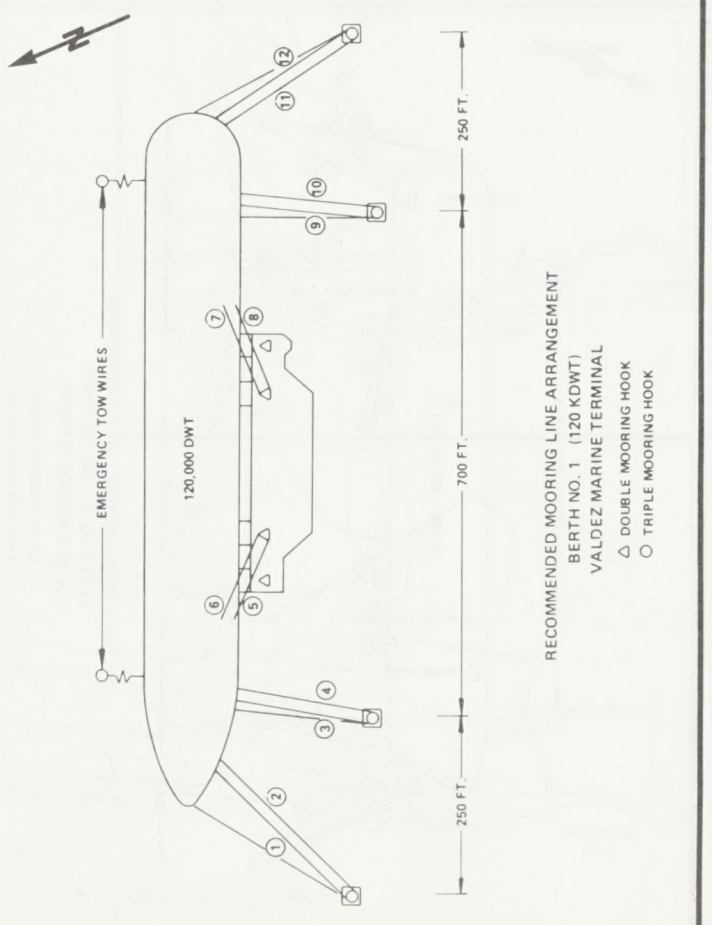
MOORINGS ALL VESSELS TO SUPPLY	
FOWARD	AFT
3 Headlines 3 Breastlines 2 Springs	3 Sternlines 3 Breastlines 2 Springs

VALDEZ

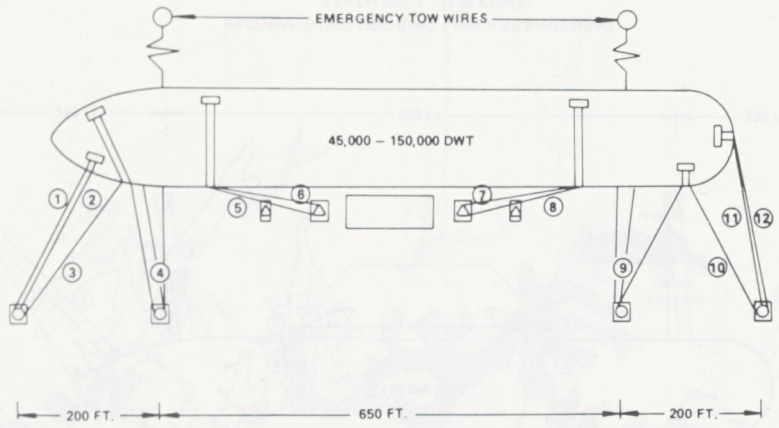
GENERAL ARRANGEMENT



VALDEZ



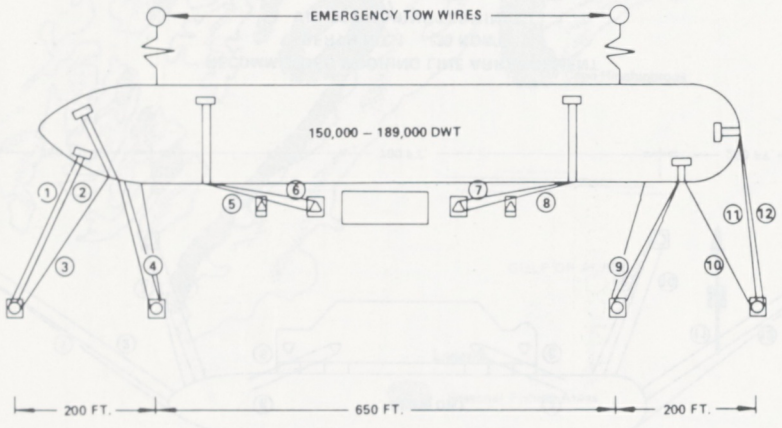
P1086



RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 4 (45-150 KDWT)
VALDEZ MARINE TERMINAL

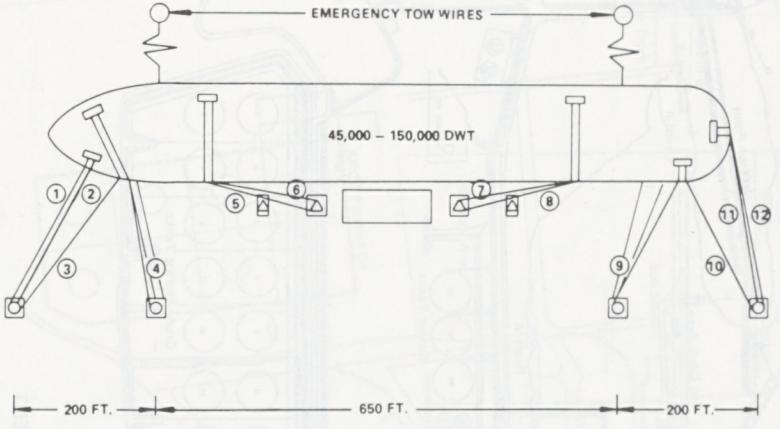
△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK

VALDEZ



RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 4 (150-189 KDWT)
VALDEZ MARINE TERMINAL

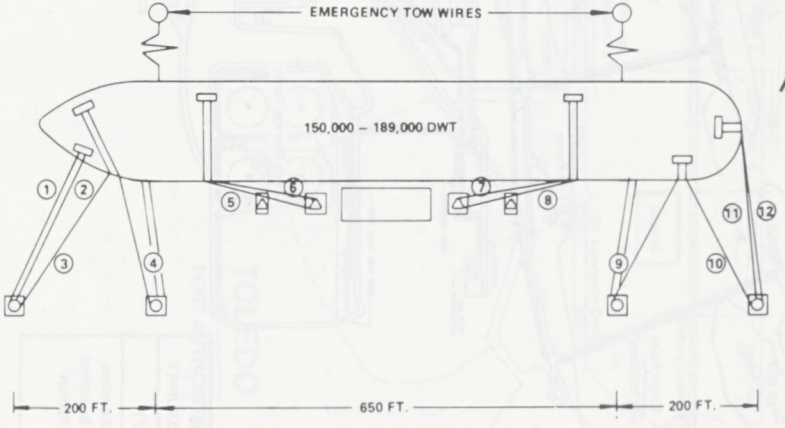
△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK



RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 3 (45-150 KDWT)
VALDEZ MARINE TERMINAL

△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK

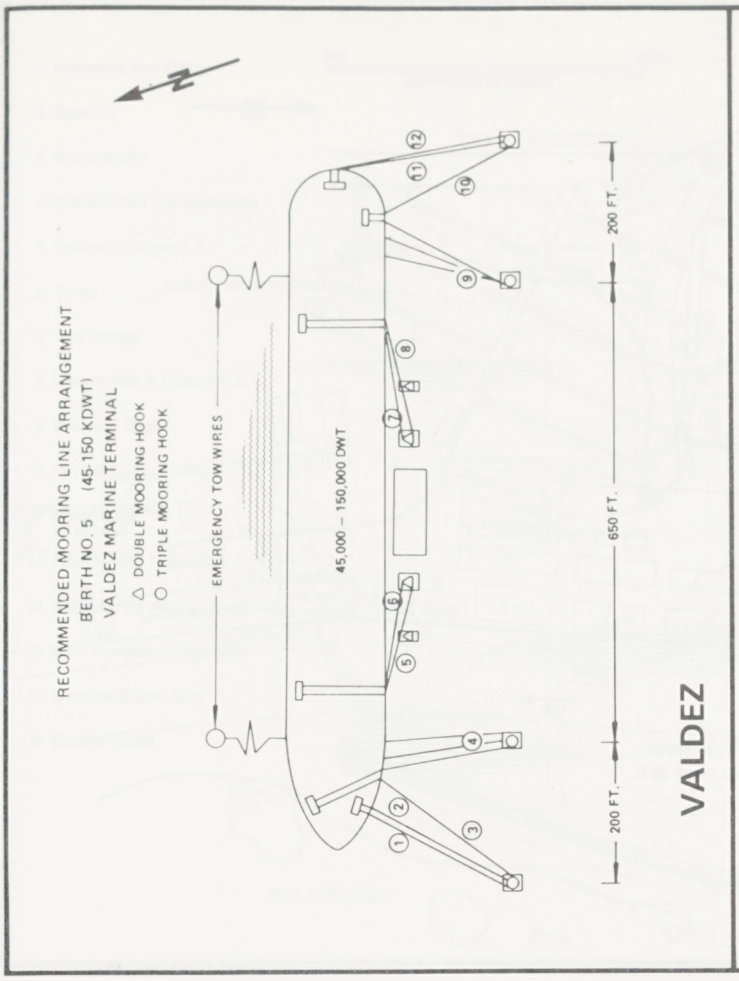
VALDEZ

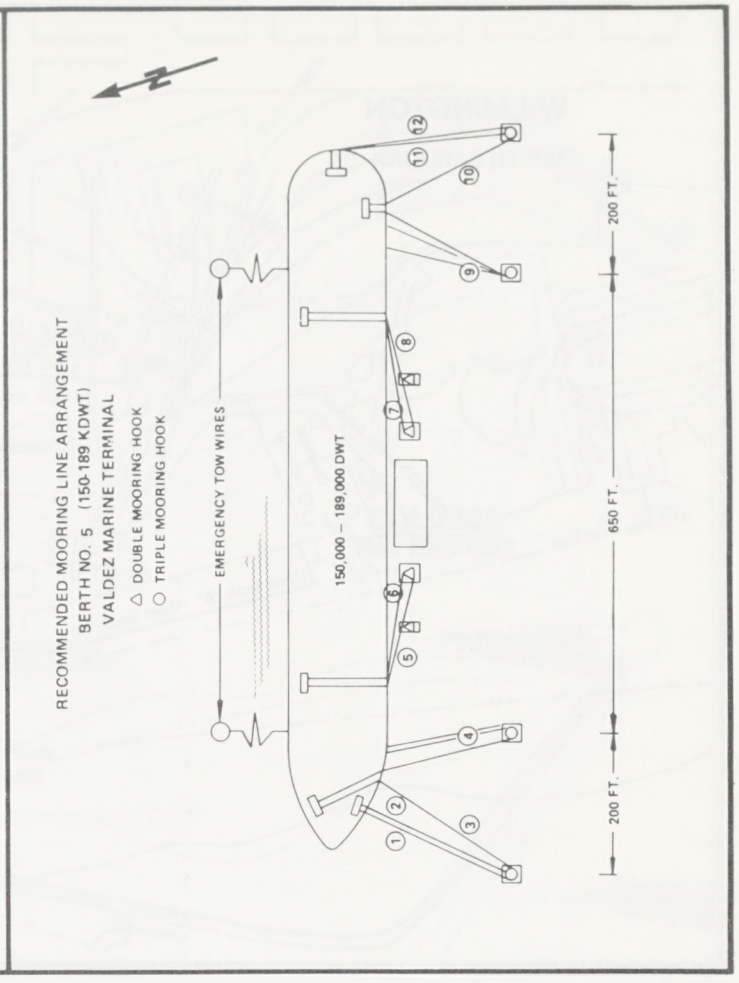


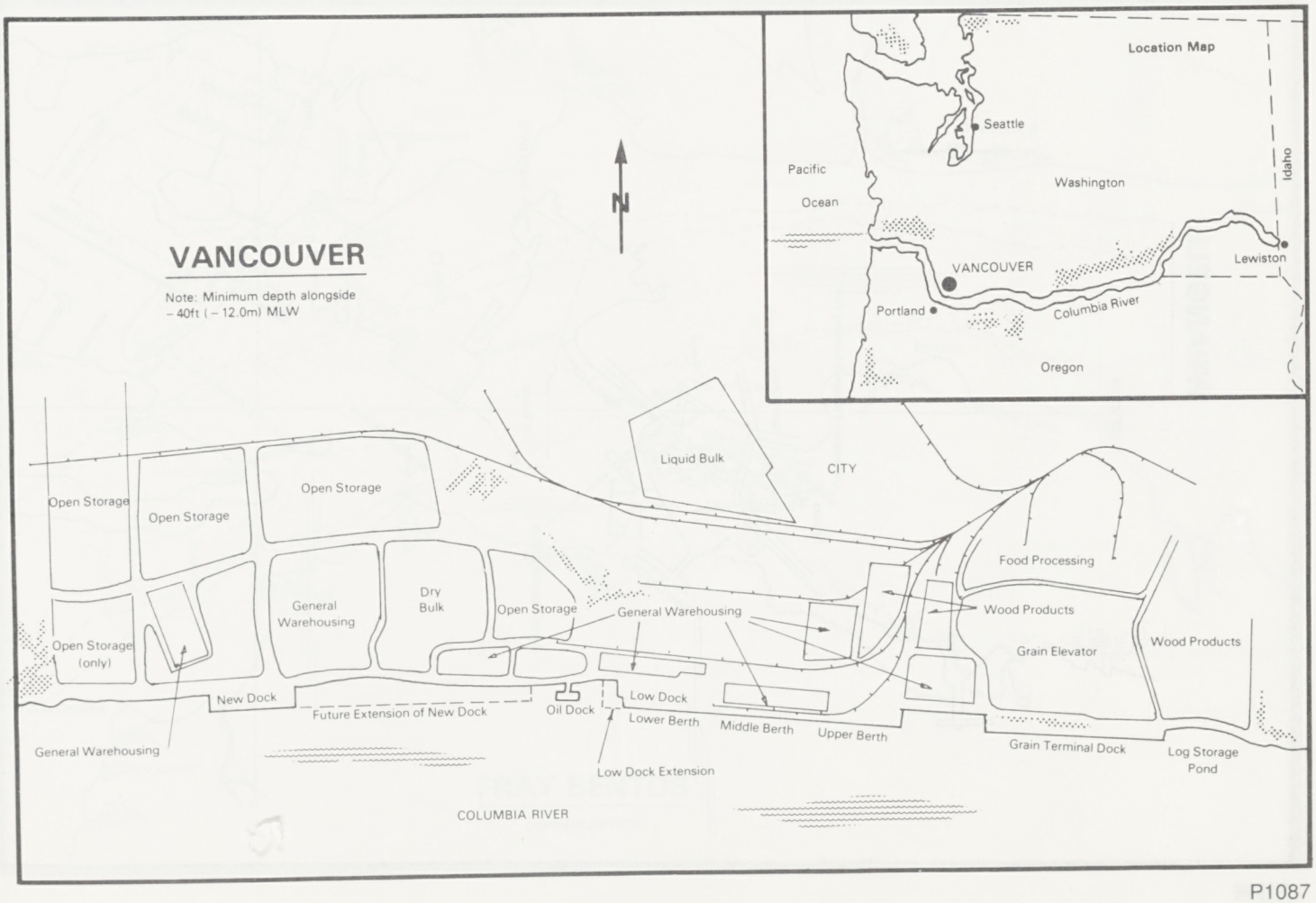
RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 3 (150-189 KDWT)
VALDEZ MARINE TERMINAL

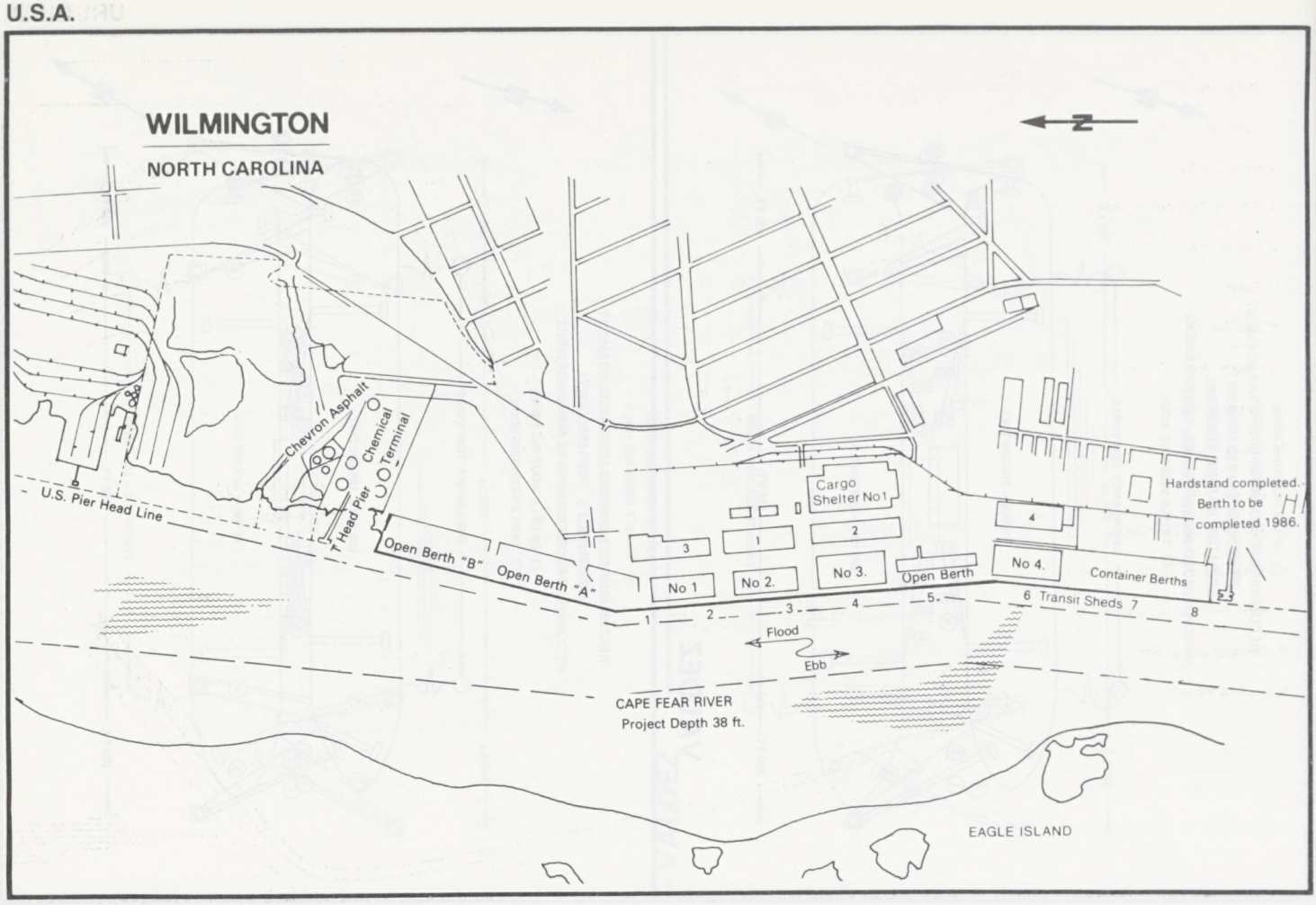
△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK

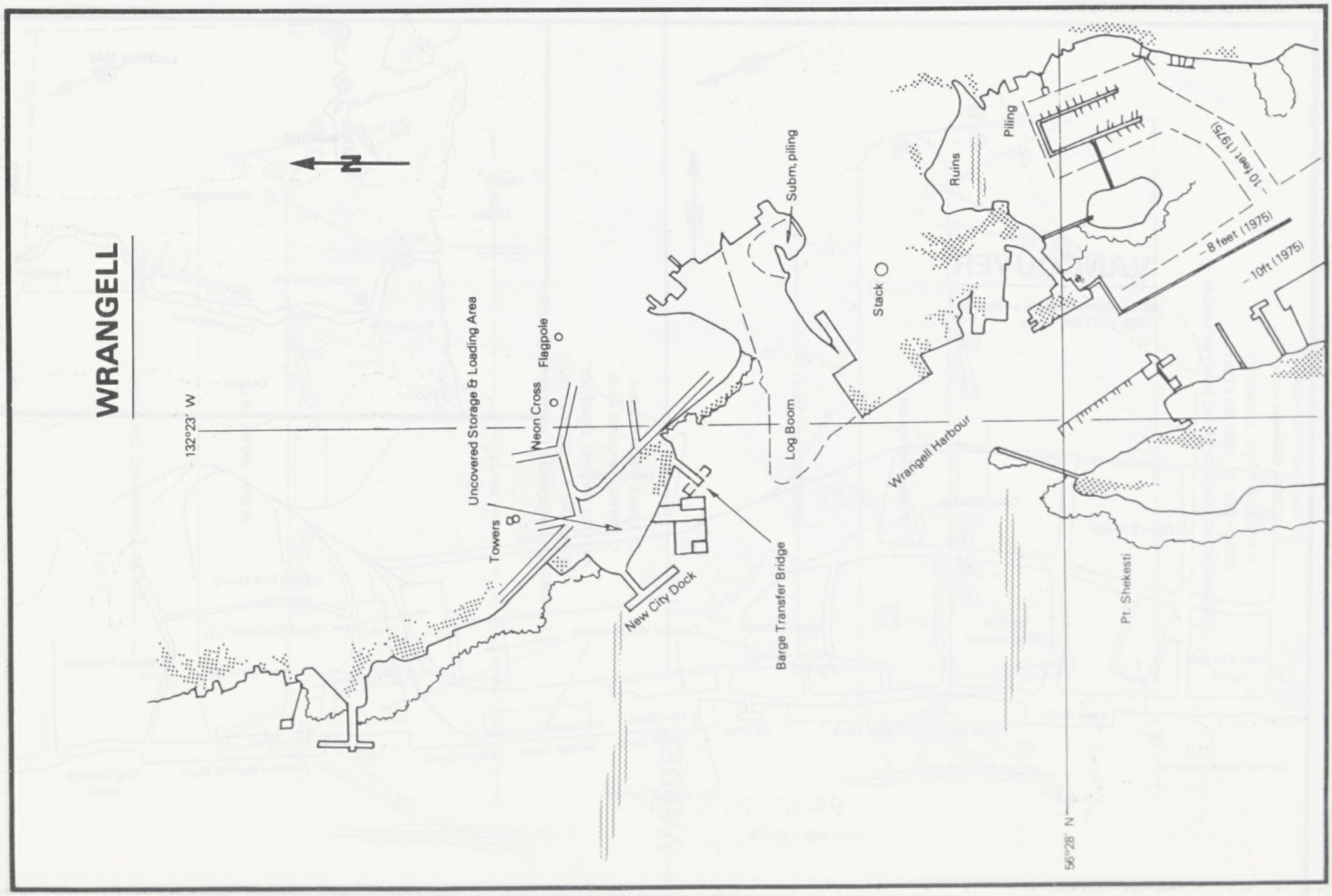
U.S.A.

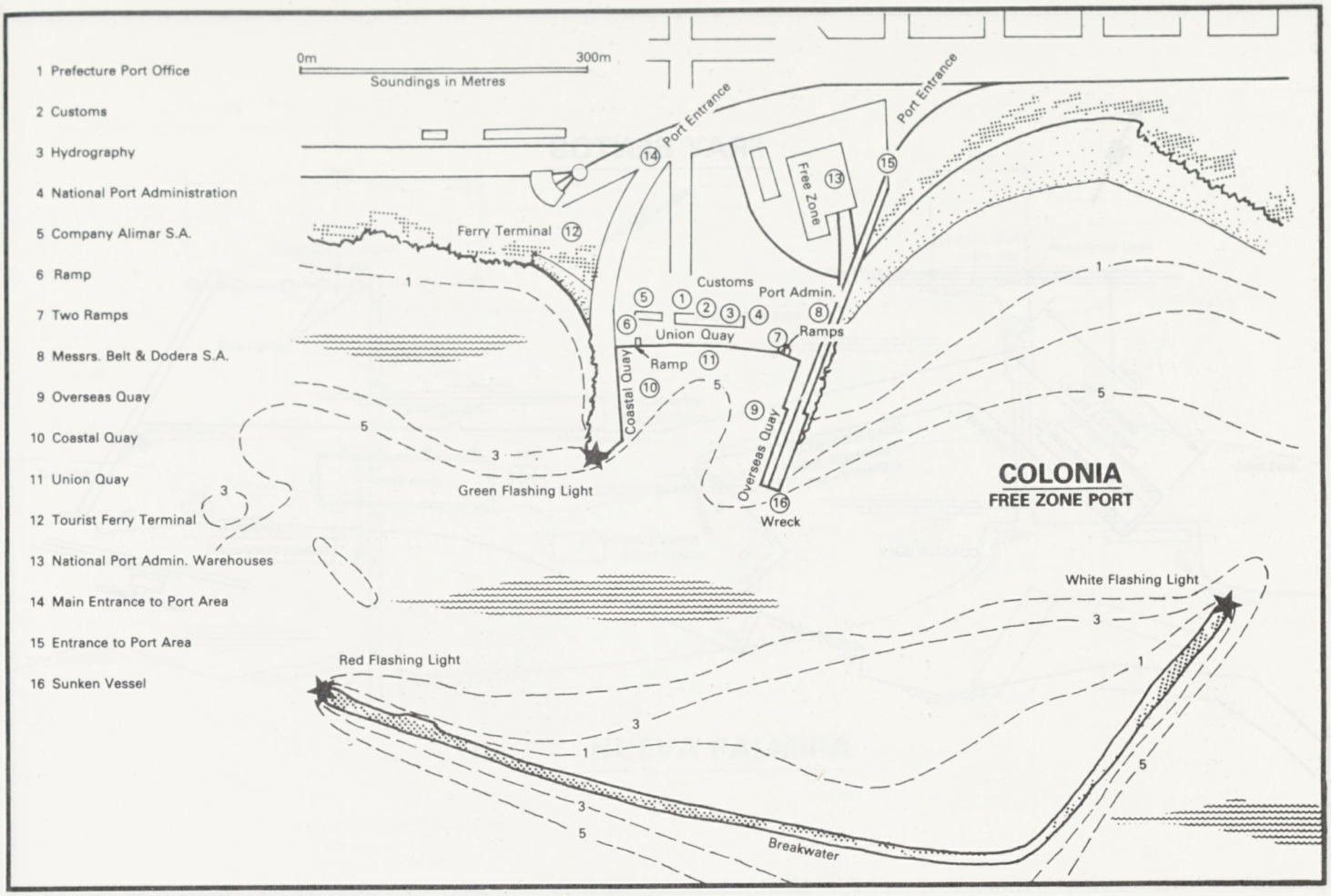

RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 5 (45-150 KDWT)
VALDEZ MARINE TERMINAL
△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK
EMERGENCY TOW WIRES
45,000 – 150,000 DWT
200 FT.
650 FT.
200 FT.
VALDEZ

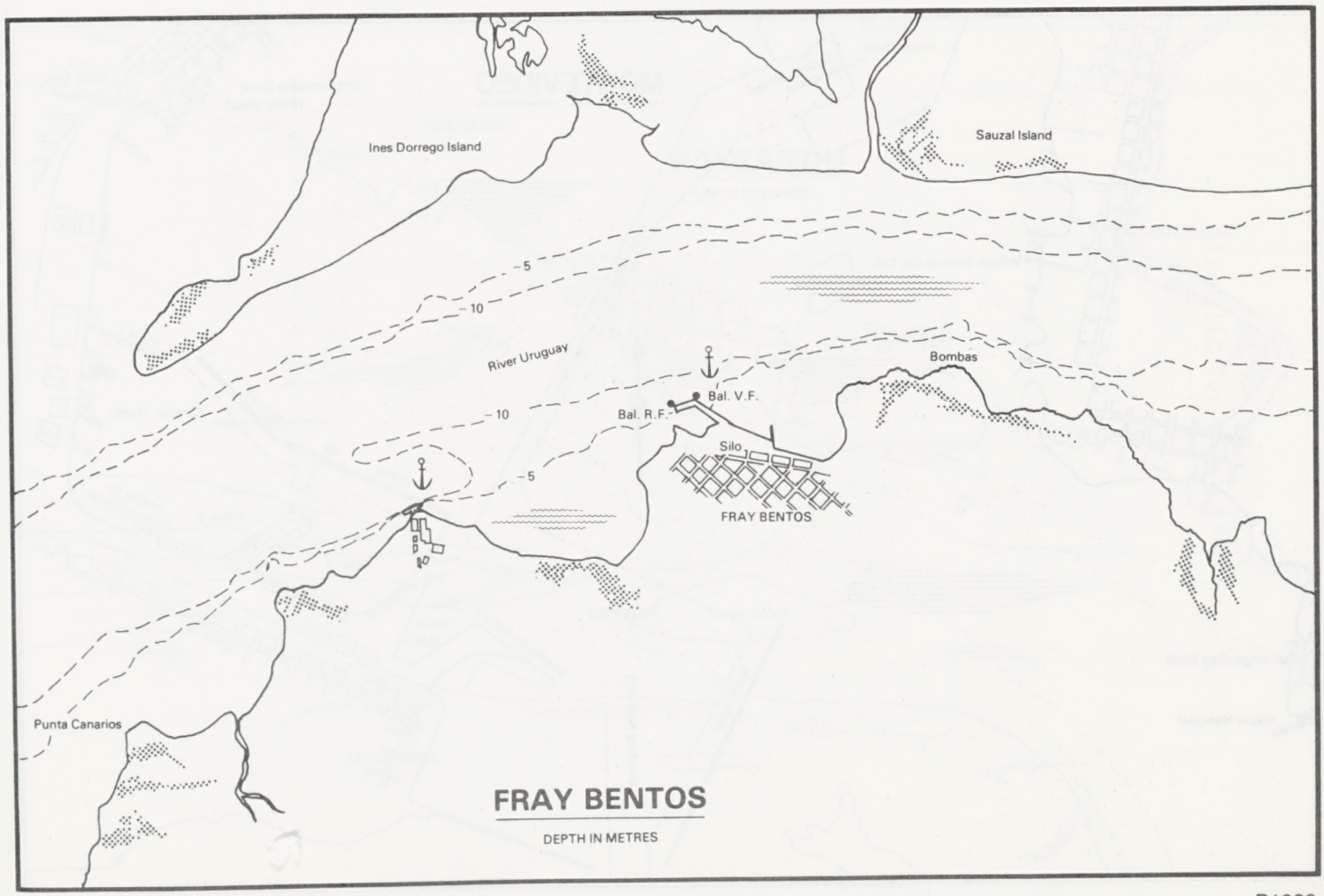

RECOMMENDED MOORING LINE ARRANGEMENT
BERTH NO. 5 (150-189 KDWT)
VALDEZ MARINE TERMINAL
△ DOUBLE MOORING HOOK
○ TRIPLE MOORING HOOK
EMERGENCY TOW WIRES
150,000 – 189,000 DWT
200 FT.
650 FT.
200 FT.

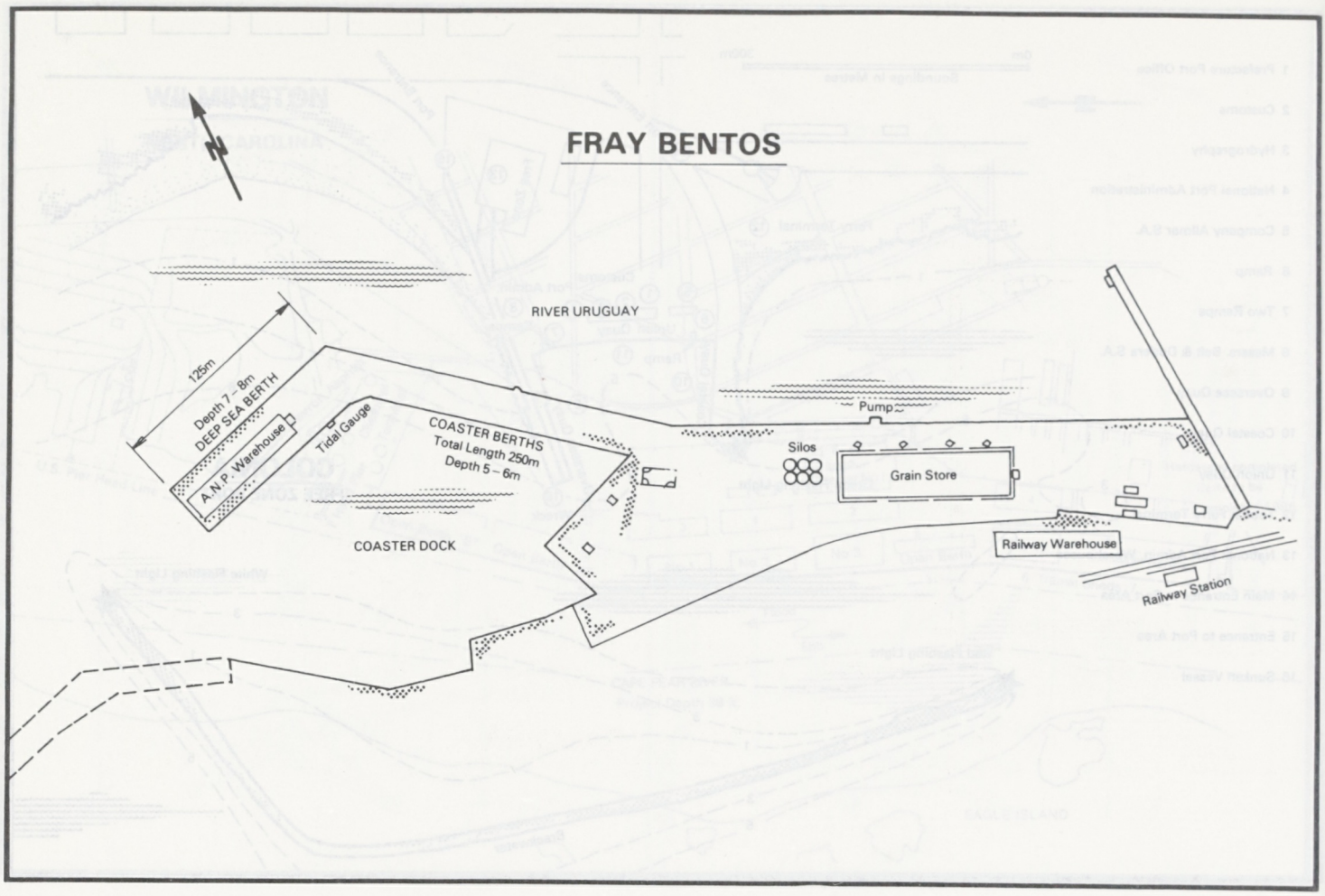

VANCOUVER
Note: Minimum depth alongside
– 40ft (– 12.0m) MLW
Location Map
Seattle
Pacific
Ocean
Washington
Idaho
VANCOUVER
Lewiston
Portland
Columbia River
Oregon
Liquid Bulk
CITY
Open Storage
Open Storage
Open Storage
Food Processing
General
Warehousing
Dry
Bulk
Open Storage
General Warehousing
Wood Products
Open Storage
(only)
Grain Elevator
Wood Products
New Dock
Future Extension of New Dock
Oil Dock
Low Dock
Lower Berth
Middle Berth
Upper Berth
General Warehousing
Low Dock Extension
Grain Terminal Dock
Log Storage
Pond
COLUMBIA RIVER

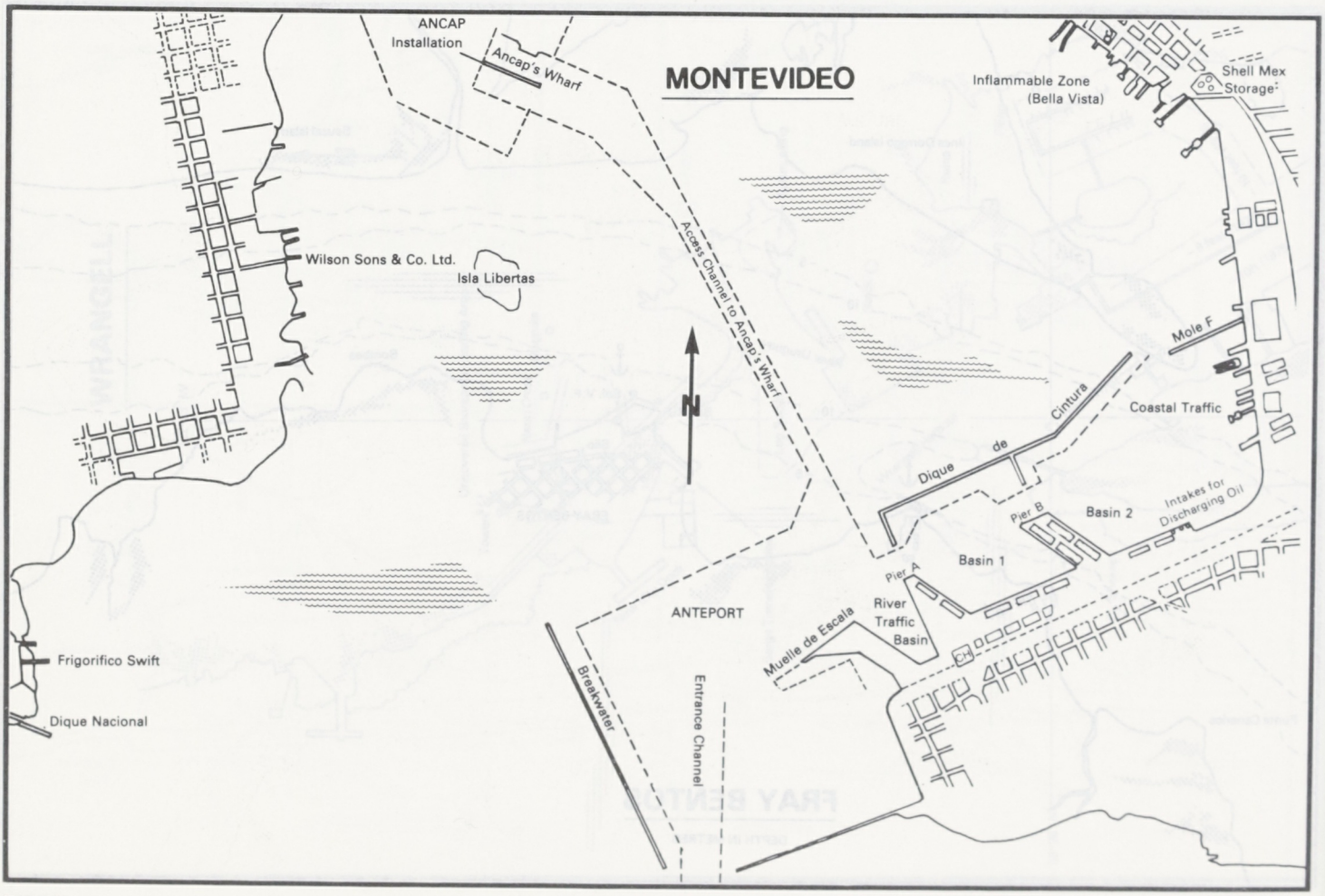

WILMINGTON
NORTH CAROLINA
N
Chevron Asphalt
Chemical Terminal
U.S. Pier Head Line
T Head Pier
Open Berth "B"
Open Berth "A"
Cargo Shelter No1
Hardstand completed.
Berth to be completed 1986.
No 1
No 2.
No 3.
Open Berth
No 4.
Container Berths
Transit Sheds 7
Flood
Ebb
CAPE FEAR RIVER
Project Depth 38 ft.
EAGLE ISLAND

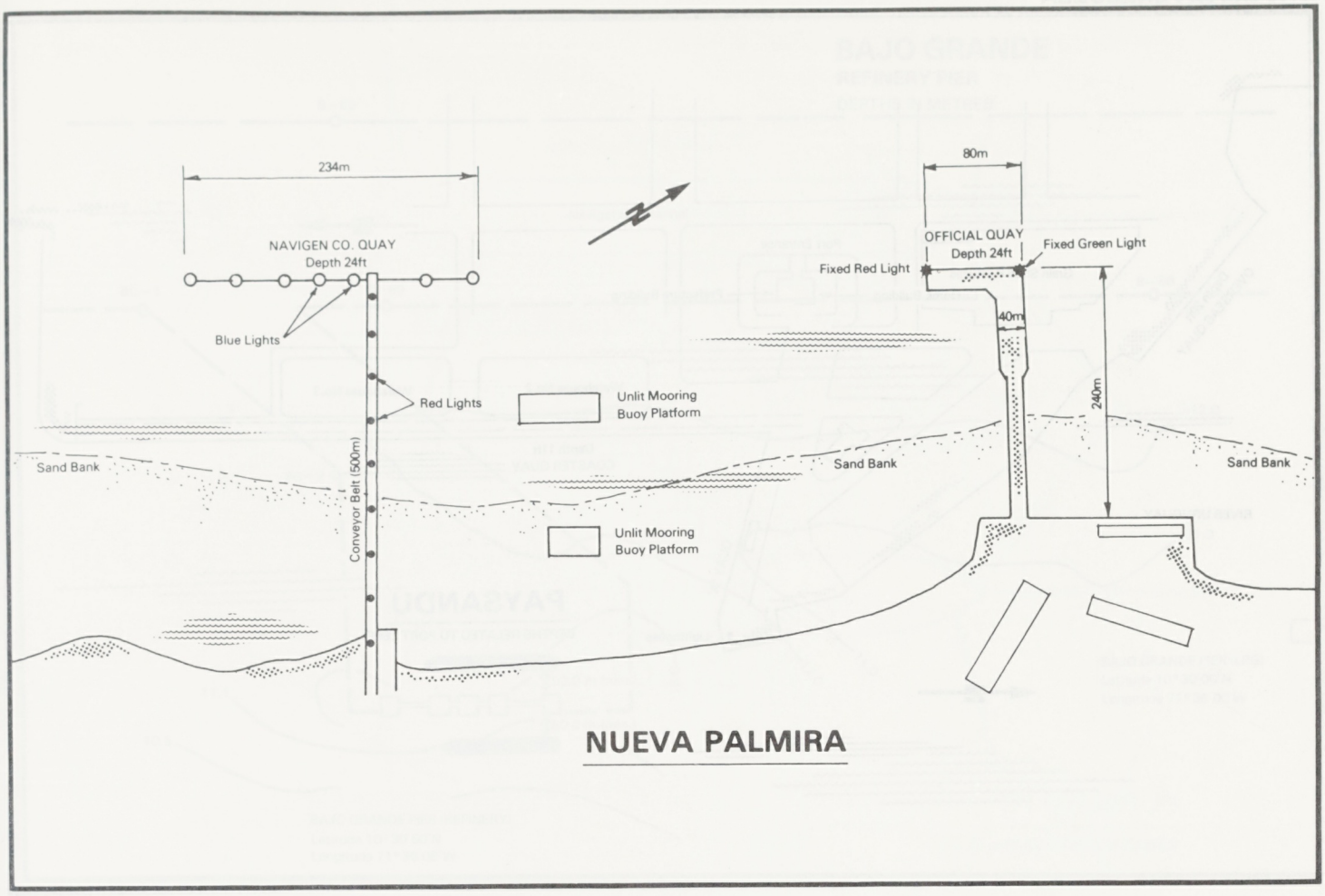

WRANGELL
N
132°23' W
Uncovered Storage & Loading Area
Flagpole
Neon Cross
Towers
New City Dock
Barge Transfer Bridge
Log Boom
Subm. piling
Ruins
Piling
Stack
10 feet (1975)
8 feet (1975)
10ft (1975)
Wrangell Harbour
Pt. Shekesti
56°28' N


1 Prefecture Port Office
2 Customs
3 Hydrography
4 National Port Administration
5 Company Alimar S.A.
6 Ramp
7 Two Ramps
8 Messrs. Belt & Dodera S.A.
9 Overseas Quay
10 Coastal Quay
11 Union Quay
12 Tourist Ferry Terminal
13 National Port Admin. Warehouses
14 Main Entrance to Port Area
15 Entrance to Port Area
16 Sunken Vessel
0m
300m
Soundings in Metres
Port Entrance
Port Entrance
Free Zone
Ferry Terminal
Customs
Port Admin.
Union Quay
Ramps
Ramp
Coastal Quay
Overseas Quay
Green Flashing Light
Wreck
COLONIA
FREE ZONE PORT
White Flashing Light
Red Flashing Light
Breakwater

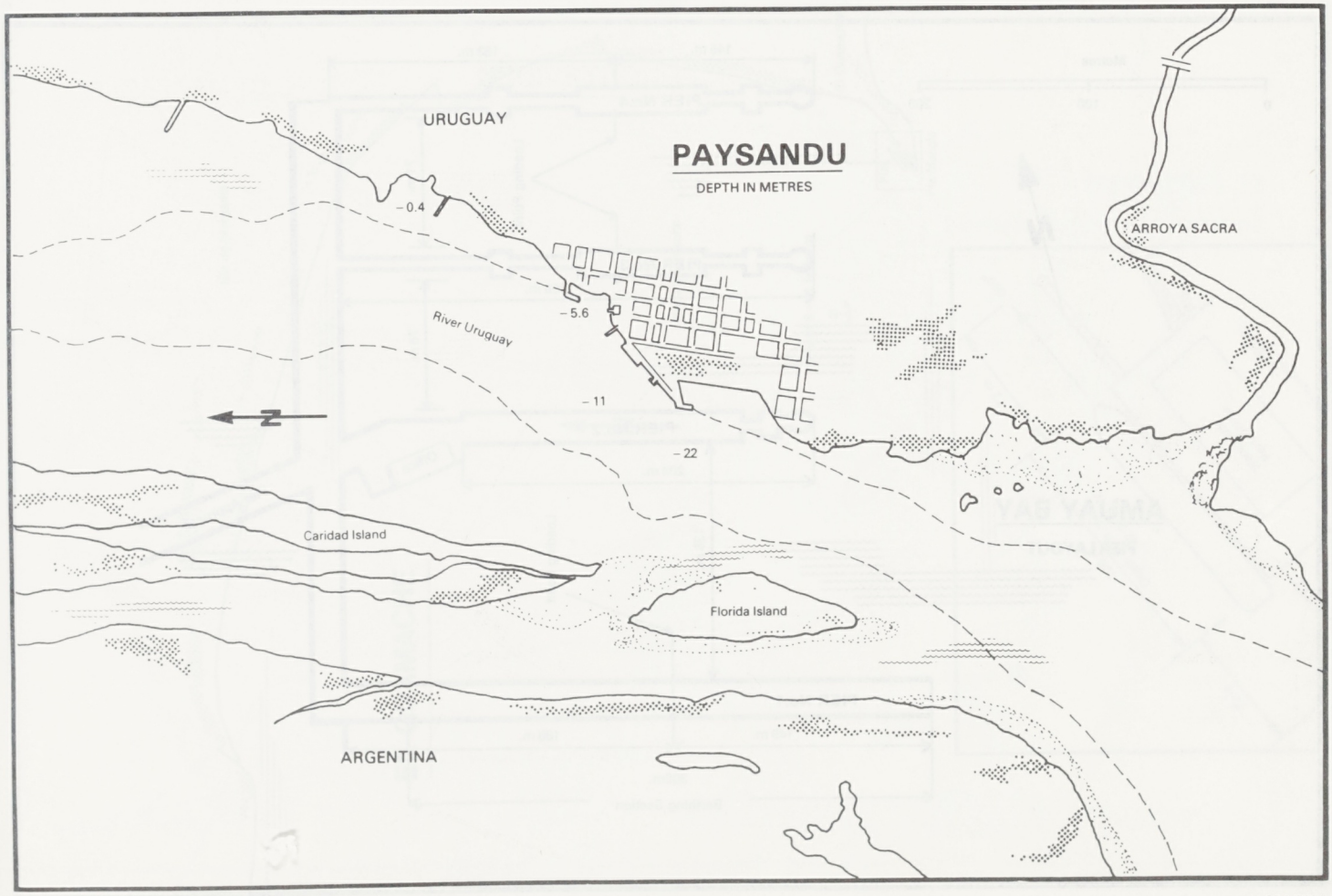

Ines Dorrego Island
Sauzal Island
River Uruguay
Bombas
Bal. V.F.
Bal. R.F.
Silo
FRAY BENTOS
Punta Canarios
FRAY BENTOS
DEPTH IN METRES

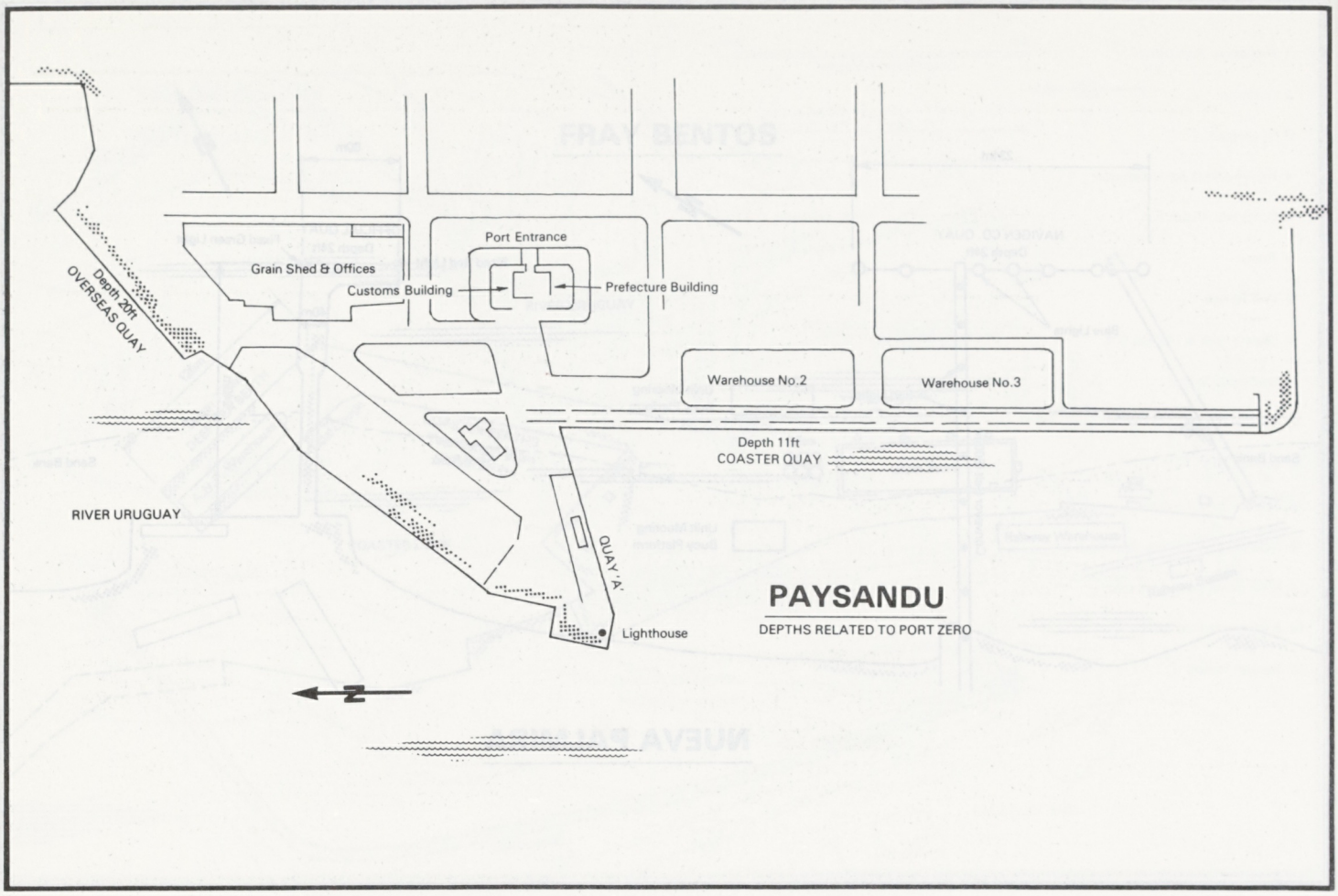

FRAY BENTOS
N
RIVER URUGUAY
125m
Depth 7 – 8m
DEEP SEA BERTH
A.N.P. Warehouse
Tidal Gauge
COASTER BERTHS
Total Length 250m
Depth 5 – 6m
COASTER DOCK
Pump
Silos
Grain Store
Railway Warehouse
Railway Station


MONTEVIDEO
ANCAP
Installation
Ancap's Wharf
Inflammable Zone
(Bella Vista)
Shell Mex
Storage
Wilson Sons & Co. Ltd.
Isla Libertas
Access Channel to Ancap's Wharf
N
Mole F
Coastal Traffic
Cintura
de
Dique
Pier B
Basin 2
Intakes for
Discharging Oil
Pier A
Basin 1
ANTEPORT
River
Traffic
Basin
Muelle de Escala
Frigorifico Swift
Dique Nacional
Breakwater
Entrance Channel



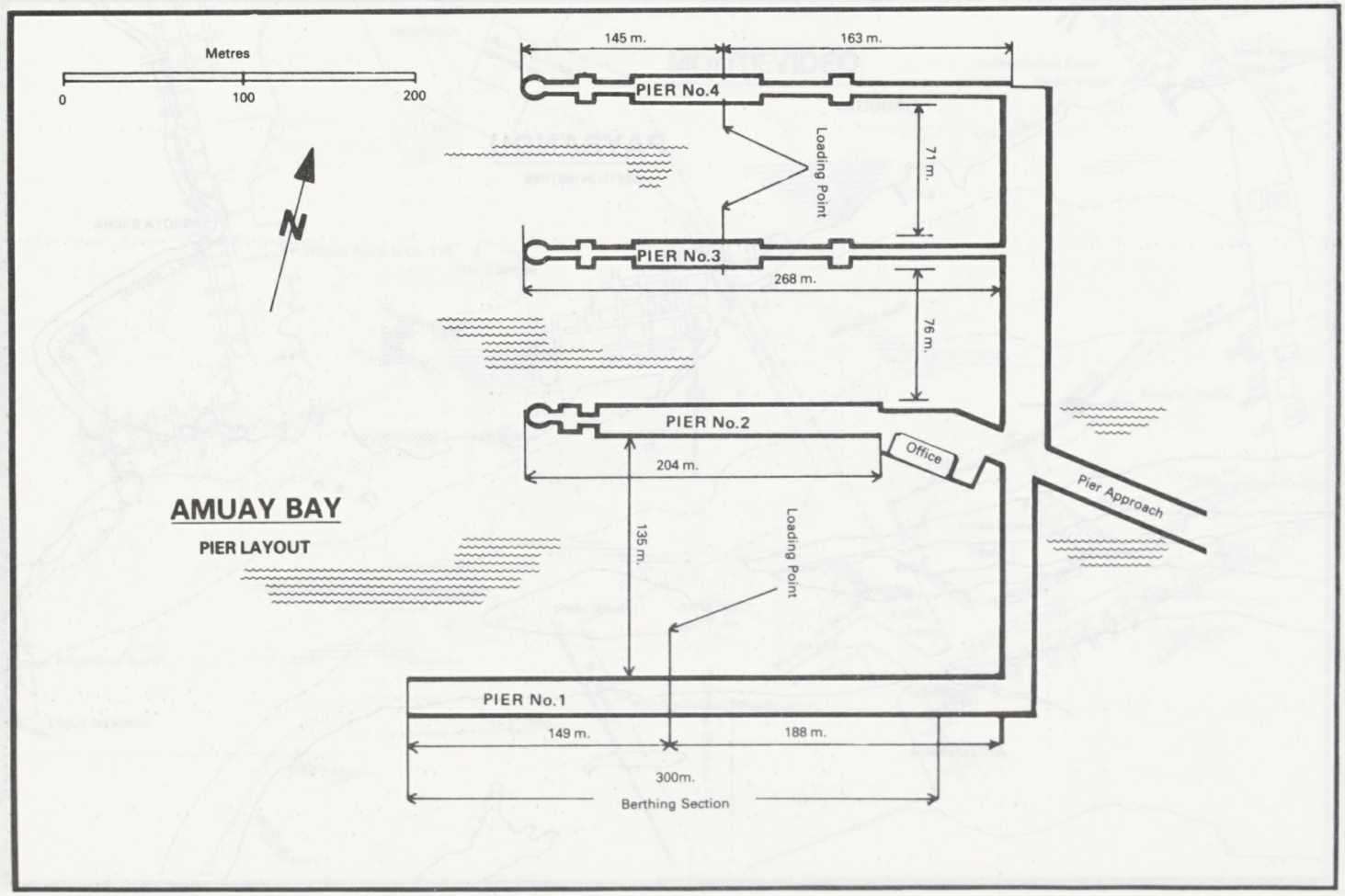
NUEVA PALMIRA





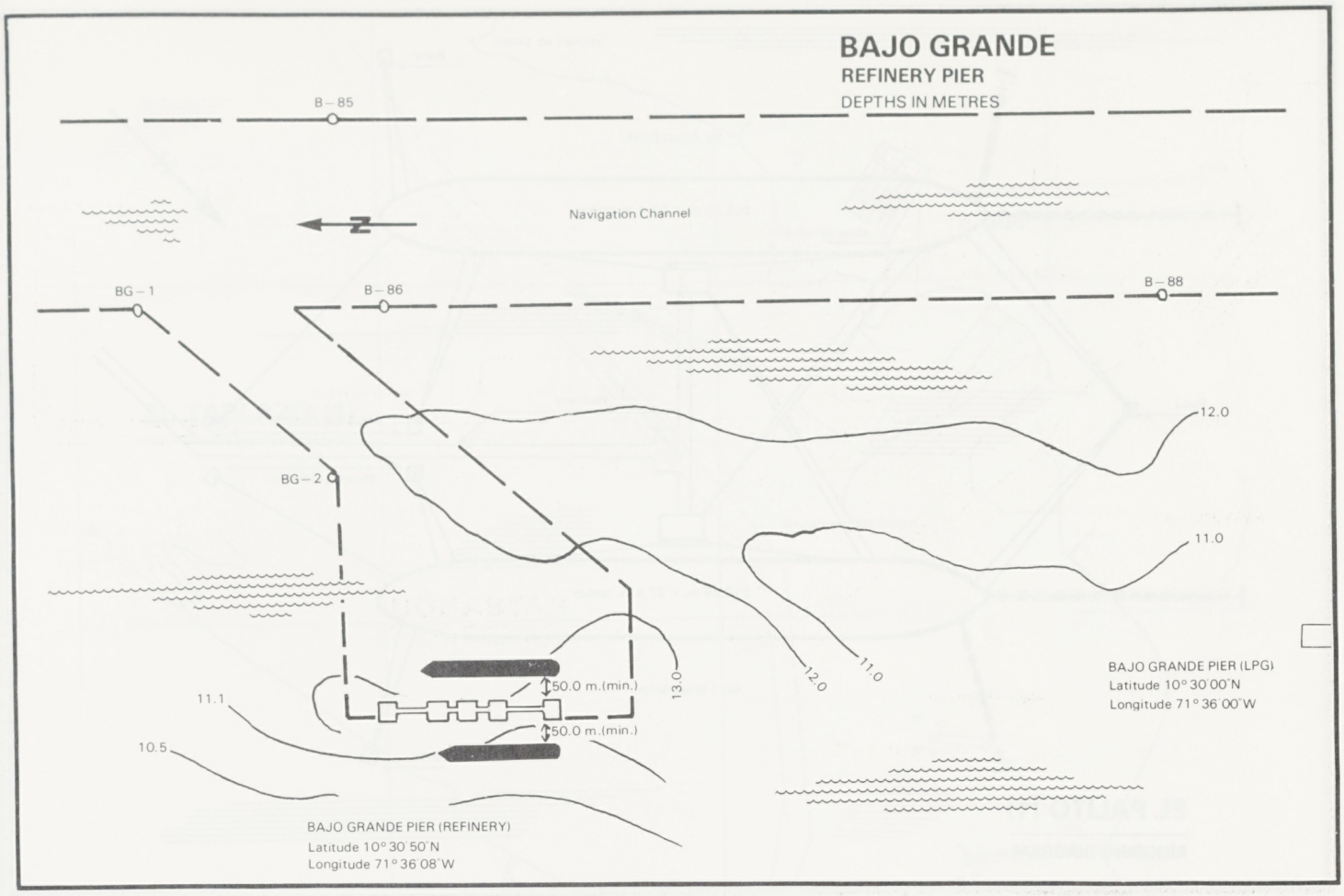
PAYSANDU

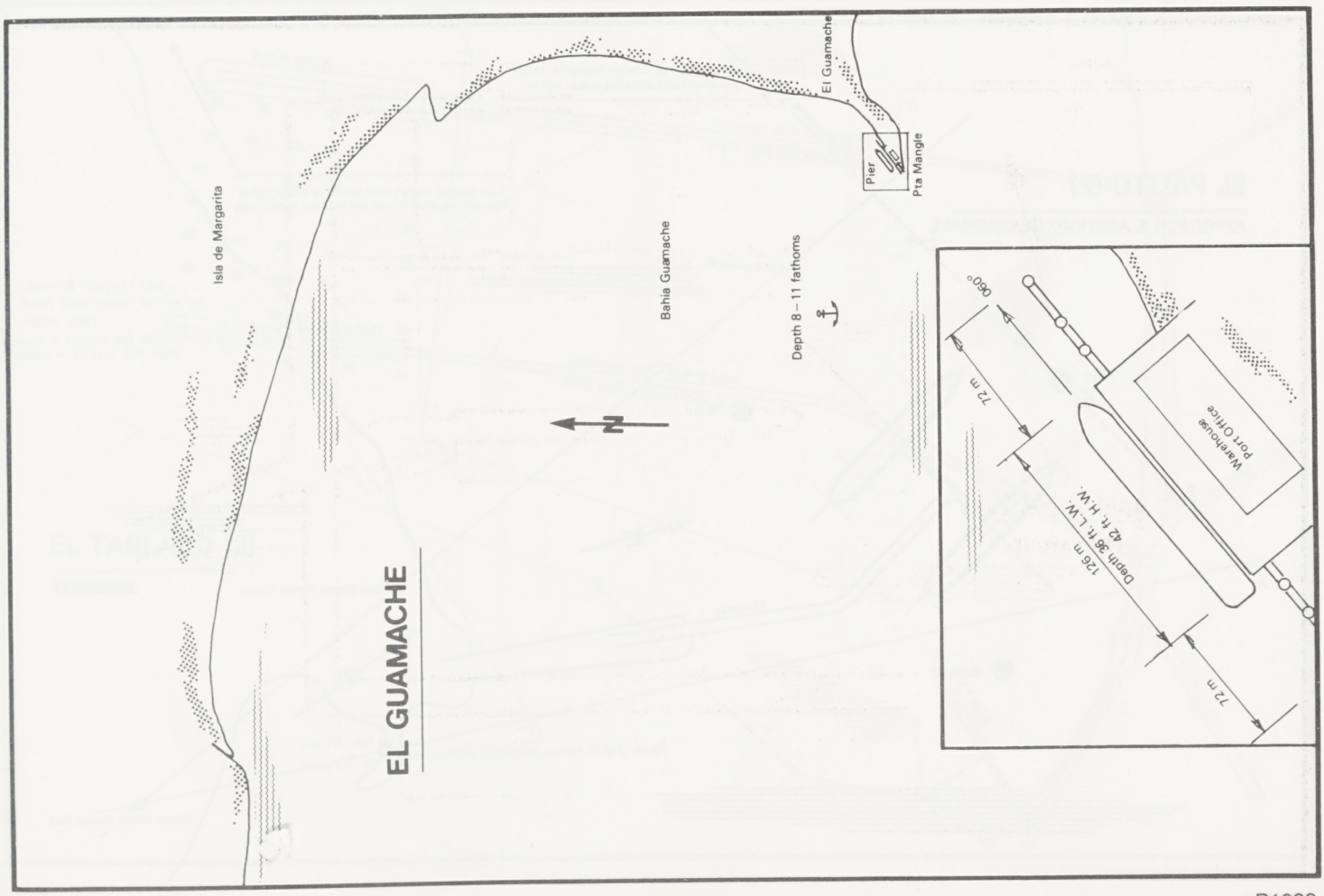
DEPTHS RELATED TO PORT ZERO



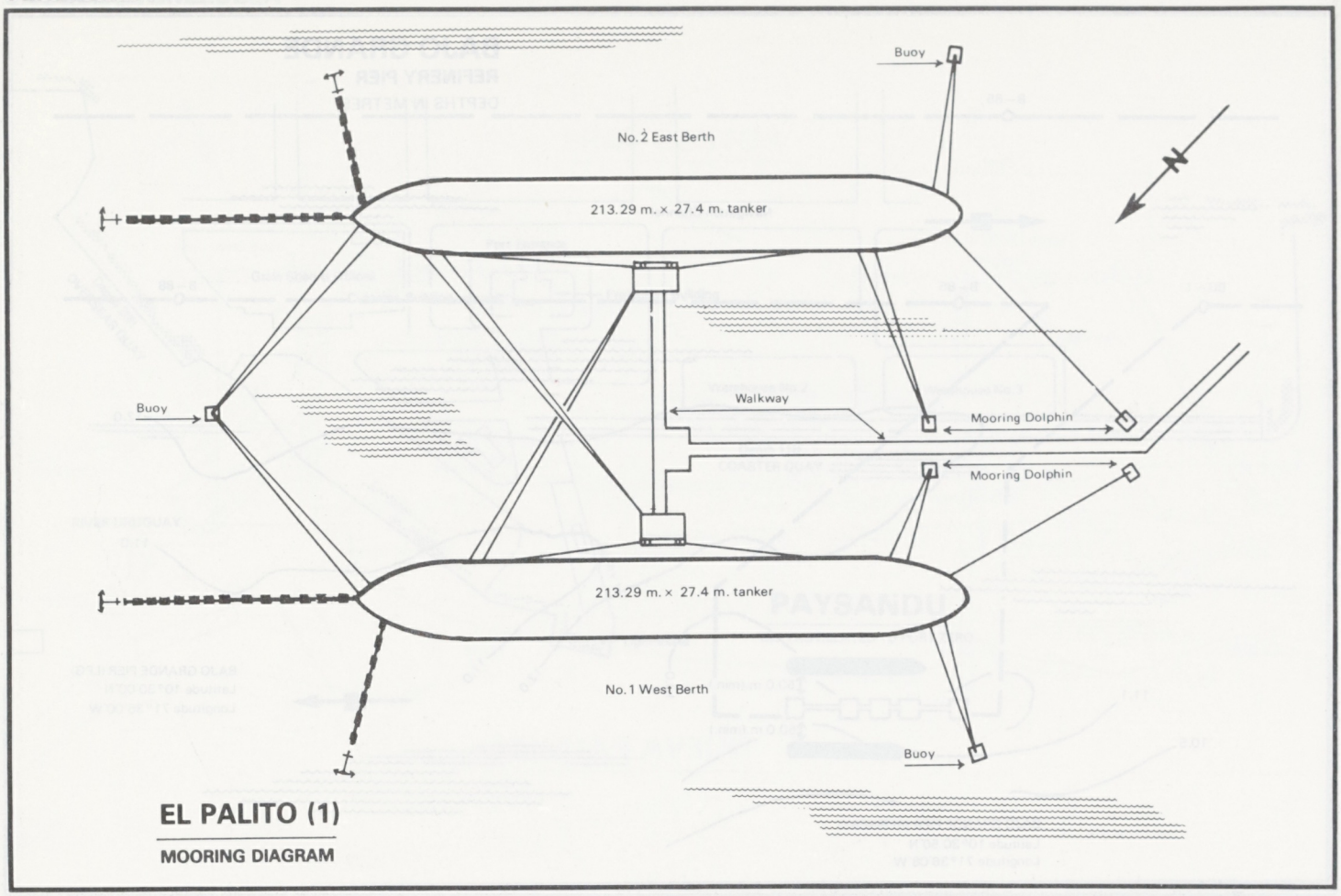
AMUAY BAY

PIER LAYOUT



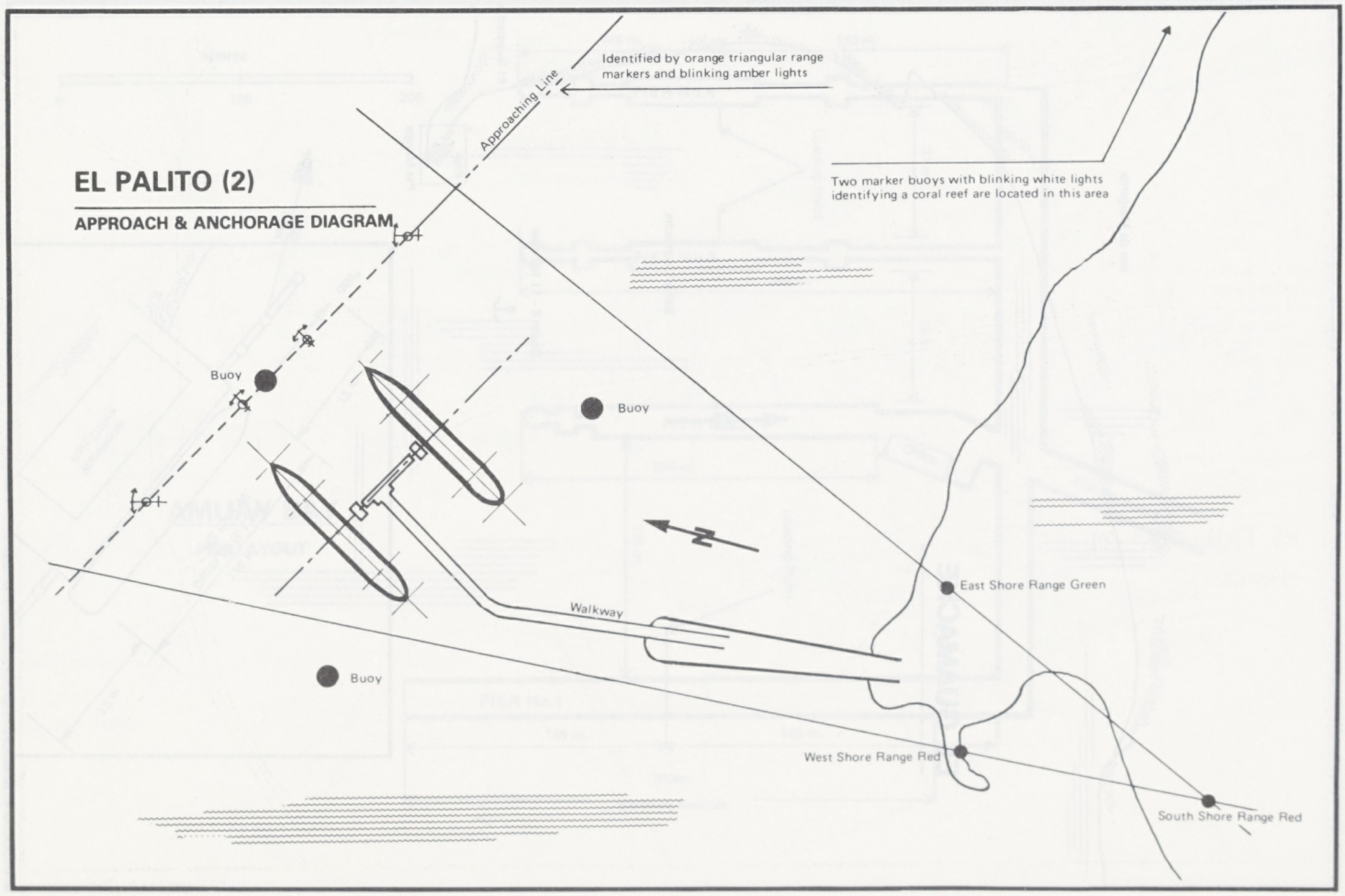


"Plan supplied by Ship's Master"



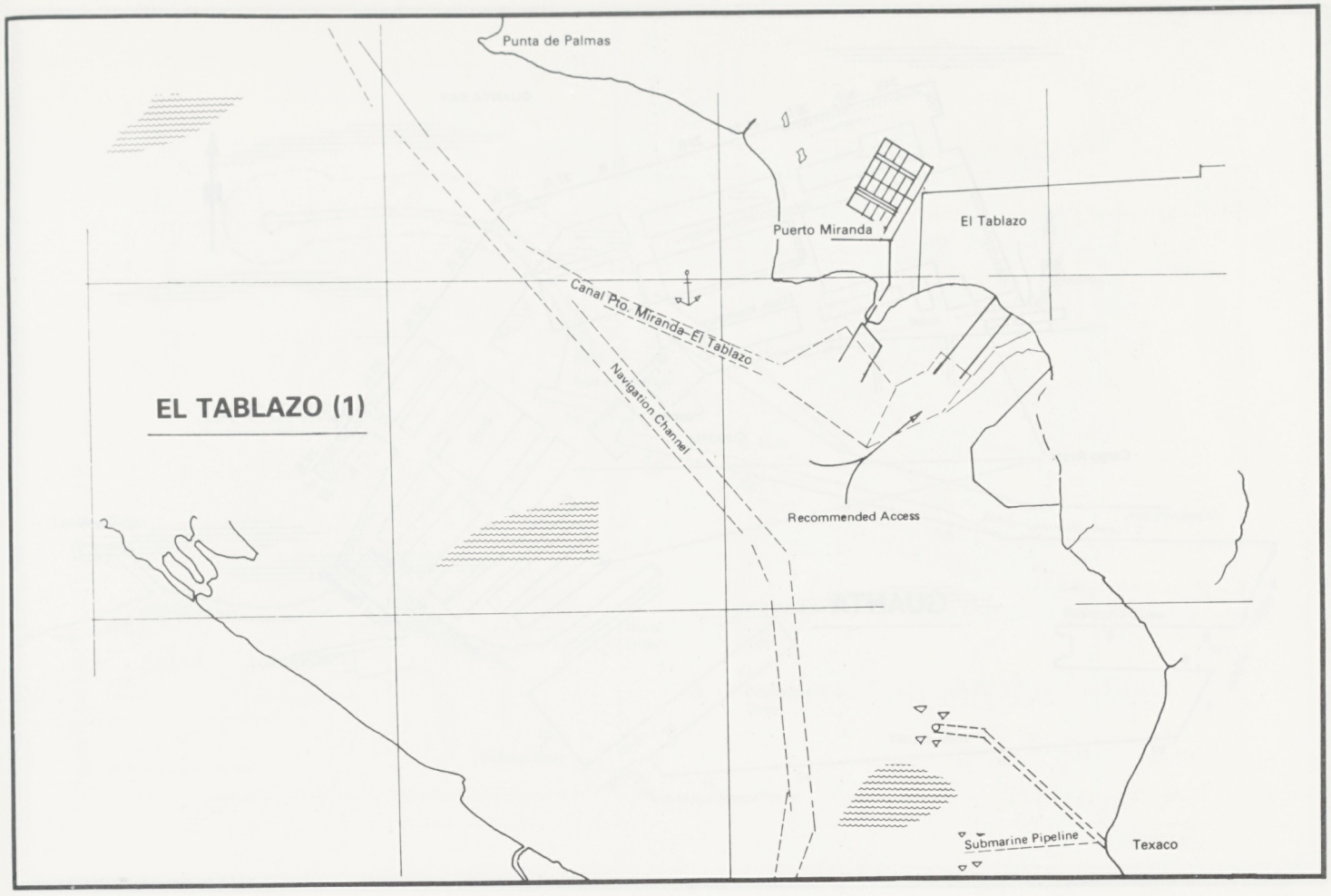
EL PALITO (1)

MOORING DIAGRAM

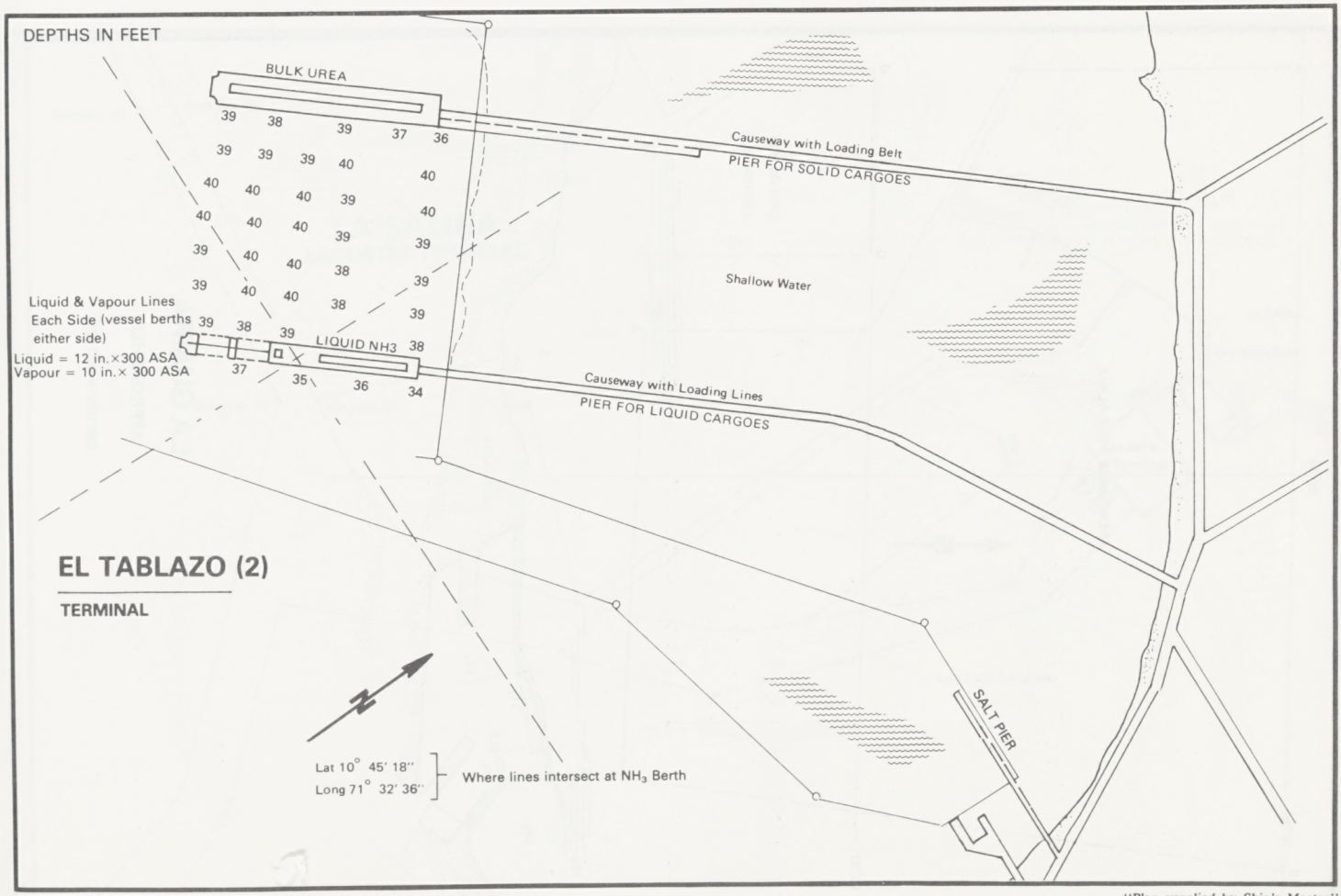


EL PALITO (2)

APPROACH & ANCHORAGE DIAGRAM



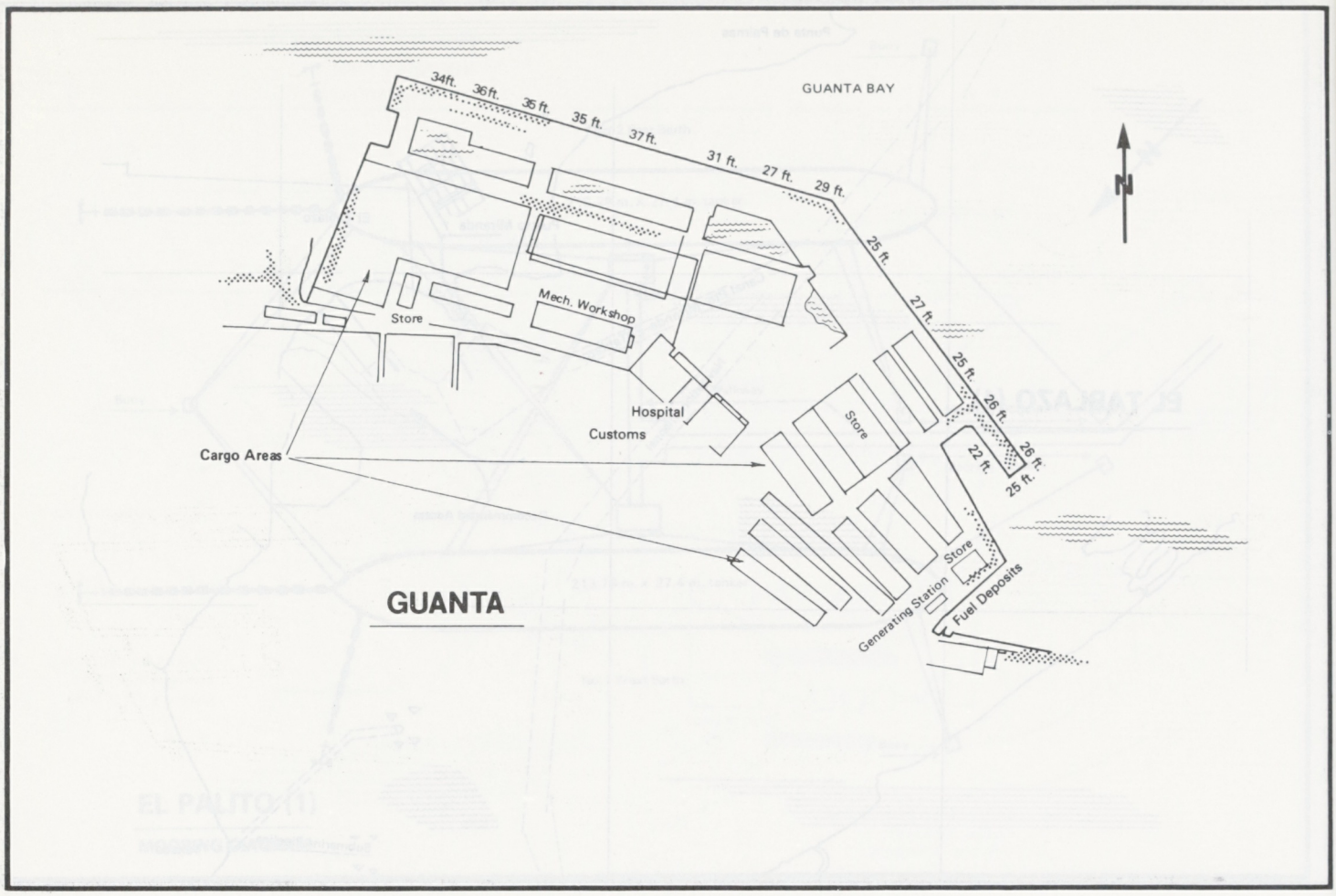
EL TABLAZO (1)

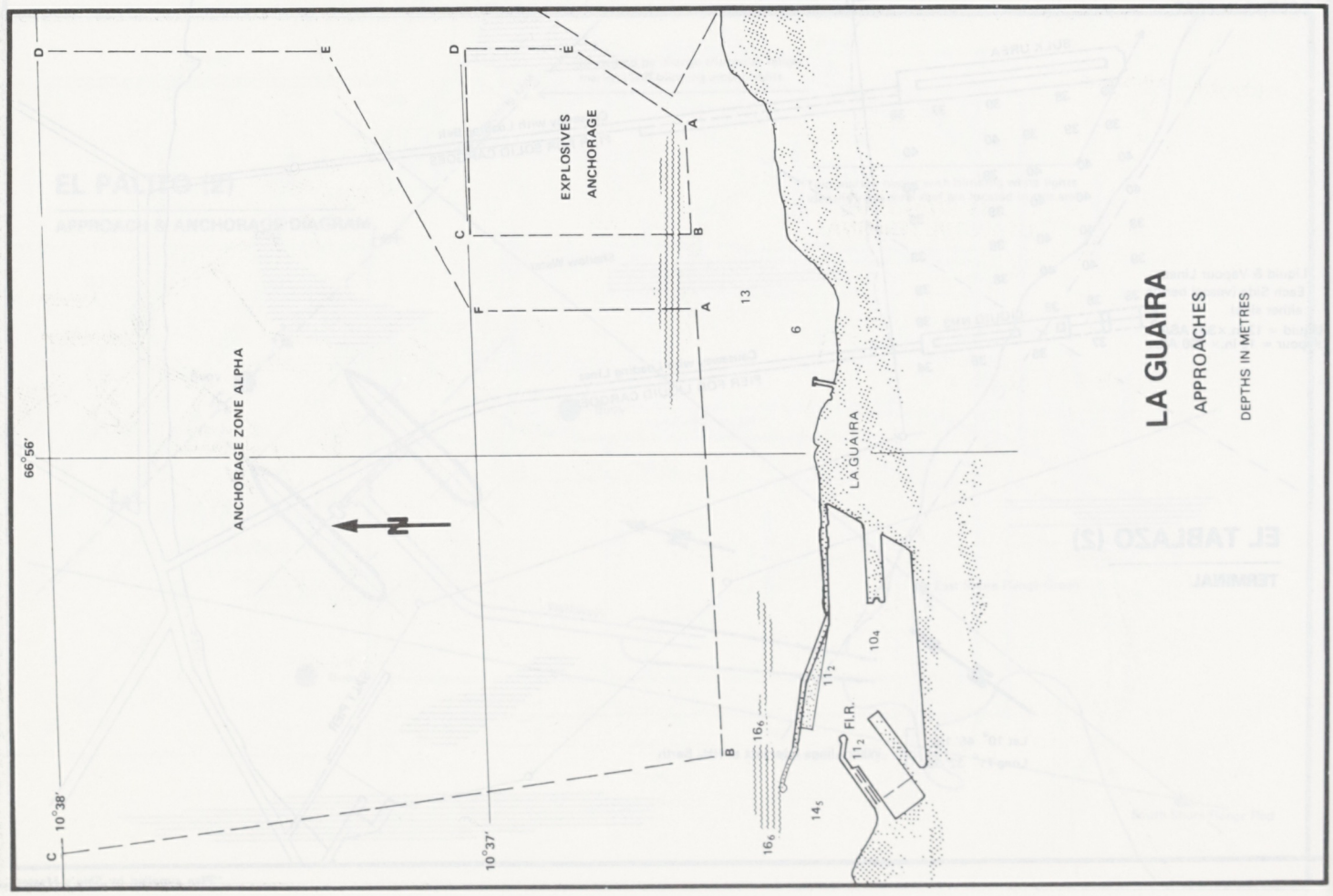


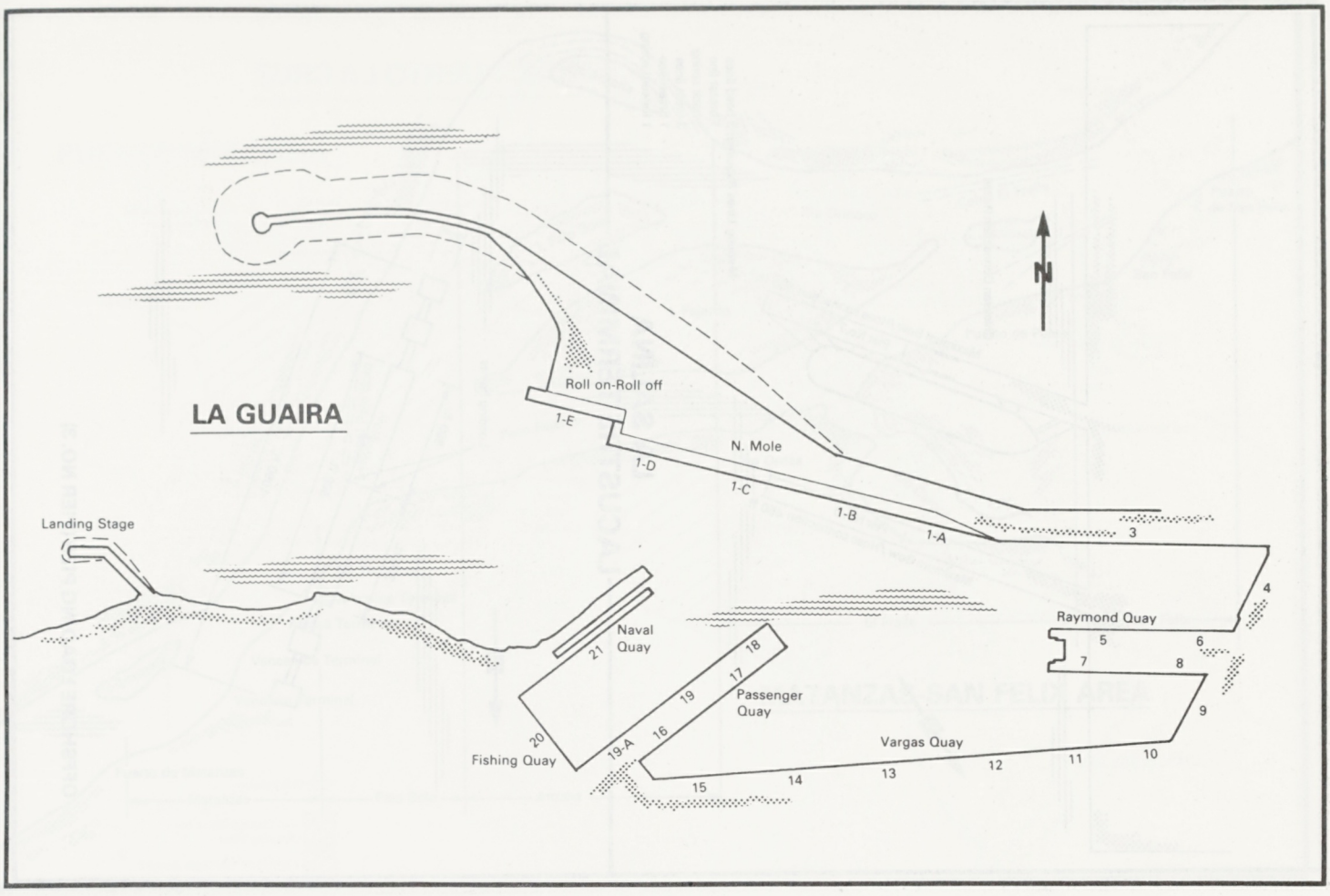
EL TABLAZO (2)

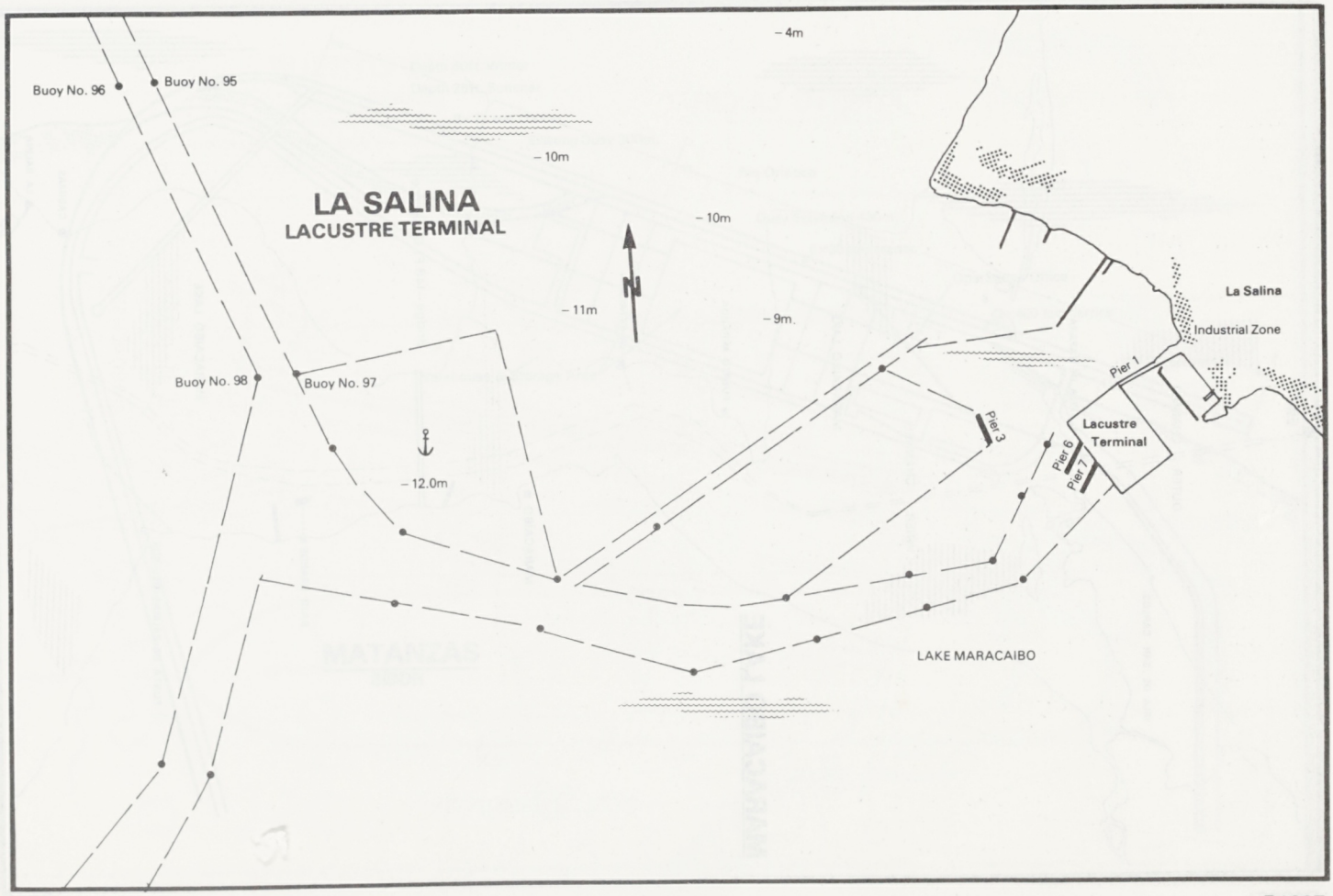
TERMINAL

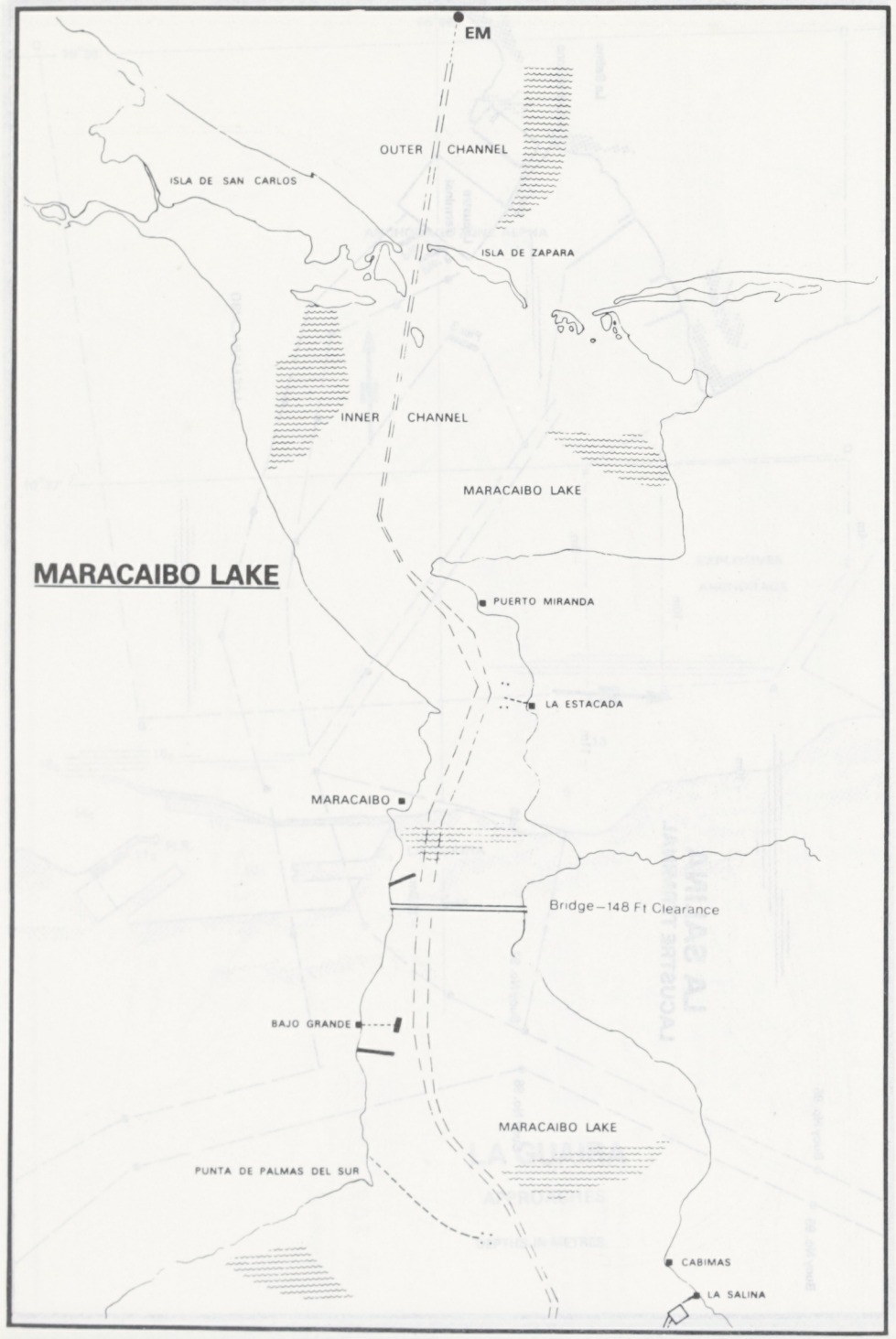
"Plan supplied by Ship's Master"

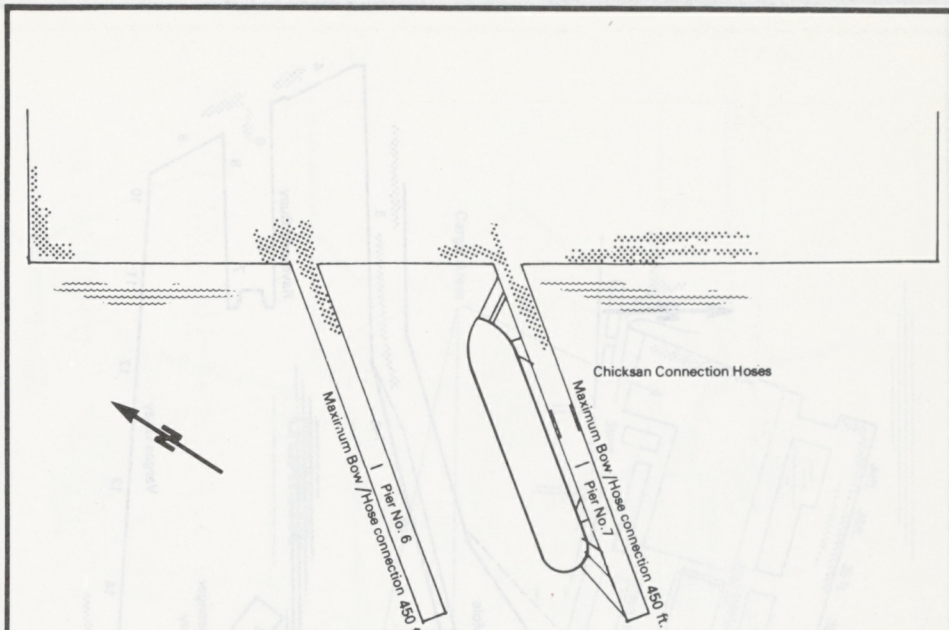

GUANTA BAY
34ft.
36ft.
35 ft.
35 ft.
37ft.
31 ft.
27 ft.
29 ft.
25 ft.
27 ft.
25 ft.
26 ft.
26 ft.
25 ft.
22 ft.
N
Store
Mech. Workshop
Hospital
Customs
Cargo Areas
Store
Store
Generating Station
Fuel Deposits
GUANTA


LA GUAIRA
APPROACHES
DEPTHS IN METRES
EXPLOSIVES ANCHORAGE
ANCHORAGE ZONE ALPHA
66°56'
10°38'
10°37'
N
LA GUAIRA
Fl.R.
A
B
C
D
E
F
13
6
10₄
11₂
16₆
14₅


LA GUAIRA
Roll on-Roll off
1-E
1-D
1-C
1-B
1-A
N. Mole
Landing Stage
Naval Quay
21
20
Fishing Quay
19-A
19
18
17
16
Passenger Quay
Vargas Quay
15
14
13
12
11
10
9
8
7
6
5
4
3
Raymond Quay
N

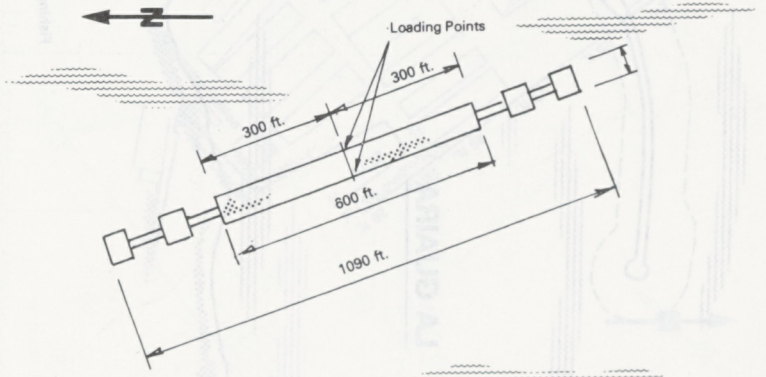

LA SALINA
LACUSTRE TERMINAL
Buoy No. 96
Buoy No. 95
Buoy No. 98
Buoy No. 97
– 4m
– 10m
– 10m
– 11m
– 9m.
– 12.0m
N
La Salina
Industrial Zone
Pier 1
Pier 3
Pier 6
Pier 7
Lacustre Terminal
LAKE MARACAIBO



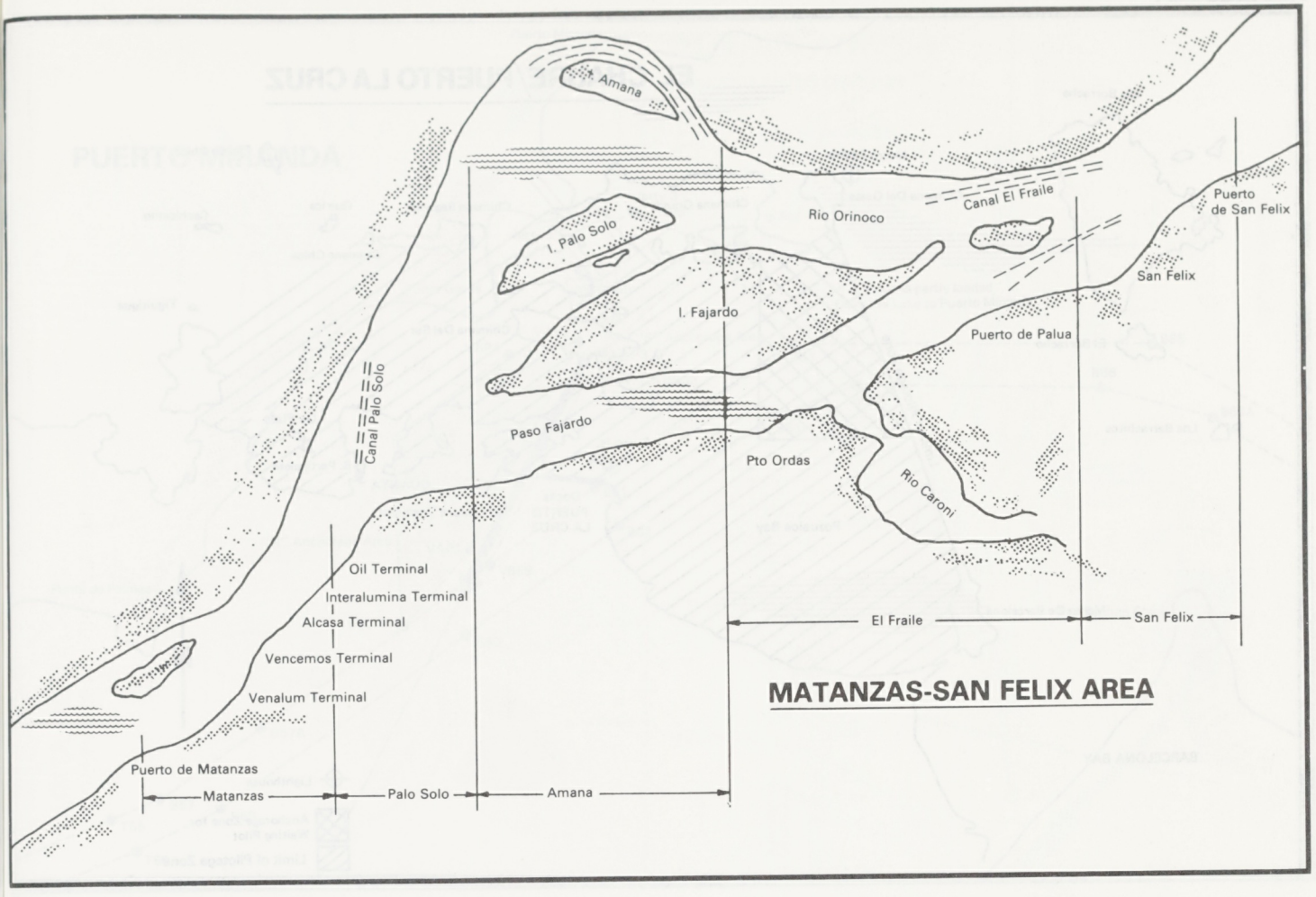


Mooring Lines Required: 3 head lines
1 breast line
1 back spring
3 stern lines
1 breast line
1 forward spring

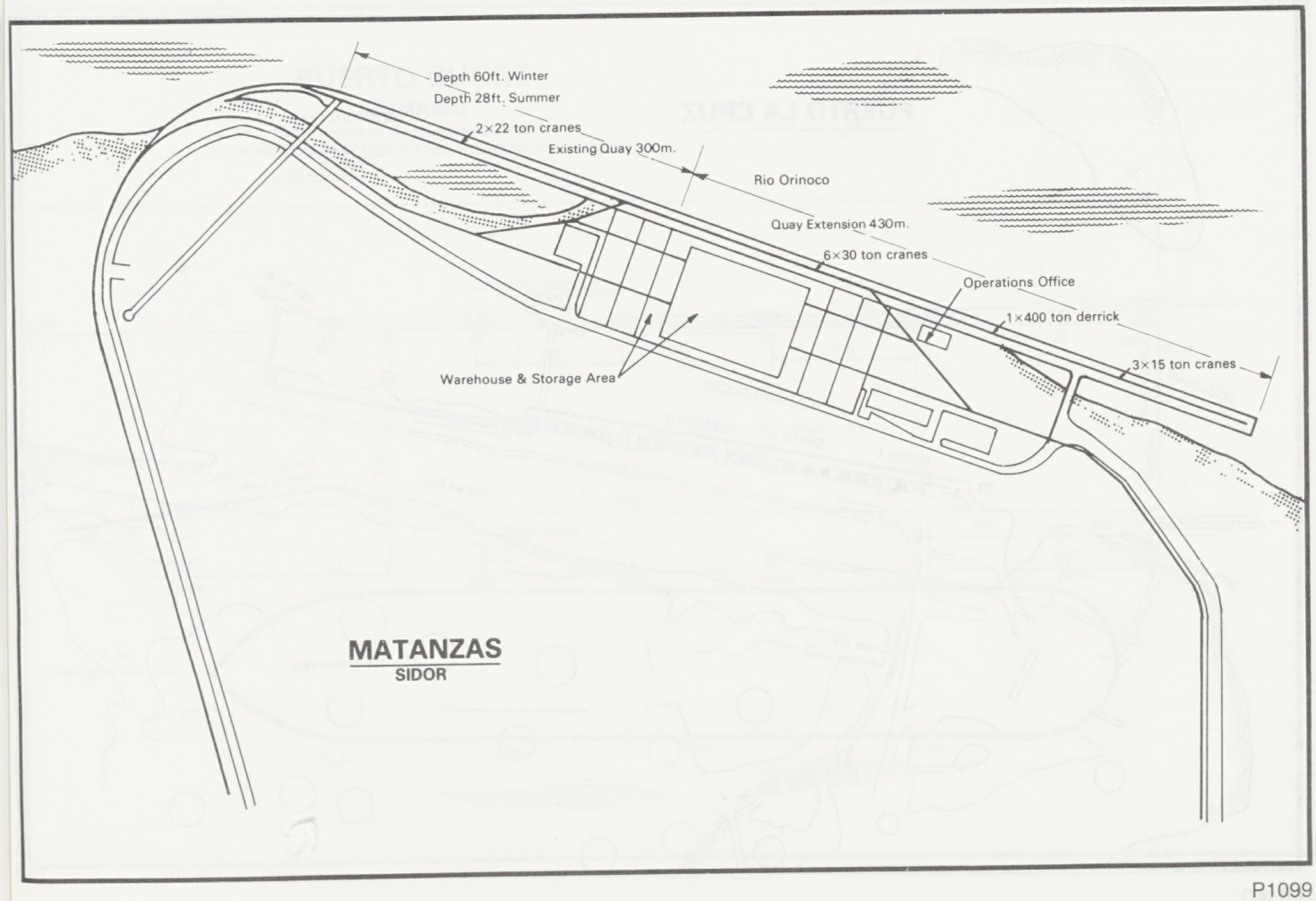
LA SALINA
LACUSTRE TERMINAL



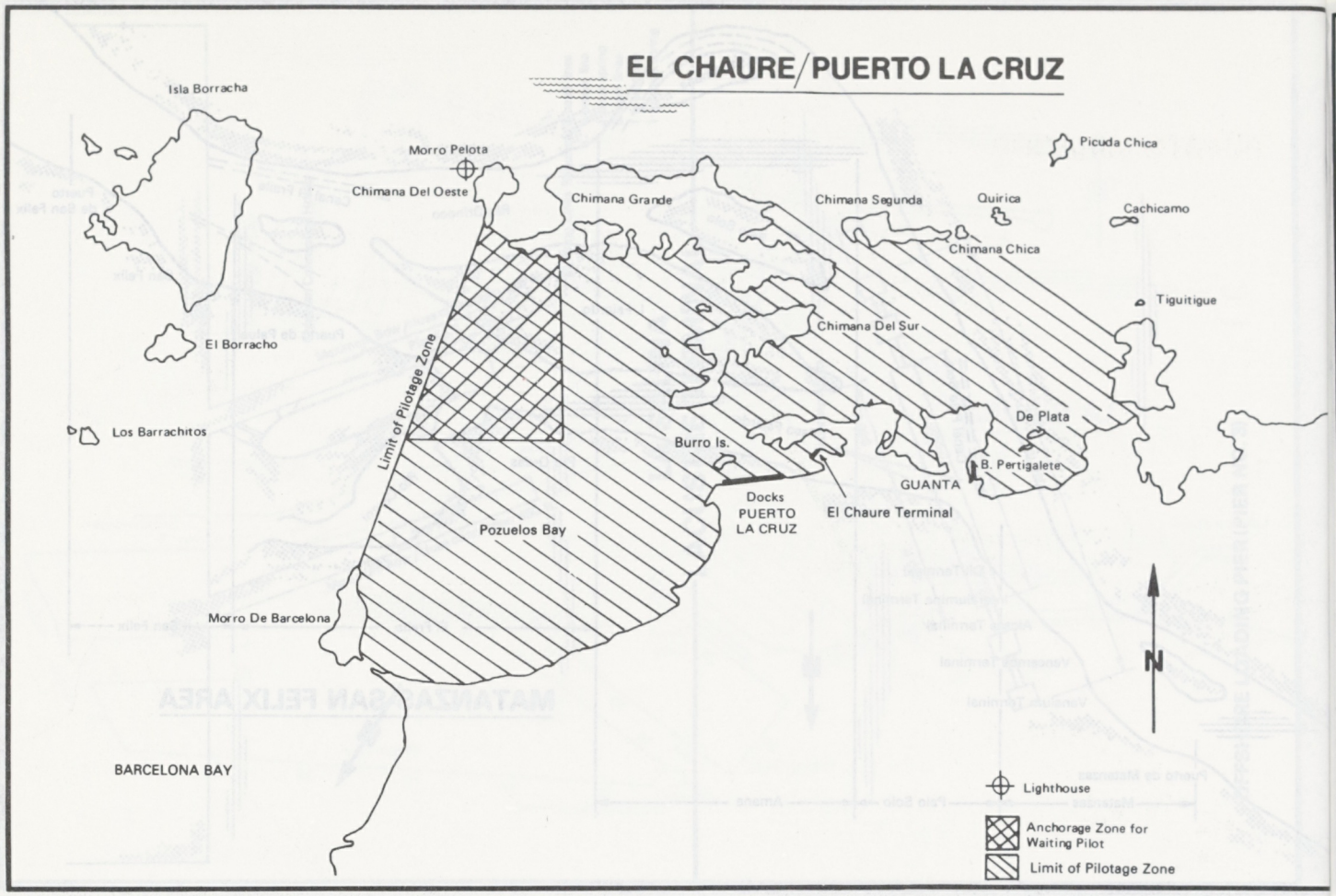
OFFSHORE LOADING PIER (PIER NO. 3)

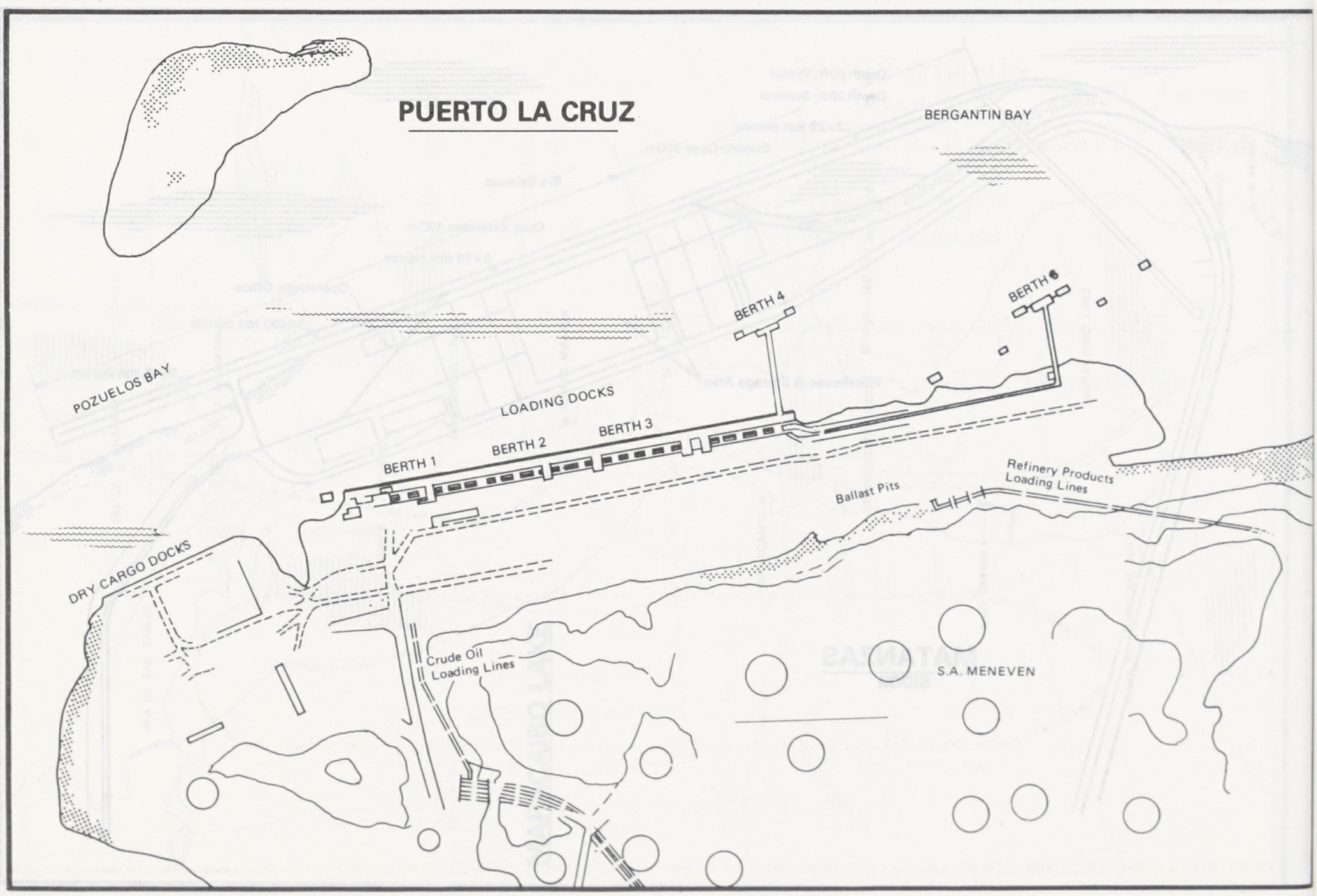


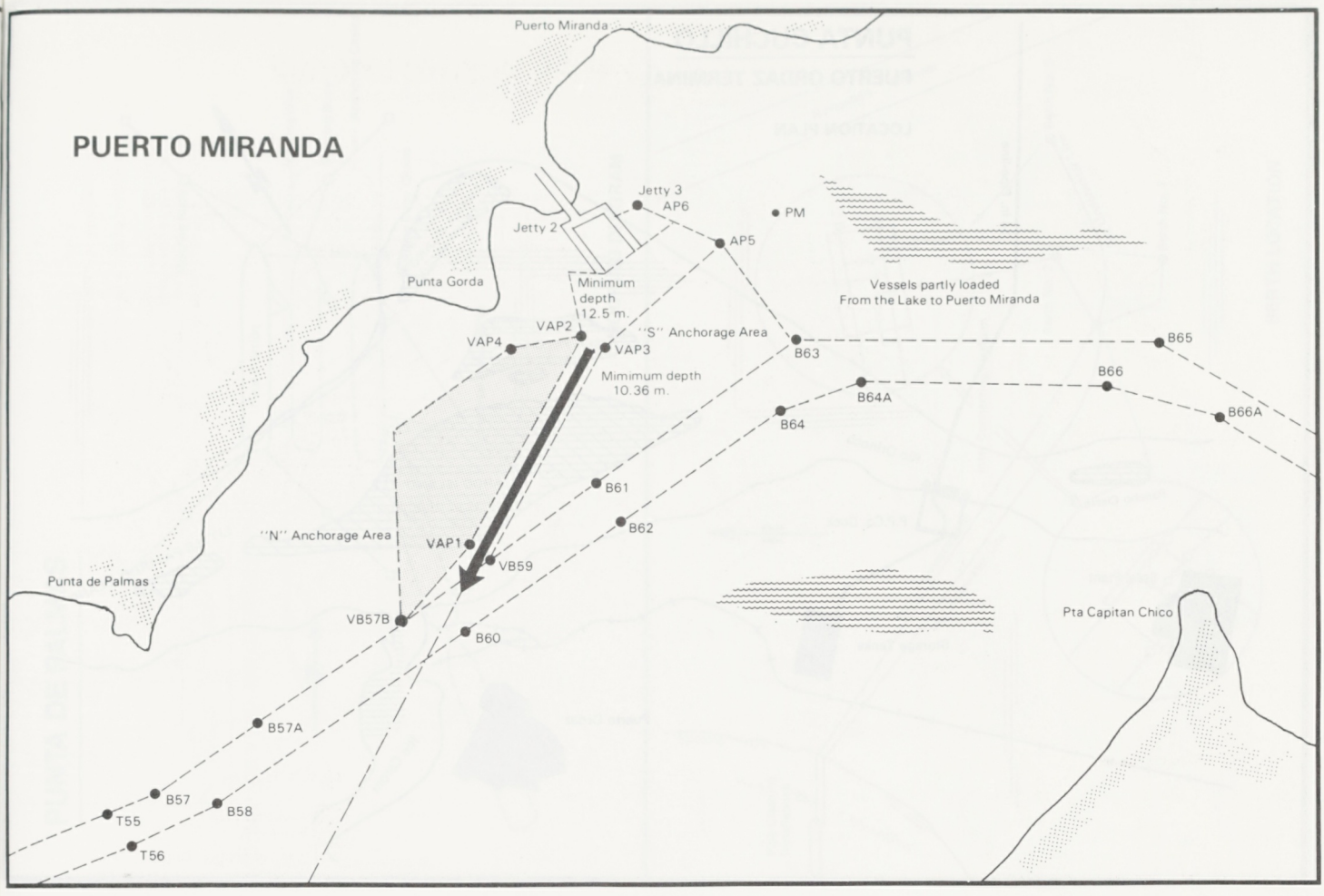
MATANZAS-SAN FELIX AREA



MATANZAS
SIDOR


EL CHAURE/PUERTO LA CRUZ
Isla Borracha
Morro Pelota
Chimana Del Oeste
Chimana Grande
Chimana Segunda
Quirica
Picuda Chica
Cachicamo
Chimana Chica
Tiguitigue
Chimana Del Sur
El Borracho
Limit of Pilotage Zone
Los Barrachitos
Burro Is.
De Plata
B. Pertigalete
GUANTA
Docks
PUERTO
LA CRUZ
El Chaure Terminal
Pozuelos Bay
Morro De Barcelona
N
BARCELONA BAY
Lighthouse
Anchorage Zone for
Waiting Pilot
Limit of Pilotage Zone


PUERTO LA CRUZ
BERGANTIN BAY
BERTH 4
BERTH
POZUELOS BAY
LOADING DOCKS
BERTH 3
BERTH 2
BERTH 1
Refinery Products
Loading Lines
Ballast Pits
DRY CARGO DOCKS
Crude Oil
Loading Lines
S.A. MENEVEN

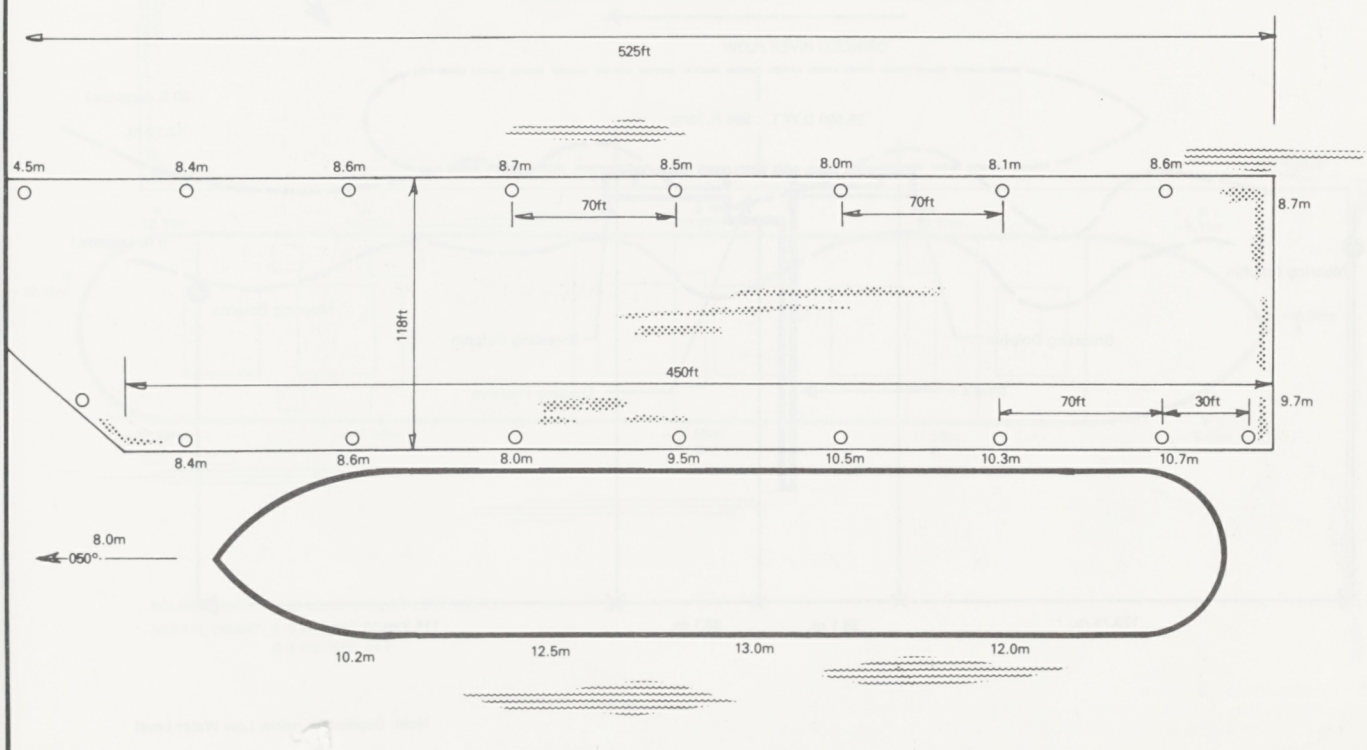


PUERTO SUCRE

(CUMANA)

Rubber fenders on pier in reasonable condition

SOUNDINGS TAKEN AT HIGH WATER. HEIGHT OF TIDE 0.2 METRES

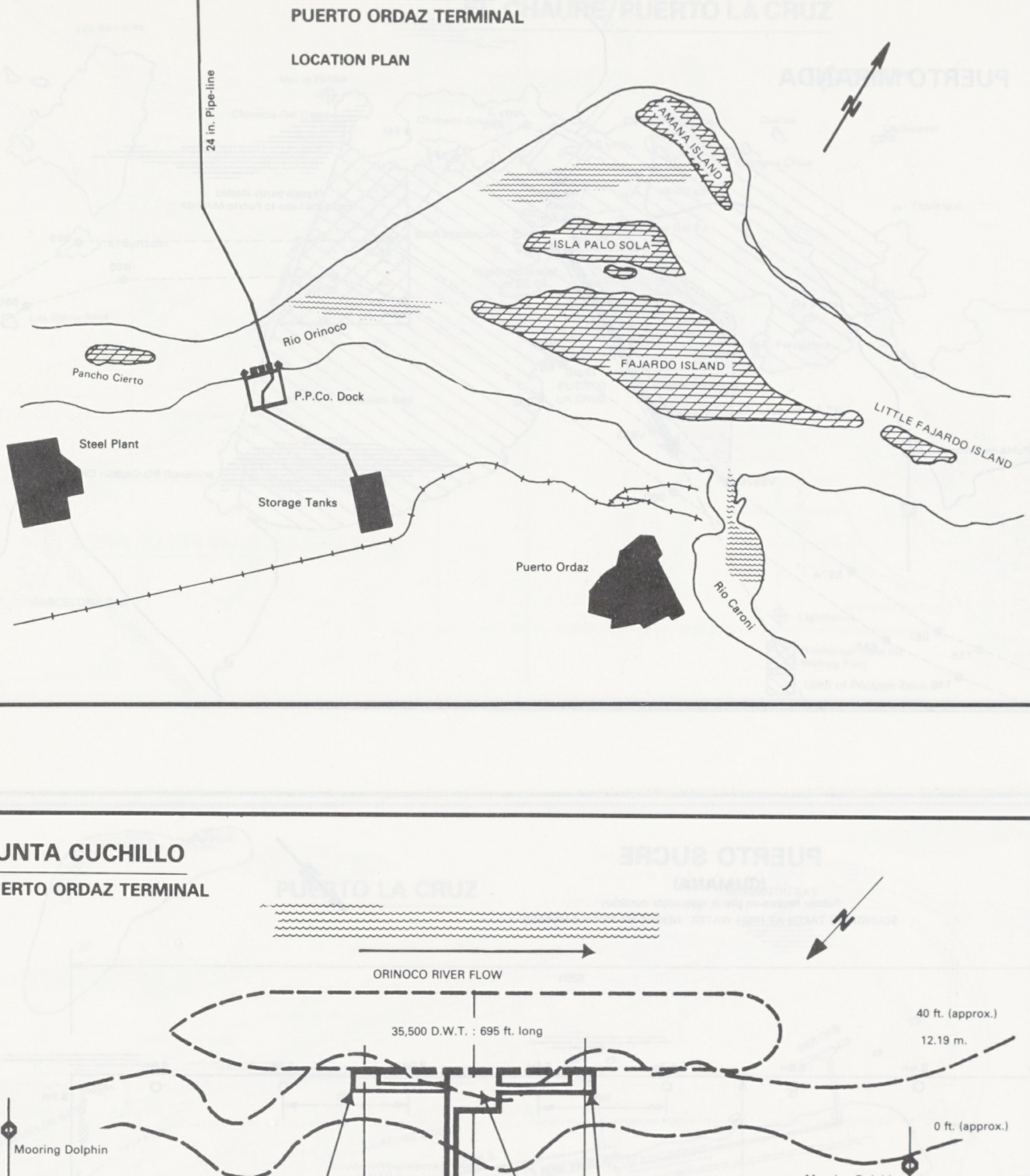


"Plan supplied by Ship's Master"

PUNTA CUCHILLO

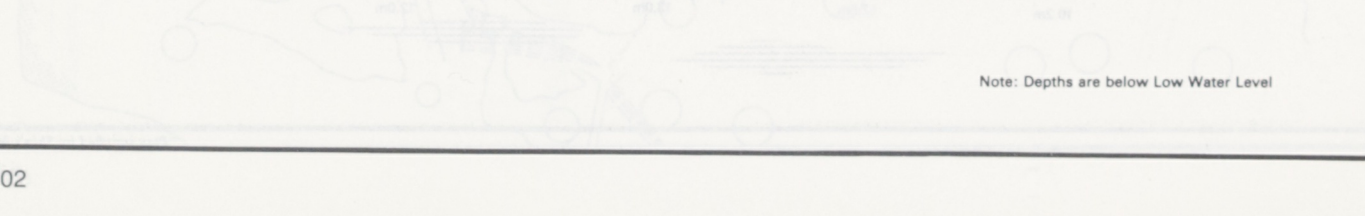
PUERTO ORDAZ TERMINAL

LOCATION PLAN



PUNTA CUCHILLO

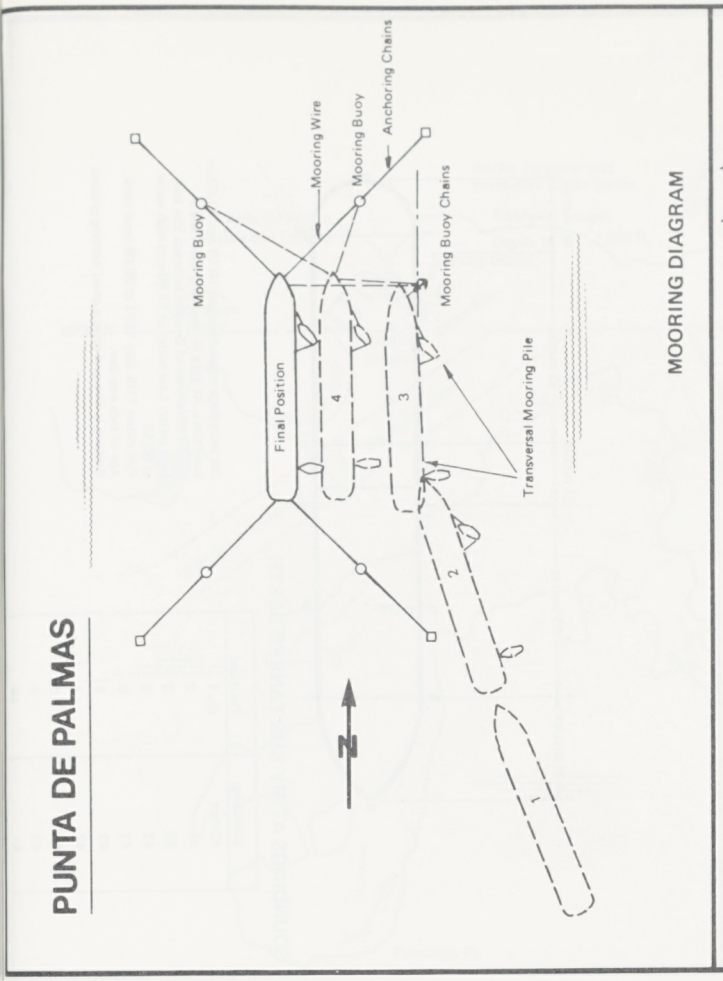
PUERTO ORDAZ TERMINAL



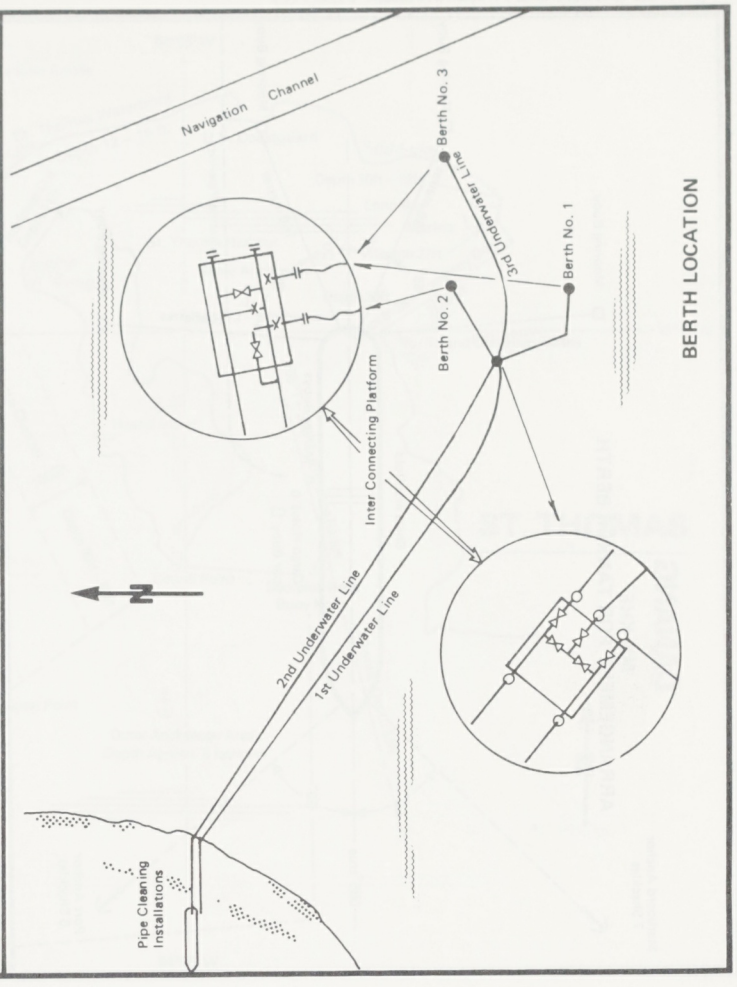
Note: Depths are below Low Water Level

PUNTA DE PALMAS

MOORING DIAGRAM

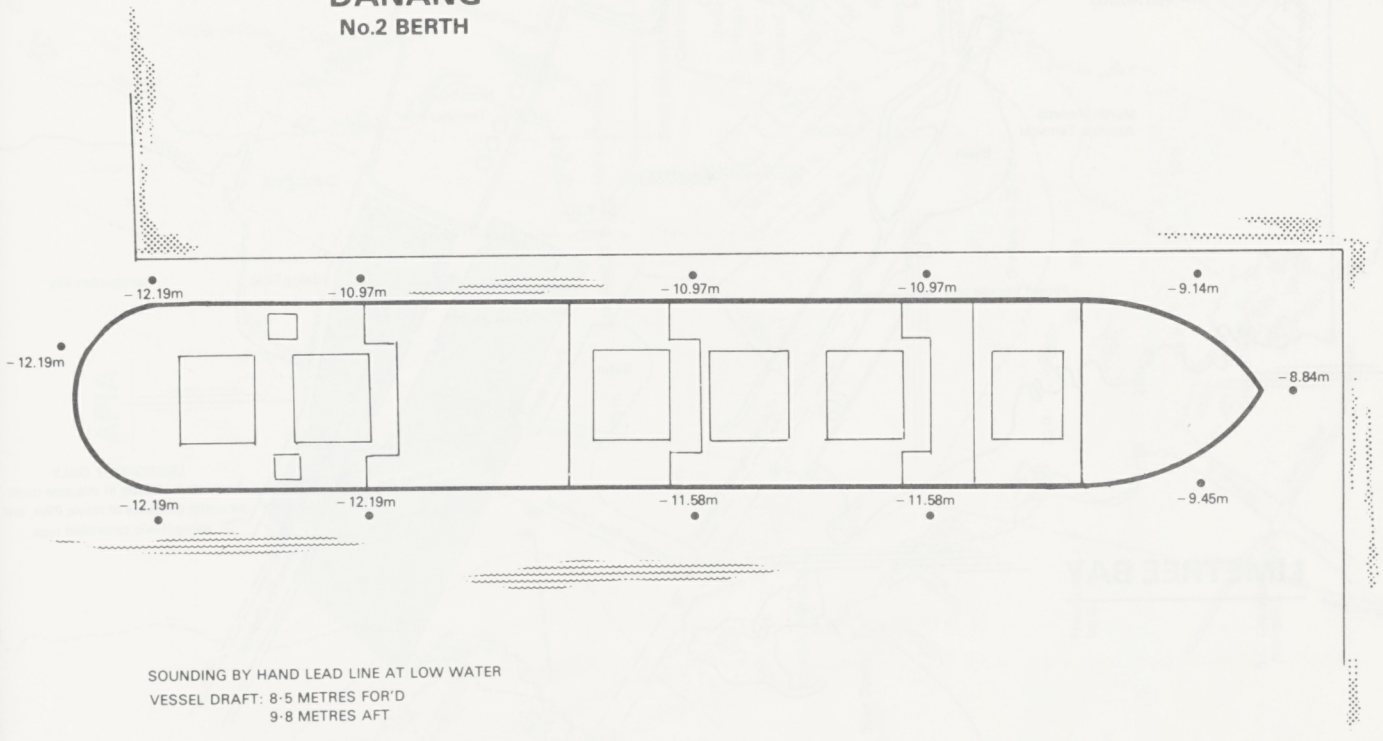


BERTH LOCATION



DANANG

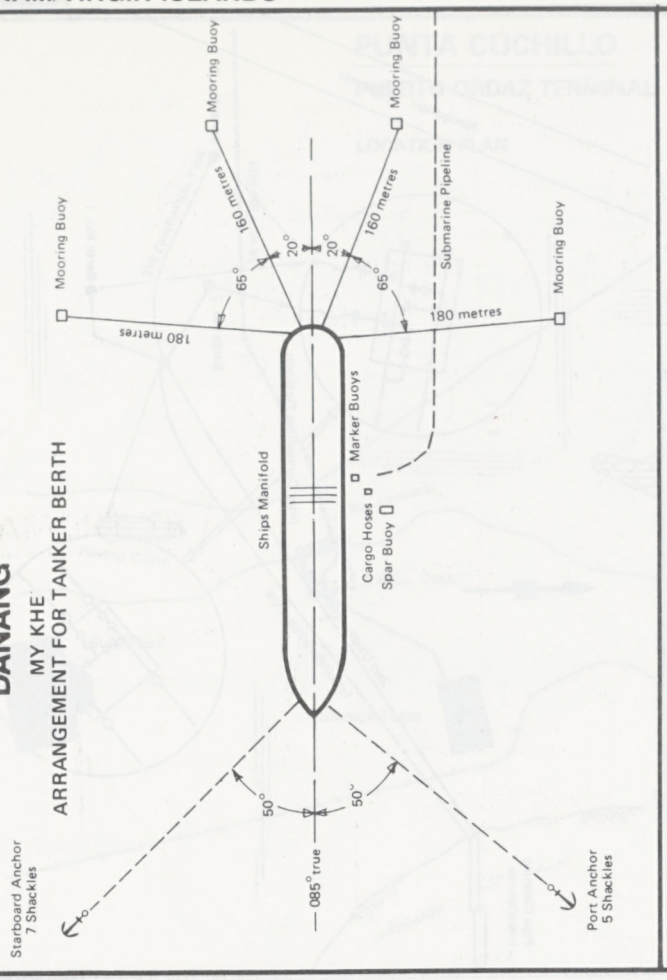
No.2 BERTH

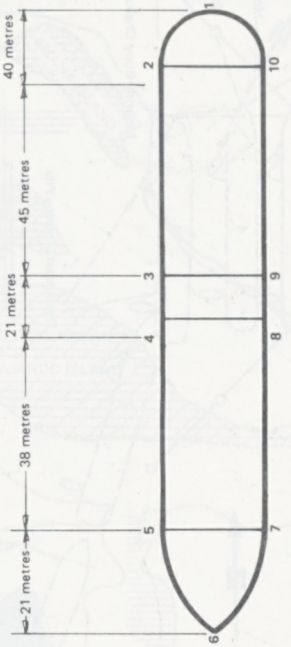


SOUNDING BY HAND LEAD LINE AT LOW WATER
VESSEL DRAFT: 8·5 METRES FOR'D
9·8 METRES AFT

"Plan supplied by Ship's Master"

DANANG
MY KHE
ARRANGEMENT FOR TANKER BERTH

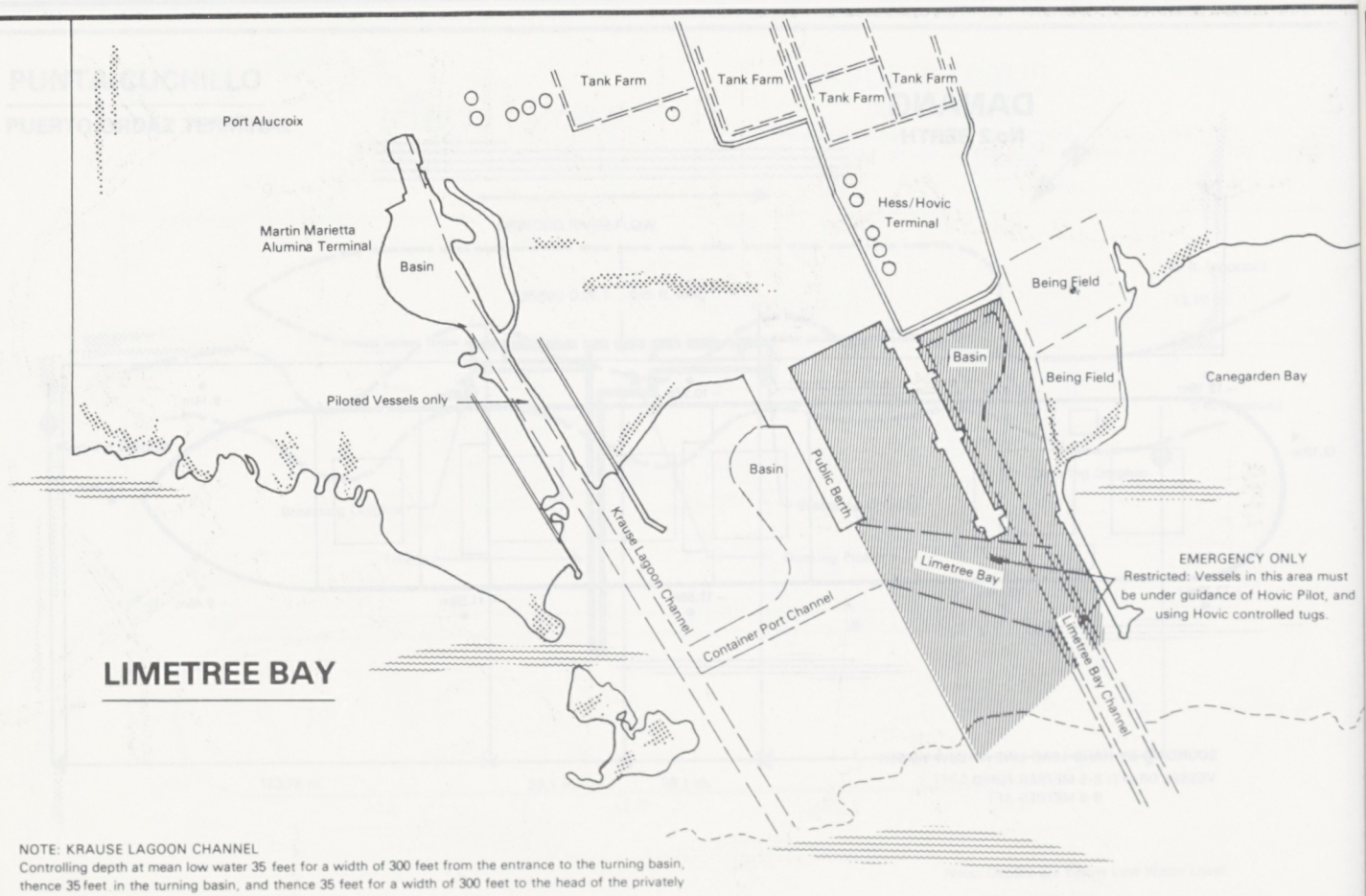




All soundings taken between 10.00 and 11.00am local time. At date of sounding there was a height difference of 2 meter between low and high water. Low water at 11.00 and high water at 06.15
Full moon 11th July 1976 at 20.09 local time.
Age of tide one day.
Bottom is clay and gives a good holding ground.

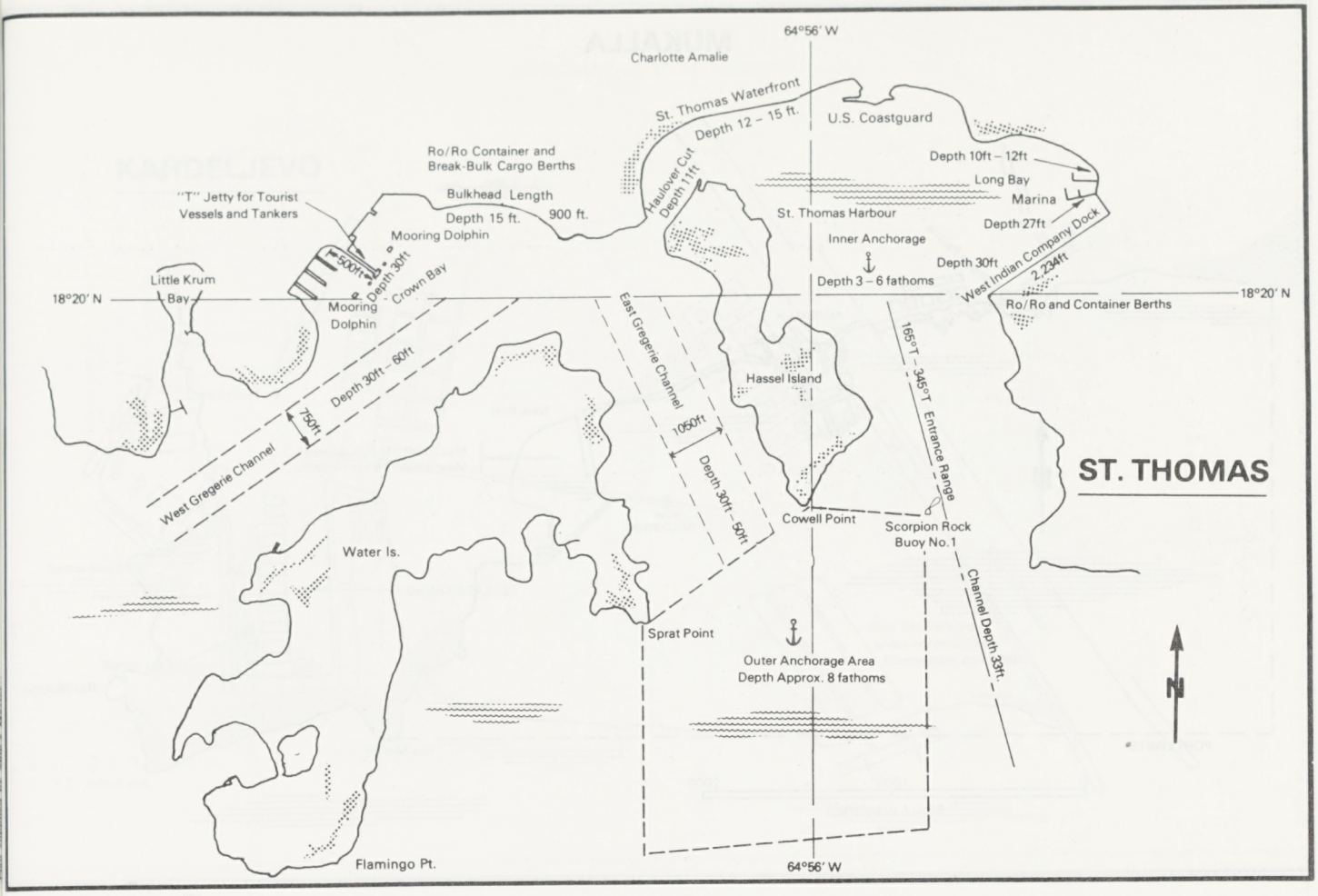
SOUNDINGS AT MY KHE TANKER BERTH

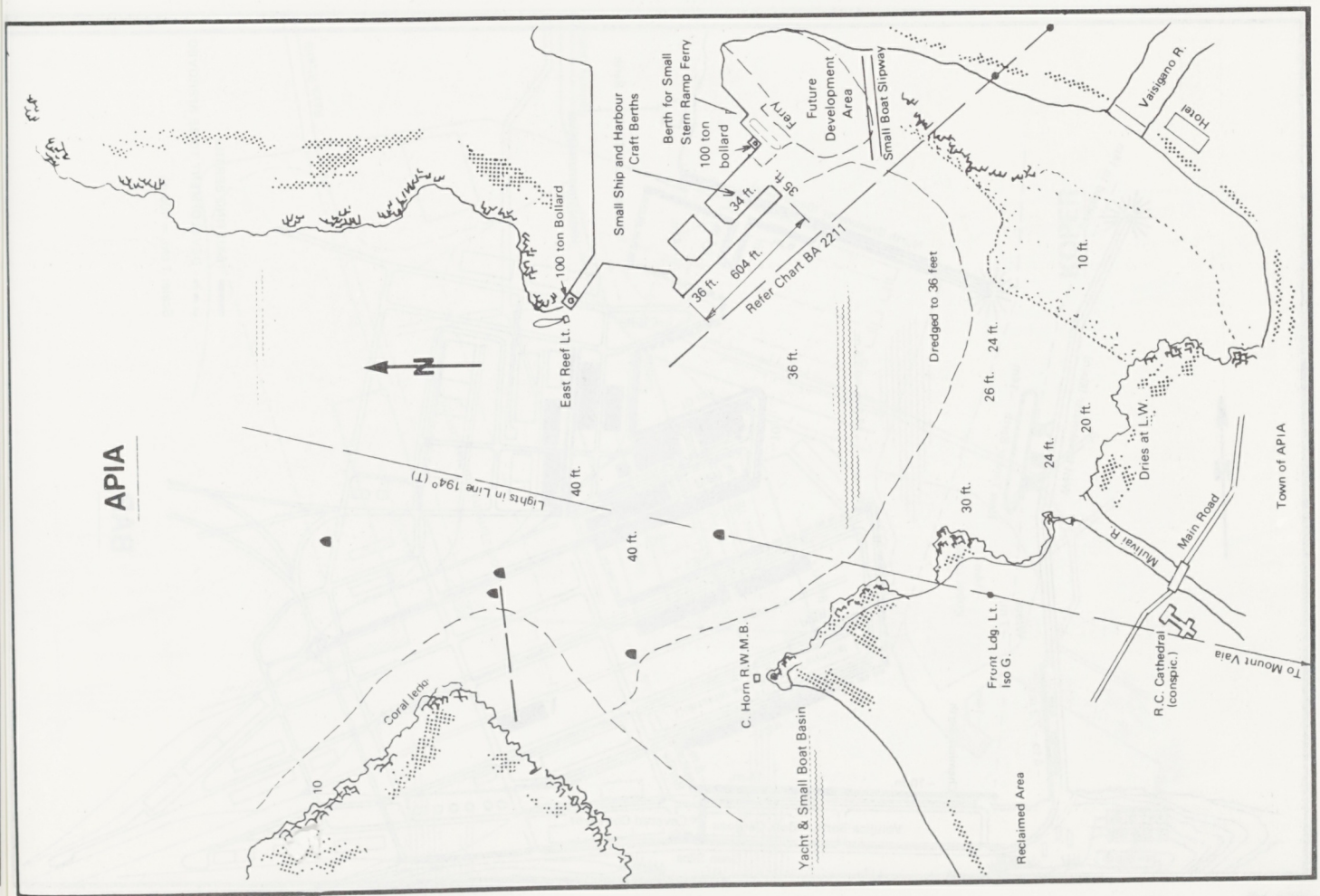
Sounding:	Position:
40 feet	nr. 1
41	2
43	3
42	4
42	5
43	6
42	7
42	8
43	9
41	10

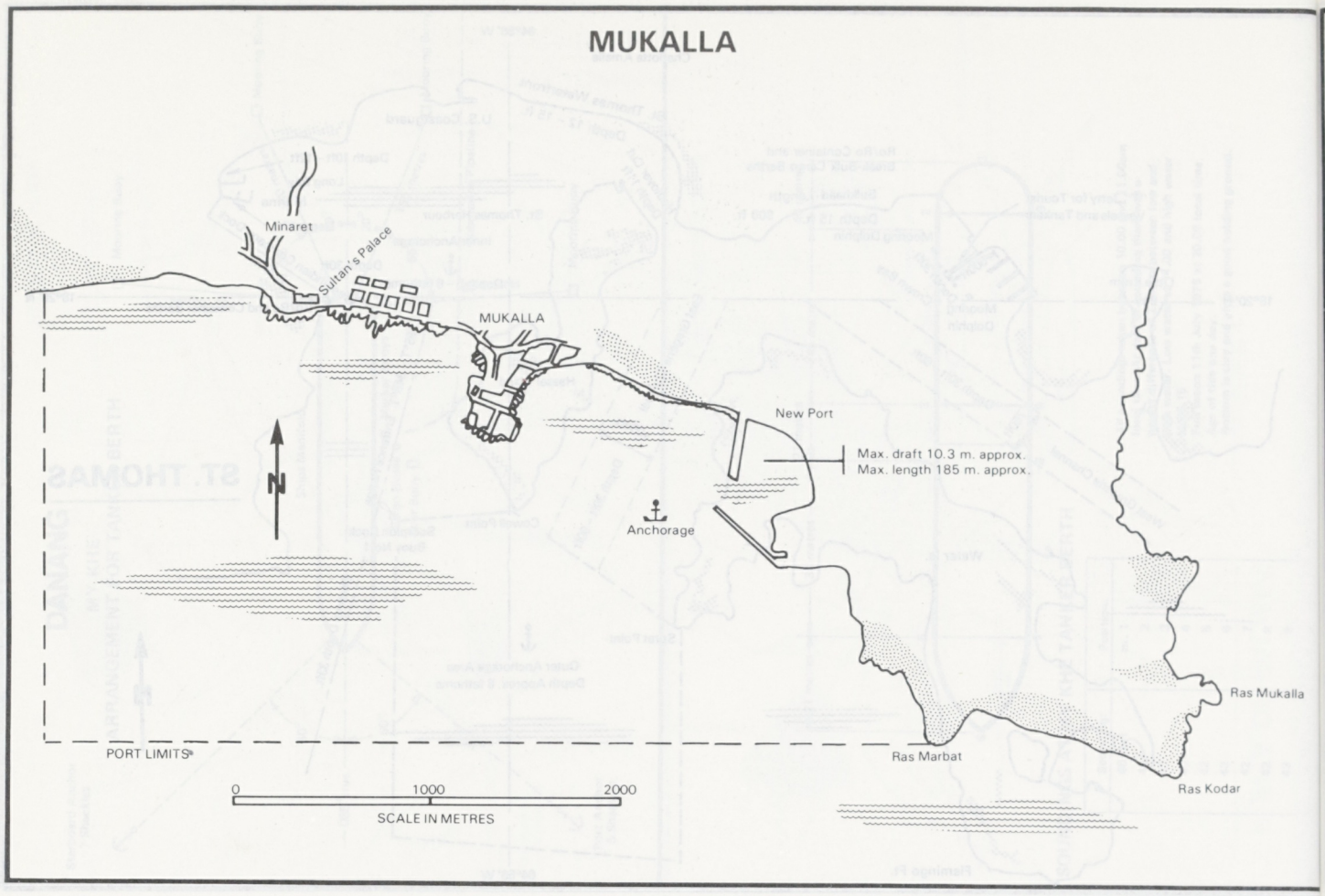


LIMETREE BAY

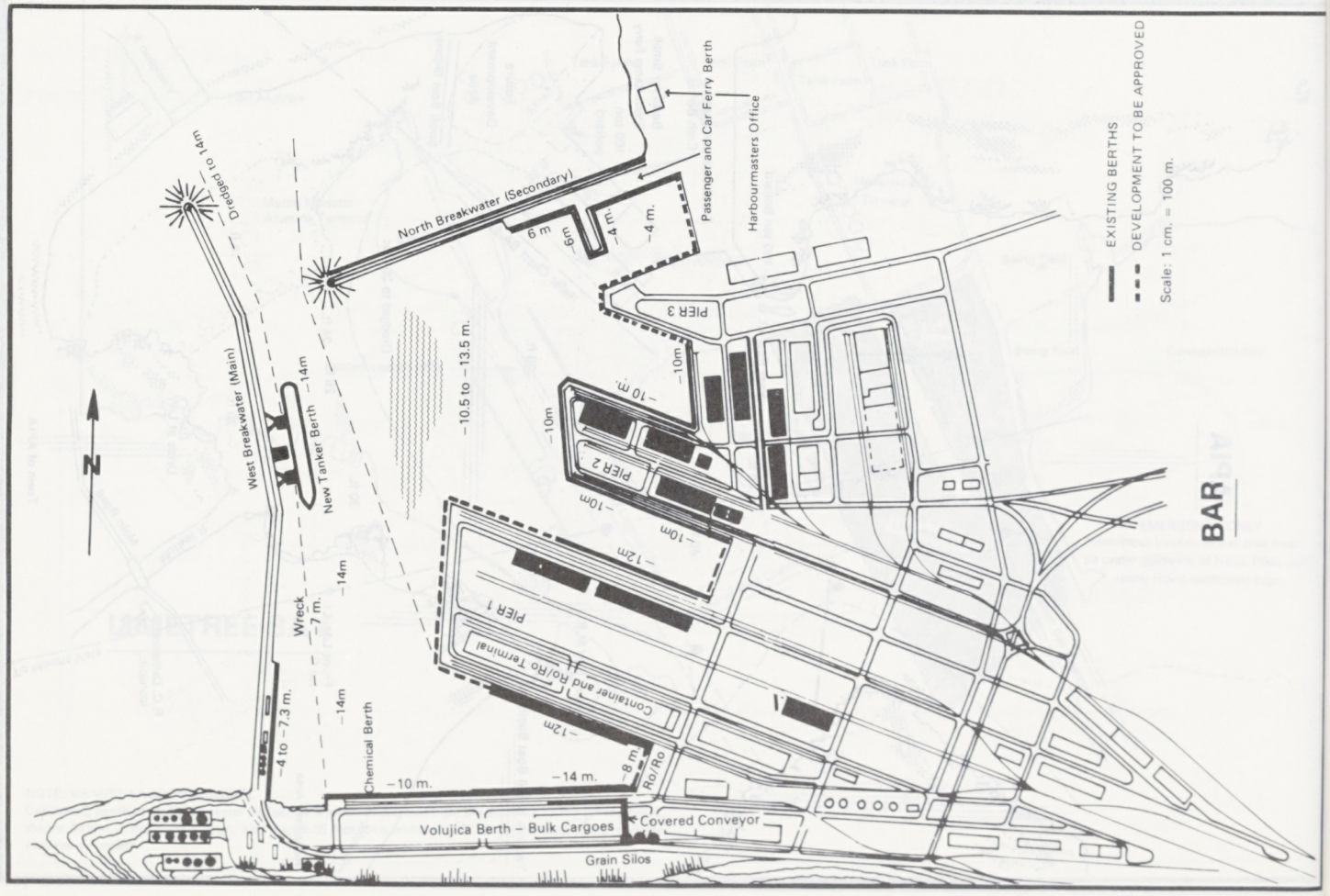
NOTE: KRAUSE LAGOON CHANNEL
Controlling depth at mean low water 35 feet for a width of 300 feet from the entrance to the turning basin, thence 35 feet in the turning basin, and thence 35 feet for a width of 300 feet to the head of the privately maintained project.

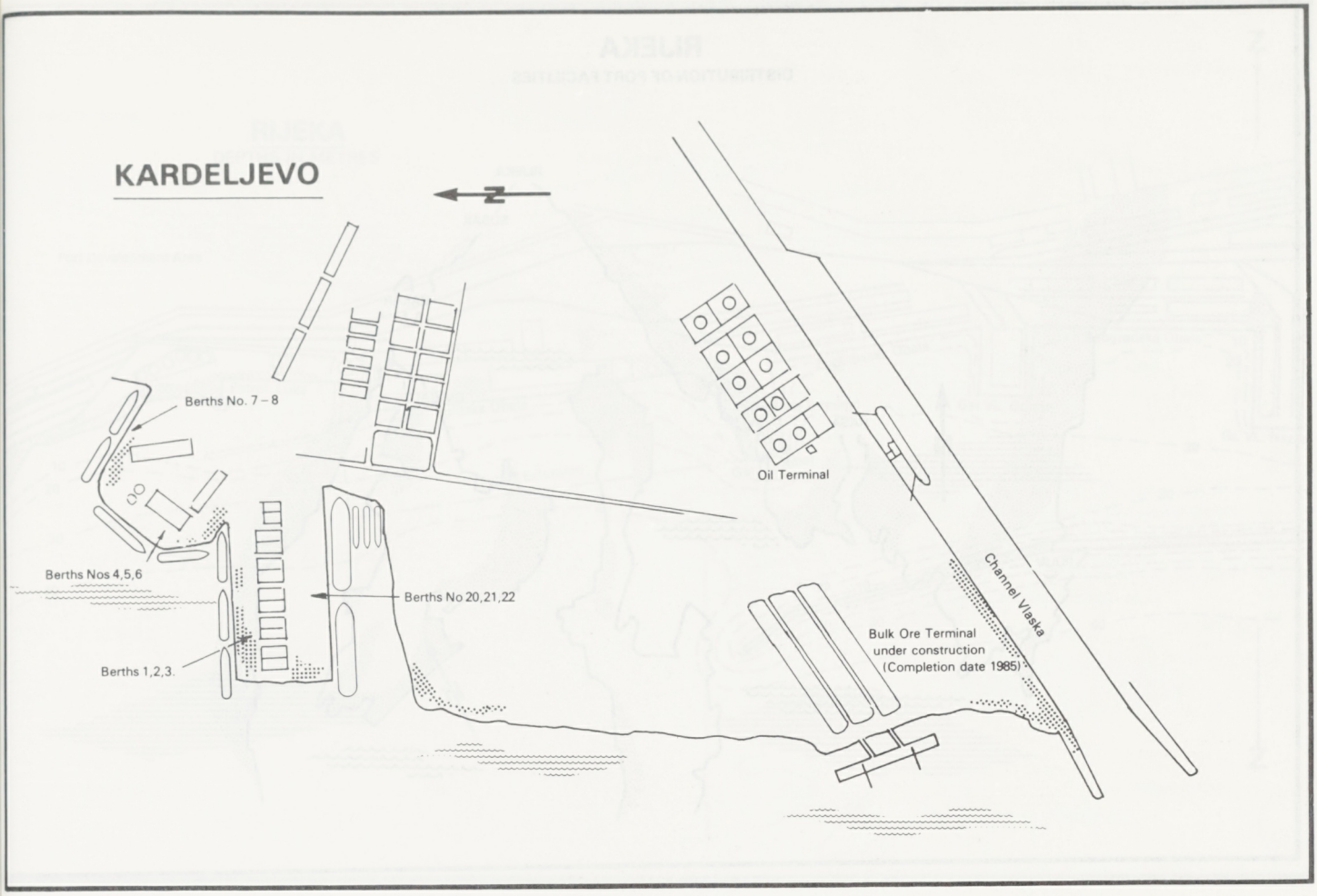

64°56′ W
Charlotte Amalie
St. Thomas Waterfront
Depth 12 – 15 ft.
U.S. Coastguard
Ro/Ro Container and
Break-Bulk Cargo Berths
Haulover Cut
Depth 11ft
Depth 10ft – 12ft
Long Bay
Marina
Depth 27ft
"T" Jetty for Tourist
Vessels and Tankers
Bulkhead Length
Depth 15 ft.
900 ft.
Mooring Dolphin
St. Thomas Harbour
Inner Anchorage
Depth 3 – 6 fathoms
Depth 30ft
West Indian Company Dock
2,234ft
500ft
Depth 30ft
Crown Bay
Little Krum
Bay
18°20′ N
Mooring
Dolphin
Ro/Ro and Container Berths
18°20′ N
East Gregerie Channel
165°T – 345°T Entrance Range
Hassel Island
1050ft
Depth 30ft – 50ft
Depth 30ft – 60ft
750ft
West Gregerie Channel
ST. THOMAS
Cowell Point
Scorpion Rock
Buoy No.1
Water Is.
Channel Depth 33ft.
Sprat Point
Outer Anchorage Area
Depth Approx. 8 fathoms
N
Flamingo Pt.
64°56′ W

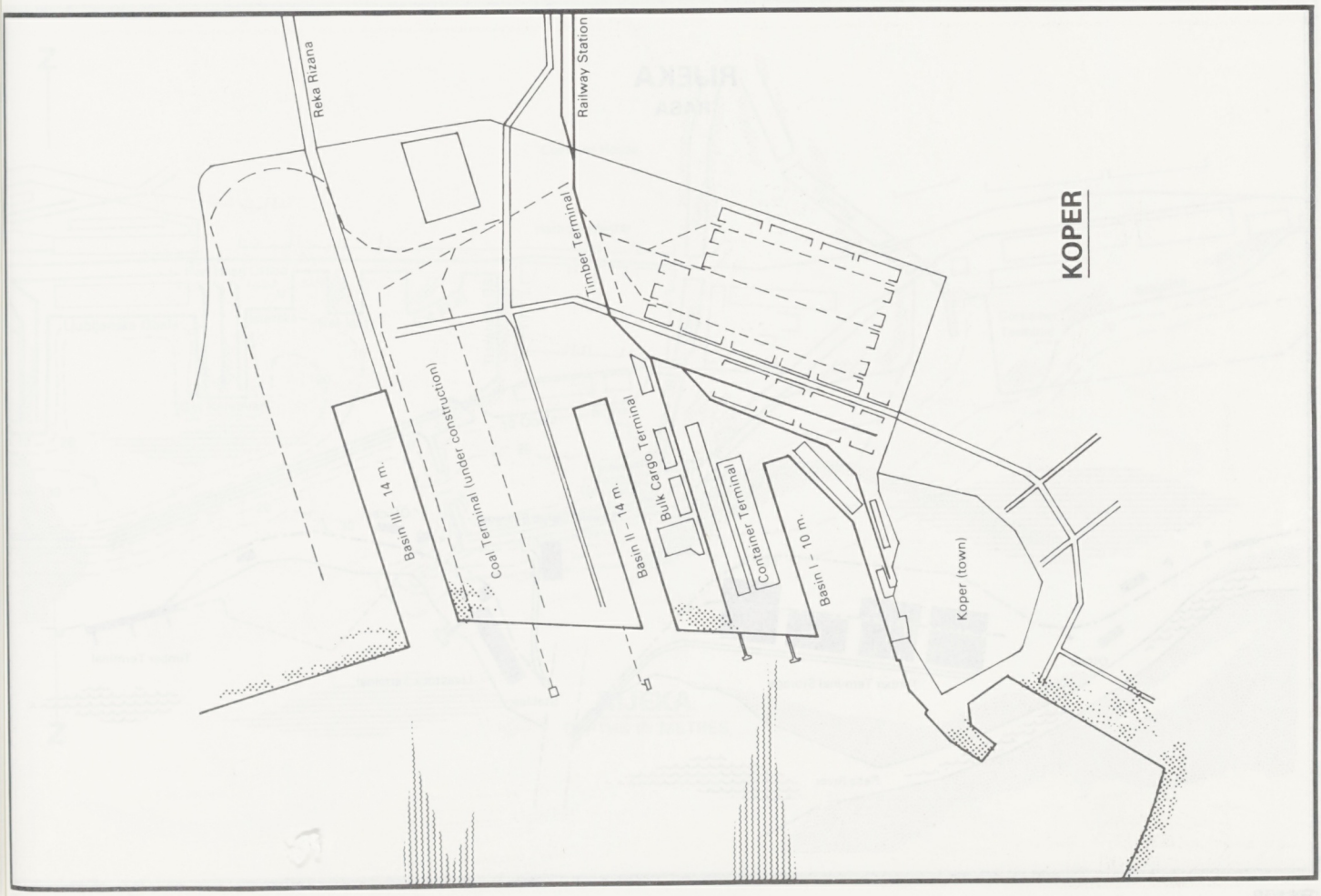

APIA
Berth for Small
Stern Ramp Ferry
100 ton
bollard
Ferry
Future
Development
Area
Small Boat Slipway
Vaisigano R.
Hotel
Small Ship and Harbour
Craft Berths
100 ton Bollard
East Reef Lt.
34 ft.
35 ft.
36 ft.
604 ft.
Refer Chart BA 2211
Dredged to 36 feet
10 ft.
36 ft.
24 ft.
26 ft.
20 ft.
Dries at L.W.
Lights in Line 194° (T)
40 ft.
40 ft.
30 ft.
24 ft.
Mulivai R.
Main Road
Town of APIA
C. Horn R.W.M.B.
Front Ldg. Lt.
Iso G.
R.C. Cathedral
(conspic.)
To Mount Vaia
Coral Iend
10
Yacht & Small Boat Basin
Reclaimed Area



"Plan supplied by Ship's Master"

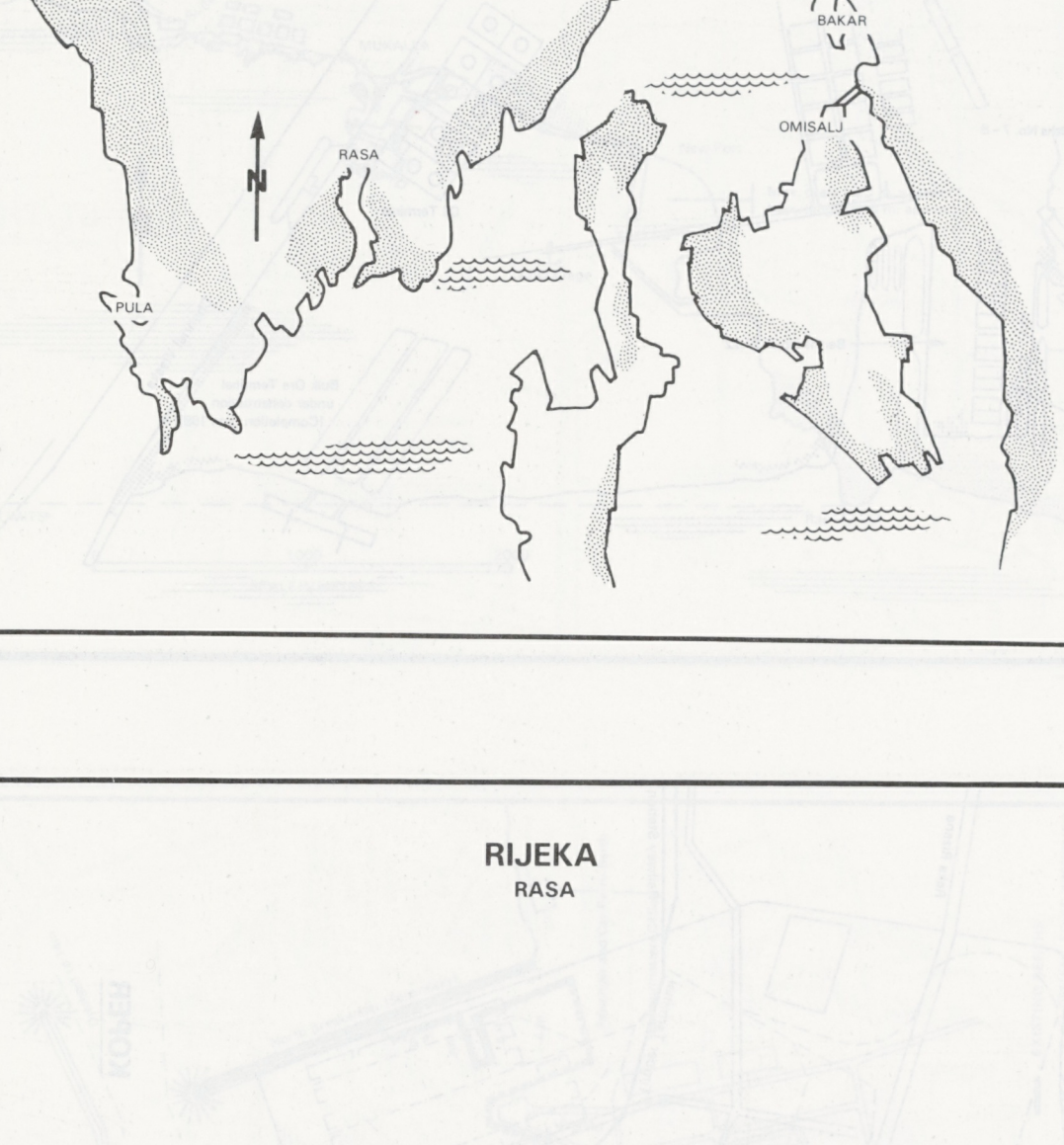



KARDELJEVO
N
Berths No. 7 – 8
Berths Nos 4,5,6
Berths No 20,21,22
Berths 1,2,3.
Oil Terminal
Channel Vlaska
Bulk Ore Terminal
under construction
(Completion date 1985)


KOPER
Reka Rizana
Railway Station
Timber Terminal
Basin III – 14 m.
Coal Terminal (under construction)
Basin II – 14 m.
Bulk Cargo Terminal
Container Terminal
Basin I – 10 m.
Koper (town)

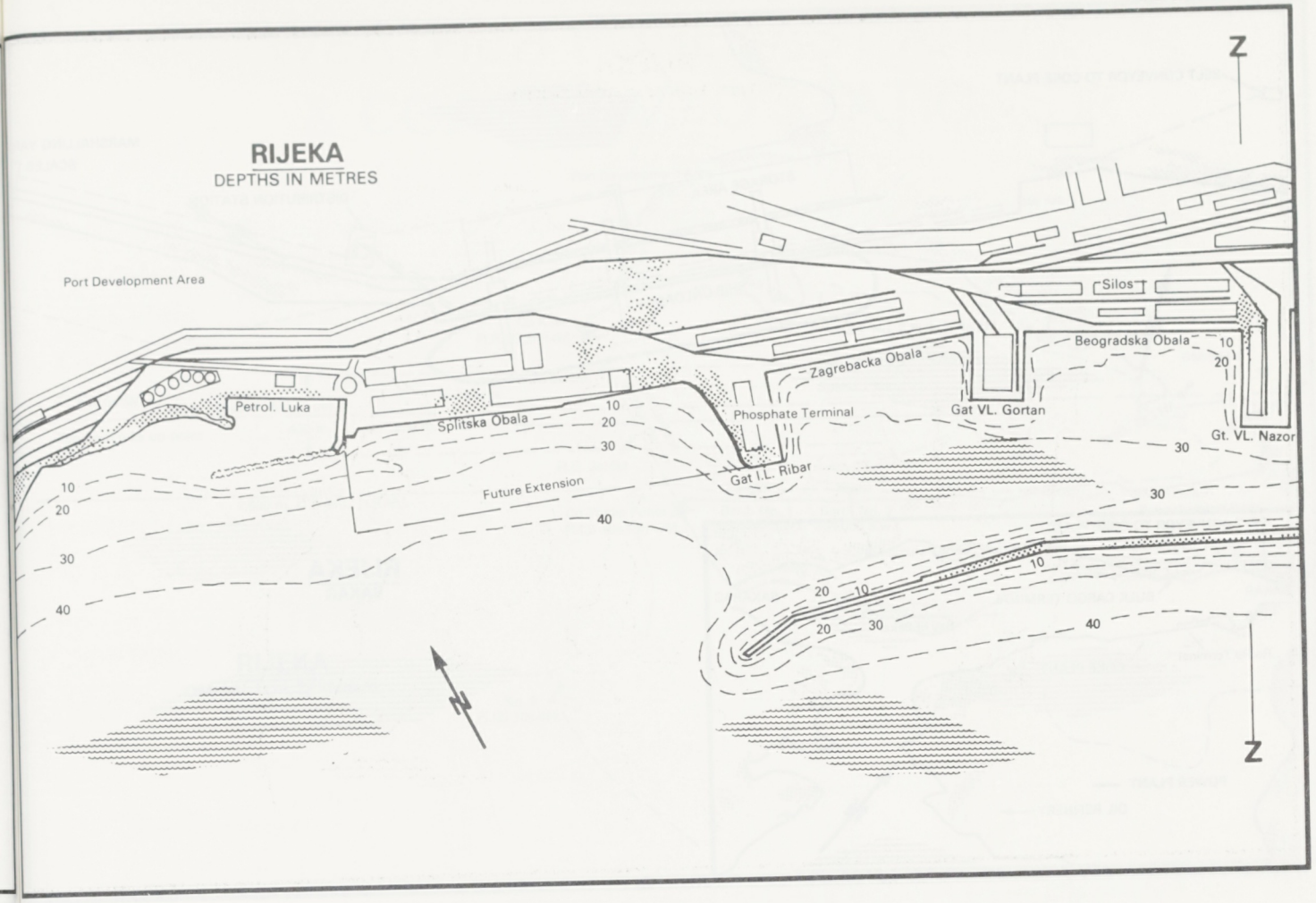
RIJEKA

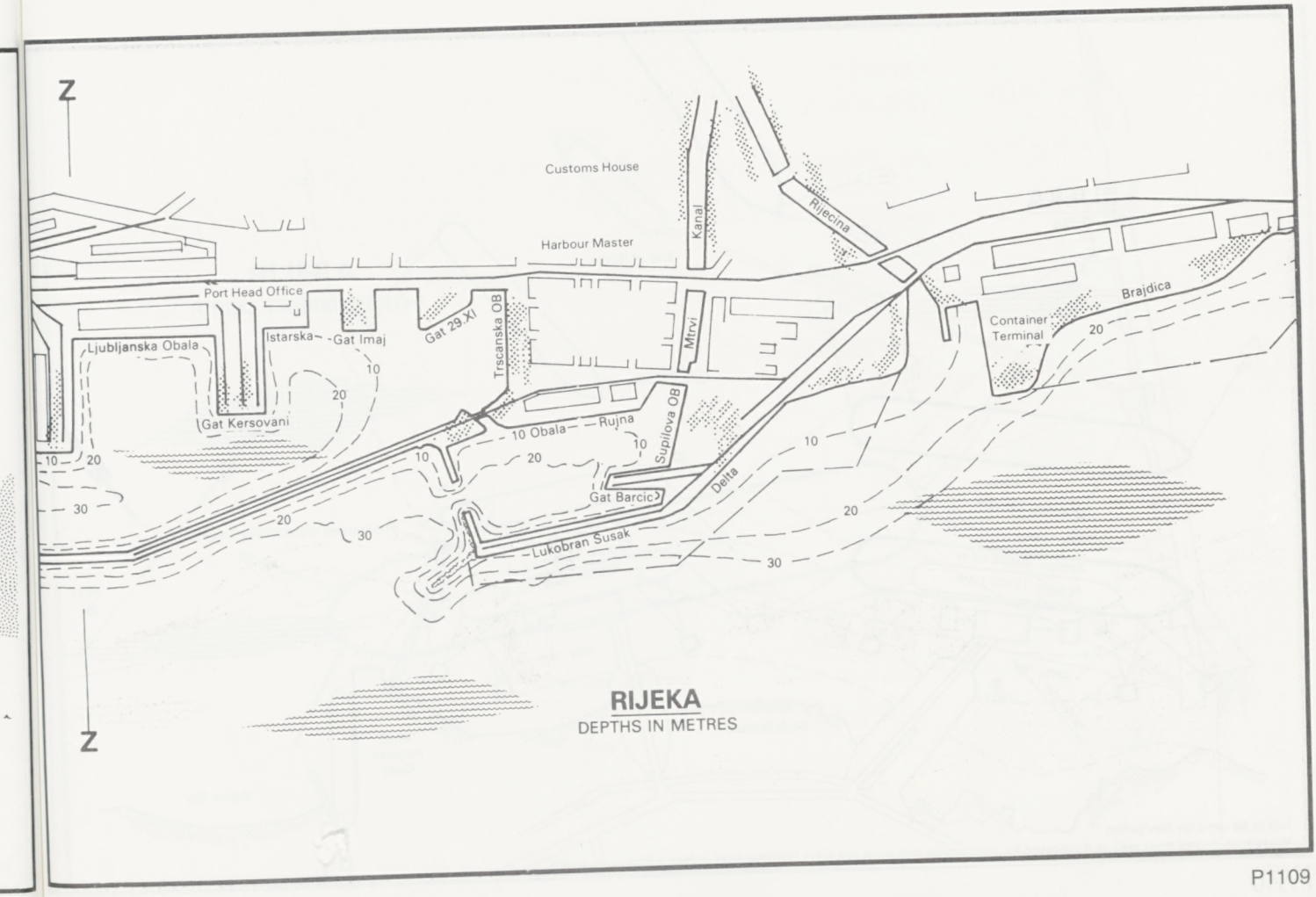
DISTRIBUTION OF PORT FACILITIES

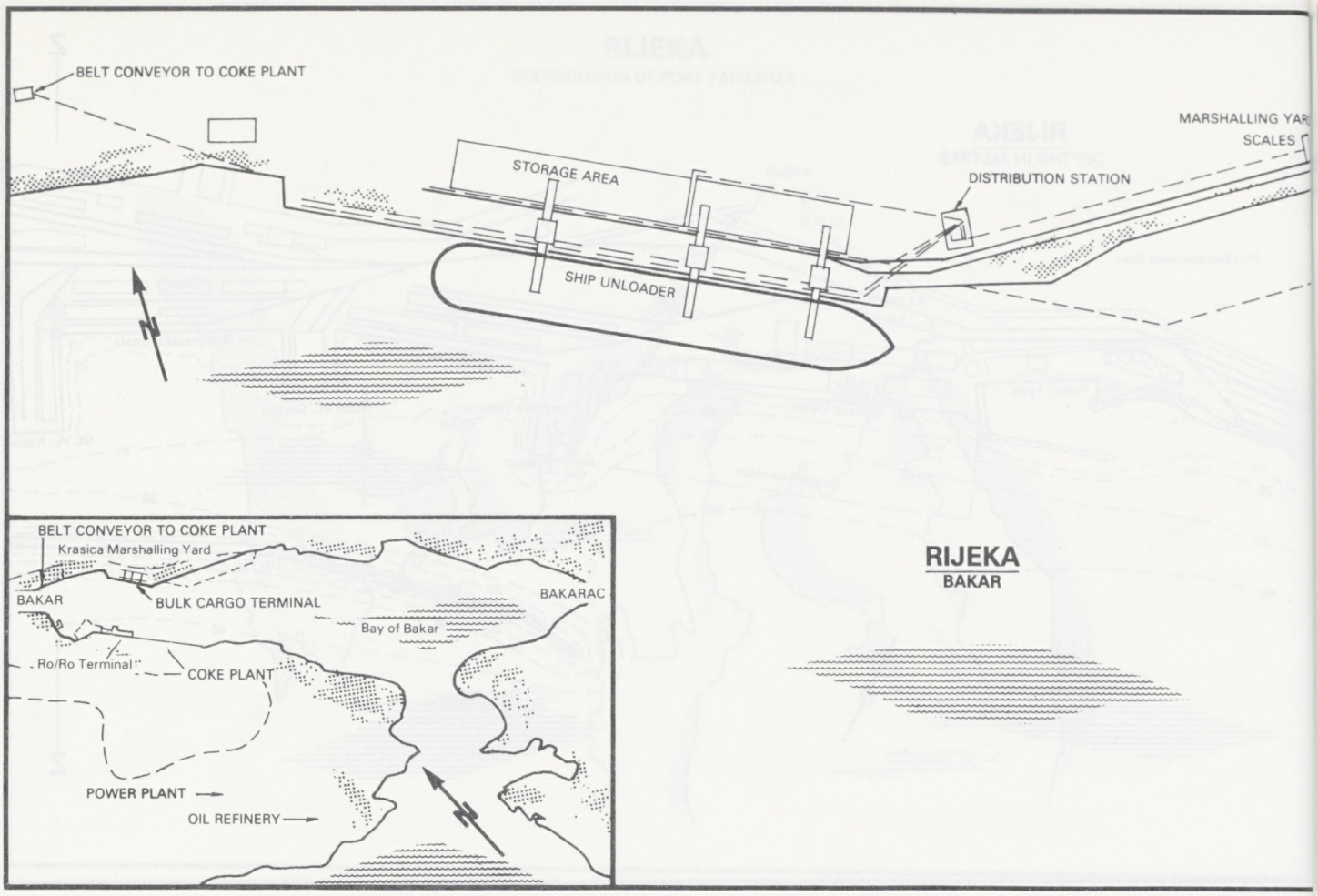


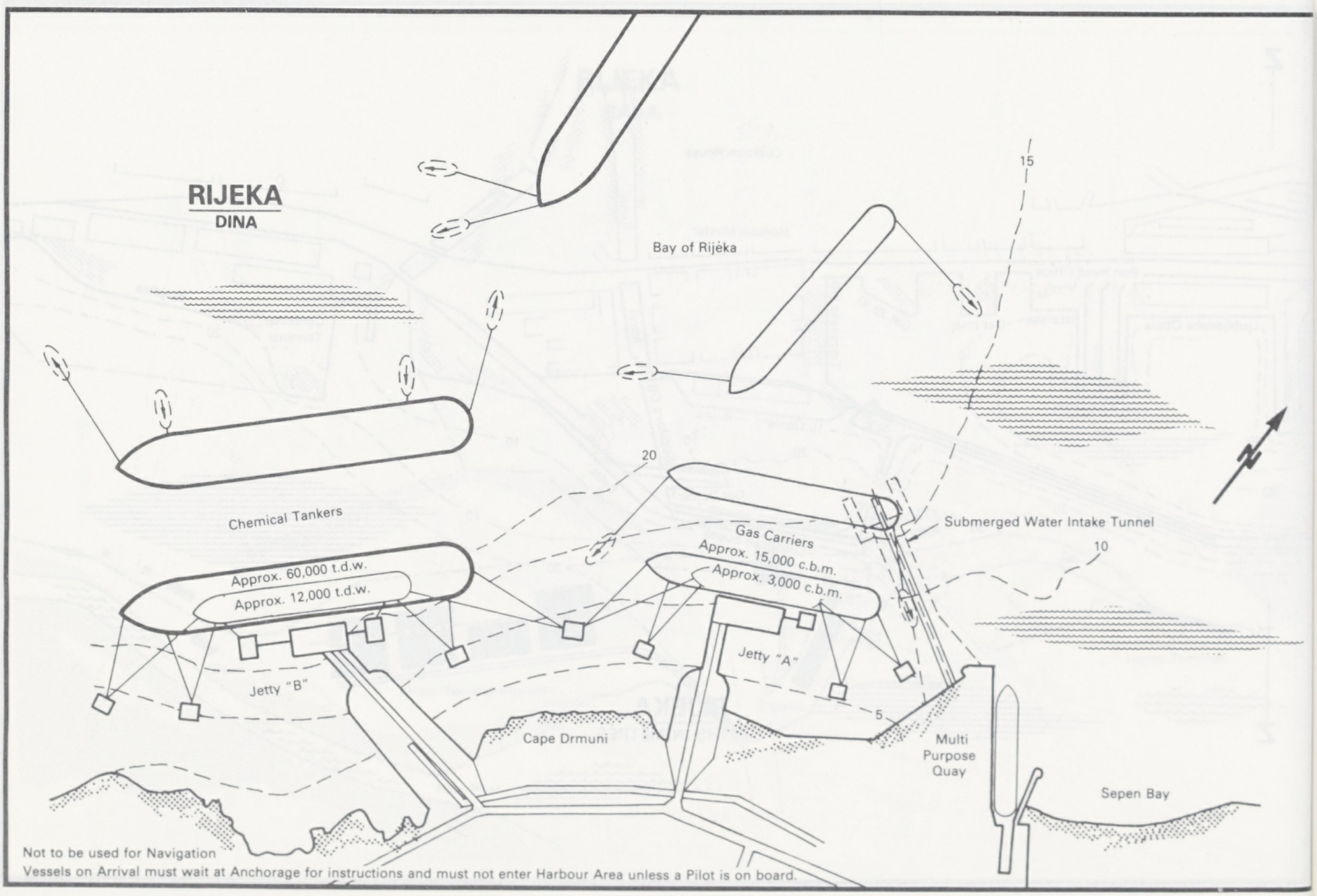
RIJEKA

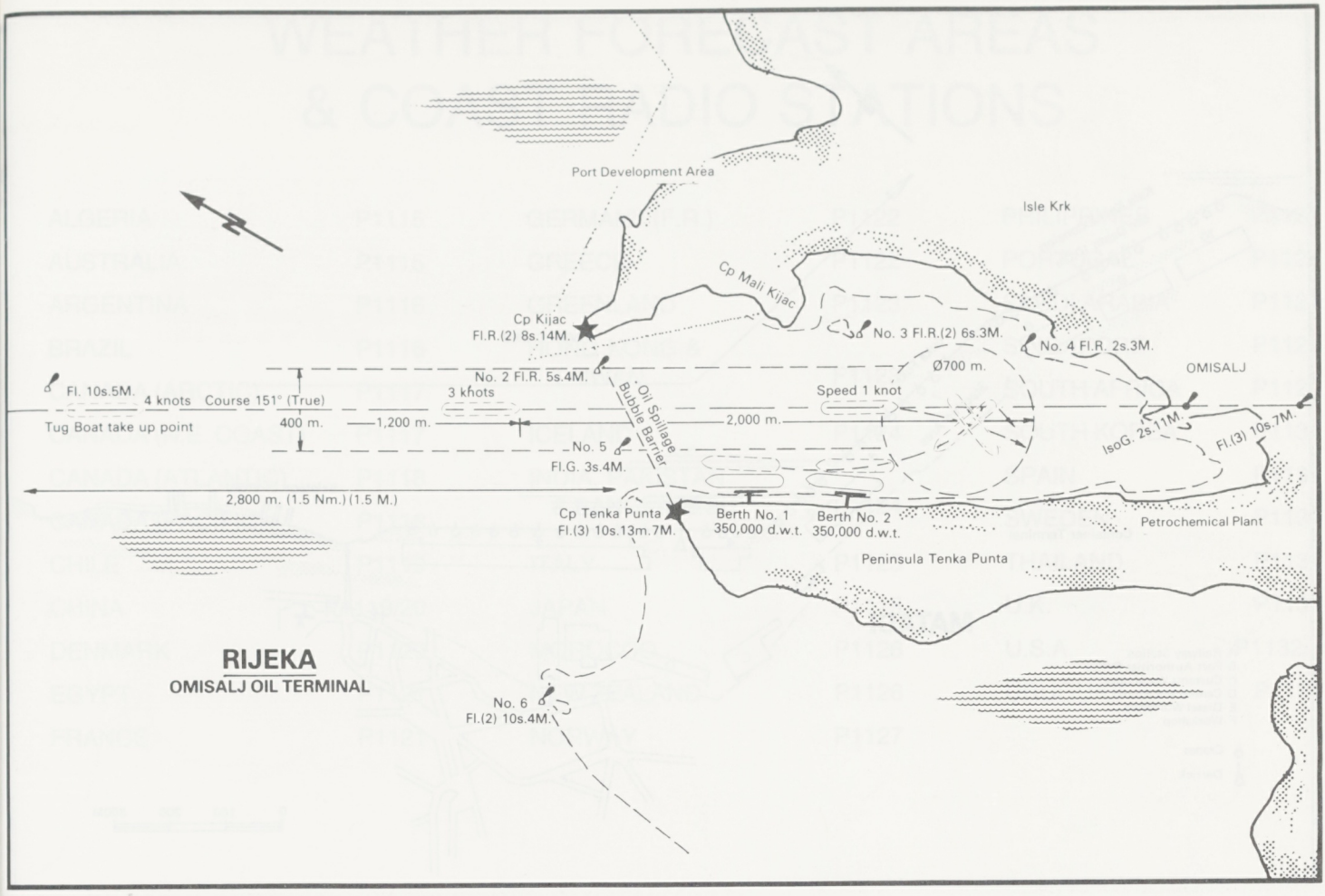
RASA

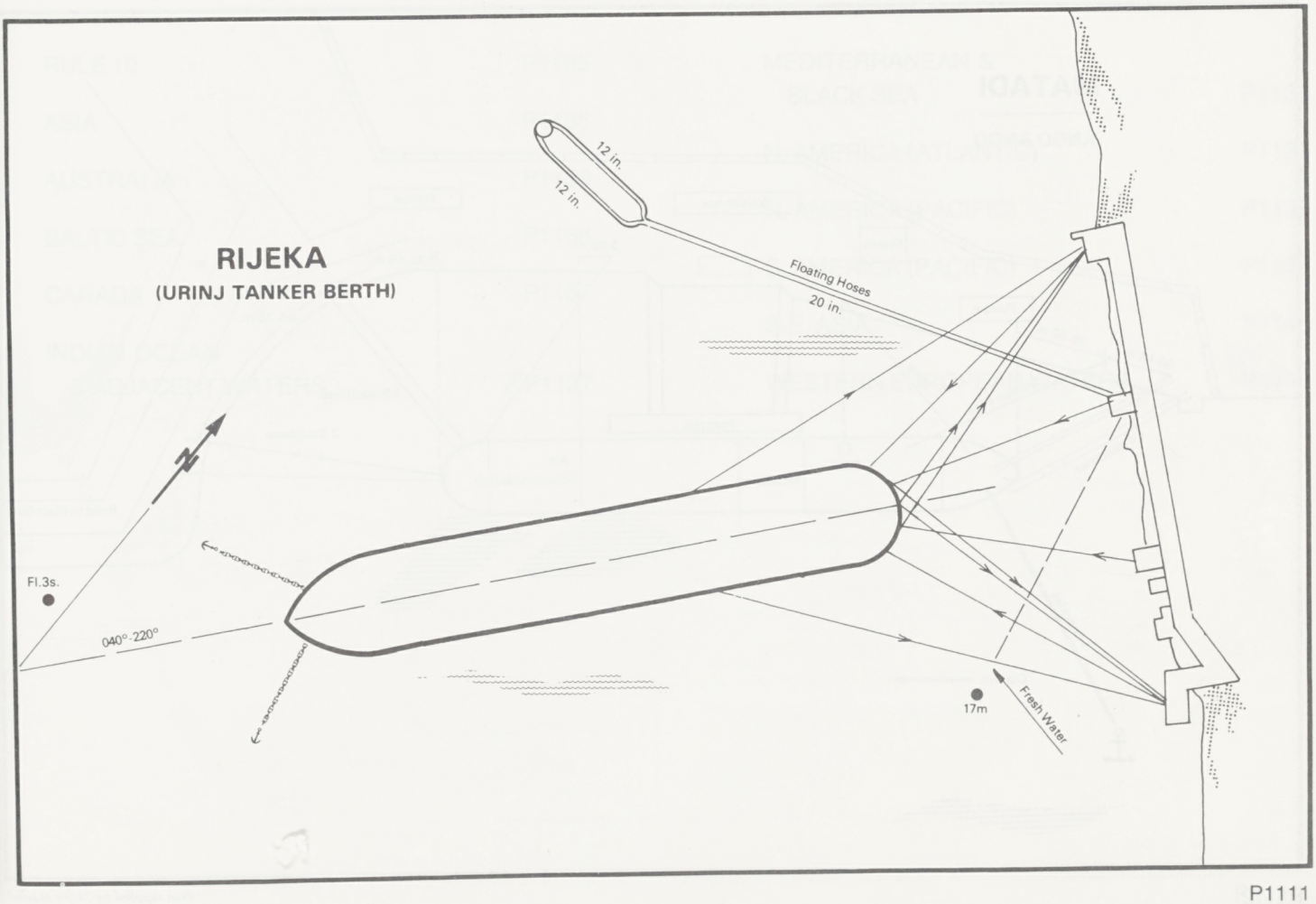

RIJEKA
DEPTHS IN METRES
Z
Port Development Area
Silos
Beogradska Obala
Zagrebacka Obala
Petrol. Luka
Splitska Obala
Phosphate Terminal
Gat VL. Gortan
Gt. VL. Nazor
Gat I.L. Ribar
Future Extension
10
20
30
40
N

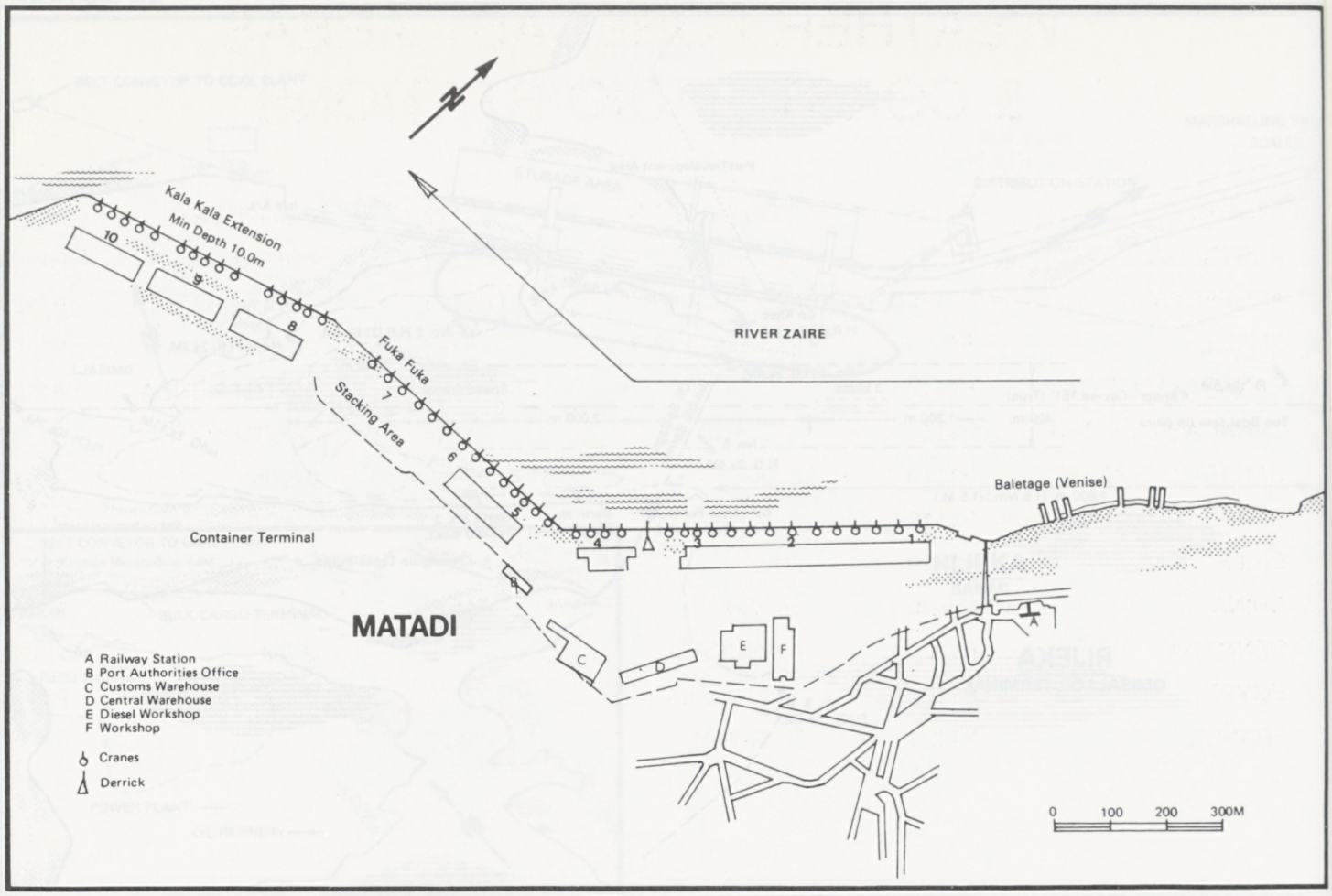

Z
Customs House
Kanal
Rijecina
Harbour Master
Port Head Office
Braidica
Container Terminal
Ljubljanska Obala
Istarska
Gat Imaj
Gat 29.XI
Trscanska OB
Mtrvi
Gat Kersovani
10 Obala
Rujna
Supilova OB
Delta
Gat Barcic
Lukobran Susak
10
20
30
RIJEKA
DEPTHS IN METRES
Z

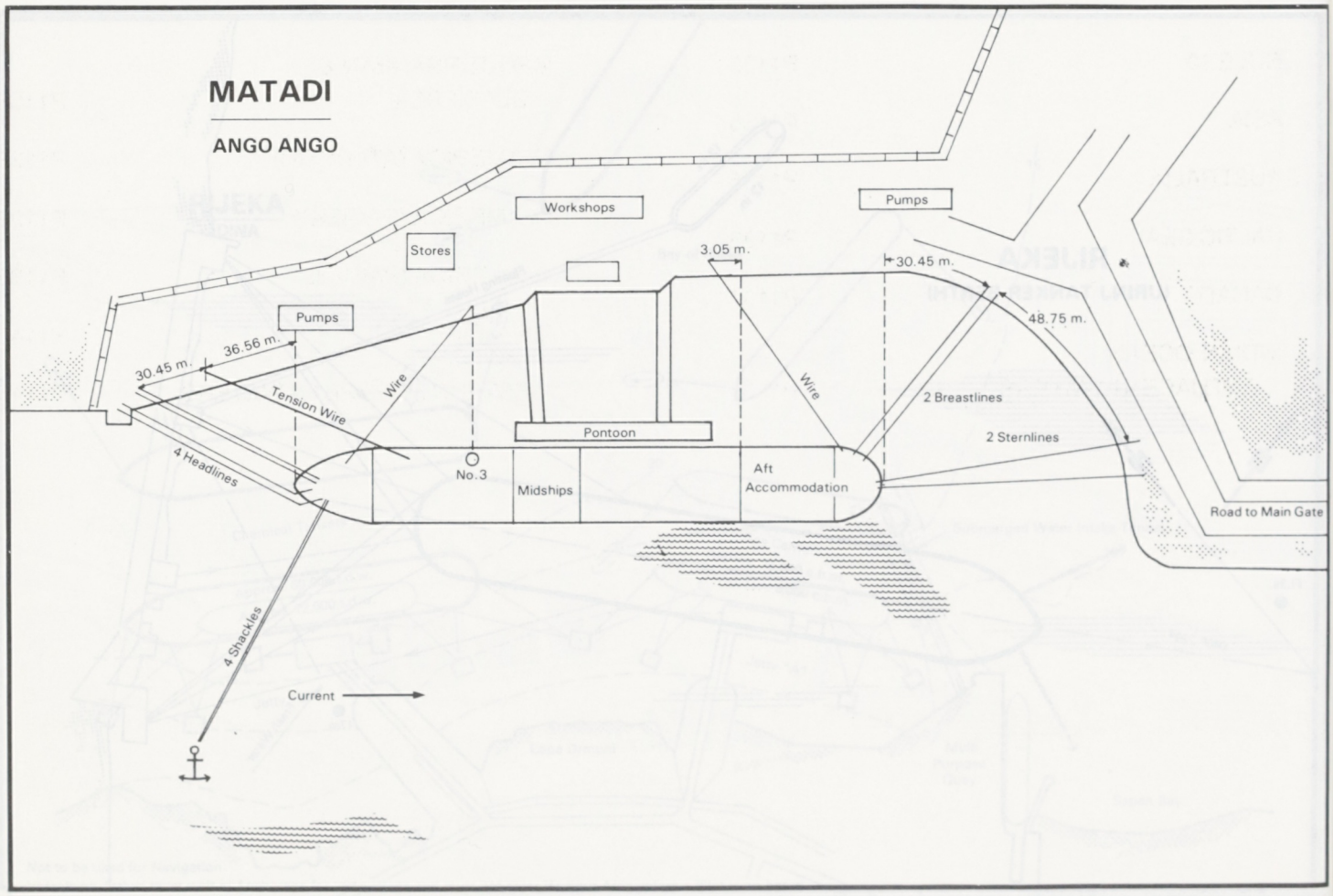

BELT CONVEYOR TO COKE PLANT
STORAGE AREA
SHIP UNLOADER
DISTRIBUTION STATION
MARSHALLING YAR
SCALES
BELT CONVEYOR TO COKE PLANT
Krasica Marshalling Yard
BAKAR
BULK CARGO TERMINAL
BAKARAC
Bay of Bakar
Ro/Ro Terminal
COKE PLANT
POWER PLANT
OIL REFINERY
RIJEKA
BAKAR


RIJEKA
DINA
Bay of Rijeka
15
20
10
5
Chemical Tankers
Approx. 60,000 t.d.w.
Approx. 12,000 t.d.w.
Gas Carriers
Approx. 15,000 c.b.m.
Approx. 3,000 c.b.m.
Submerged Water Intake Tunnel
Jetty "A"
Jetty "B"
Cape Drmuni
Multi Purpose Quay
Sepen Bay
Not to be used for Navigation
Vessels on Arrival must wait at Anchorage for instructions and must not enter Harbour Area unless a Pilot is on board.


Port Development Area
Isle Krk
Cp Mali Kijac
Cp Kijac
Fl.R.(2) 8s.14M.
No. 3 Fl.R.(2) 6s.3M.
No. 4 Fl.R. 2s.3M.
Ø700 m.
OMISALJ
No. 2 Fl.R. 5s.4M.
Fl. 10s.5M.
4 knots Course 151° (True)
3 knots
Speed 1 knot
Tug Boat take up point
400 m.
1,200 m.
2,000 m.
Oil Spillage Bubble Barrier
IsoG. 2s.11M.
Fl.(3) 10s.7M.
No. 5
Fl.G. 3s.4M.
2,800 m. (1.5 Nm.) (1.5 M.)
Cp Tenka Punta
Fl.(3) 10s.13m.7M.
Berth No. 1
350,000 d.w.t.
Berth No. 2
350,000 d.w.t.
Petrochemical Plant
Peninsula Tenka Punta
RIJEKA
OMISALJ OIL TERMINAL
No. 6
Fl.(2) 10s.4M.


RIJEKA
(URINJ TANKER BERTH)
12 in.
12 in.
Floating Hoses
20 in.
Fl.3s.
040°-220°
17m
Fresh Water





"Plan supplied by Ship's Master"

WEATHER FORECAST AREAS & COAST RADIO STATIONS

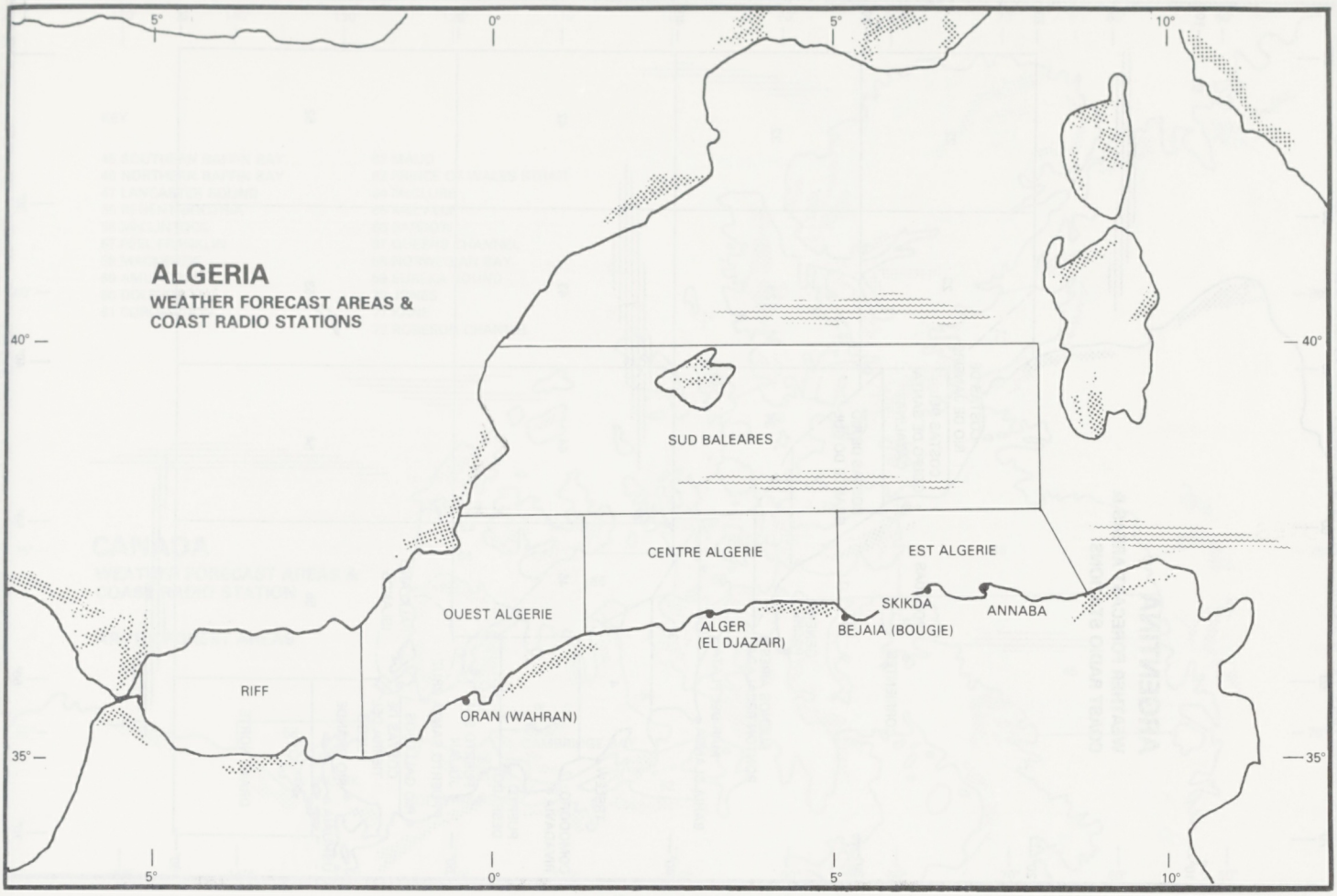
ALGERIA	P1115	GERMANY (F.R.)	P1122	PHILIPPINES	P1127
AUSTRALIA	P1115	GREECE	P1122	PORTUGAL	P1128
ARGENTINA	P1116	GREENLAND	P1123	SAUDI ARABIA	P1128
BRAZIL	P1116	HONG KONG & TAIWAN	P1123	SINGAPORE	P1129
CANADA (ARCTIC)	P1117	ICELAND	P1124	SOUTH AFRICA	P1129
CANADA (N.E. COAST)	P1117	INDIA, PAKISTAN & BANGLADESH	P1124	SOUTH KOREA	P1130
CANADA (ATLANTIC)	P1118	ITALY	P1125	SPAIN	P1130
CANADA (PACIFIC)	P1118	JAPAN	P1125	SWEDEN	P1131
CHILE	P1119	MOROCCO	P1126	THAILAND	P1131
CHINA	P1119/20	NEW ZEALAND	P1126	U.K.	P1132
DENMARK	P1120	NORWAY	P1127	U.S.A.	P1132/3
EGYPT	P1121			URUGUAY	P1134
FRANCE	P1121				

TRAFFIC SEPARATION SCHEMES

RULE 10	P1135	MEDITERRANEAN & BLACK SEA	P1138
ASIA	P1135	N. AMERICA (ATLANTIC)	P1138
AUSTRALIA	P1136	N. AMERICA (PACIFIC)	P1139
BALTIC SEA	P1136	S. AMERICA (PACIFIC)	P1139
CANADA	P1137	S.E. ASIA	P1140
INDIAN OCEAN & ADJACENT WATERS	P1137	WESTERN EUROPEAN WATERS	P1140

WEATHER FORECAST AREAS & COAST RADIO STATIONS

TRAFFIC SEPARATION SCHEMES



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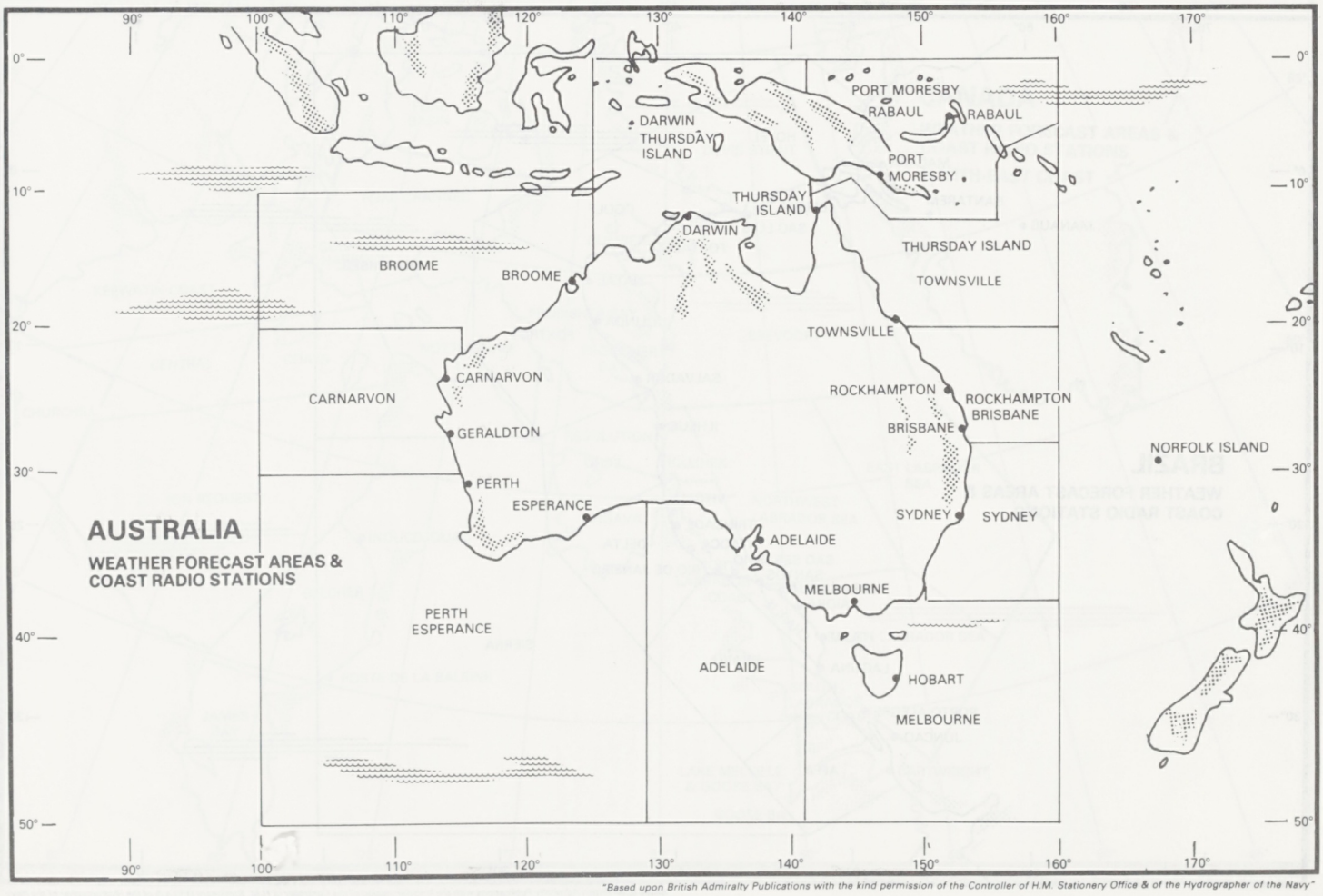

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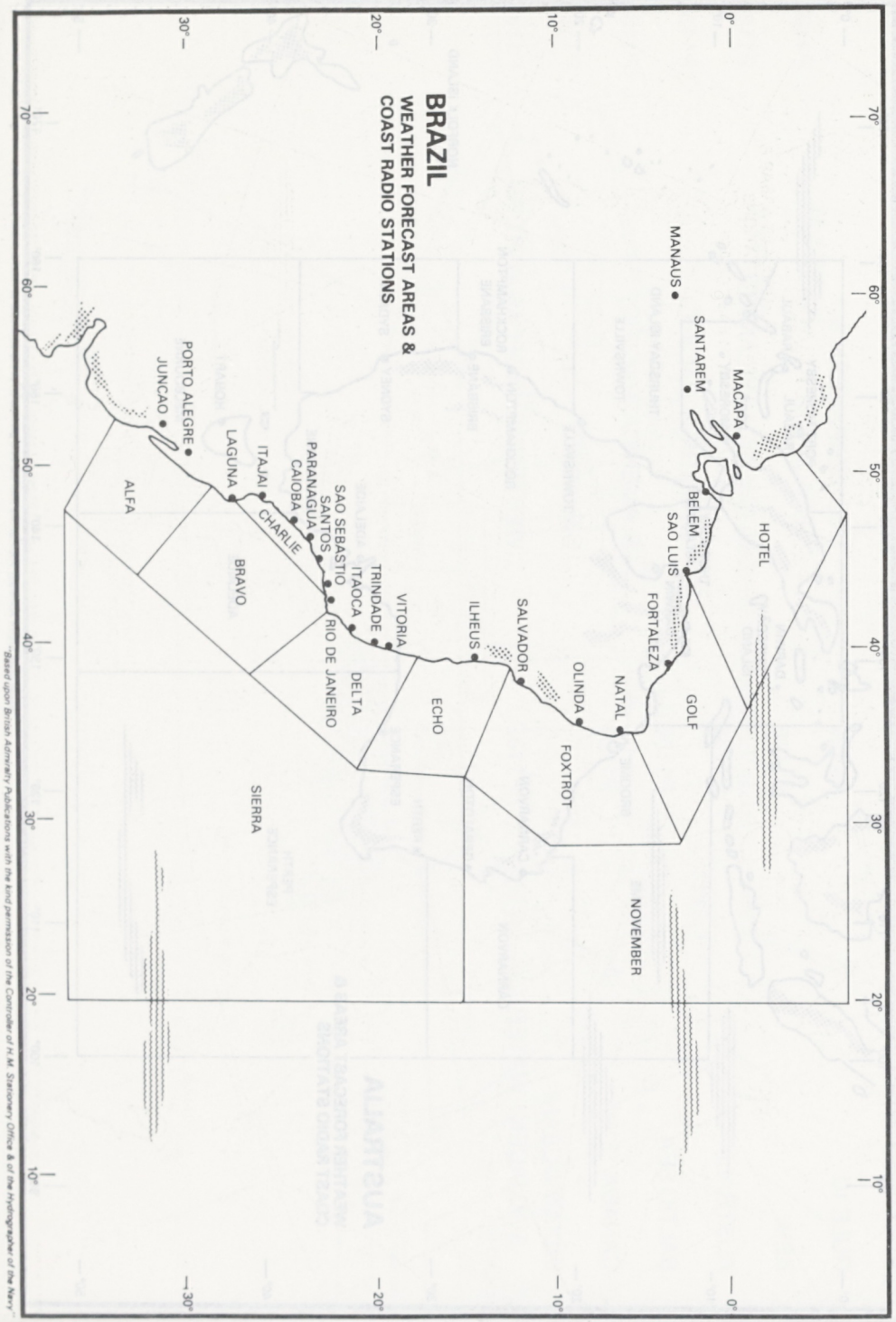

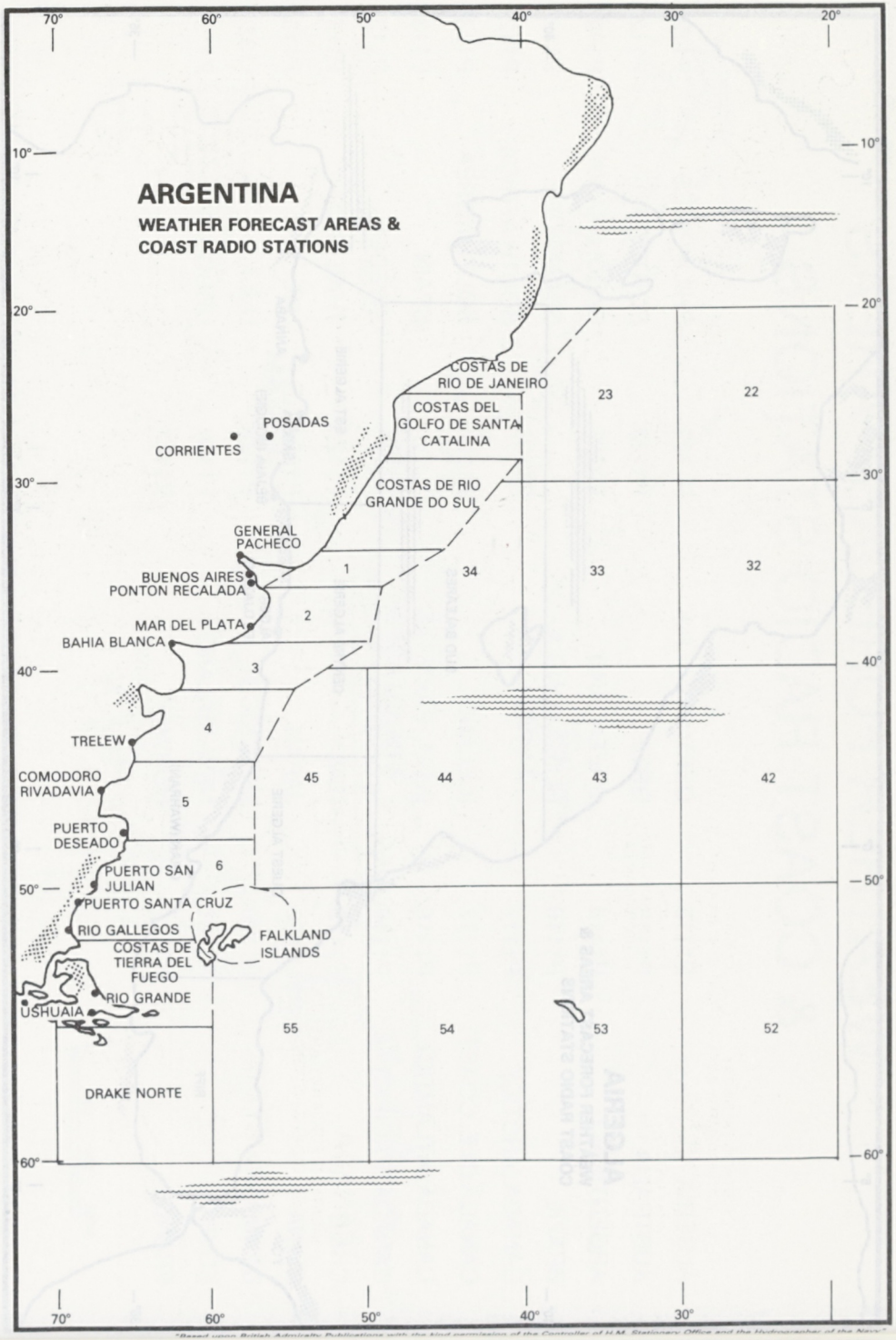

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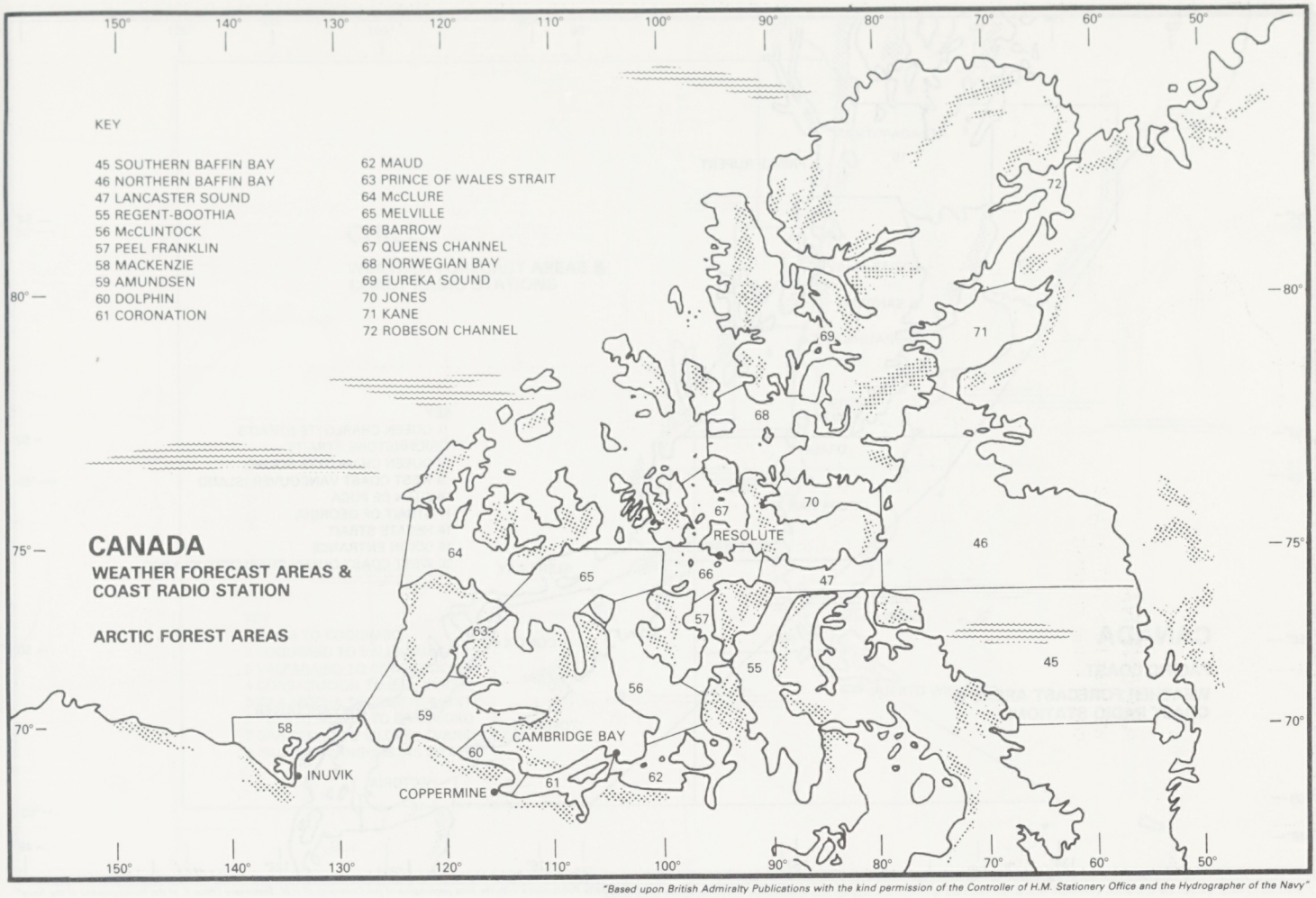

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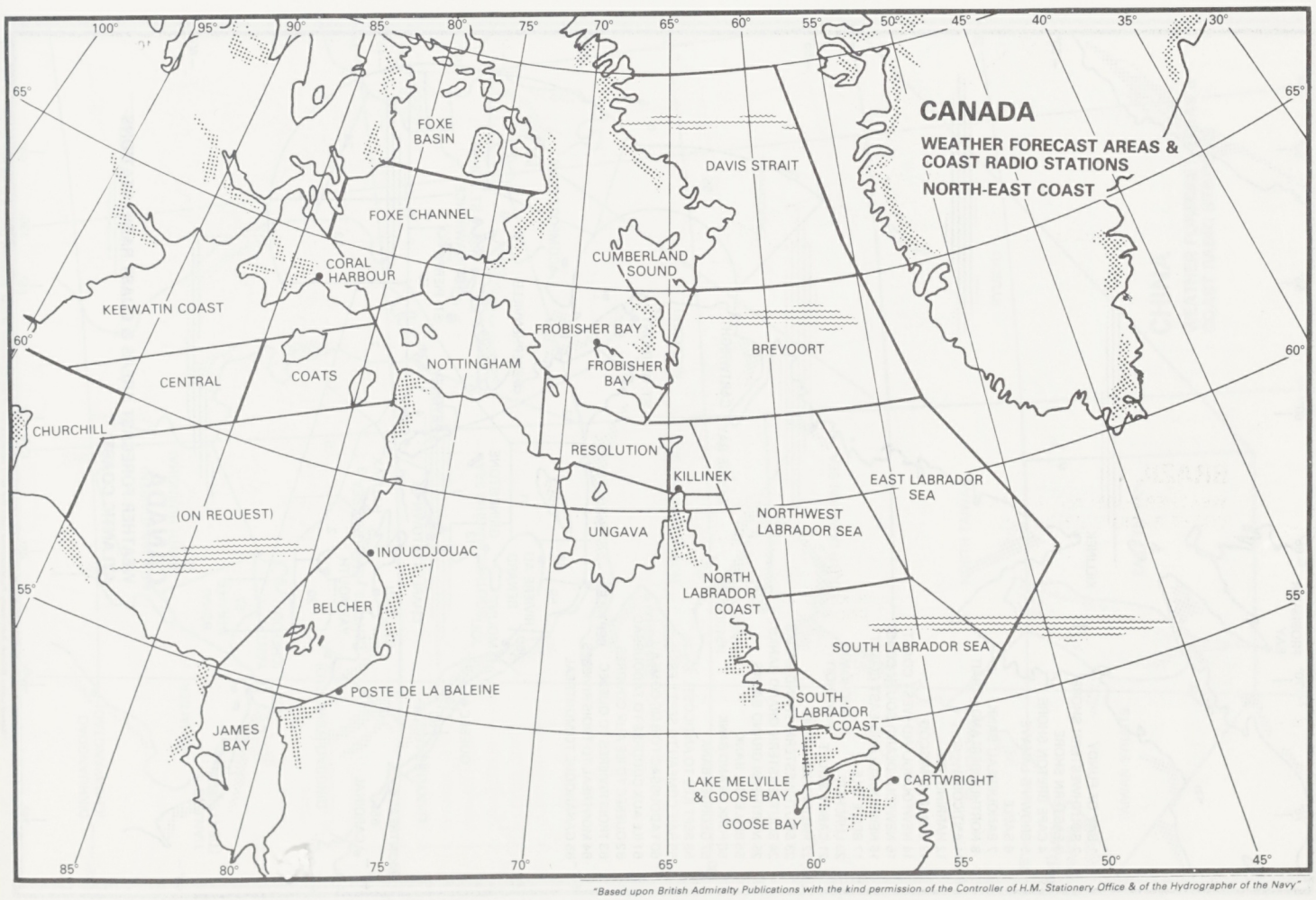

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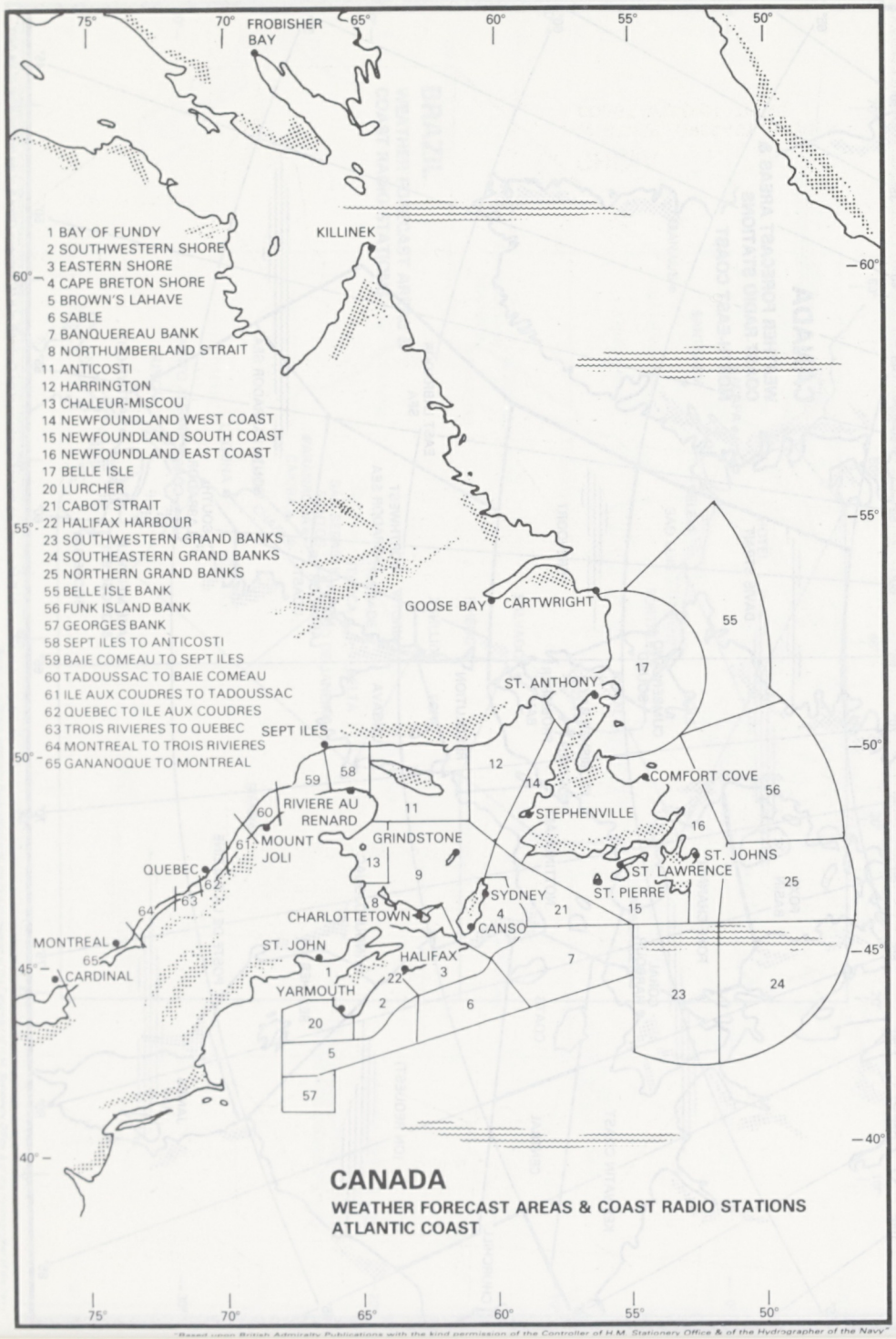

CANADA

WEATHER FORECAST AREAS & COAST RADIO STATIONS
ATLANTIC COAST

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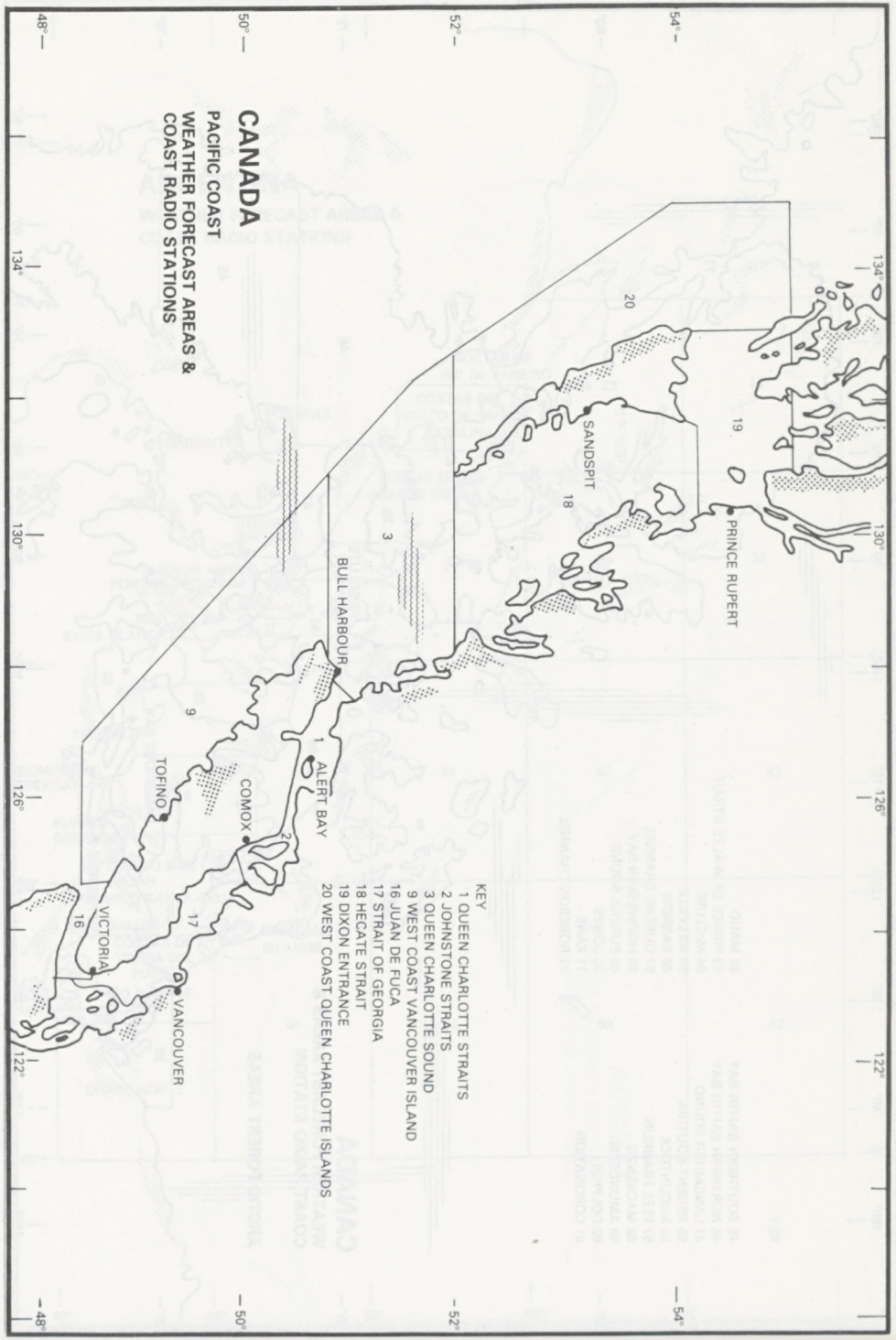

CANADA

PACIFIC COAST
WEATHER FORECAST AREAS & COAST RADIO STATIONS

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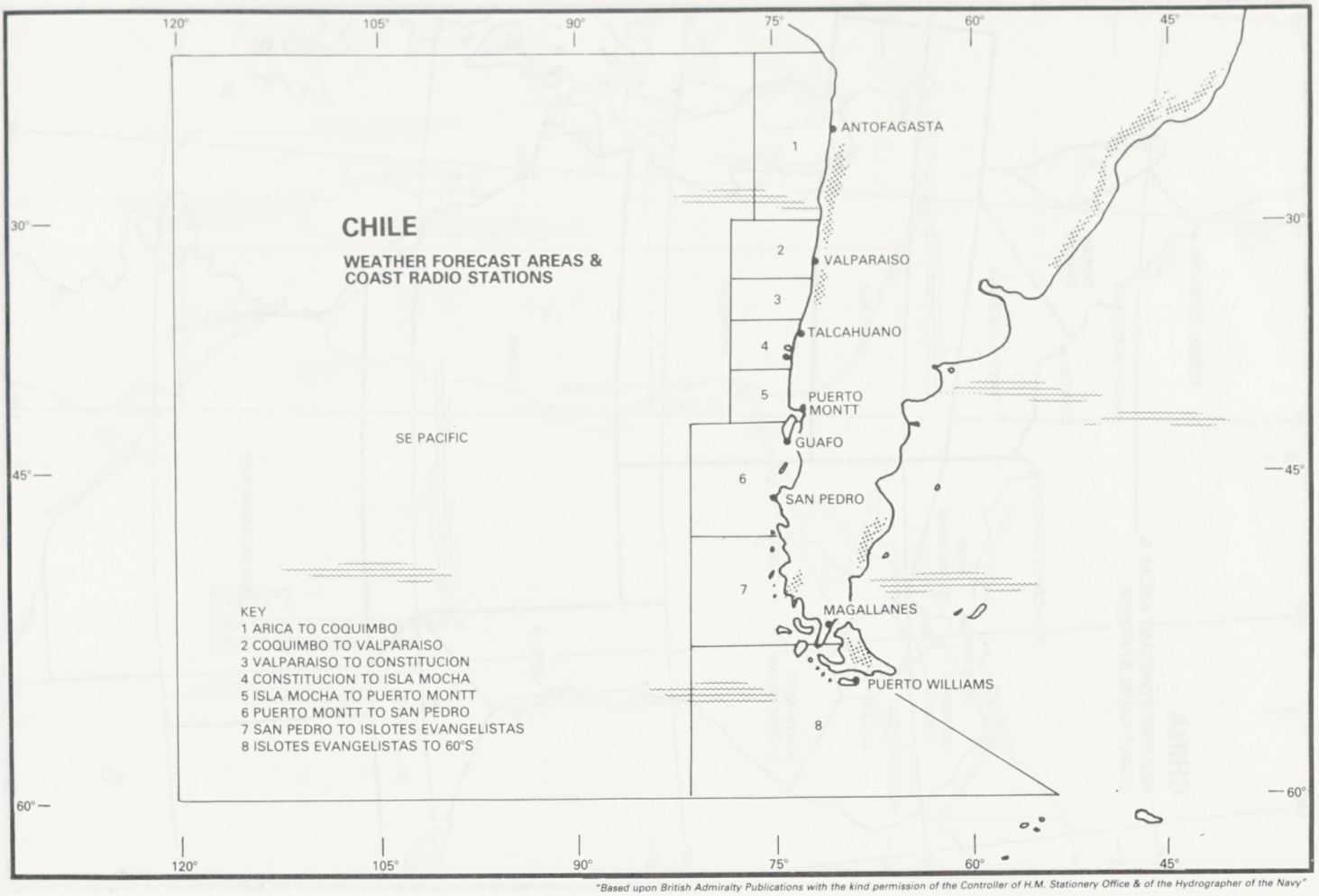

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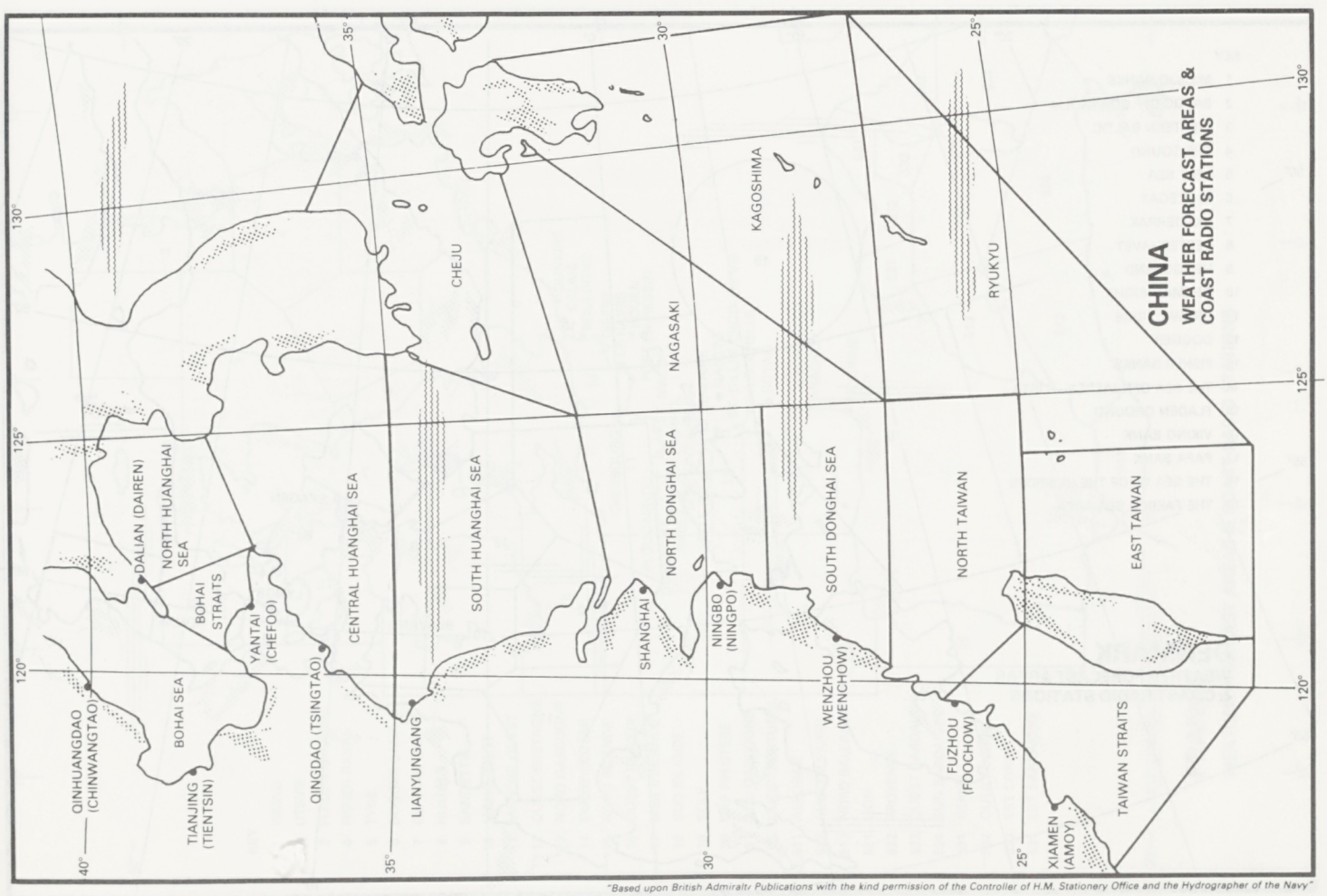

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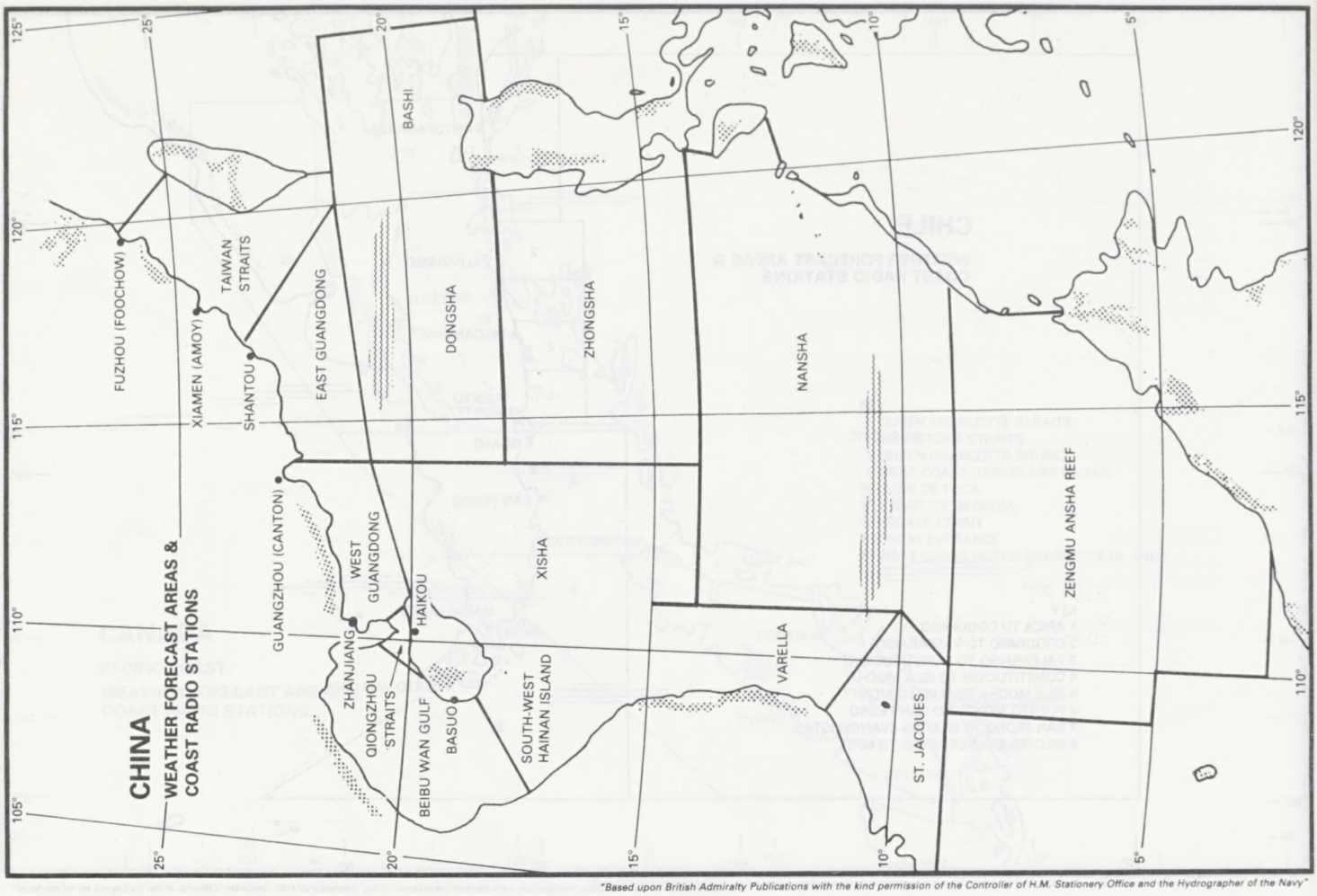

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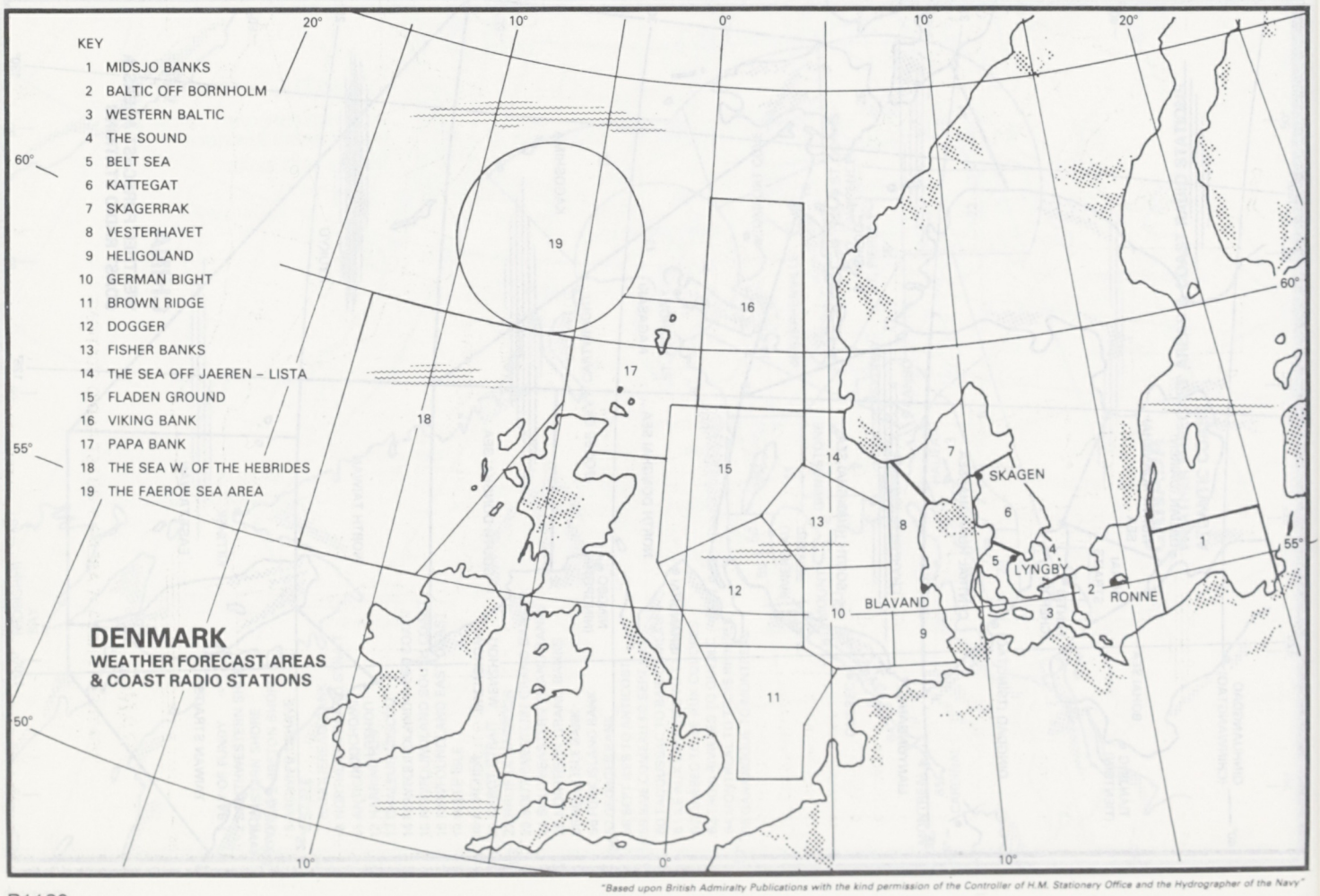

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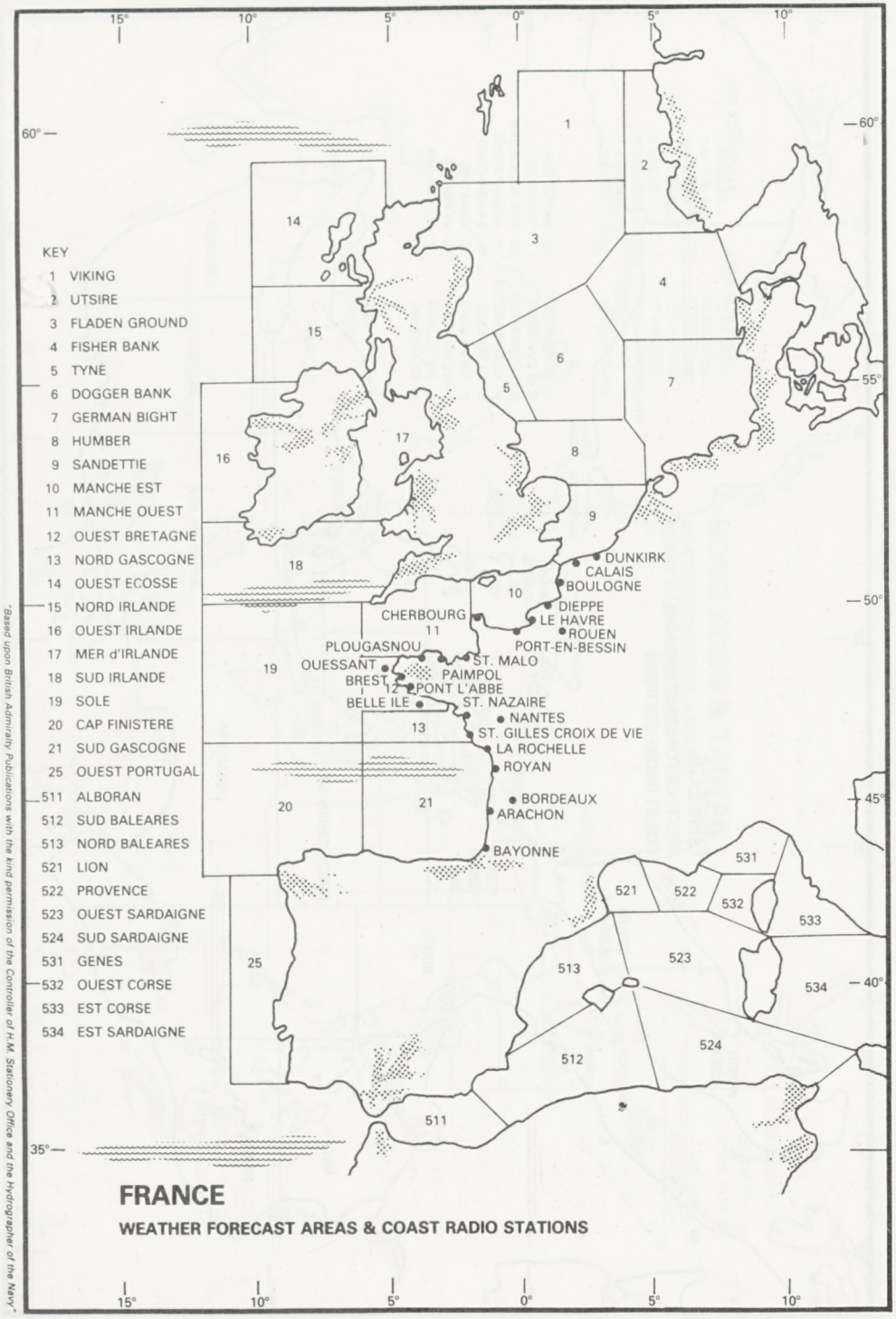

FRANCE

WEATHER FORECAST AREAS & COAST RADIO STATIONS

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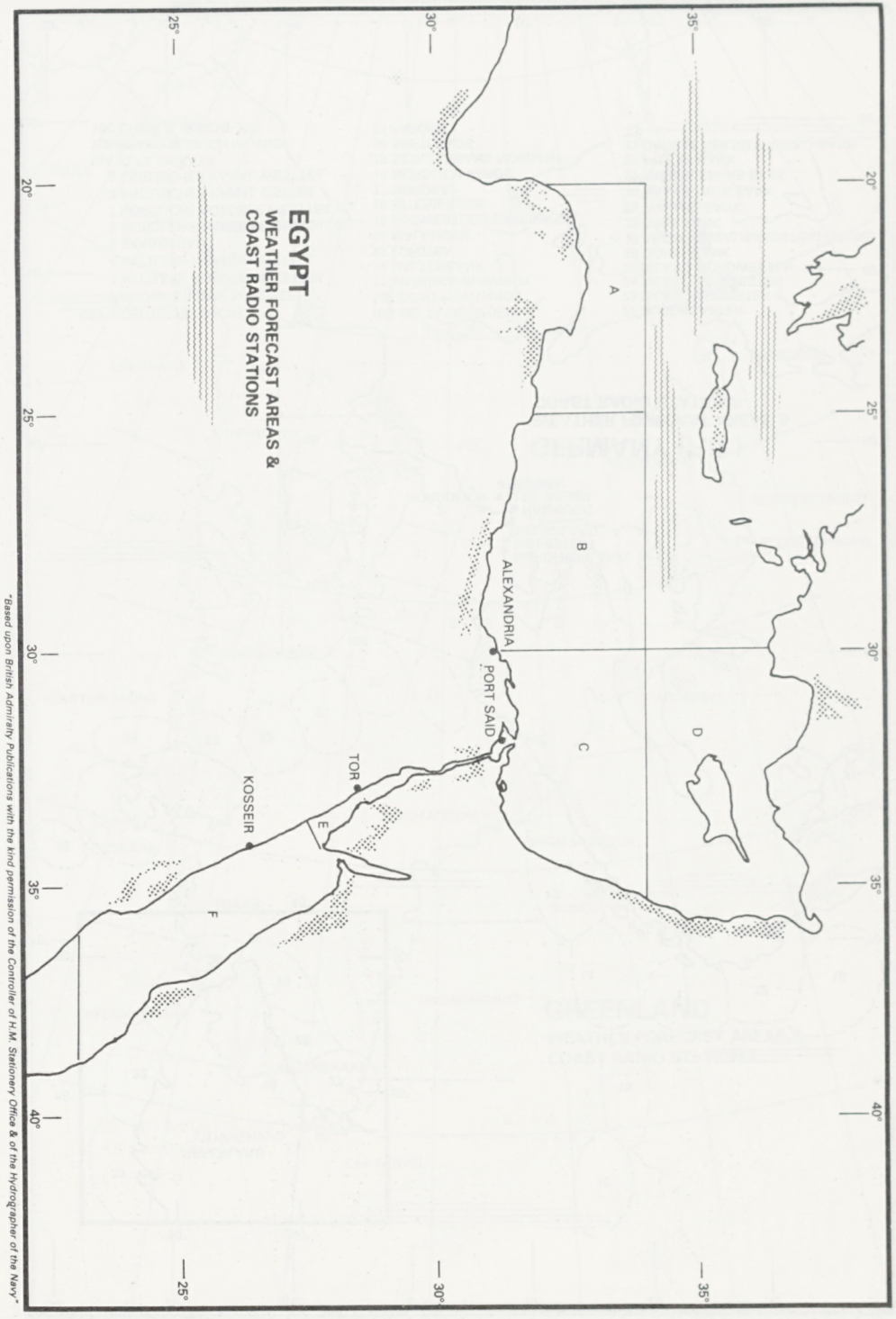

EGYPT

WEATHER FORECAST AREAS & COAST RADIO STATIONS

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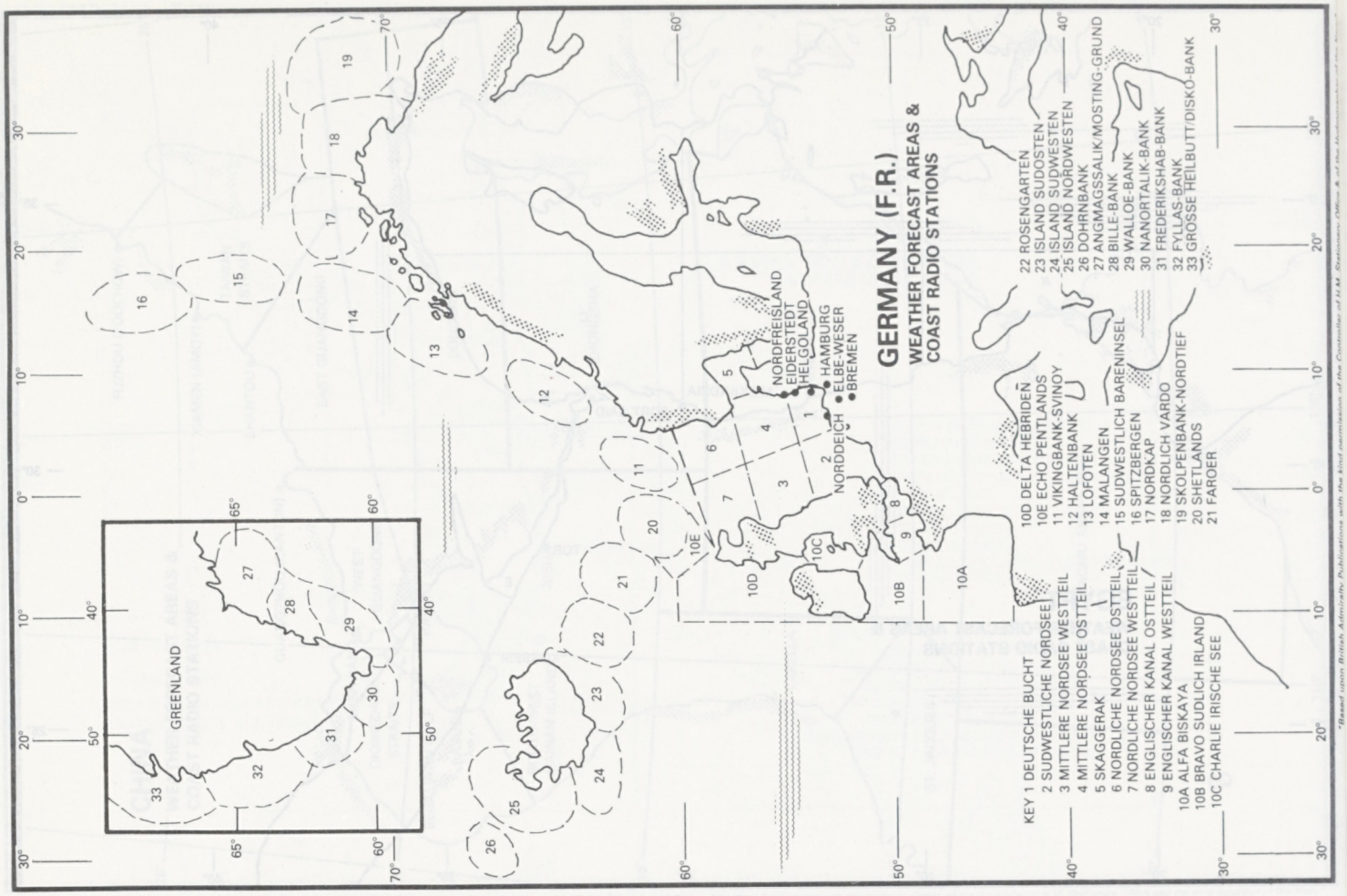

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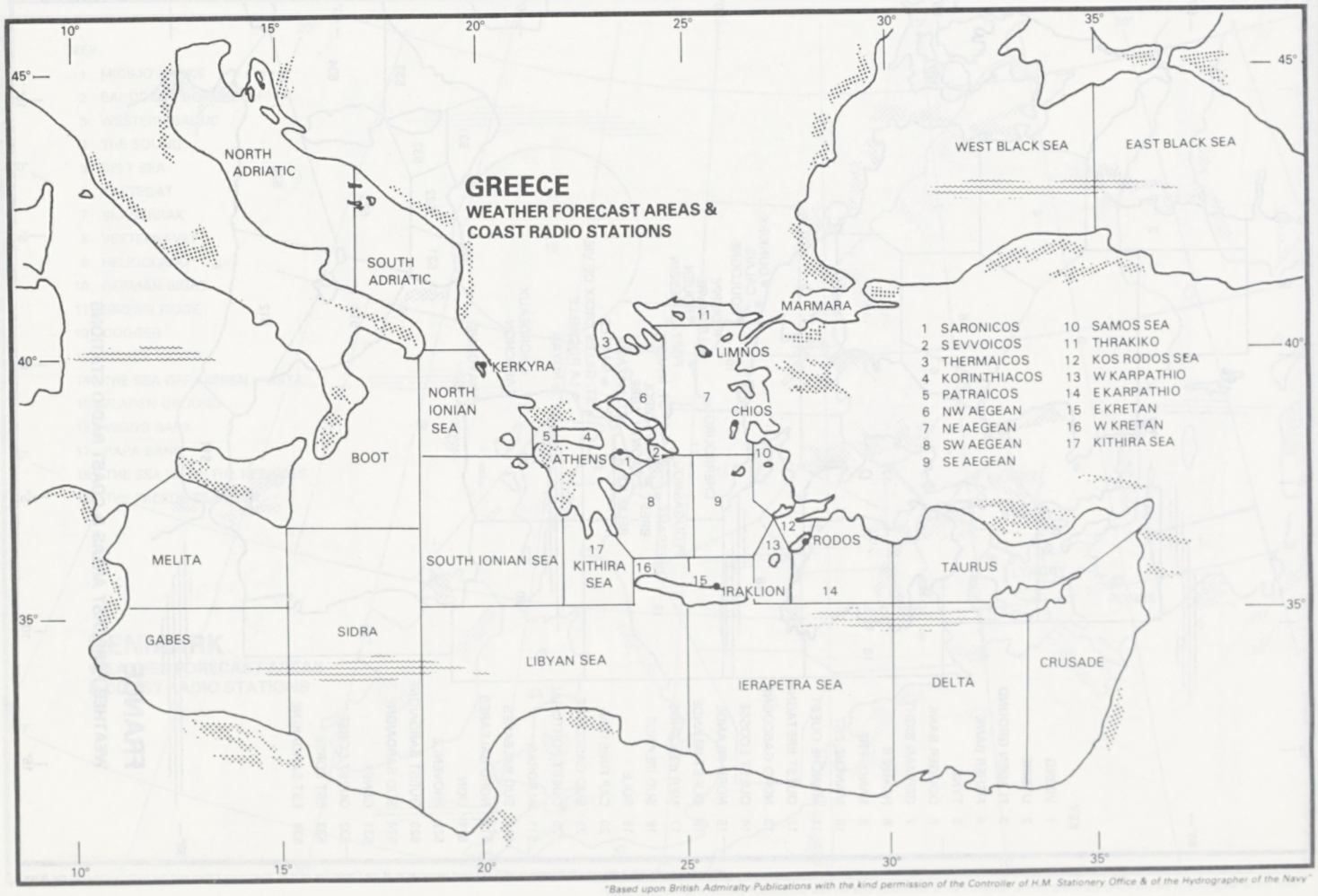

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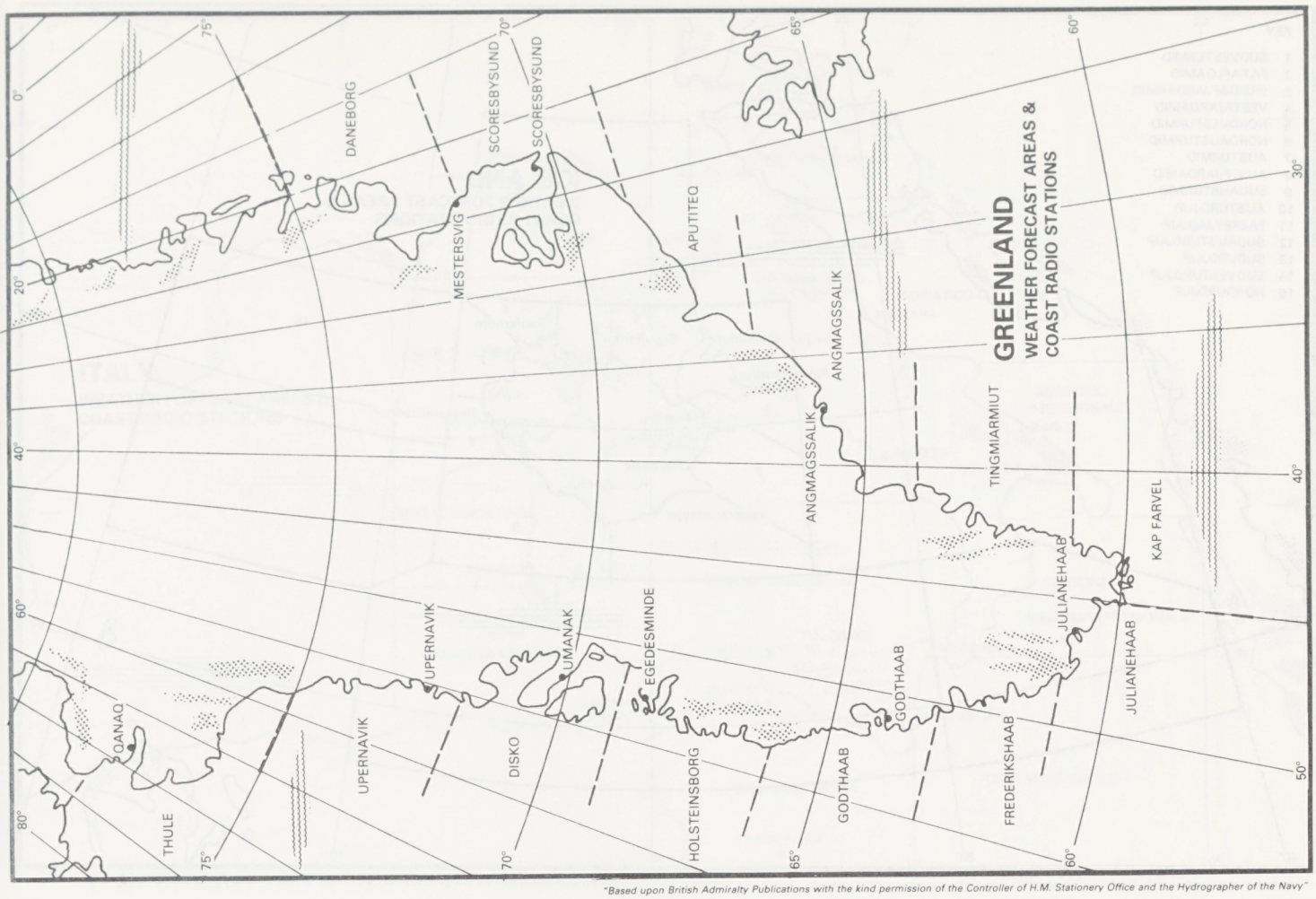

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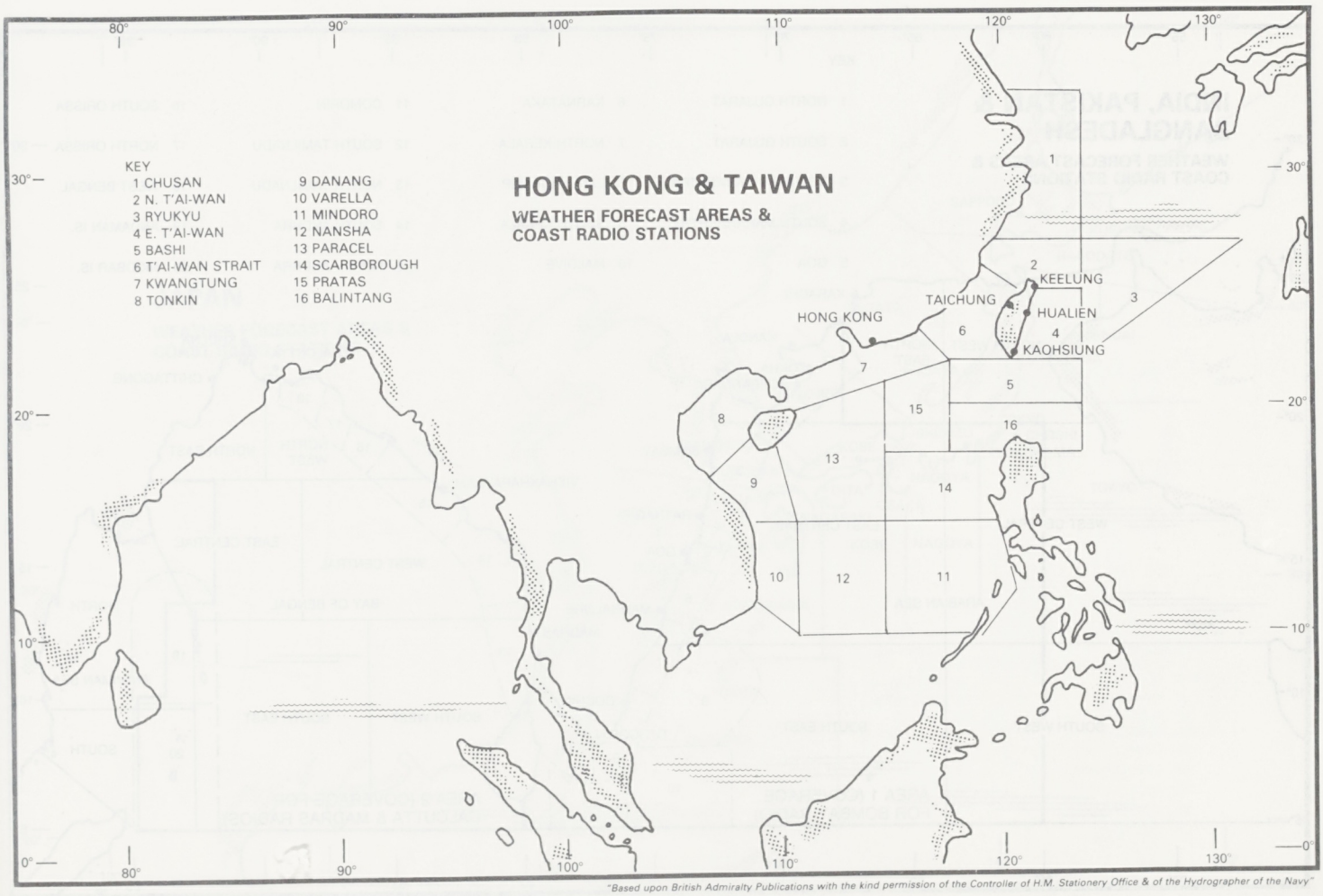

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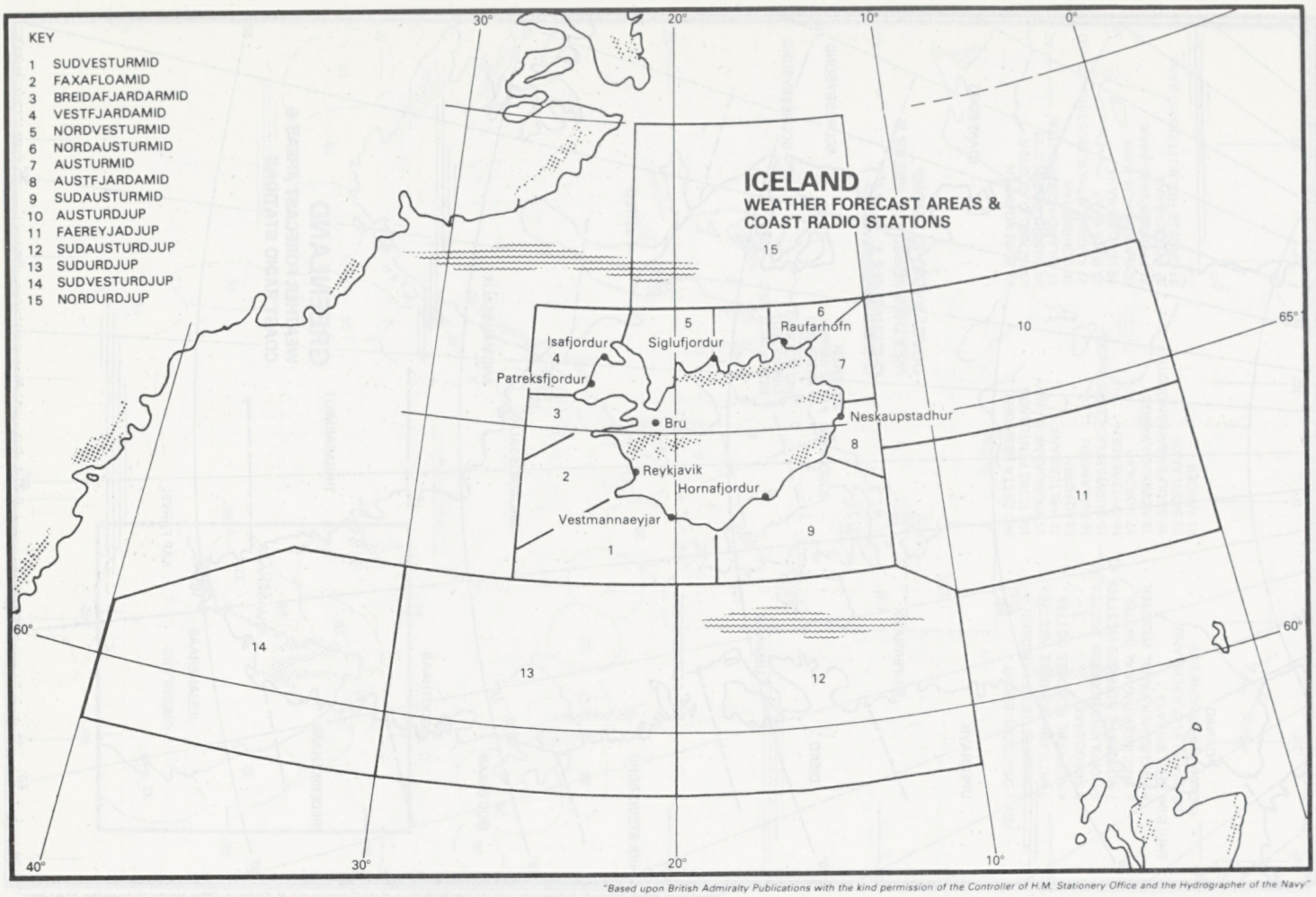

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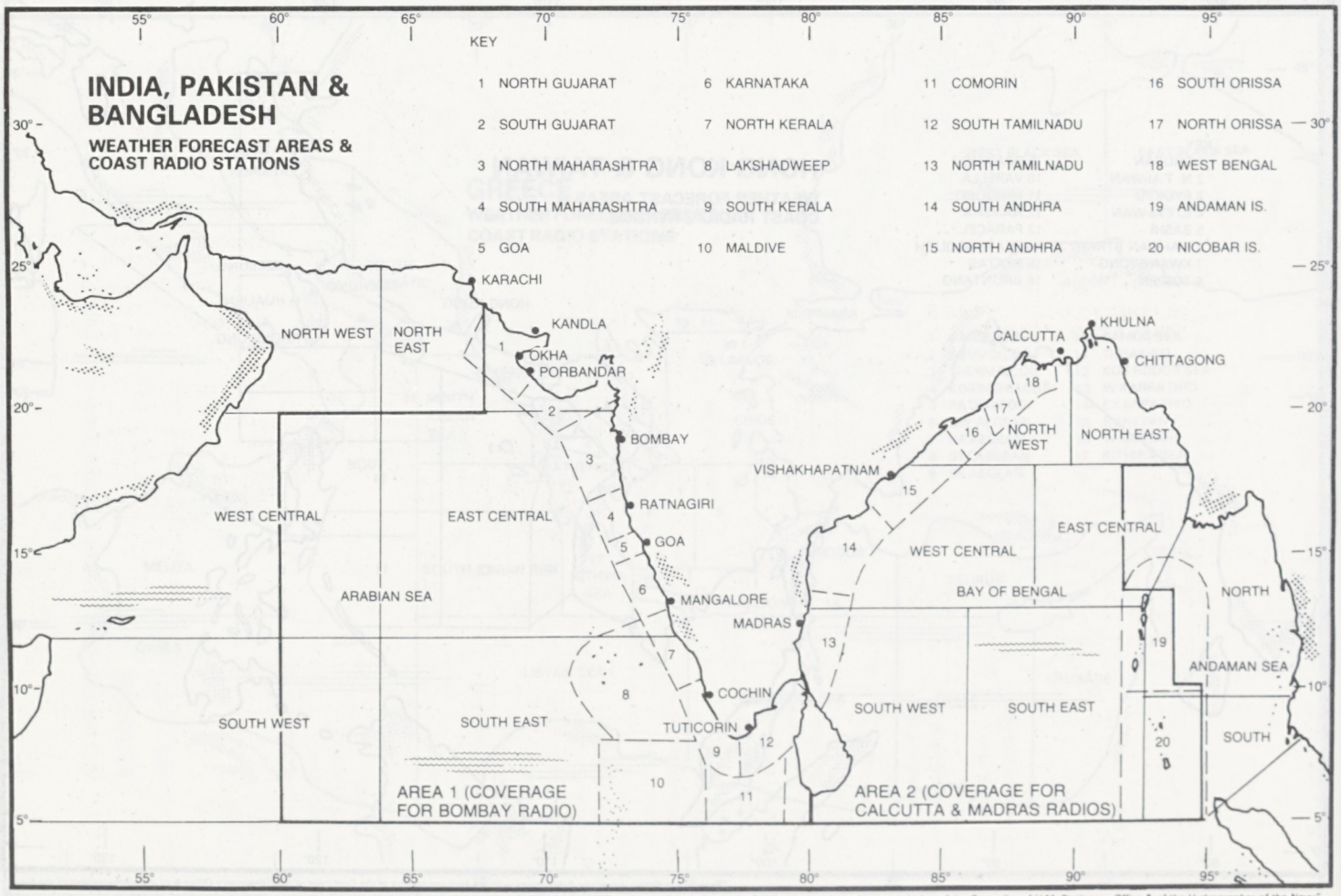

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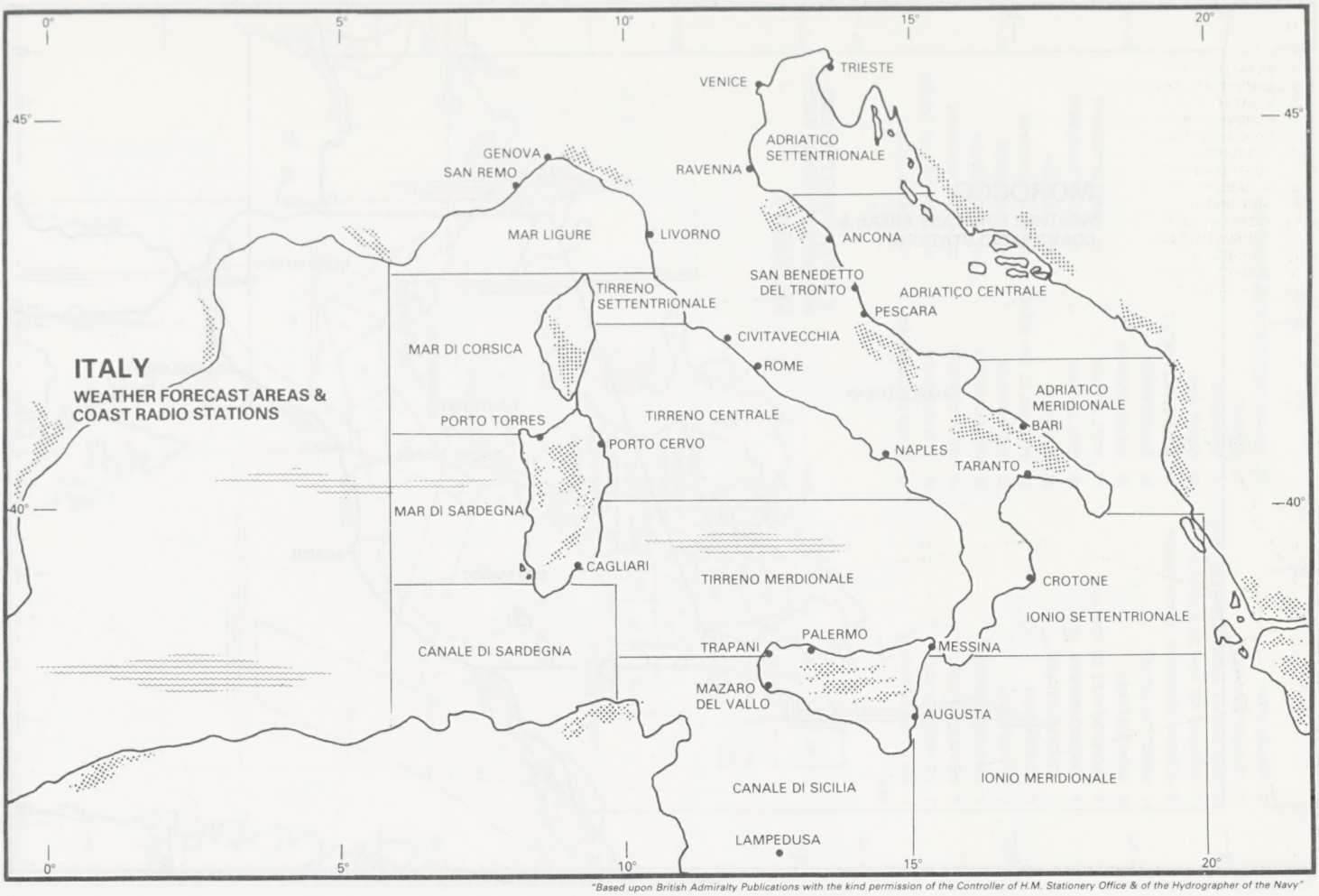

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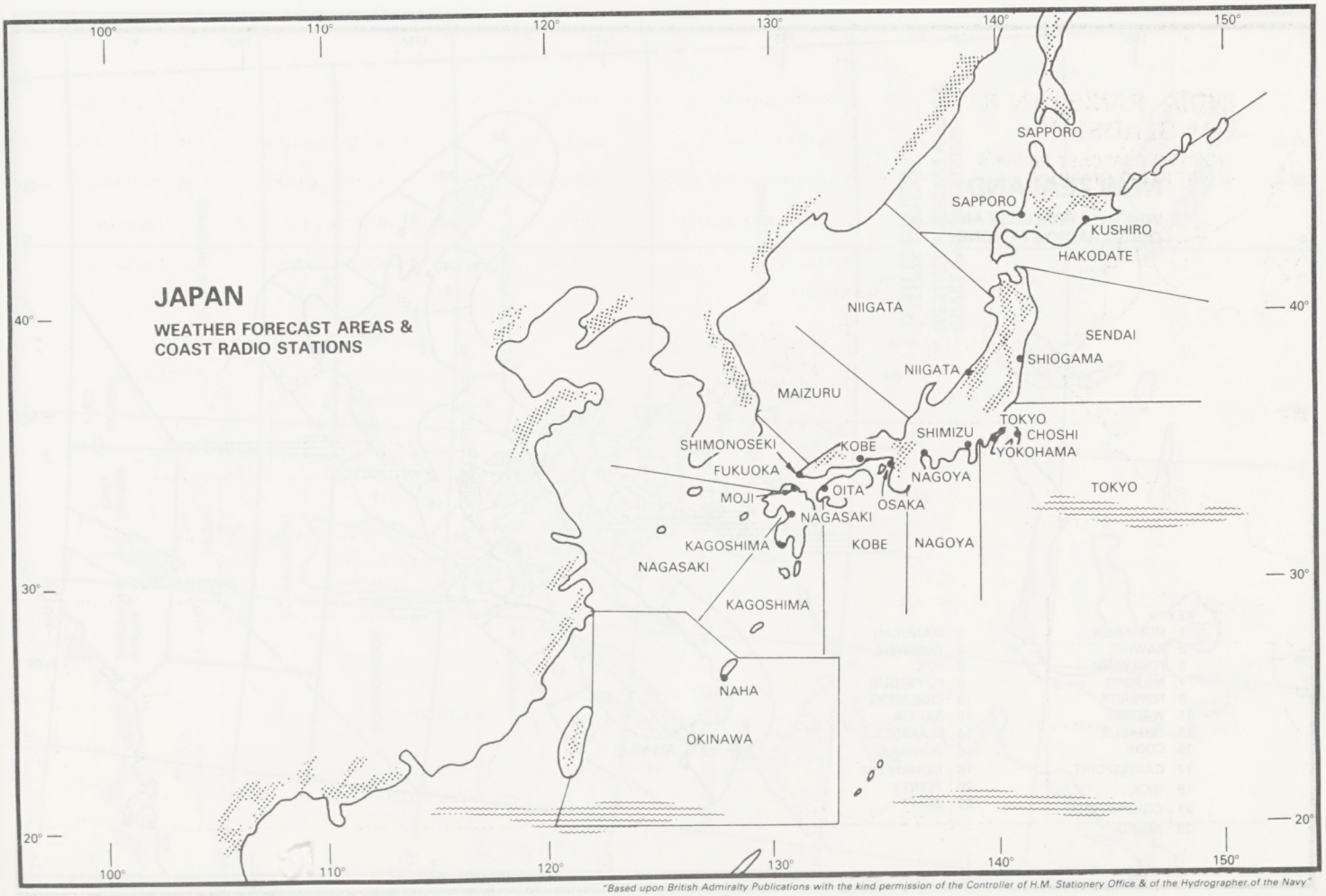

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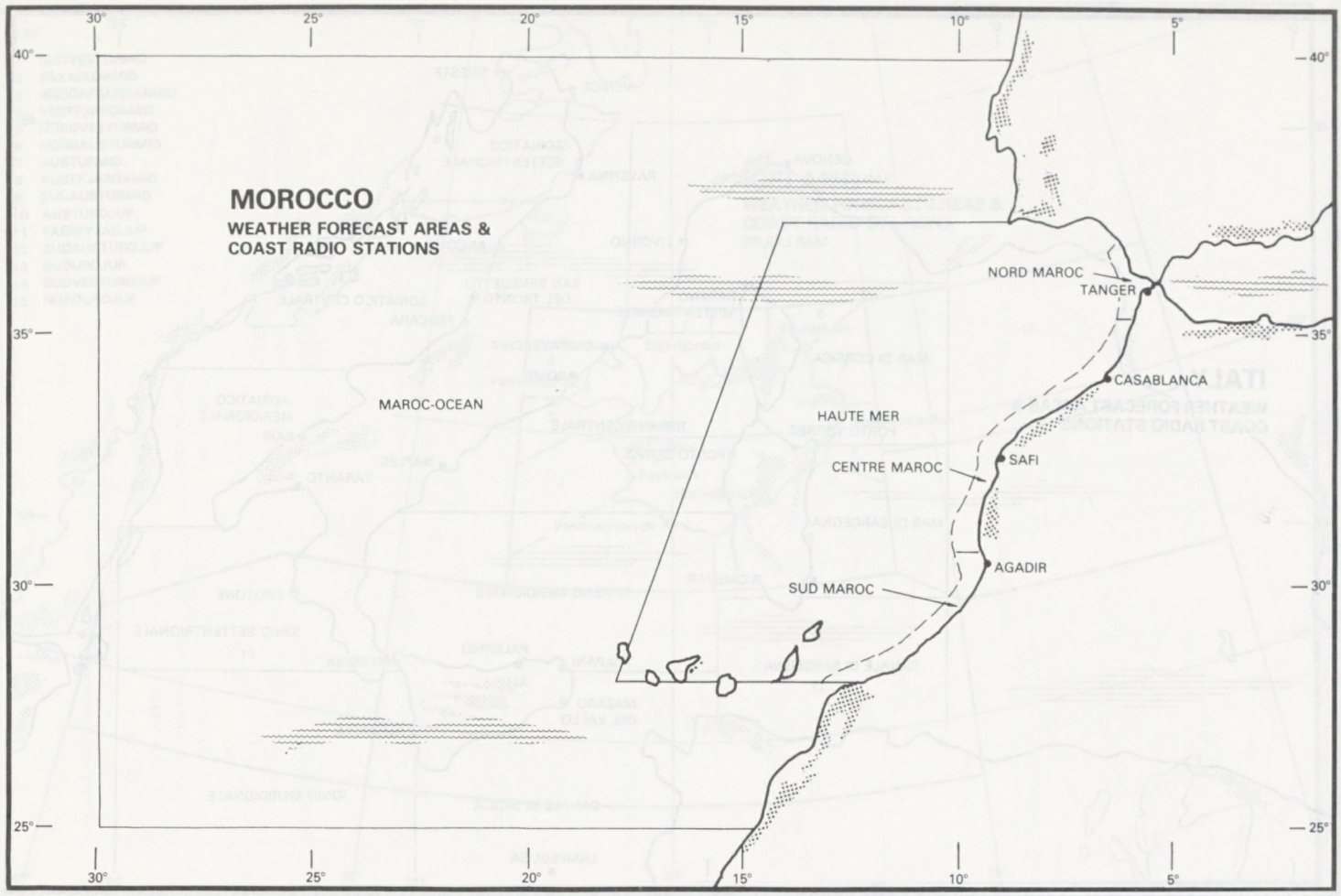

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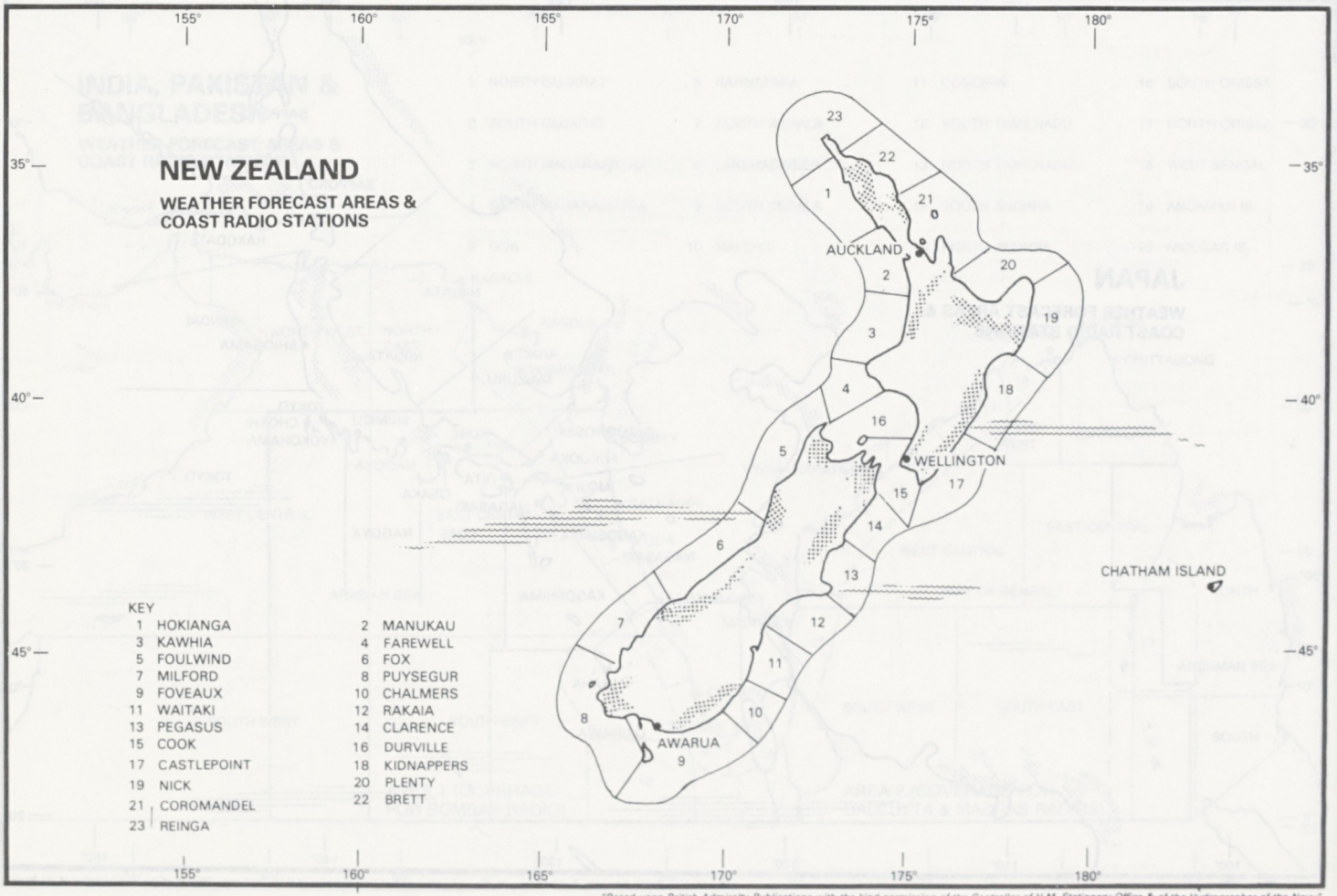

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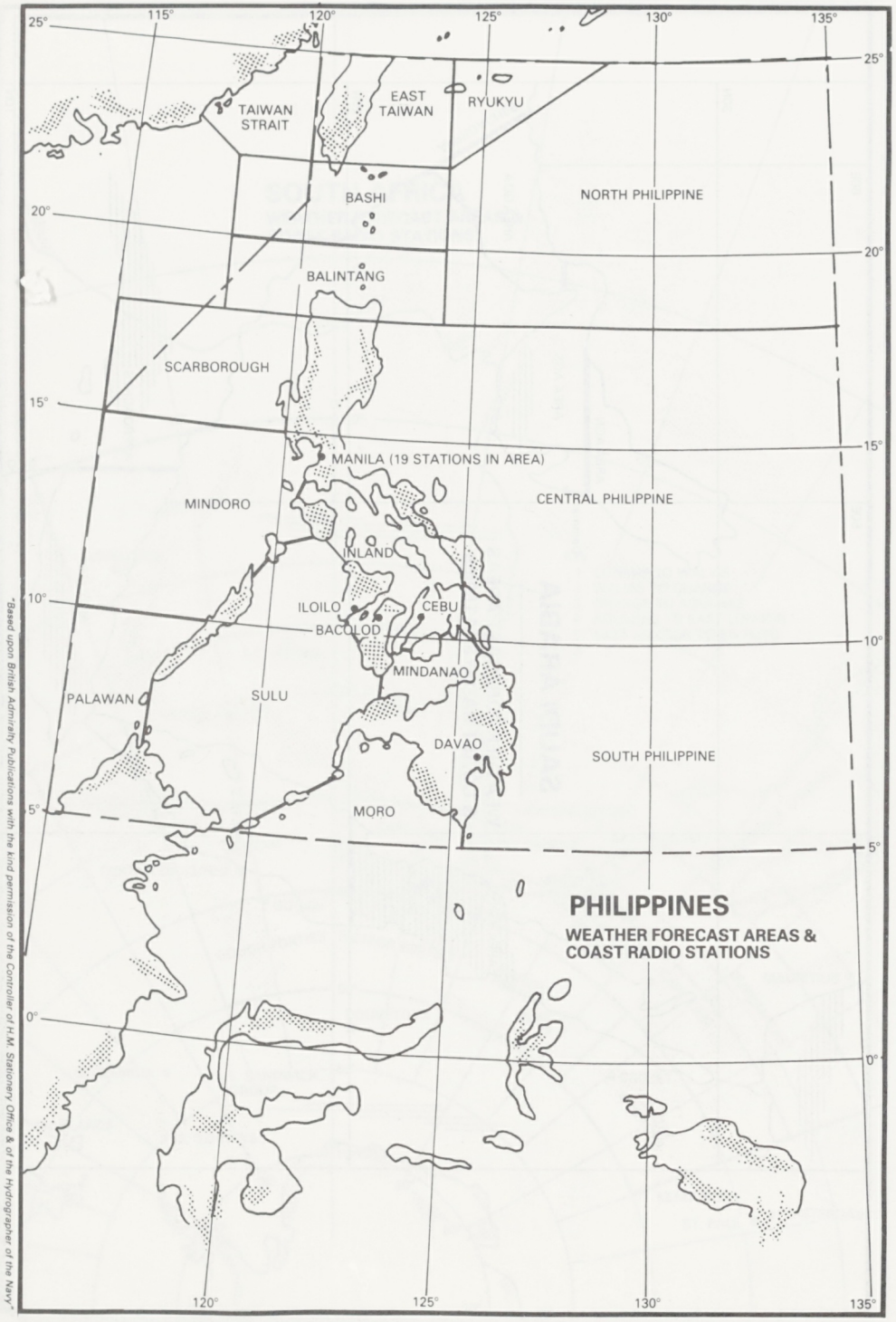

PHILIPPINES

WEATHER FORECAST AREAS & COAST RADIO STATIONS

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NORWAY

WEATHER FORECAST AREAS & COAST RADIO STATIONS

KEY

1 NW BARENTSHAVET
2 NE BARENTSHAVET
3 SE BARENTSHAVET
4 SW BARENTSHAVET
5 KILDINBANKET
6 NORDBANKEN
7 NORDKAPPBANKEN
8 HJELMSOYBANKEN
9 TROMSOFLAKET TO SORKAPP
10 TROMSOFLAKET
11 BANKS OFF TROMS
12 VESTERALSBANKENE TO JAN MAYEN
13 WESTERN ICE, from 70° N TO 75° N
14 WESTERN ICE, FROM NORDKAPP TO 70° N
15 VESTERALSBANKENE
16 ROSTBANKEN
17 OUTER VESTFJORDEN
18 TRAENABANKEN
19 SKLINNABANKEN
20 HALTENBANKEN
21 FROYABANKEN
22 ALESUND TO JAN MAYEN
23 STOREGGA
24 EAST TAMPEN
25 WEST TAMPEN
26 FAEROYBANKENE
27 VIKINGBANKEN
28 SHETLANDSBANKENE
29 ORKNOYENE
30 HEBRIDENE
31 ROCKALL
32 FISHING GROUNDS WEST OF IRELAND
33 FLADENGRUNN
34 LINDESNES TO JAEREN
35 STORE FISKEBANK
36 DOGGERBANK
37 KVITBANKEN
38 LILLE FISKEBANK
39 JYSKE REV
40 OUTER SKAGERRAK
41 INNER SKAGERRAK

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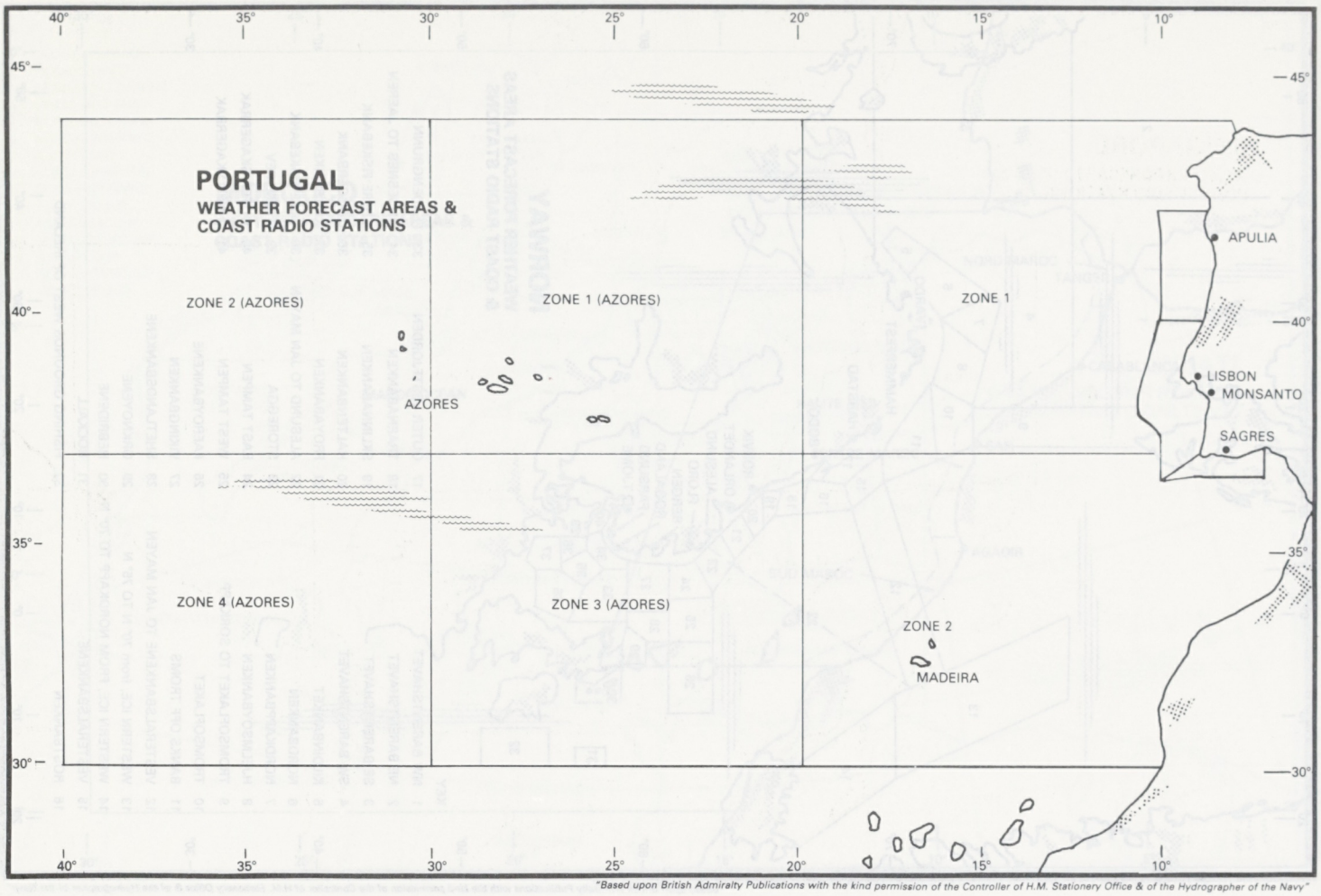
P1127



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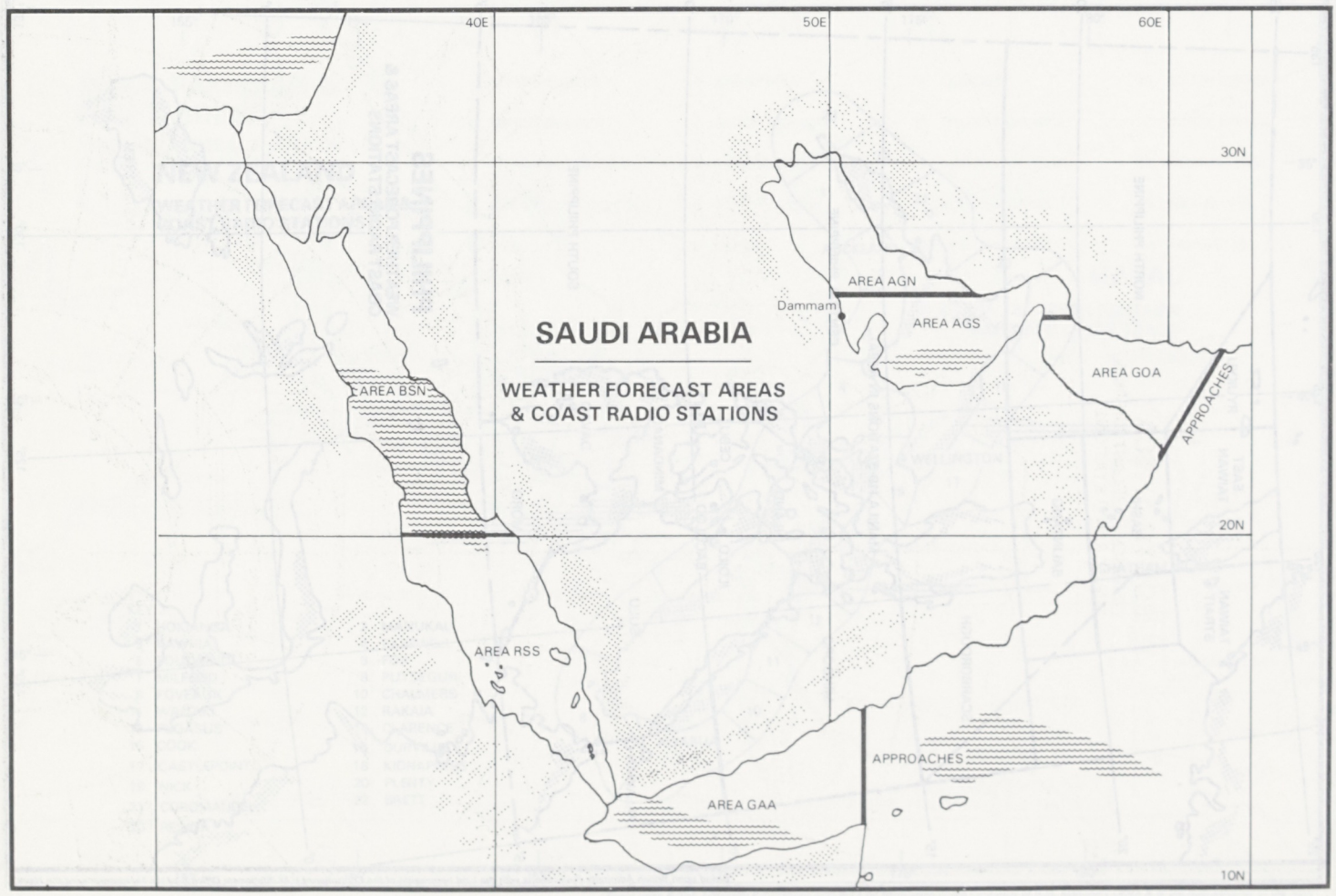

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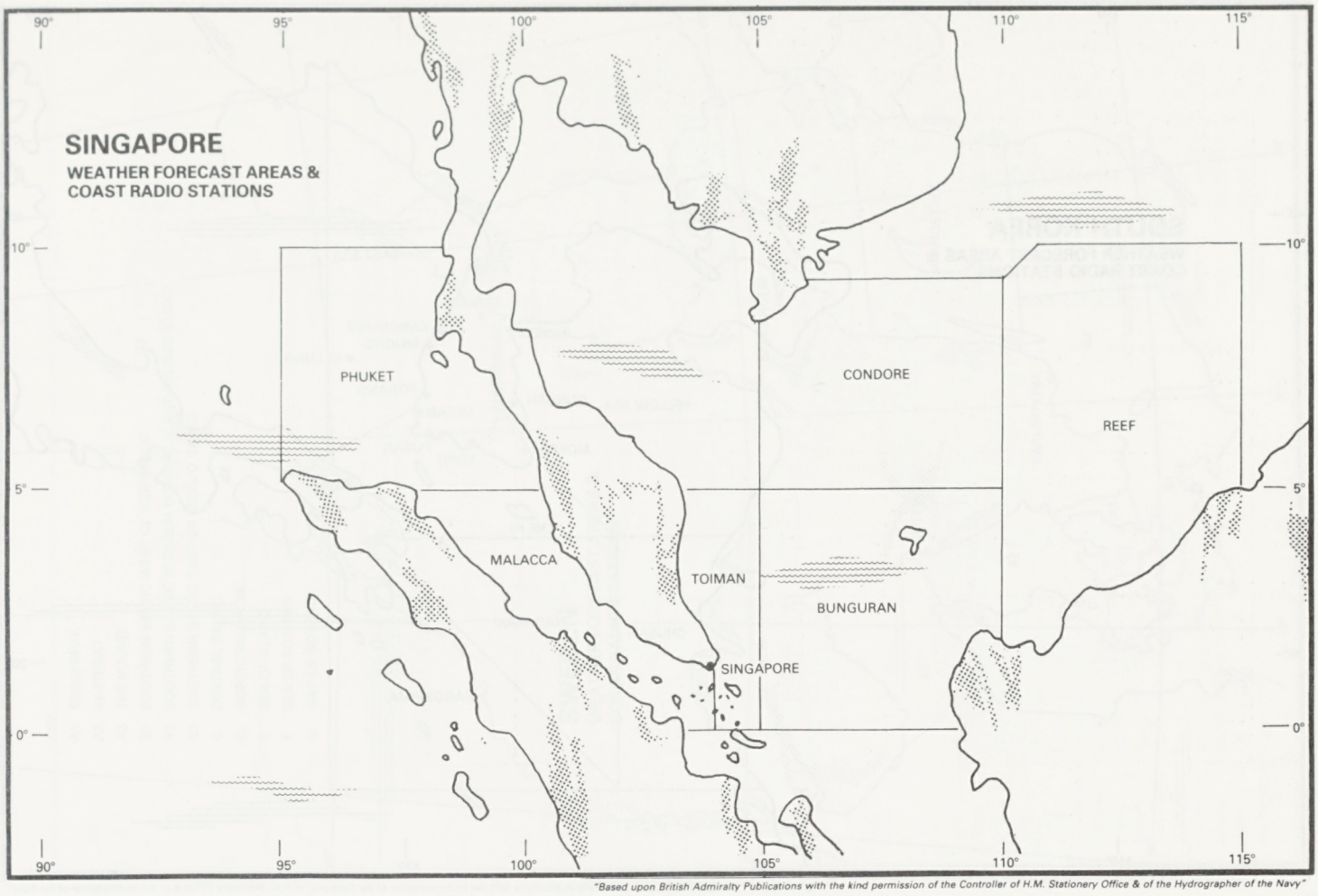

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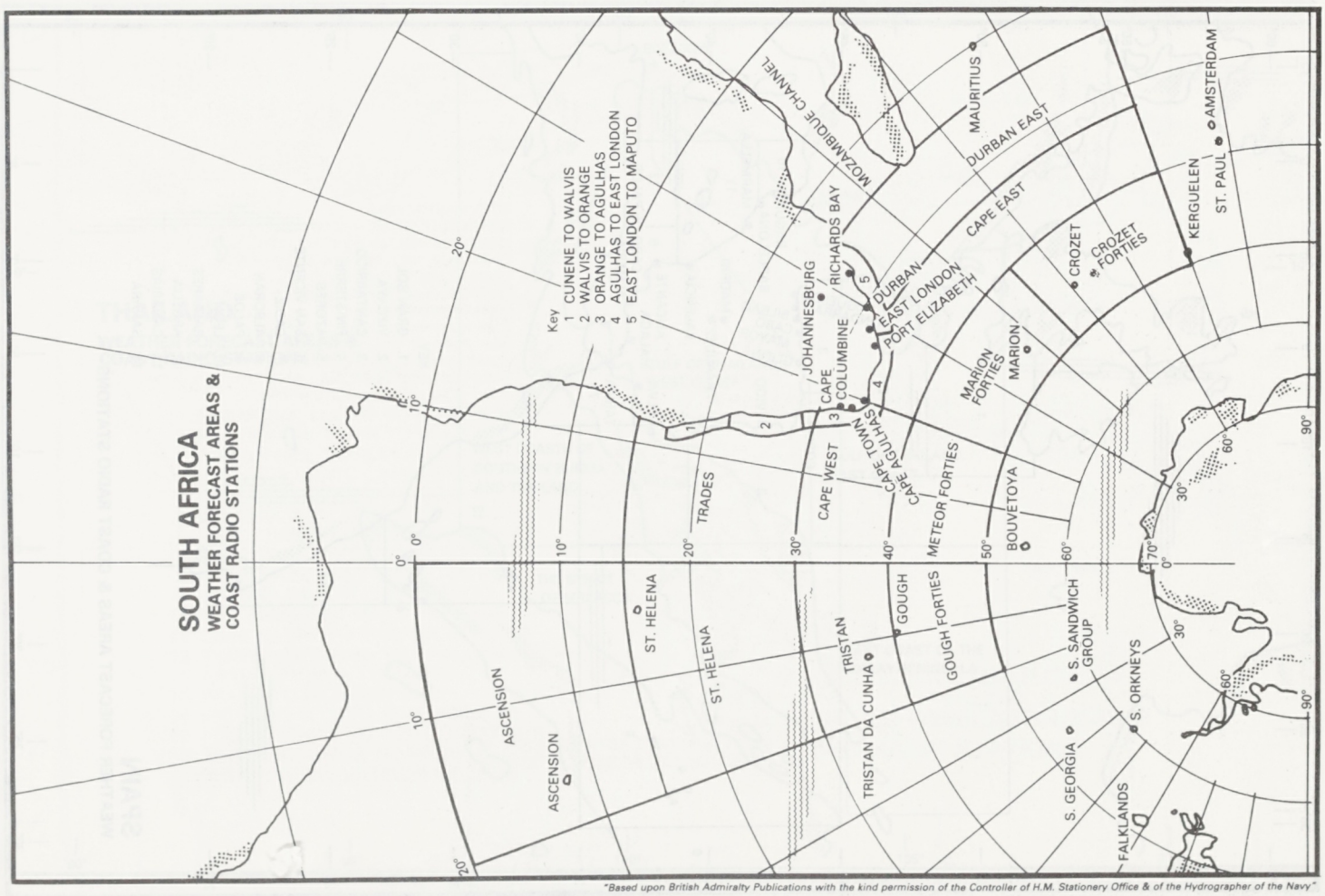

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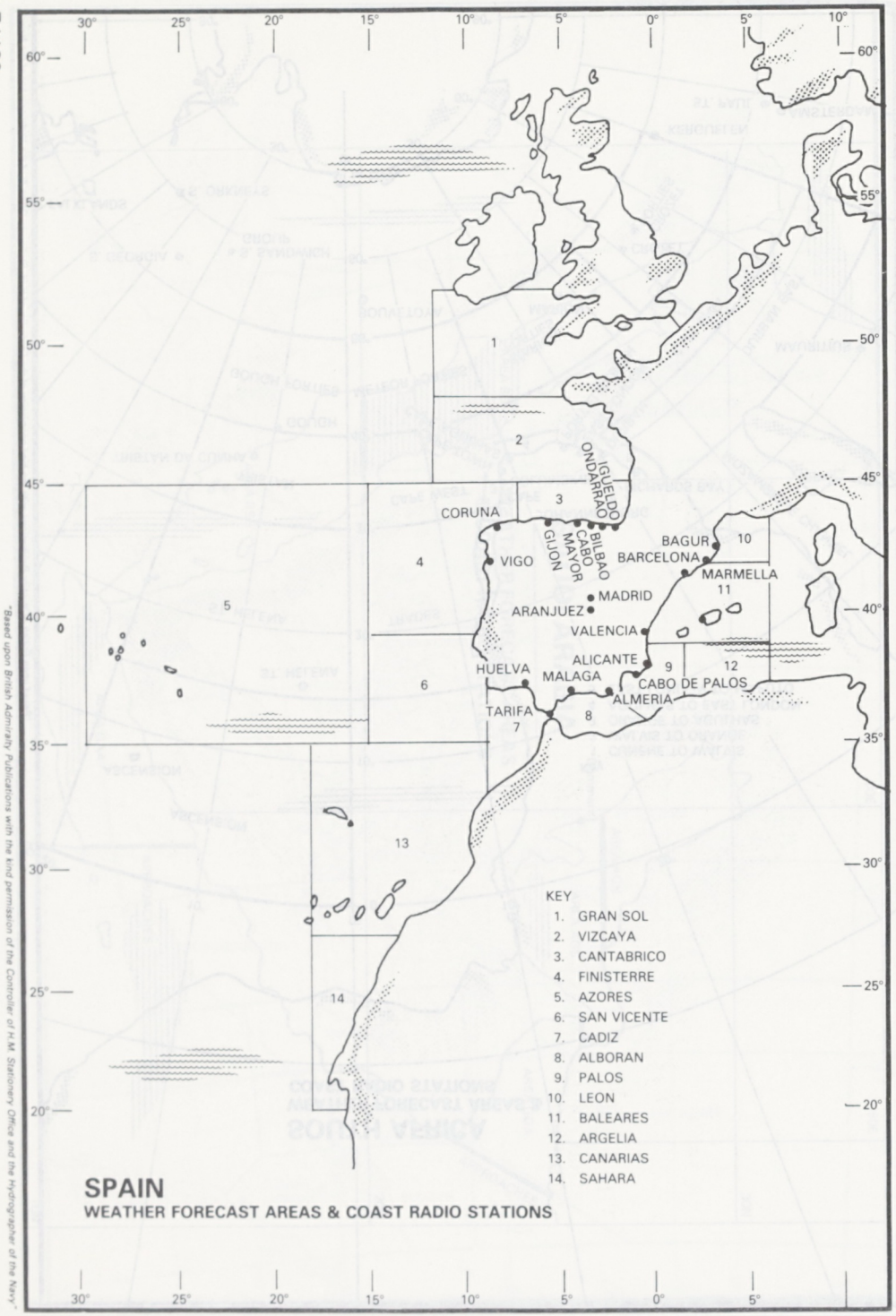

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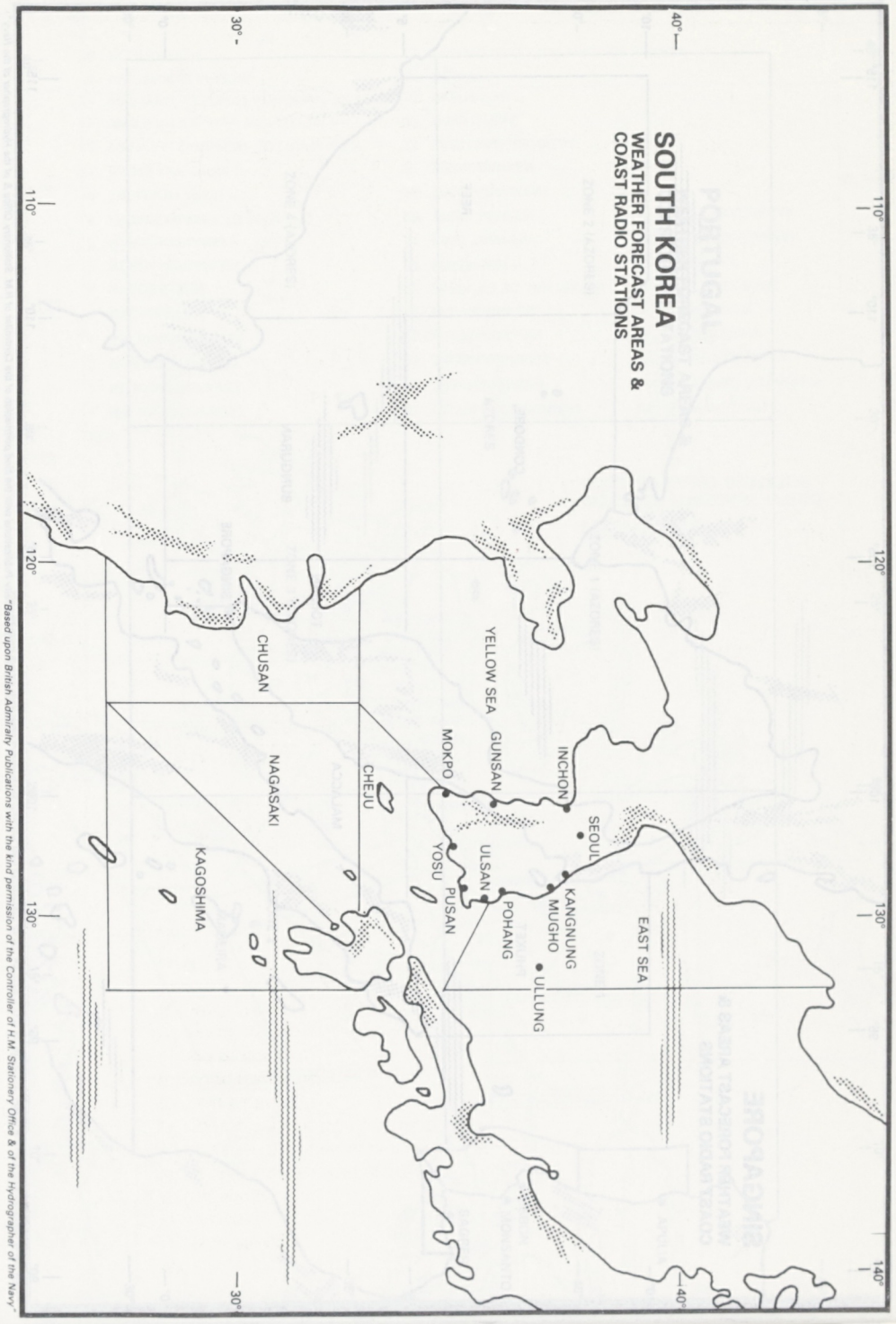

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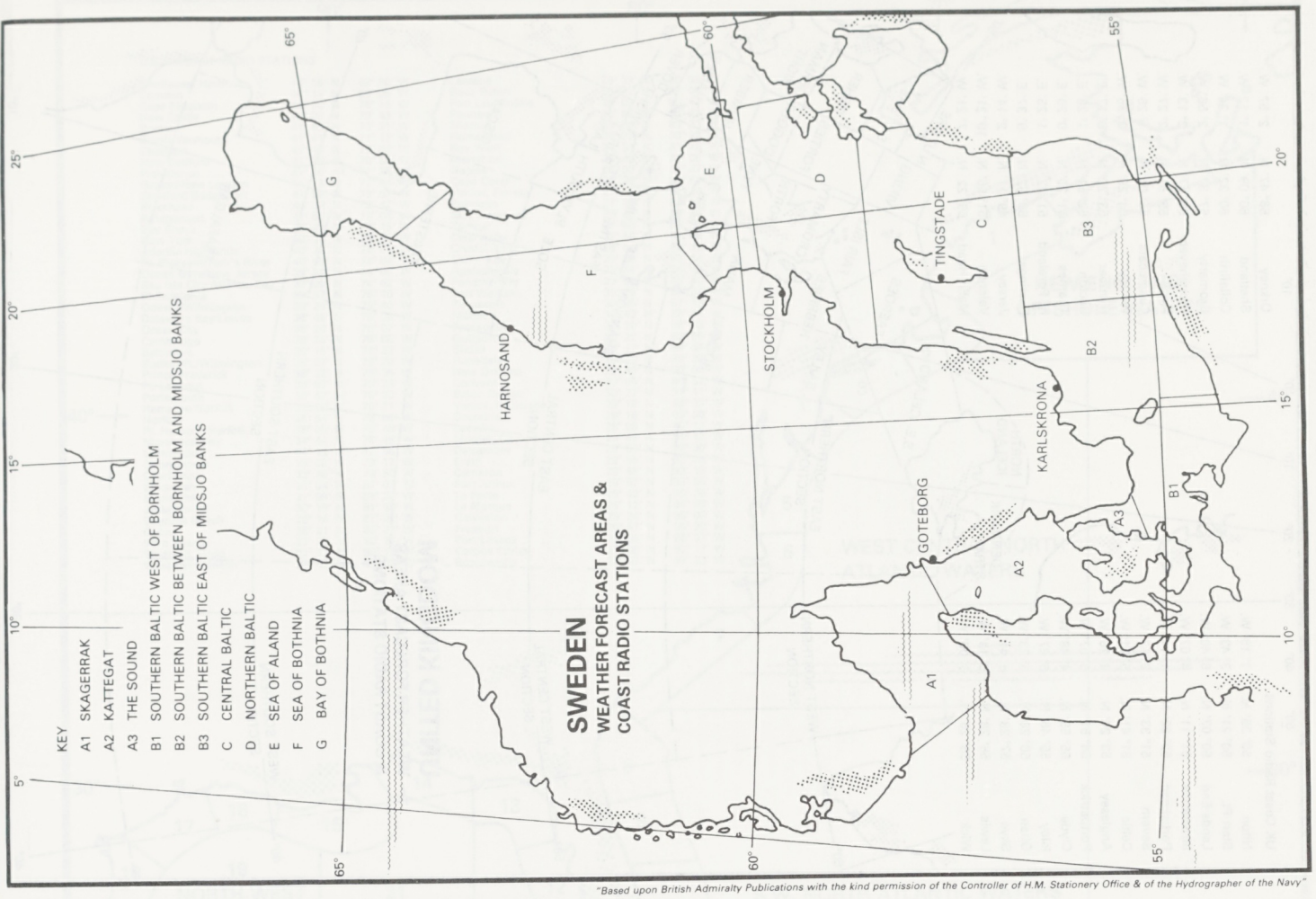

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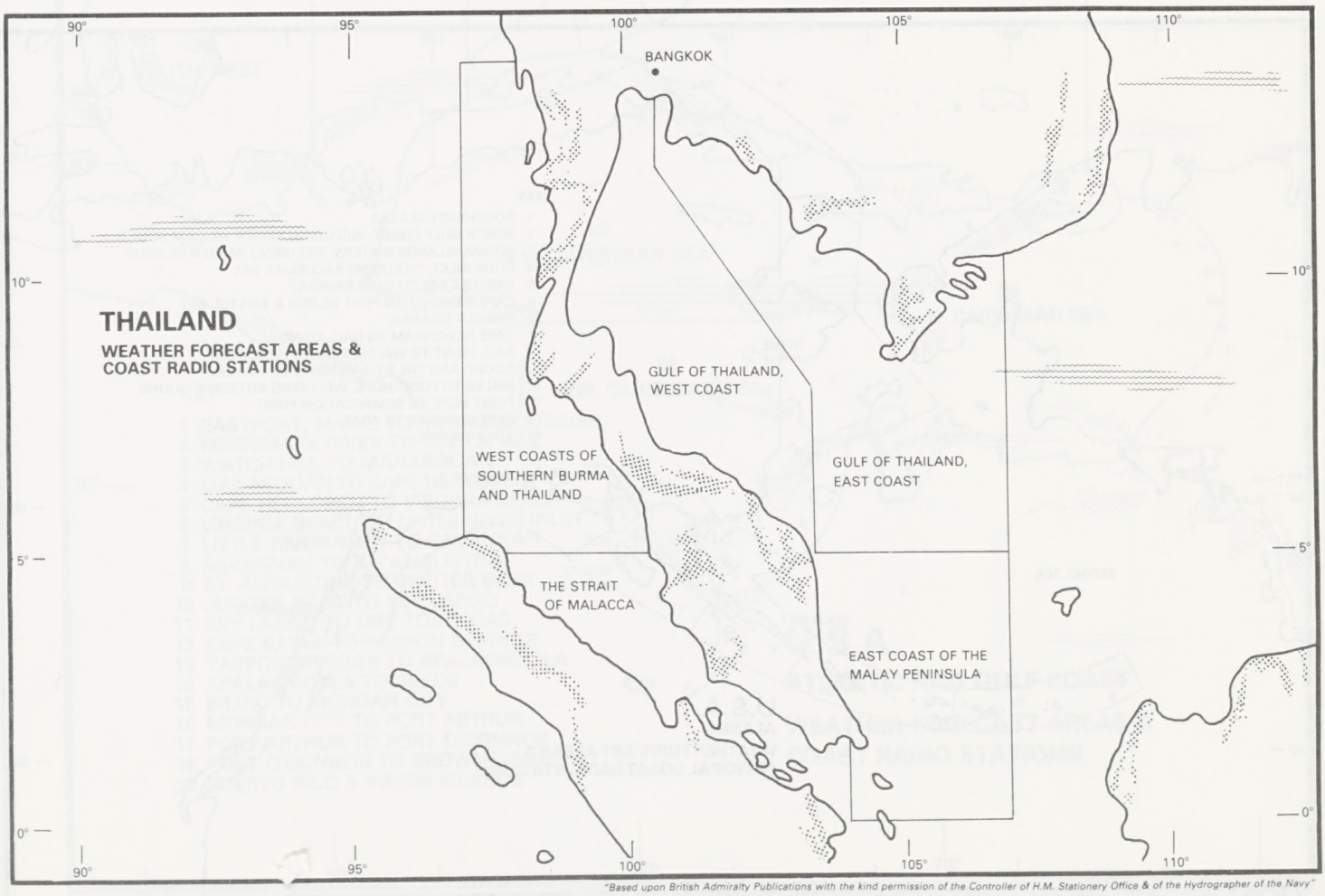

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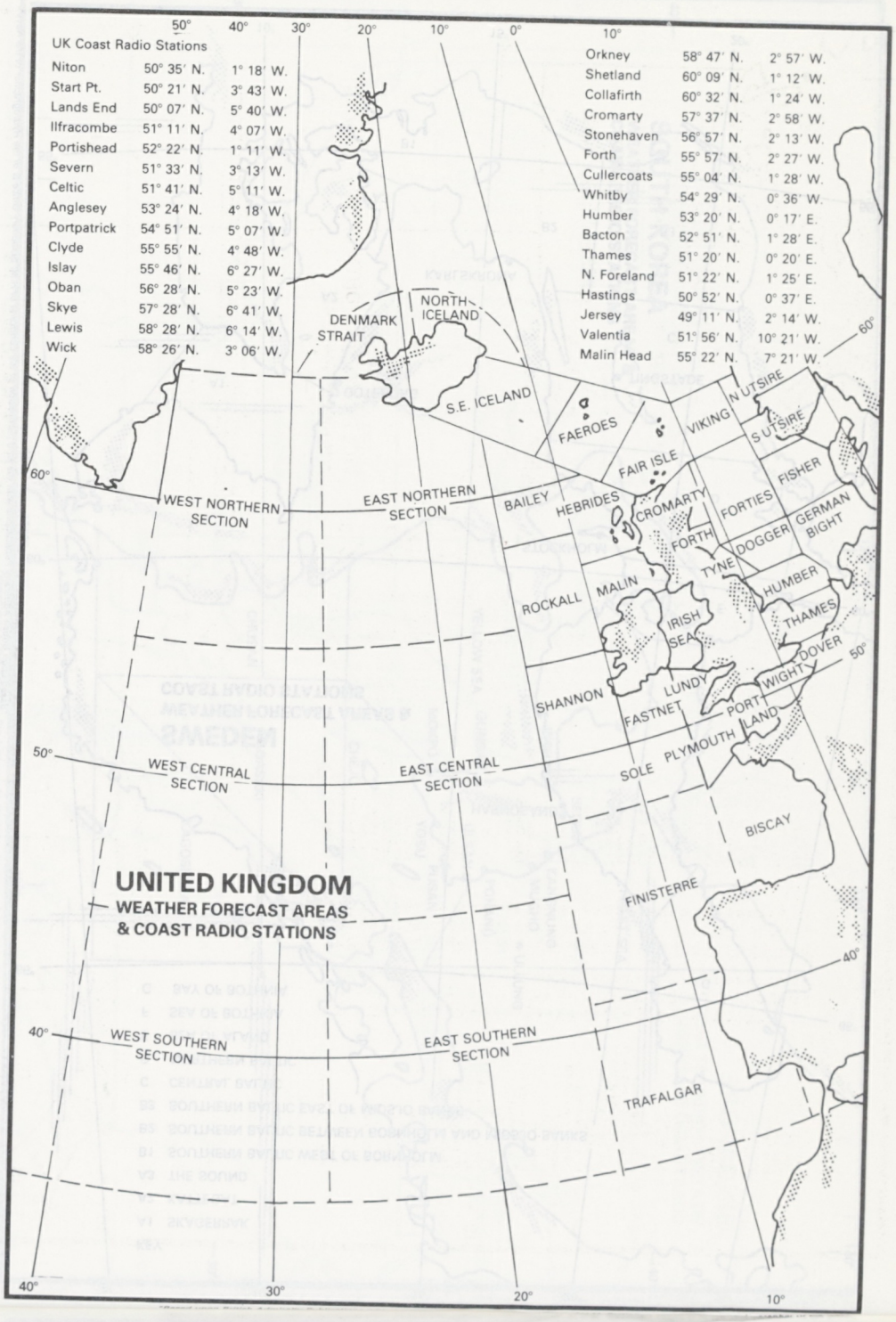

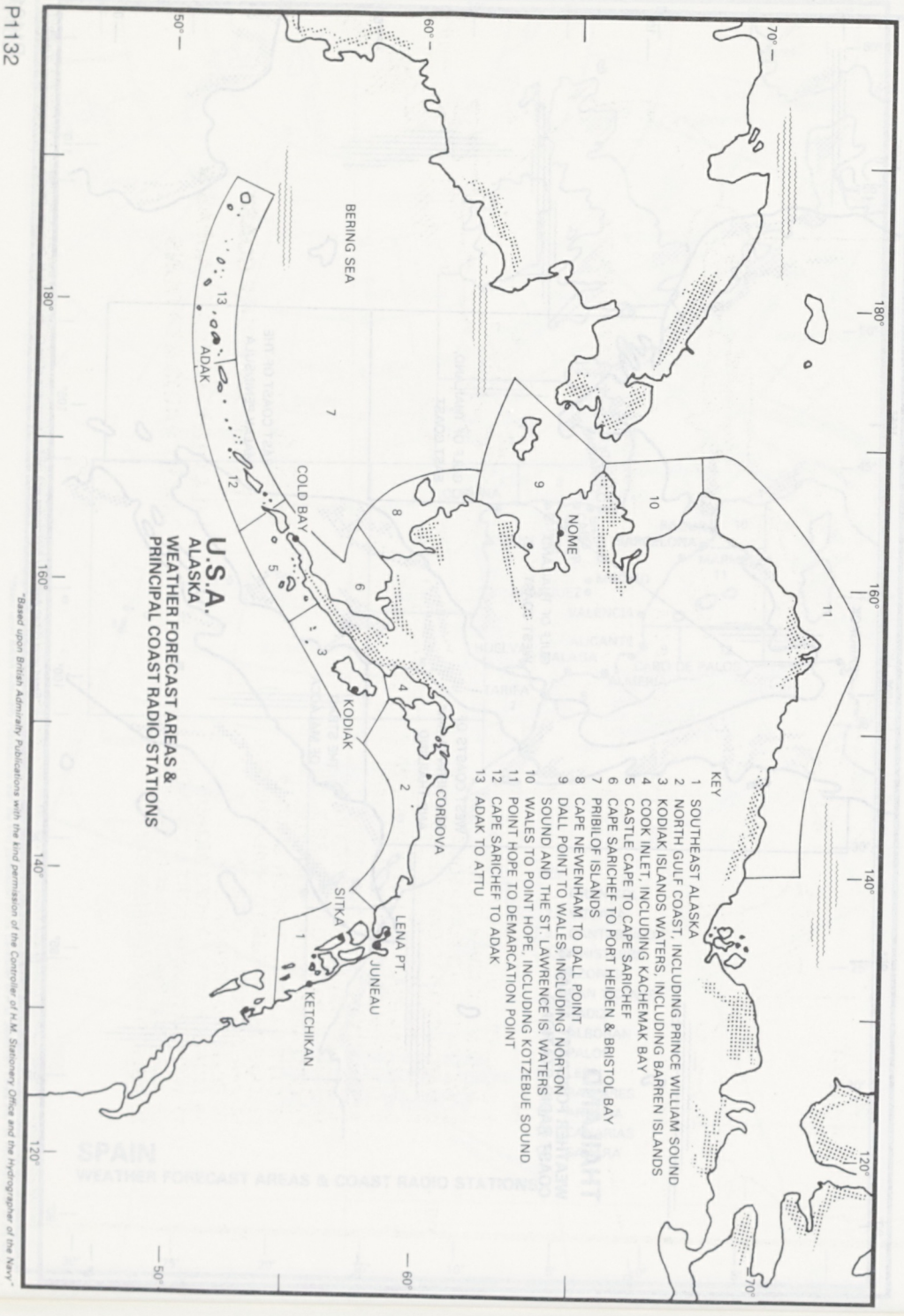

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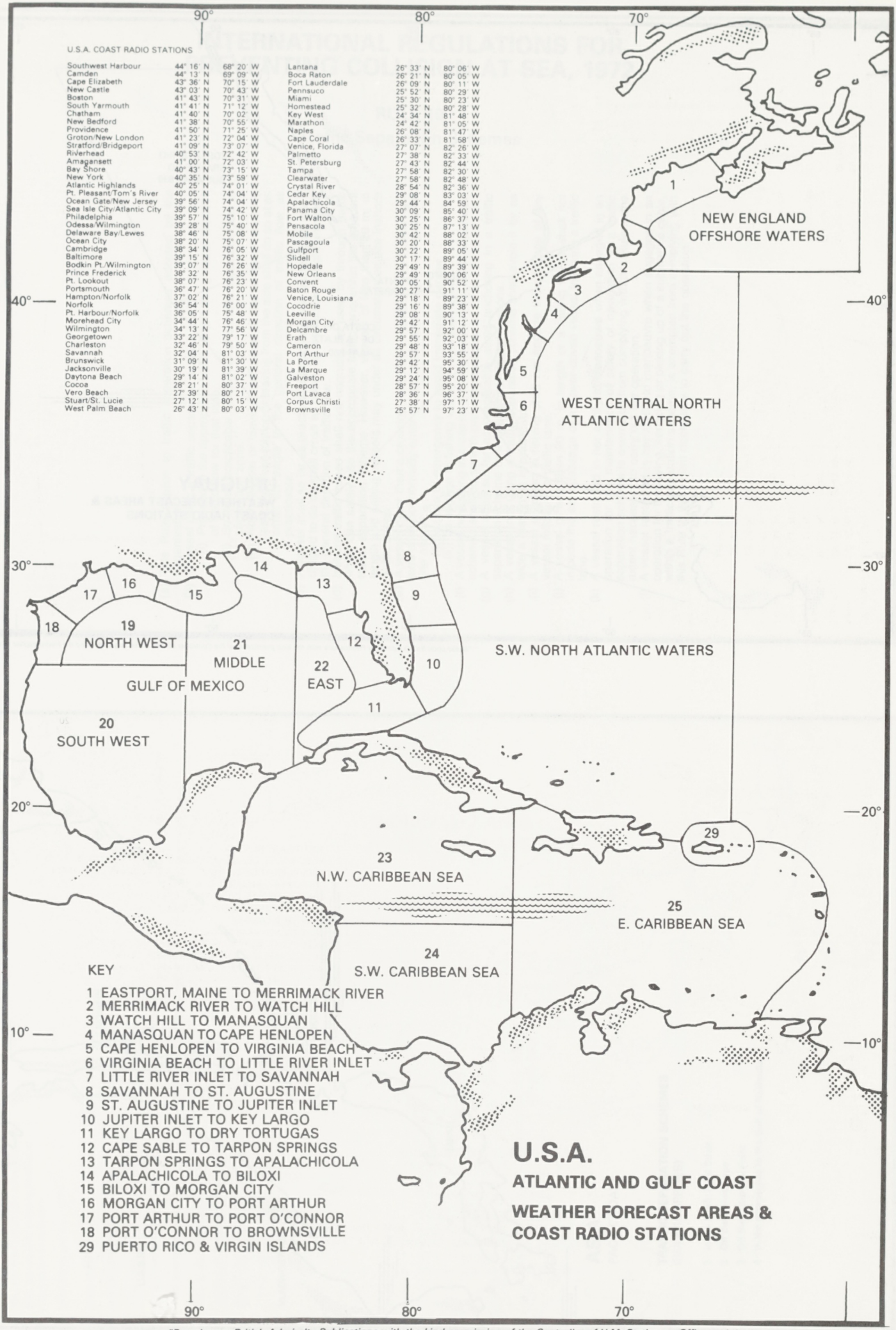

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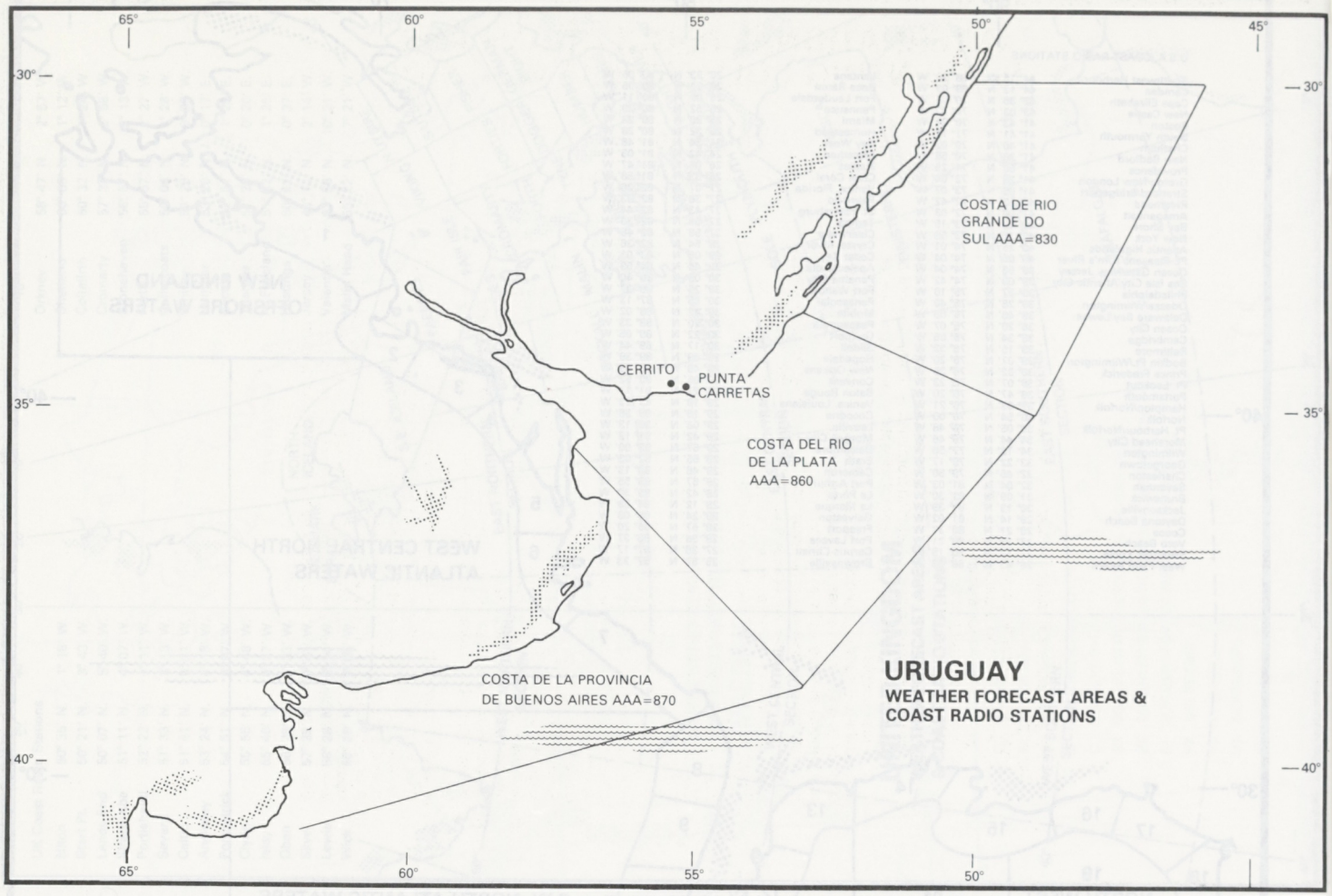

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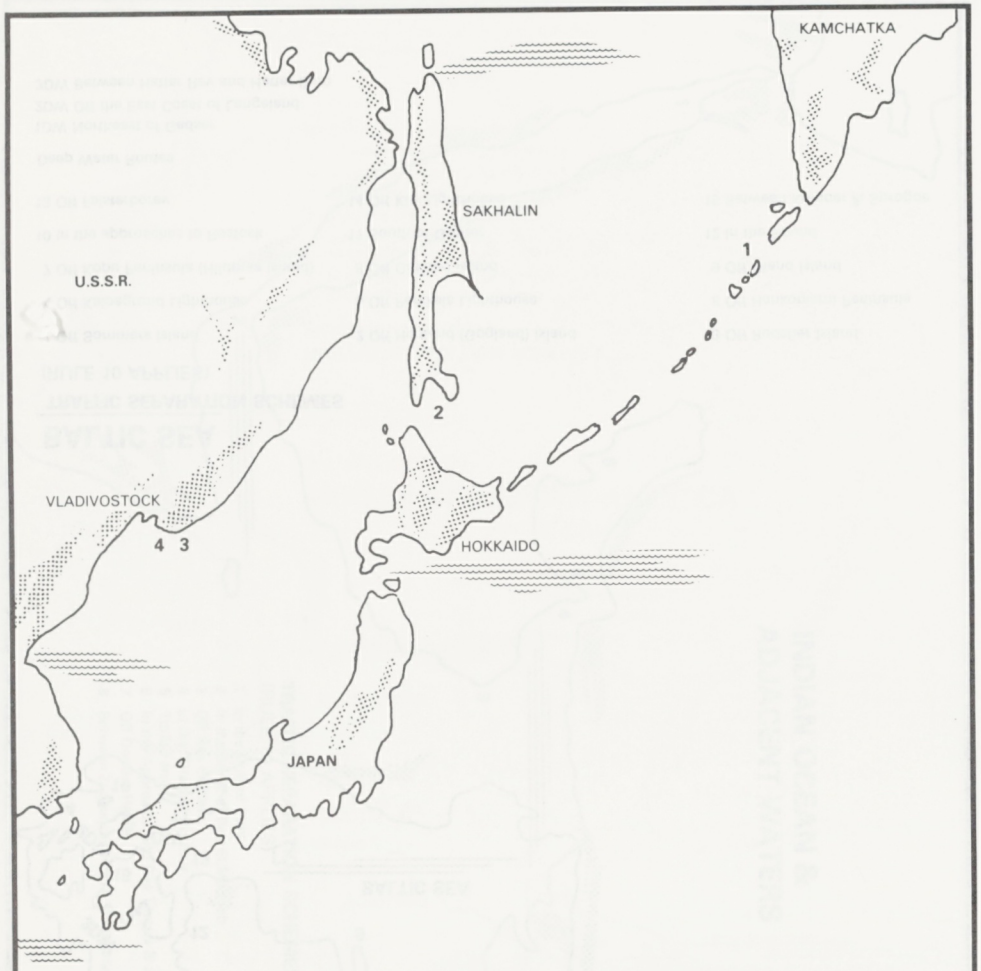


ASIA

PACIFIC COAST

TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)

1 In the fourth Kuril Strait
2 Off the Aniwa Cape
3 Off the Ostrovnoi Point
4 In the approaches to the Gulf of Nakhodka

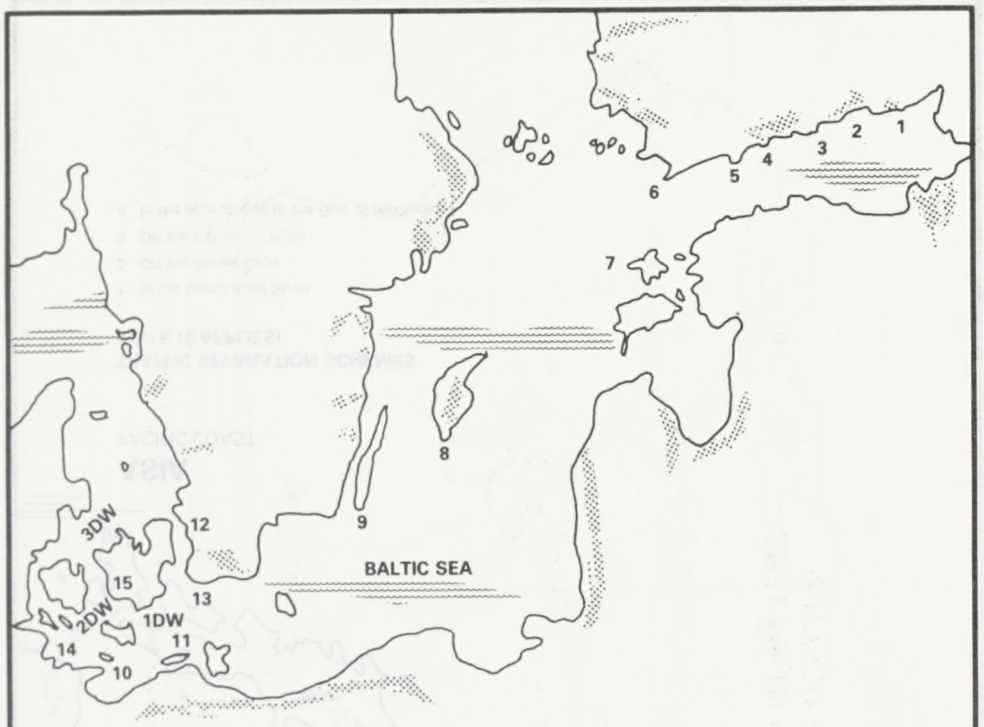
P1135

INTERNATIONAL REGULATIONS FOR PREVENTING COLLISION AT SEA, 1972

RULE 10

Traffic Separation Schemes

(a) This Rule applies to traffic separation schemes adopted by the Organisation.
(b) A vessel using a traffic separation scheme shall:
  (i) Proceed in the appropriate traffic lane in the general direction of traffic flow for that lane.
  (ii) So far as practicable keep clear of a traffic separation line or separation zone.
  (iii) Normally join or leave a traffic lane at the termination of the lane, but when joining or leaving from the side shall do so at as small an angle to the general direction of traffic flow as practicable.
(c) A vessel shall so far as practicable avoid crossing traffic lanes, but if obliged to do so shall cross as nearly as practicable at right angles to the general direction of traffic flow.
(d) Inshore traffic zones shall not normally be used by through traffic which can safely use the appropriate traffic lane within the adjacent traffic separation scheme. However, vessels of less than 20 m. in length and sailing vessels may under all circumstances use inshore traffic zones.
(e) A vessel other than a crossing vessel or a vessel joining or leaving a lane shall not normally enter a separation zone or cross a separation line except:
  (i) In case of emergency to avoid immediate danger.
  (ii) To engage in fishing within a separation zone.
(f) A vessel navigating in areas near the terminations of traffic separation schemes shall do so with particular caution.
(g) A vessel shall so far as practicable avoid anchoring in a traffic separation scheme or in areas near its terminations.
(h) A vessel not using a traffic separation scheme shall avoid it by as wide a margin as is practicable.
(i) A vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane.
(j) A vessel of less than 20 m. in length or a sailing vessel shall not impede the safe passage of a power-driven vessel following a traffic lane.
(k) A vessel restricted in her ability to manoeuvre when engaged in an operation for the maintenance of safety of navigation in a traffic separation scheme is exempted from complying with this Rule to the extent necessary to carry out the operation.
(l) A vessel restricted in her ability to manoeuvre when engaged in an operation for the laying, servicing or picking up of a submarine cable, within a traffic separation scheme, is exempted from complying with this Rule to the extent necessary to carry out the operation.



BALTIC SEA

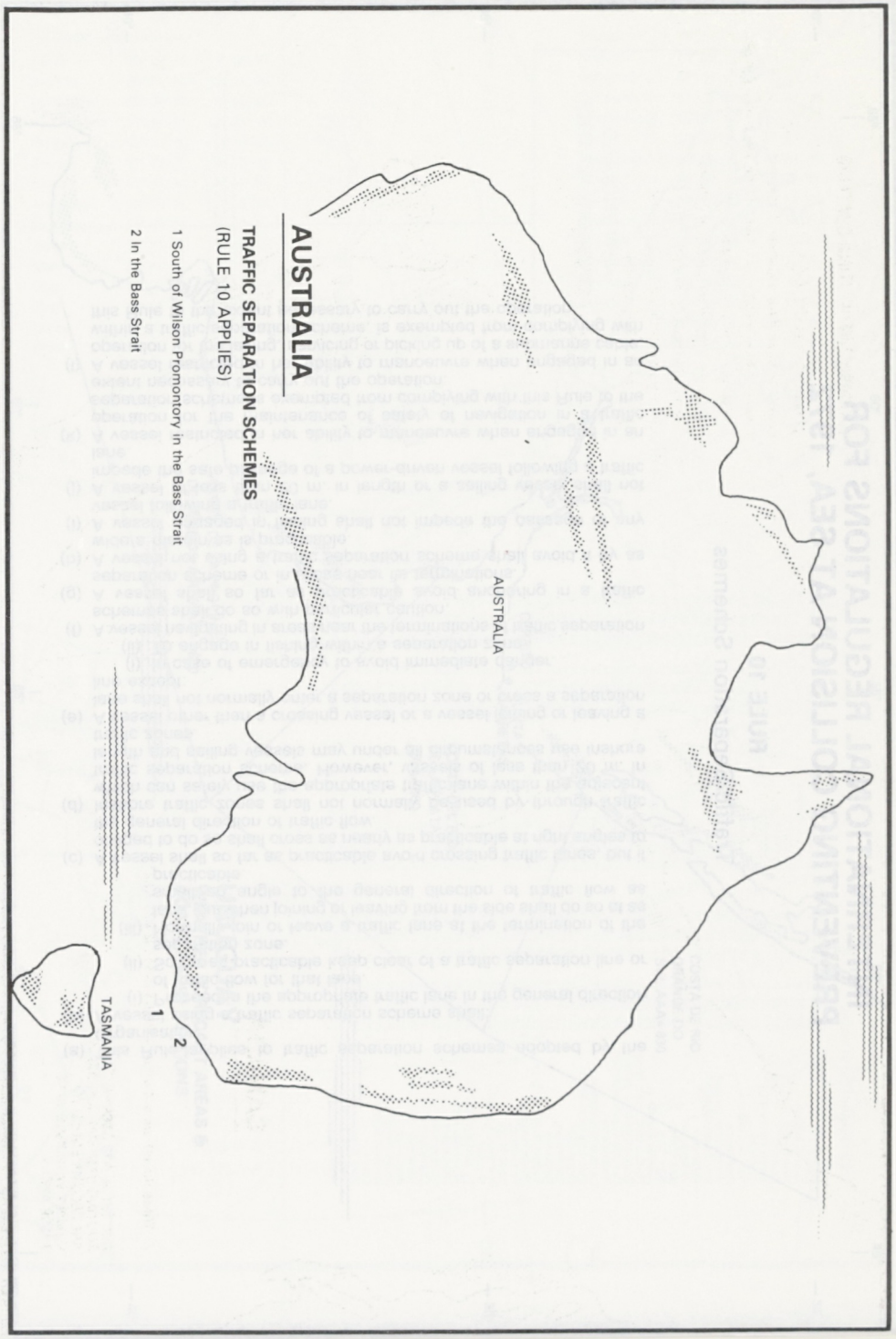
TRAFFIC SEPARATION SCHEMES

(RULE 10 APPLIES)

1 Off Sommers Island
2 Off Hogland (Gogland) Island
3 Off Rodsher Island
4 Off Kalbagrund Lighthouse
5 Off Porkkala Lighthouse
6 Off Hankoniemi Peninsula
7 Off Kopu Peninsula (Hiiumaa Island)
8 Off Gotland Island
9 Off Oland Island
10 In the approaches to Rostock
11 South of Gedser
12 In the Sound
13 Off Falsterborev
14 Off Kiel Lighthouse
15 Between Korsoer & Sprogoe

Deep Water Routes

1DW Northeast of Gedser
2DW Off the East Coast of Langeland
3DW Between Hatter Rev and Hatter Barn

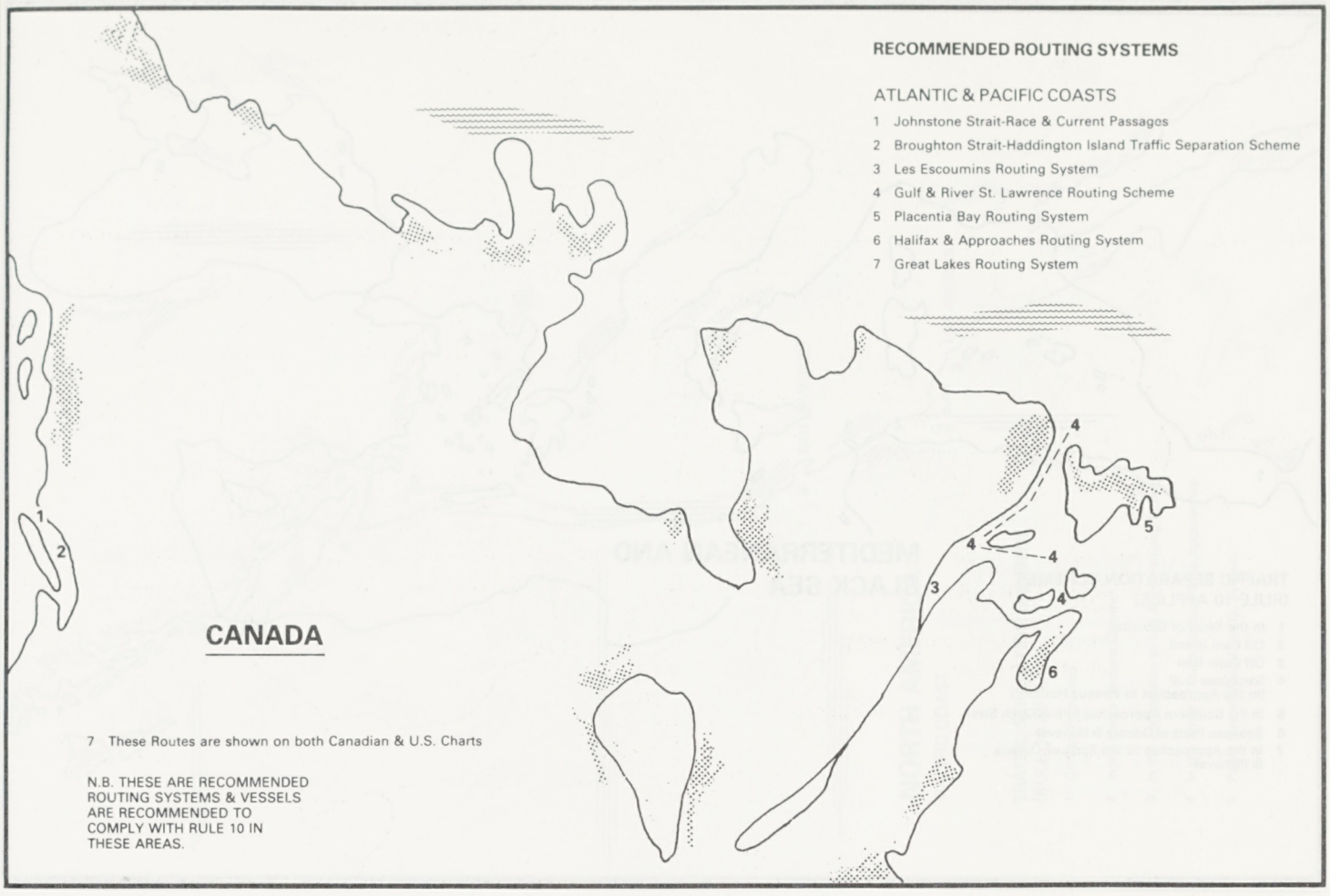


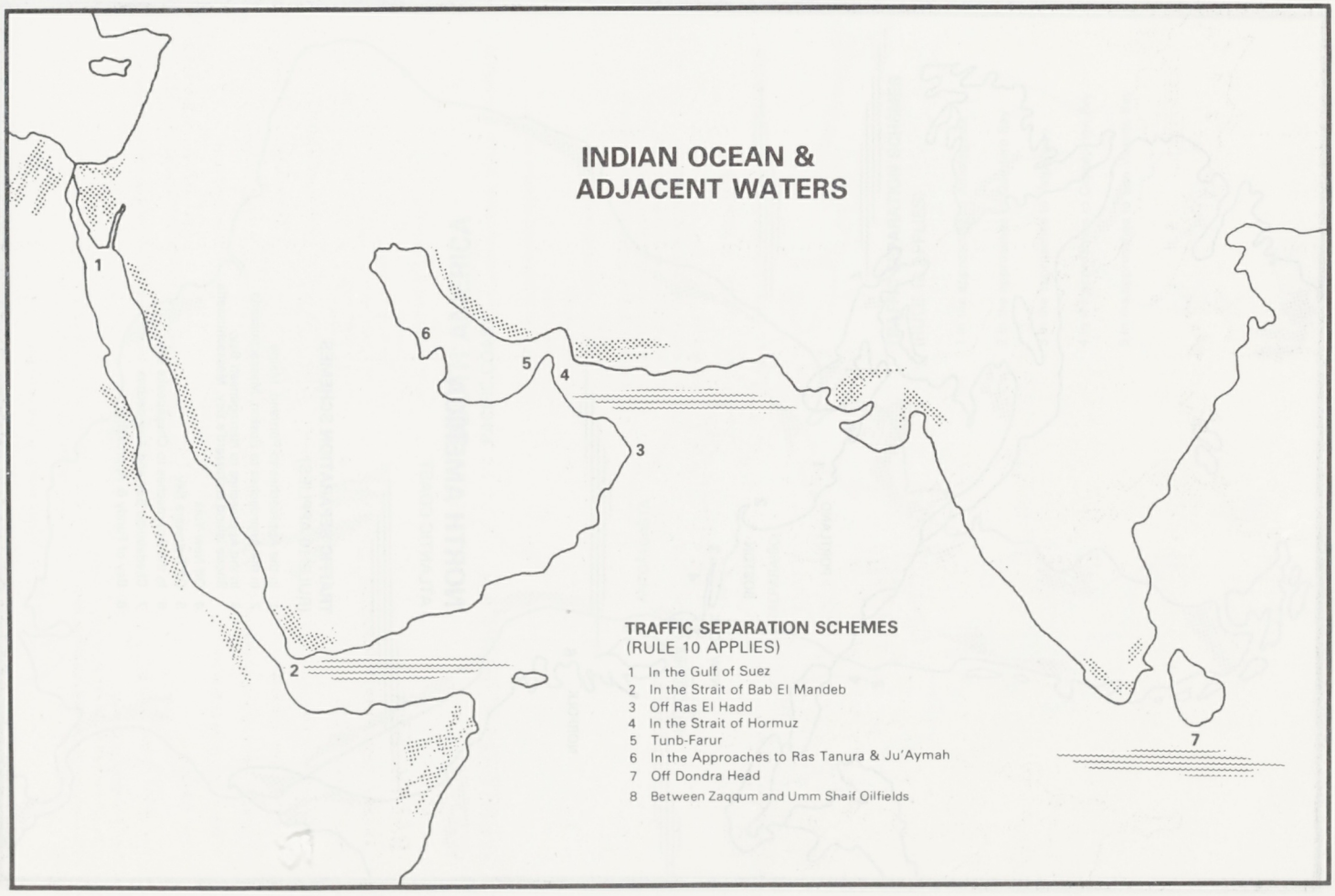
AUSTRALIA

TRAFFIC SEPARATION SCHEMES

(RULE 10 APPLIES)

1 South of Wilson Promontory in the Bass Strait
2 In the Bass Strait


RECOMMENDED ROUTING SYSTEMS
ATLANTIC & PACIFIC COASTS
1 Johnstone Strait-Race & Current Passages
2 Broughton Strait-Haddington Island Traffic Separation Scheme
3 Les Escoumins Routing System
4 Gulf & River St. Lawrence Routing Scheme
5 Placentia Bay Routing System
6 Halifax & Approaches Routing System
7 Great Lakes Routing System
CANADA
7 These Routes are shown on both Canadian & U.S. Charts
N.B. THESE ARE RECOMMENDED ROUTING SYSTEMS & VESSELS ARE RECOMMENDED TO COMPLY WITH RULE 10 IN THESE AREAS.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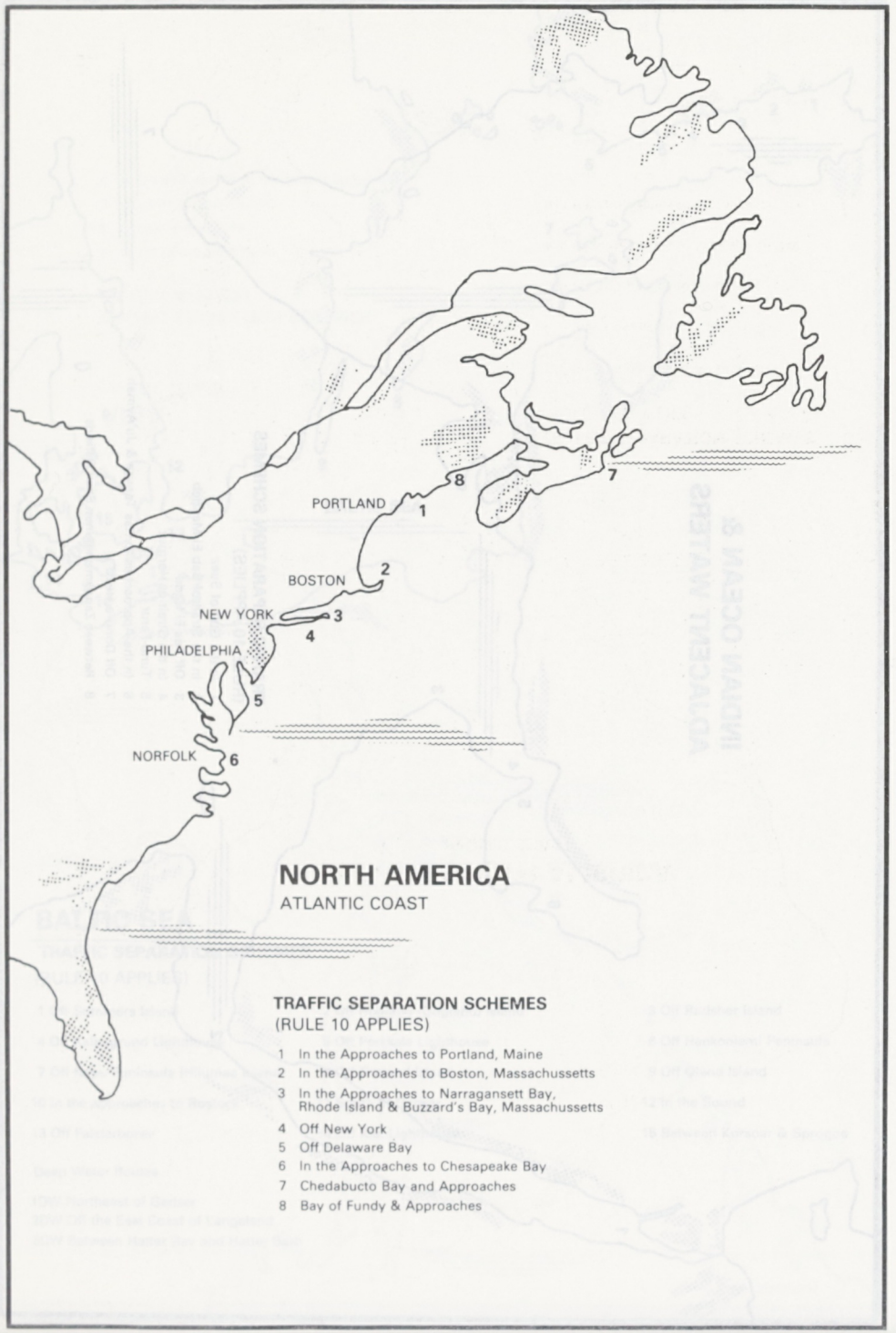
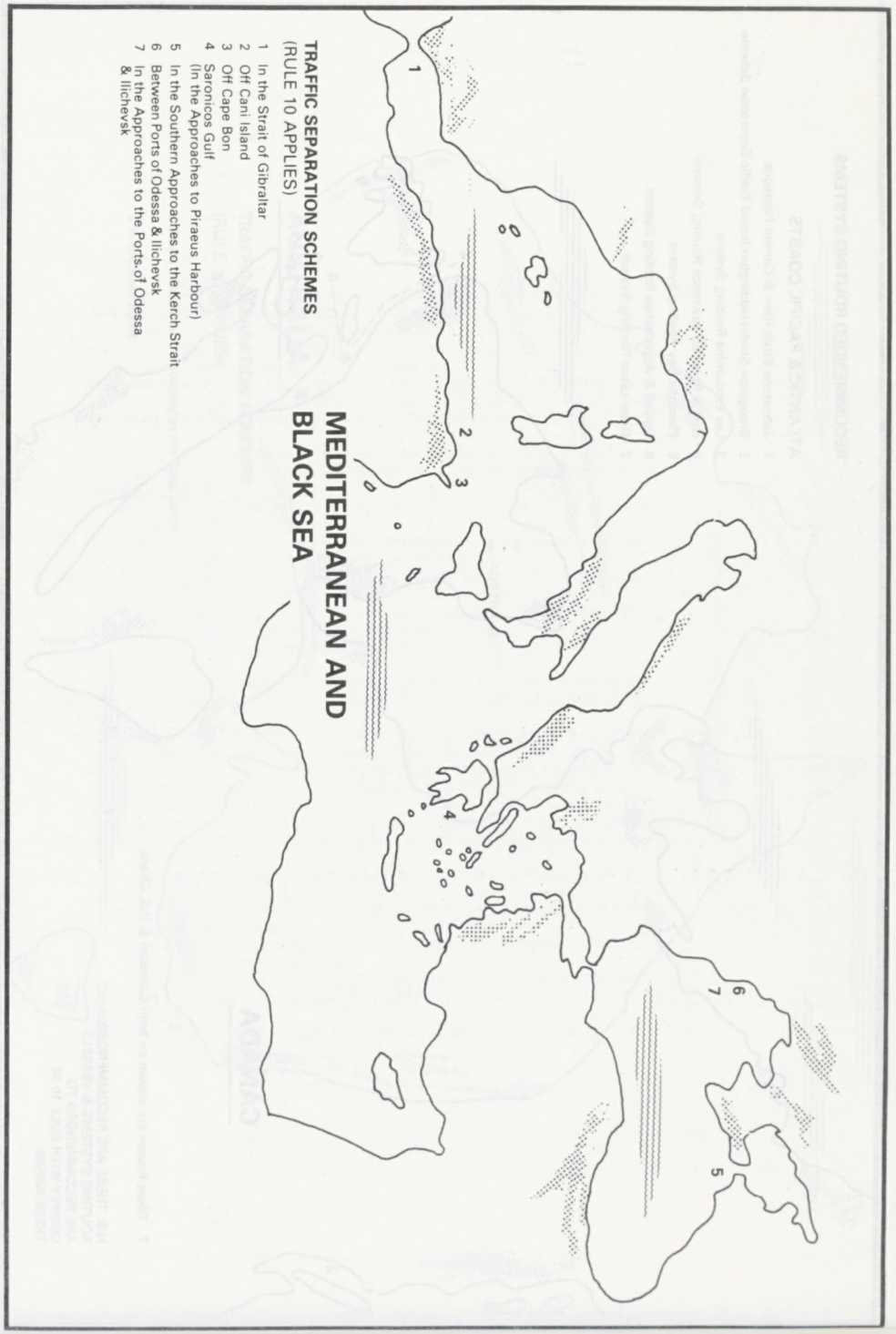
1 In the Gulf of Suez
2 In the Strait of Bab El Mandeb
3 Off Ras El Hadd
4 In the Strait of Hormuz
5 Tunb-Farur
6 In the Approaches to Ras Tanura & Ju'Aymah
7 Off Dondra Head
8 Between Zaqqum and Umm Shaif Oilfields



NORTH AMERICA
ATLANTIC COAST

TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)

1 In the Approaches to Portland, Maine
2 In the Approaches to Boston, Massachussetts
3 In the Approaches to Narragansett Bay, Rhode Island & Buzzard's Bay, Massachussetts
4 Off New York
5 Off Delaware Bay
6 In the Approaches to Chesapeake Bay
7 Chedabucto Bay and Approaches
8 Bay of Fundy & Approaches

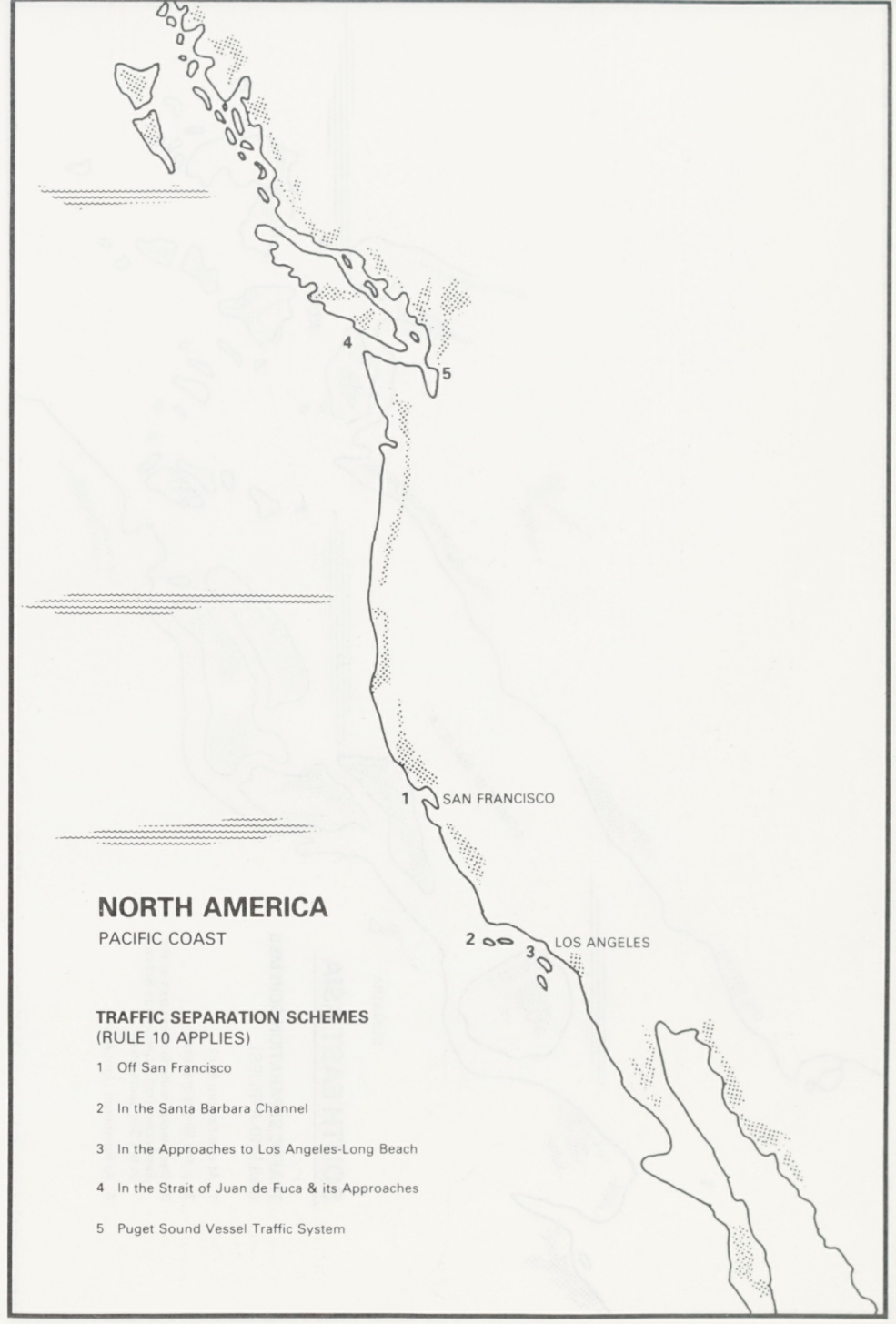


MEDITERRANEAN AND BLACK SEA

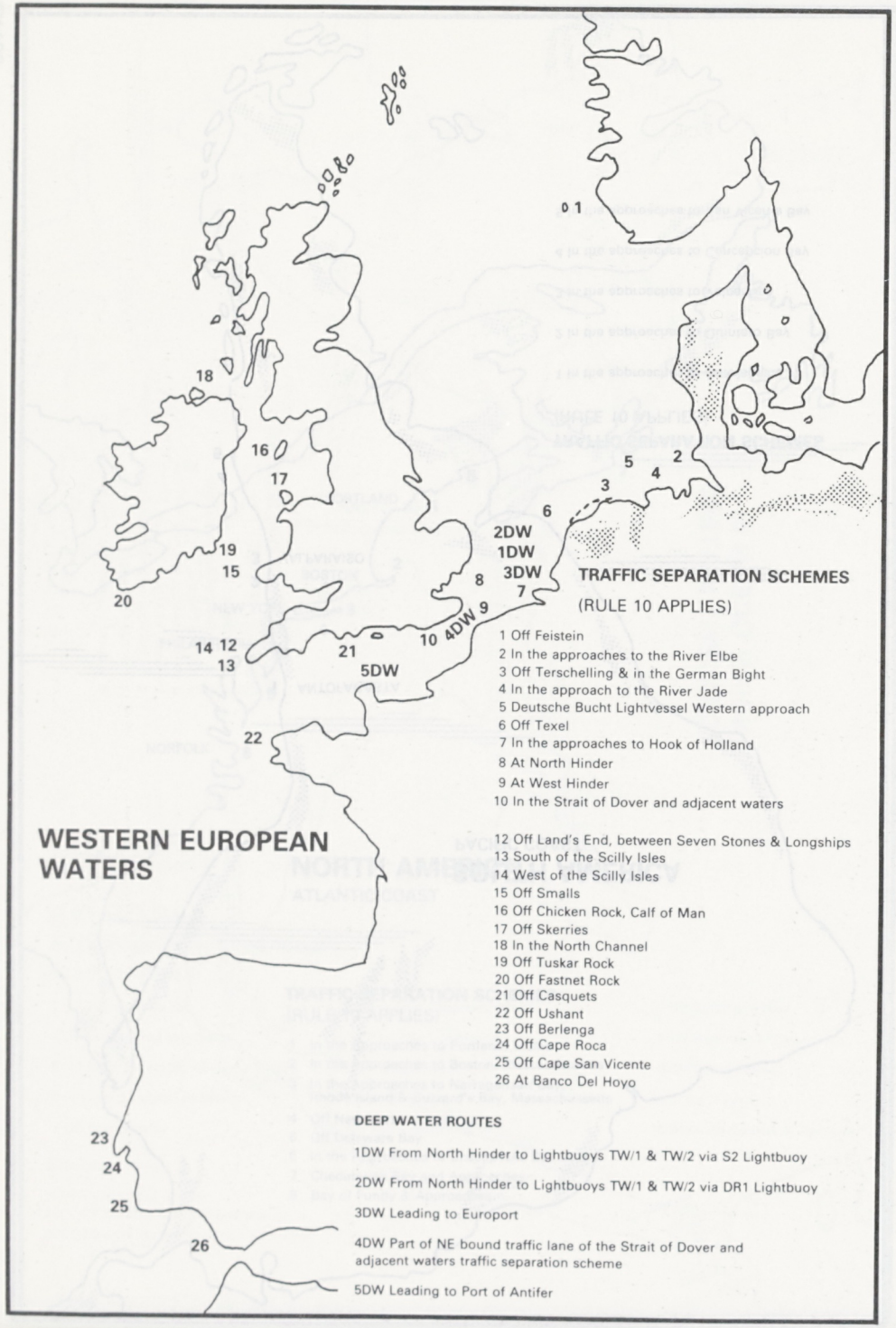
TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)

1 In the Strait of Gibraltar
2 Off Cani Island
3 Off Cape Bon
4 Saronicos Gulf (In the Approaches to Piraeus Harbour)
5 In the Southern Approaches to the Kerch Strait
6 Between Ports of Odessa & Ilichevsk
7 In the Approaches to the Ports of Odessa & Ilichevsk

SOUTH AMERICA
PACIFIC COAST
1 ANTOFAGASTA
2
3 VALPARAISO
4
5
TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)
1 In the approaches to Antofagasta
2 In the approaches to Quintero Bay
3 In the approaches to Valparaiso
4 In the approaches to Concepcion Bay
5 In the approaches to San Vicente Bay


4
5
1 SAN FRANCISCO
NORTH AMERICA
PACIFIC COAST
2
3 LOS ANGELES
TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)
1 Off San Francisco
2 In the Santa Barbara Channel
3 In the Approaches to Los Angeles-Long Beach
4 In the Strait of Juan de Fuca & its Approaches
5 Puget Sound Vessel Traffic System

P1139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TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)
1 Off Feistein
2 In the approaches to the River Elbe
3 Off Terschelling & in the German Bight
4 In the approach to the River Jade
5 Deutsche Bucht Lightvessel Western approach
6 Off Texel
7 In the approaches to Hook of Holland
8 At North Hinder
9 At West Hinder
10 In the Strait of Dover and adjacent waters
12 Off Land's End, between Seven Stones & Longships
13 South of the Scilly Isles
14 West of the Scilly Isles
15 Off Smalls
16 Off Chicken Rock, Calf of Man
17 Off Skerries
18 In the North Channel
19 Off Tuskar Rock
20 Off Fastnet Rock
21 Off Casquets
22 Off Ushant
23 Off Berlenga
24 Off Cape Roca
25 Off Cape San Vicente
26 At Banco Del Hoyo
2DW
1DW
3DW
4DW
5DW
DEEP WATER ROUTES
1DW From North Hinder to Lightbuoys TW/1 & TW/2 via S2 Lightbuoy
2DW From North Hinder to Lightbuoys TW/1 & TW/2 via DR1 Lightbuoy
3DW Leading to Europort
4DW Part of NE bound traffic lane of the Strait of Dover and adjacent waters traffic separation scheme
5DW Leading to Port of Antifer

SOUTH EAST ASIA
TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)
1 At one Fathom Bank
2 In the Singapore Strait
3 Deep water route forming part of the Eastbound Traffic Separation Scheme in the Singapore Strait
4 At Horsburgh Light Area
SUMATRA
STRAITS OF MALACCA
3(DW)

NOTES

SOUTH EAST ASIA
TRAFFIC SEPARATION SCHEMES
(RULE 10 APPLIES)
1. Around Pedoen Bank.
2. In the Singapore Strait.
3. Eastern approaches to the Singapore Strait.
4. All Horsburgh Light Area.

WESTERN EUROPEAN WATERS

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